City of Palo Alto
Office of the City Auditor

March 4, 2008

Honorable City Council
Attn: Finance Committee
Palo Alto, California

INFRASTRUCTURE REPORT CARD FOR PALO ALTO

Maintaining aging infrastructure is a major concern in Palo Alto. The City has increased capital spending in recent years, but it is a challenge to ensure that existing infrastructure is maintained at an acceptable level. The purpose of our review was to assess the results of the increased capital spending, and to assess the impact of increased capital spending on the City's infrastructure including utilities – is the City making progress, losing ground, or just holding its own?

Where do we stand? Palo Alto maintains a large number of infrastructure assets for a city of its size. Utility infrastructure, including electric, gas, wastewater collection, wastewater treatment, water, refuse, and storm drains, represents a significant portion of the City's infrastructure. The City also has substantial investments in parks, open space, community centers, city hall, fire stations, roadways, and trees. The 1997 Adamson report identified the need for increased infrastructure maintenance, and the City increased capital spending as a result. Our infrastructure report card (on pages 12-13) is a qualitative assessment to assess the impact of that spending. It is a monitoring tool to help ensure that all aspects of the City's infrastructure program stay on course. The report card shows that net asset values overall have increased, but General Fund progress is mixed.

Moving toward a sustainable capital budget. Based on the Adamson report, the City launched the Infrastructure Management Plan (IMP) to address the identified backlog. However, many of the facility/infrastructure needs identified for years 1-10 have not yet been completed. It is now year 11, and the work identified by Adamson for years 11-15 should, ideally, be in the current 5-year capital improvement program. In addition, costs have escalated, and it has proven difficult to keep the focus on existing infrastructure. Furthermore, since Adamson, additional facilities have been determined to be physically and programmatically obsolete – in particular, the Police Wing of the Civic Center (proposed to be vacated in favor of a new facility to be built on Park Boulevard) and the Mitchell Park Library and Community Center (proposed to be rebuilt on site).

We recommend adopting Government Finance Officers Association's (GFOA) best practices for capital maintenance and improvement. These include: maintaining a complete capital asset inventory; periodically measuring the condition of capital assets; establishing maintenance standards for capital assets; adopting financing policies for capital assets with a high priority on maintaining the quality of existing assets; allocating sufficient funds for routine maintenance and repair; annually reporting on the condition of and spending on capital assets; and reporting on overall trends in spending and replacement cycles.

We further recommend that the City use the Geographic Interface System (GIS) as a coordinating tool and, to the extent feasible, a repository of infrastructure inventory and condition. We also recommend the City adopt a sustainable capital budget that (1) provides additional funding for critical needs, and (2) lists unfunded needs in the annual capital budget document.

Our report includes a total of 10 recommendations to improve the City's infrastructure program. Management has reviewed the information in this report and the City Manager's response is attached. We will be presenting this report to the Finance Committee on March 4, 2008. Public Works expects to present additional information about the condition of the City's infrastructure to the Finance Committee in late March.

Respectfully submitted,

Sharon W. Erickson

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City Auditor

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INTRODUCTION

The City Auditor's Office conducted this review in accordance with the FY 2007-08 Annual Audit Plan. The objective of this project was to assess the impact of increased capital spending on the City's infrastructure including utilities. For purposes of this report, "infrastructure" includes only publicly-held permanent physical assets. It does not include furniture, equipment, computers, or fleet.

Background

Palo Alto owns and maintains a large collection of infrastructure assets for a city of its size. Palo Alto's infrastructure assets include more than 30 city parks, nearly 4,000 acres of open space, and a 176-acre golf course. Palo Alto has 4 community centers -- Lucie Stern, Mitchell, Cubberley, and Ventura. The City has 5 library facilities, a junior museum and zoo, and an art center. The 90,000 square foot civic center with 260,000 square feet of underground parking is located downtown on Hamilton Ave, and the 16-acre Municipal Services Center is located on East Bayshore. The City owns other properties that are operated by others including Gamble Garden (a community horticultural foundation), the senior center (operated by Avenidas), Williams House (a history museum operated by the Museum of American Heritage), and Winter Lodge (an outdoor ice skating rink). The City operates 8 fire stations and maintains 2,700 fire hydrants. Roadway infrastructure includes 40 million square feet of pavement, 10 million square feet of sidewalks, 89 traffic signals, 6,200 street lights, and 425,000 square feet of striping and legends, bridges, thousands of street trees, and medians. The City owns and operates 20 parking lots and structures. In addition, the City owns, and Santa Clara County operates, a municipal airport. The City's utility infrastructure includes electric, gas, wastewater collection, wastewater treatment, water, refuse, and storm drains.

Aging infrastructure is a major concern

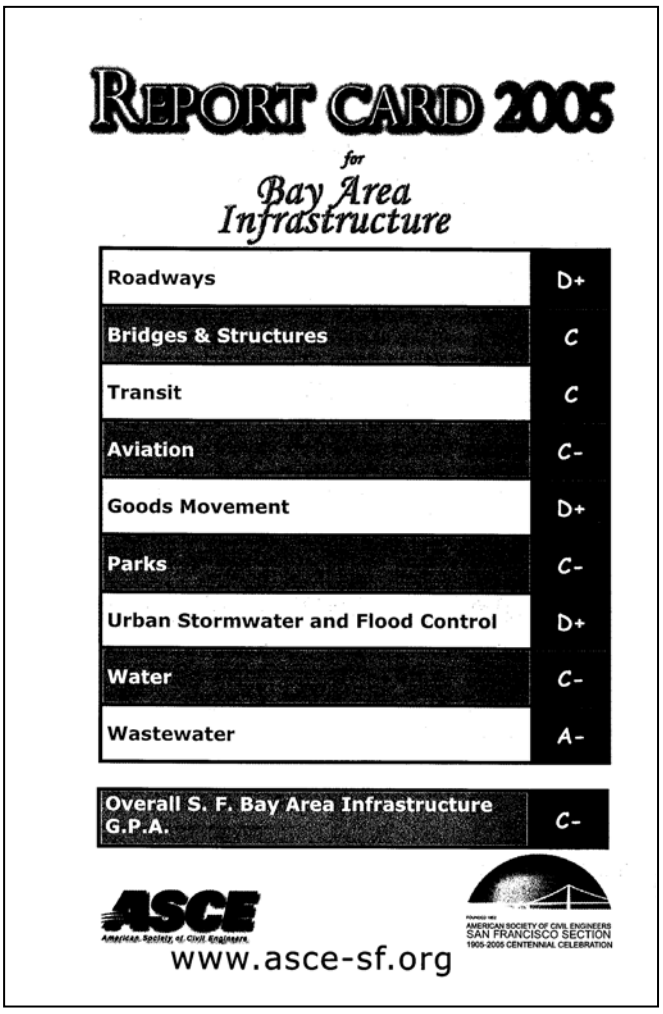
Aging infrastructure is a major concern throughout California, and has been a City of Palo Alto priority for a number of years. According to the City's 1998-2010 Comprehensive Plan: *"Palo Alto's parks, community centers, libraries, and other civic buildings are an important part of what makes the City a desirable place to live. The City is committed to continued investment in its infrastructure and public facilities, as resources are available. This commitment requires a strong emphasis on maintenance, rehabilitation, and modernization. Retrofitting existing facilities to incorporate new technology is important to ensure that these facilities remain useful. The City is also committed to providing new facilities in areas that are under-served, and in areas where change is expected in the future. New parks, plazas, and community facilities will help the City sustain its position as a model for public service delivery."*[1]

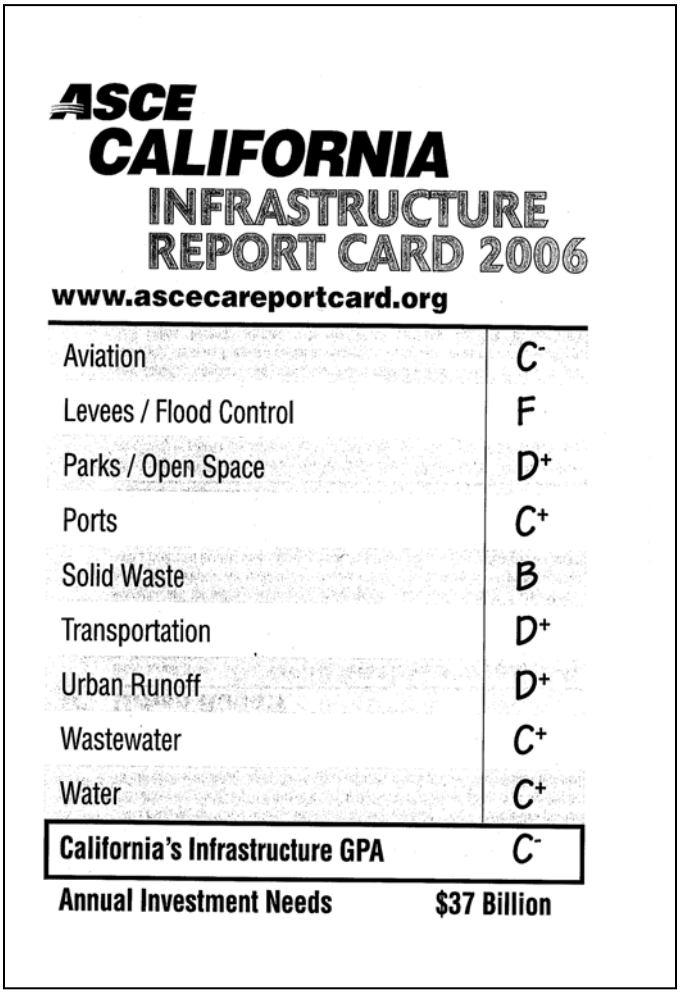
[1] *1998-2010 Comprehensive Plan*, Parks and Public Facilities Goal C-4

The Bay Area and California infrastructure deficits

The American Society of Civil Engineers (ASCE) has prepared a series of infrastructure report cards for the nation. In 2005, the San Francisco Section of ASCE prepared a Report Card for Bay Area Infrastructure that rated overall San Francisco Bay Area Infrastructure C-. The Bay Area report card was intended *"to serve as a vehicle to engage our community and civic leaders in a call to action for stronger investment in our region's vital infrastructure."* The report card was based on ratings by public works officials in all nine county governments in the Bay Area and a representative number of cities in each county. Survey responses were weighted according to population served and letter grades were assigned. Exhibit 1 shows the Bay Area and California report cards.

Exhibit 1: ASCE Infrastructure Report Cards – Bay Area 2005 and California 2006





Audit Scope and Methodology

We conducted this review in accordance with generally accepted government auditing standards. To meet our audit objective, we researched the asset management and infrastructure report card strategies recommended by

professional organizations and used by other jurisdictions; we used available documents to prepare a description of the City's assets by type; and we used the City's Comprehensive Annual Financial Reports, adopted Capital Budgets, and financial system to summarize Palo Alto's net investment in infrastructure.

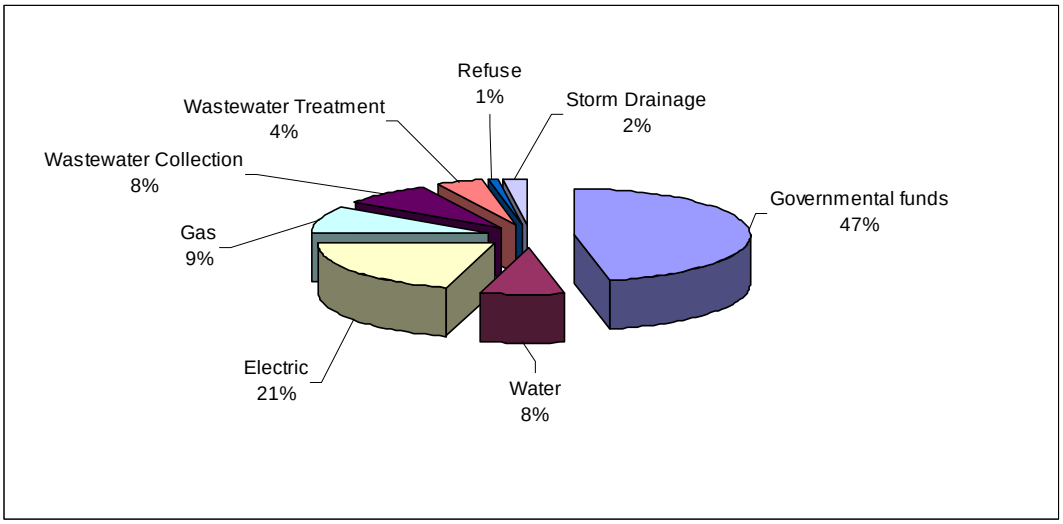
Where do we stand?

Palo Alto owns and is responsible for maintaining substantial capital assets. The City reports its investment in its financial statements, budgets for infrastructure improvements in its 5-year capital improvement plan (CIP), and has developed a program to address its infrastructure backlog. That information is incorporated into an infrastructure report card for Palo Alto.

Palo Alto reports its investment in infrastructure in its financial statements

More than half of Palo Alto's capital assets are in the Utility/enterprise funds.

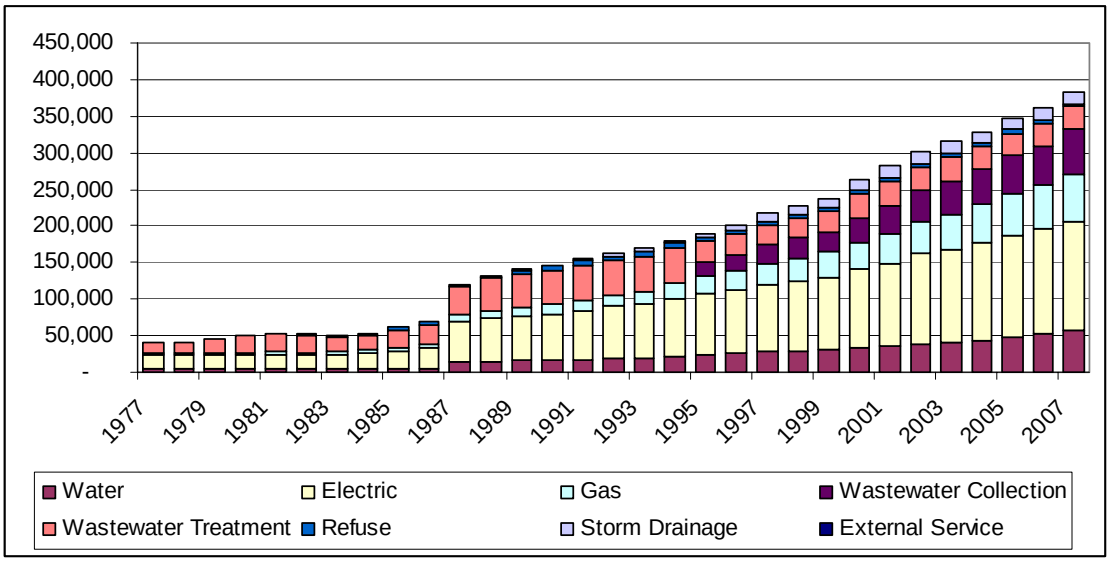
Exhibit 2: Book value of total capital assets by fund (historic cost net of depreciation) as of June 30, 2007



Source: 2006-07 Comprehensive Annual Financial Report

In total, Utility/enterprise fund assets (net of depreciation) have shown growth over the last 30 years.

Exhibit 3: Utility/enterprise Fund capital assets (1977-2007)

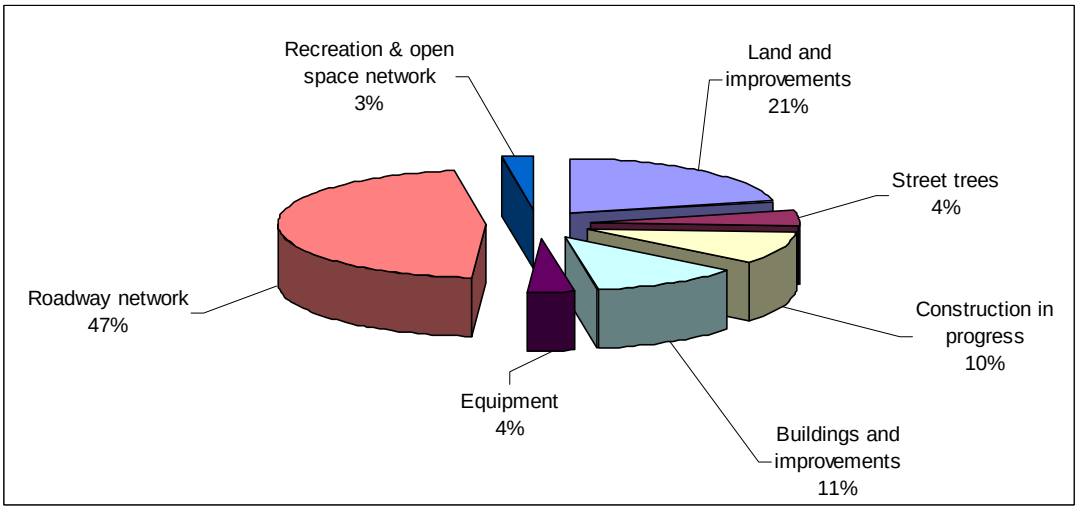


Source: Comprehensive Annual Financial Reports

Investment in General Fund infrastructure

The City's General Fund owns and maintains various types of infrastructure assets.

Exhibit 4: Book value of general governmental capital assets by type (historic cost net of depreciation) as of June 30, 2007



Source: Comprehensive Annual Financial Report 2006-07

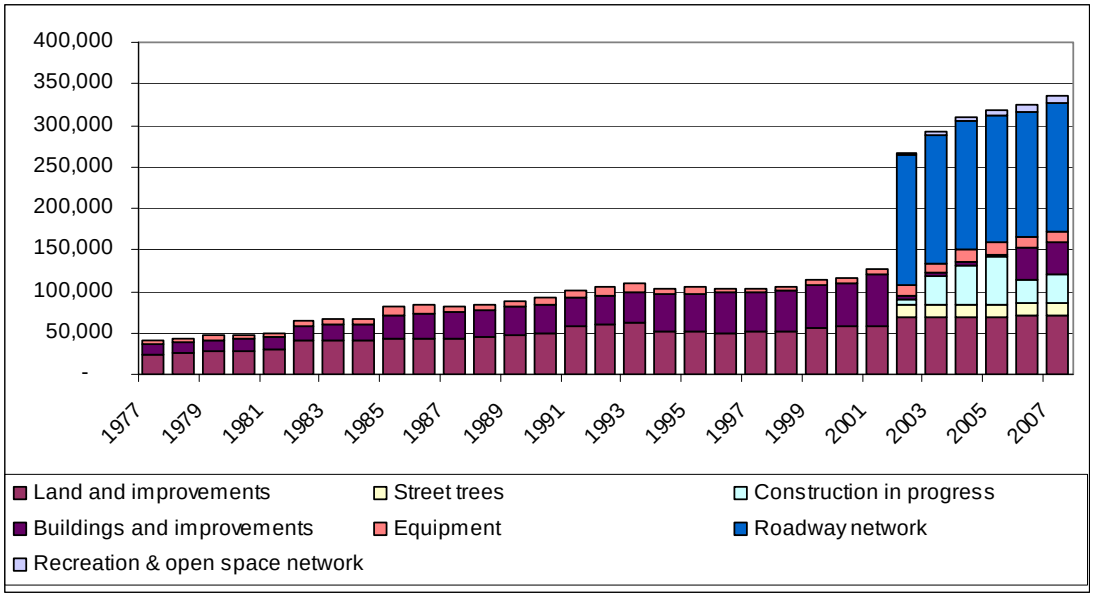
With the adoption of GASB 34[2] in FY 2001-02, the City began recording and depreciating its General Fund capital assets in the Citywide financial statements.[3] Capital assets are valued at historical cost, net of accumulated depreciation.

[2] Governmental Accounting Standards Board Statement No. 34, *Basic Financial Statements for State and Local Governments*

[3] The City's financial statements are on-line at www.cityofpaloalto.org/finance/cafr.html.

This includes buildings and structures, vehicles and equipment, and roadways.[4] Prior to FY 2001-02, the financial statements excluded most General Fund assets and their depreciation. It is useful to record depreciation because it can be used to estimate the rate of deterioration of capital assets. Exhibit 5 shows the increased valuation of the City's assets after implementation of GASB 34.

Exhibit 5: General Fund capital assets 1997-2007[5]



Source: Comprehensive Annual Financial Reports

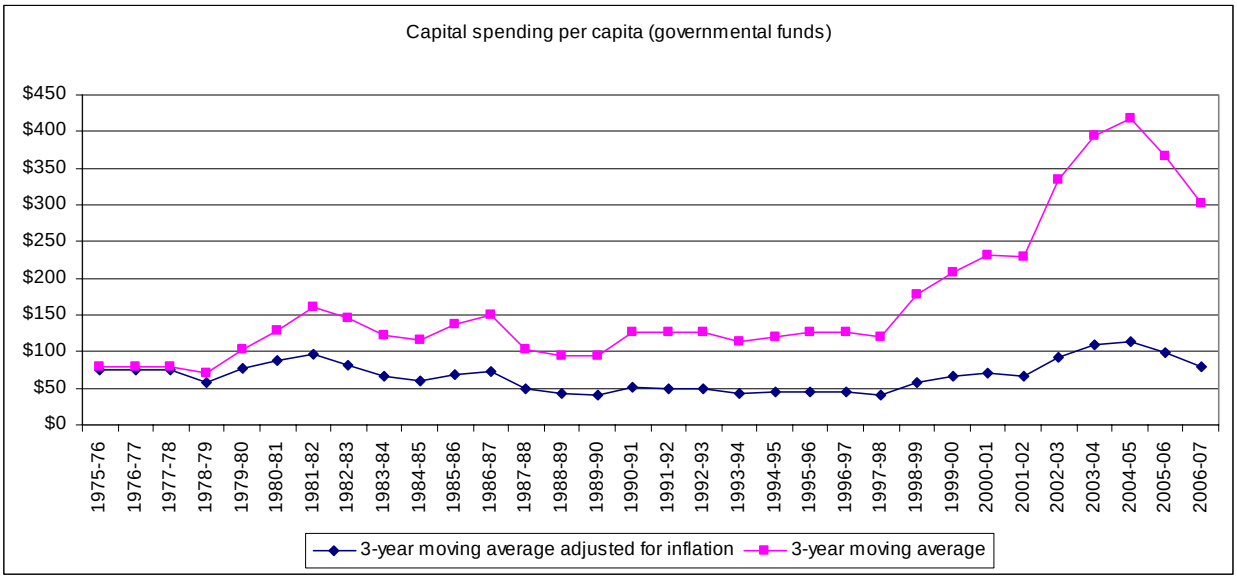
Capital spending

Capital spending can fluctuate significantly from year to year. As shown in Exhibit 6, capital spending by Palo Alto's governmental funds increased from an estimated $79 per capita in 1977-78 to $302 per capita in 2006-07; but to only $80 per capita when adjusted for population growth and inflation (i.e. in 1977-78 dollars).

[4] In January 2002, Harris & Associates prepared a GASB 34 compliant infrastructure valuation for the City. It included historic values, annual depreciation, accumulated depreciation, and net book value for City infrastructure assets.

[5] In 2002, the City changed its method of accounting for General Fund assets, and began accounting for all its assets including depreciation on its financial statements; figures prior to 2002 did not include roads, various other infrastructure assets, or depreciation.

Exhibit 6: General Fund capital spending per capita (in millions)[6]



Source: Comprehensive Annual Financial Reports

The 1997 Adamson report and development of the Infrastructure Management Plan (IMP)

Over the years, Palo Alto has conducted various assessments of its infrastructure. In 1990, the City authorized a long term utilities infrastructure replacement program for its Utilities. And in FY 1996-97, the City contracted with Adamson Associates for an infrastructure management study of the City's buildings, streets and roadways, and parks. The goals of the study were to identify major site components and associated replacement costs anticipated in the next 25 years, identify annual funding requirements including backlog, organize logical flow of work to be done, and create ongoing infrastructure management systems and a method for periodic updates of the system.

In response to the 1997 Adamson report, the City stepped up capital spending and also established an Infrastructure Reserve (IR). The IR was created to maintain and restore the City's infrastructure by ensuring that funding was available for infrastructure repair and replacement.

In FY 2004-05, at the recommendation of the City Auditor, the IR was moved from the General Fund to the Capital Projects Fund – where it would accrue interest that would benefit the infrastructure CIP. The IR continues to be funded by transfers from the General Fund.

The 1997 Adamson report provided a plan for General Fund infrastructure maintenance for the next 25 years. As shown in the sample at Exhibit 7, the report summarized the status of each infrastructure asset, and provided estimated cost data (unescalated; i.e. in 1996-97 dollars) organized by life cycle with adjustments to provide a smoother program-wide annual cost.

[6] Population figures from California Department of Finance, and inflation from Bureau of Labor Statistics (Consumer Price Index – All Urban Consumers San Francisco, http://www.bls.gov/cpi/home.htm).

Exhibit 7: Sample asset data sheet from Adamson report

Palo Alto Parks Management Study
Palo Alto, California

AA 97/3908
18 Sept 97

Foothills Park	3300 Page Mill Road
Park Data	
Date Opened	1965
Acreage (approximate)	1400
Trails	15.0 Miles

Foothills Park contains picnic areas, Borondo Lake, 15 miles of hiking trails, a campfire circle, overnight camping, and large lawn area.

The most pressing problems include trail maintenance, and water management of the turf area. A current CIP includes replacement of irrigated areas.

Other problems not addressed in this study include paved roadway repairs and parking capacity issues.

Foothills Park	**Quant**	**Unit**	**Rate**	**$ x 1,000**	**Cycle (Year)**	**Prev. Maint.**	**Next Maint.**	**1 98/99**	**2 99/00**	**3 00/01**	**4 01/02**	**5 02/03**	**6 03/04**	**7 04/05**	**8 05/06**	**9 06/07**	**10 07/08**	**11 - 15 12/13**	**16 - 20 17/18**	**21 - 25 22/23**
Paving																				
Parking Lot (Interpretive Area)	20,000	SF	5.00	100	20		1998			100										0
Vista Hill	8,000	SF	10.00	80	20		1998			80										0
Interpretive area walkways	3,000	SF	10.00	30	20		1998			30										0
Trail maintenance - annually 3 year cycle	5	MI	10000	50	1		1998	50	50	50	50	50	50	50	50	50	50	250	250	250
Turf irrigation and repair - Phase 2		LS		250	25		1998	250												
Weed removal - non native @ 15% of area	210	AC	2,000	420	3		1998			420	210	210		42		42		126	84	126
Mechanical clearing of lake	1	LS	10,000	10	1		1998	10	10	10	10	10	10	10	10	10	10	50	50	50
Boronda Lake and Dam work	1	LS	50,000	50	10		1998	50										50		50
Miscellaneous structures																				
Foot bridge < 10'	20	EA	15,000	300	25		1998			300										
Boat dock ramp	1	EA	30,000	30	25	1994	2019												30	
Fencing - annual	1,000	LF	10.00	10				10	10	10	10	10	10	10	10	10	10	50	50	50
Camping areas	5	EA	5,000	25	20		1998	25												25
Picnic table, BBQ, benches, etc.	200	EA	1,000	200	5			50					50					50	50	50
Total current costs (unescalated)								445	70	1,000	280	280	120	112	70	112	70	576	514	601

Table 3 - 13

The report summarized that data in a format that anticipated system-wide costs over the next 25 years. In 1998, staff proposed a $95 million, 10-year General Fund Infrastructure Management Plan (IMP) for the maintenance and improvement of the City's existing infrastructure based on the assessment that Adamson had completed. The first three modules were buildings, traffic and transportation, and parks. A fourth module on bridges and parking lots was expected in 1998, but was never produced.

Appendix 4 provides more detail on the estimated cost of the IMP. The first 10-year plan was more than $95 million (in 1996-97 dollars). The life cycle cost analysis showed an additional $25 million would be due in years 11-15 (also in 1996-97 dollars), $9 million in years 16-20, and $9 million in years 21-25 for a total estimated cost of $138.6 million over 25 years (in 1996-97 dollars).

In 2006, the City Council directed staff to review options to increase General Fund infrastructure spending by $3 million per year. The City's 2008-2018 Long Range Financial Forecast included a $7.6 million transfer from the General Fund for infrastructure projects in FY 2007-08, and assumed the annual transfer would increase by an inflation factor of 7% per year.

Other sources of funding for infrastructure projects include gas tax[7], development impacts fees, and federal/state grants. For example, the FY 2007-12 Capital Improvement Plan (CIP) included $5.8 million in gas tax, $2.4 million in development impact fees, and $0.9 million in federal/state grants.

An infrastructure report card for Palo Alto

Given that the Adamson study was 12 years ago, and given recent increases in capital spending, the purpose of this project was to assess the results of this increased capital spending on the City's infrastructure, including utilities. Are we making progress, losing ground, or just holding our own?

The following report card is one way to look at the question. Assignment of green (making progress), yellow (holding our own), or red (losing ground)[8] is based largely on the following four factors:

- Net book value – historic cost of assets net of depreciation (per GASB 34)
- Change in net value over the last 3 years – to monitor whether assets are being improved or are being used up (includes construction in progress)
- Approved-in-concept five year capital improvement program (2007-2012)
- Unfunded backlog – estimated investment needed to prevent further deterioration of the asset and to ensure heath and safety[9]

Additional information about the assets that are included in each category can be found in Appendix 6.

The report card shows mixed results

The report card shows the change in net value for assets in both the general and enterprise funds. An increase in net value over the last three years indicates that the City has invested more than has been expensed for depreciation[10].

Overall, the City is progressing, but results, especially for General Fund assets, are mixed.

[7] Use of gas tax is restricted for maintenance of the road network system of the city.
[8] Rating system concept based on the GreenBiz Index (www.greenbiz.com)
[9] Current estimates of the General Fund infrastructure backlog were not available at the time of this report.
[10] While depreciation depends upon the original purchase price of the asset as well as the depreciation method used, it is a useful gauge for estimating whether the City's capital spending is keeping pace with the deterioration of the assets. For additional information see Appendix 5.

Infrastructure Report Card for Palo Alto

		Net book value 6/30/07	Change in net value over the last 3 years	5 year capital improvement plan (2007-2012)	Unfunded backlog (estimated)[11]
	PARKS AND OPEN SPACE				
Making progress	Parks	$19.7	+32%	$5.9	TBD
Holding our own	Open space	$29.8	+29%	$1.8	TBD
Holding our own	Golf course	$7.8	-1%	$0.7	TBD
	COMMUNITY FACILITIES				
Losing ground	Community centers	$11.2	+16%	$4.9	TBD
Making progress	Library facilities	$6.4	+285%	$4.4	TBD
Making progress	Other community facilities	$16.6	+2%	$1.0	TBD
	CIVIC FACILITIES				
Losing ground	City Hall	$4.0	+160%	$7.0	TBD
Losing ground	Municipal services center	$1.9	+62%	$1.8	TBD
Losing ground	Fire stations	$2.3	+182%	$0.1	TBD
	STREETS AND PARKING				
Losing ground	Streets	$90.4	+2%	$11.8	TBD
Losing ground	Sidewalks, curbs and gutters	$59.7	+0%	$8.1	TBD
Holding our own	Parking facilities	$38.4	-1%	$0.1	TBD
Making progress	Street lights and traffic signals (Electric Utility)	$7.1	+14%	$1.5	$0
Holding our own	Trees	$15.0	-4%	$0	TBD
Making progress	Other roadway improvements	$12.6	+24%	$1.7	TBD
	UTILITIES				
Making progress	Electric	$125.4	+9%	$45.5	$0
Holding our own	Fiber optic	$5.7	-11%	$1.6	$0
Making progress	Gas	$61.2	+20%	$36.1	$0
Holding our own	Refuse and landfill	$2.5	-11%	$2.0	TBD
Losing ground	Storm drainage	$13.9	+6%	$13.7	TBD
Making progress	Sewers	$57.9	+22%	$18.4	$0
Making progress	Wastewater treatment	$28.6	-5%	$45.4	$0
Making progress	Water	$53.1	+28%	$62.2	$0
	TOTAL	**$671.2**		**$275.7**	

[11] Current estimates of the General Fund infrastructure backlog were not available at the time of this report.

Moving toward a sustainable capital budget

The City has struggled to fund backlogs of infrastructure repair for a number of years. Based on the age and estimated useful life of infrastructure assets and their component parts, the Adamson Infrastructure Management Study proposed a schedule for maintenance and replacement of various components with estimated costs (in 1996-97 dollars). The study identified $95 million of work required in years 1-10, and $25 million in work required in years 11-15.

Many of the facility/infrastructure needs identified for years 1-10 have not been completed. It is now year 11, and the work identified by Adamson for years 11-15 should, ideally, be in the current 5-year CIP.

Setting priorities for capital spending

The City's current process for decision-making is based on departmental assessments of infrastructure needs. The City Manager's IMP committee reviews General Fund capital budget proposals to determine which projects should be recommended for funding in the 5-year CIP. Project submissions are selected based on any of the following five criteria:

- *Project involves a mission-critical need that, if not addressed, would impede operational effectiveness.*
- *Project is the result of specific Council direction.*
- *Project is legally required for compliance with codes or laws.*
- *Project mitigates existing health and safety risks as identified by the Public Works, Fire or Building Division inspectors, or prevents potential future health and safety risks.*
- *Project is fully reimbursed through an external funding source*.[12]

The IMP committee has tried to prioritize items that were originally identified in the Adamson report. However, it has proven difficult to keep the focus on existing infrastructure. In the 10 years since the plan was adopted, the City built 2 new parking garages downtown (funded by the parking assessment district bonds), the Homer Avenue tunnel (largely funded by grants), acquired additional open space and built a new interpretive center at the Arastradero Preserve (largely funded by grants), and acquired the Roth building as part of the Summerhill development. In addition, costs of projects increased and scopes expanded. Furthermore, since Adamson, additional facilities have been determined to be physically and programmatically obsolete.[13]

[12] 2007-09 Adopted Capital Budget, page 3

[13] The 1997 Adamson report observed that at that time 6 facilities were close to both physical and programmatic obsolescence, and recommended that planning for the replacement of these structures within the next 10 years should be considered. Those buildings were: Fire Station 3 (790 Embarcadero), Fire Station 4 (3600 Middlefield Road), the Animal Services Center, the Baylands Interpretive Center, the Lawn Bowling Facility, and the restrooms at Peers, El Camino, Mitchell, and Rinconada Parks.

Adopt best practices for capital maintenance and replacement

The International City Management Association (ICMA) encourages local jurisdictions to develop policy statements that suggest appropriate levels of spending, as well as budgeting procedures, for maintaining fixed assets. Suggested policy statements include:

- *The budget will provide sufficient funding for adequate maintenance and orderly replacement of capital plant and equipment*
- *All assets will be maintained at a level that protects capital investment and minimizes future maintenance and replacement costs*[14]

The Government Finance Officers Association (GFOA) has issued a recommended practice for capital maintenance and replacement. It addresses key capital spending issues facing Palo Alto. We recommend adopting the practice as City policy. We have based additional recommendations in this report on the principles outlined in GFOA's recommended practice. The full text is included in Appendix 1.

RECOMMENDATION #1: The City should adopt the Government Finance Officers Association Recommended Practice "Capital Maintenance and Replacement" as City policy.

The need for systematic tracking of infrastructure condition and maintenance needs

Estimates and inventory are outdated

It is now year 11 of the Adamson study period. The work outlined in the first 10-year plan is not yet complete and, according to the 1997 Adamson work schedule, more repair and replacement is now due. Furthermore, cost estimates are out of date.

The Adamson report recommended a consultant be retained to periodically update the conditions of the sites included in that study. According to the report, periodic *"updates are required for this report to remain a meaningful and useful financial planning tool."*

Staff has completed various condition assessments, and in July 2007, the City Council approved a contract in the amount of $147,684 with Kitchell CEM to update condition assessments of 86 City buildings (CMR:303:07). Public Works is preparing an assessment of the total General Fund infrastructure backlog. That data was not available at the time of this report.

The need to coordinate multiple asset management systems

Asset management systems are used to systematically track maintenance, upgrades, and operating characteristics of physical assets. Systems include an

[14] *Evaluating Financial Condition: A Handbook for Local Government* by Sanford M. Groves and Maureen Godsey Valente (ICMA), page 105

up-to-date inventory of assets, periodic condition assessment of infrastructure assets, and estimated annual amount required to maintain and preserve assets at a desired condition level.

In addition to various consultant reports and studies of infrastructure condition, several asset management systems are maintained by staff in various City departments. For example, Public Works Facilities tracks building maintenance in a stand-alone database. Pavement maintenance and storm drain maintenance is stored in the City's geographic interface system (GIS). Parks information is stored in a stand-alone parks database (PlaySafe). Utilities information is stored in industry-specific databases.

Additional sources of information about infrastructure assets include the City's financial system (that contains information about asset values), and appraisal reports that show asset values for insurance purposes. Thus, the City has considerable data, but does not have a comprehensive list of its infrastructure. The City's Geographic Interface System (GIS) contains some location-specific information about City assets, and is available to employees in all departments. GIS systems are designed to hold location-specific infrastructure information.

RECOMMENDATION #2 *(GFOA recommended practice)*: Develop and maintain a complete inventory of all capital assets. This inventory should contain essential information including engineering description, location, physical dimensions and condition, "as-built" documents, warranties, maintenance history, book value and replacement cost. Operating cost information could also be included. Database and geographic information technologies should be employed to assist in this task.

RECOMMENDATION #3 *(GFOA recommended practice)*: Develop a policy to require periodic measurement of the physical condition of all existing capital assets. Document the established methods of condition assessment. Periodically evaluate the capital program using data driven analysis of asset condition as well as past expenditure levels.

RECOMMENDATION #4: The City should utilize the GIS system as a central coordinating tool and, to the extent feasible, an ongoing repository of infrastructure inventory and condition.

Providing for ongoing system maintenance, replacements and routine upgrades

Asset management is *"a methodology to efficiently allocate resources amongst valid and competing goals and objectives."*[15] It *"is a business process and a decision-making framework that covers an extended time horizon, draws from economics as well as engineering, and considers a broad range of assets. The asset management approach incorporates the economic assessment of trade-offs between alternative investment options, both at the project level and at the network or system level, and uses this information to help make cost-effective*

[15] American Public Works Association Task Force on Asset Management

investment decisions…. [It] is a systematic process of maintaining, upgrading, and operating physical assets cost-effectively."[16]

The Adamson report documented the need for a planned approach to infrastructure maintenance. In April 1998 (CMR:191:98), staff recommended Council adopt the priorities presented within each module of the Adamson report with some modifications that had been proposed by departments, and with backlogged work receiving the highest priority.[17] Staff further recommended prioritizing existing facilities over new facilities for purposes of infrastructure funding, and that new or enhanced infrastructure should be funded from specific new revenue sources such as general obligation bonds, grants, new or increased taxes, assessments, or special tax districts.

RECOMMENDATION #5 *(GFOA recommended practice)*: Establish condition/functional performance standards to be maintained for each component of capital assets. Such standards may be dictated by mandated safety requirements, federal or state funding requirements or applicable professional standards. Use these standards and a current condition assessment as a basis for multi-year capital planning and annual budget funding allocations for capital asset maintenance and replacement.

RECOMMENDATION #6 *(GFOA recommended practice)*: Develop financing policies for capital maintenance/replacement which encourage a high priority for those capital programs whose goal is maintaining the quality of existing assets. Consider earmarking fees or other revenue sources to help achieve this goal.

A sustainable capital budget

There is no one right level of capital spending

Comparisons of capital spending between jurisdictions are difficult for a variety of reasons: capital spending varies from year to year; the book value of assets depends on when they were purchased; and each city classifies its infrastructure in different ways. For example, as shown in Appendix 3, Palo Alto, Mountain View, and Redwood City each use different asset classifications that make comparisons difficult.

Among other things, the "right level" of infrastructure spending depends on the physical condition, average age/expected service life, capacity/utilization, safety/seismic concerns, functionality, sustainability issues, and even potential impacts of climate change[18] on the City's infrastructure assets.[19]

[16] U.S. Department of Transportation's *Asset Management Primer*, available on the web at www.fhwa.dot.gov/infrastructure/asstmgmt/amprimer.pdf

[17] CMR:191:98 further explained that two areas in the original Adamson reports were not included in the proposed infrastructure program. These were City medians (originally identified as a $3.2 million backlog; later revised to $2.1 million in upgrades) and weeding in the City's open space areas (original estimate reduced by $1.13 million and recommended for funding within the operating budget).

[18] According to a recent staff report, a projected 1 meter rise in sea level and increased storm surge would likely impact the Municipal Airport, Water Quality Control Plant, Municipal Services Center and

The 2007 City Council "sustainable budget" priority

In October 2007, the Administrative Services Department prepared a discussion paper on the Council's Top 4 priority "sustainable budget" (CMR:387:07). It provided the following definition*: "A sustainable budget can be considered a spending plan that meets the needs of the present without compromising the ability to provide services to future generations. Such a budget would meet the challenge of funding current operational costs while at the same time funding incurred long-term liabilities."*

As aptly stated by the GFOA, *"budgetary pressures may impede capital program investments for maintenance and replacement purposes, making it increasingly difficult to sustain existing capital asset condition and avoid functional obsolescence. Yet deferring such essential reinvestments reduces vital public services and may even endanger public safety."*[20]

Simply put, a sustainable capital budget is one that keeps existing infrastructure operable and decent – not "using down" the infrastructure that previous generations of taxpayers "built up".

Provision for construction cost inflation

The Adamson report estimated the cost of work to be performed during the 25-year period from 1998-99 to 2022-23. The study was intended to establish *"order of magnitude"* estimates for financial planning of long term work items. It did not make any allowance for inflation or discounting of future expenses.

Exhibit 8 compares the consumer price index to producer prices indices for various construction segments. Including building inflation estimates helps ensure accurate and sufficient capital budgets.[21]

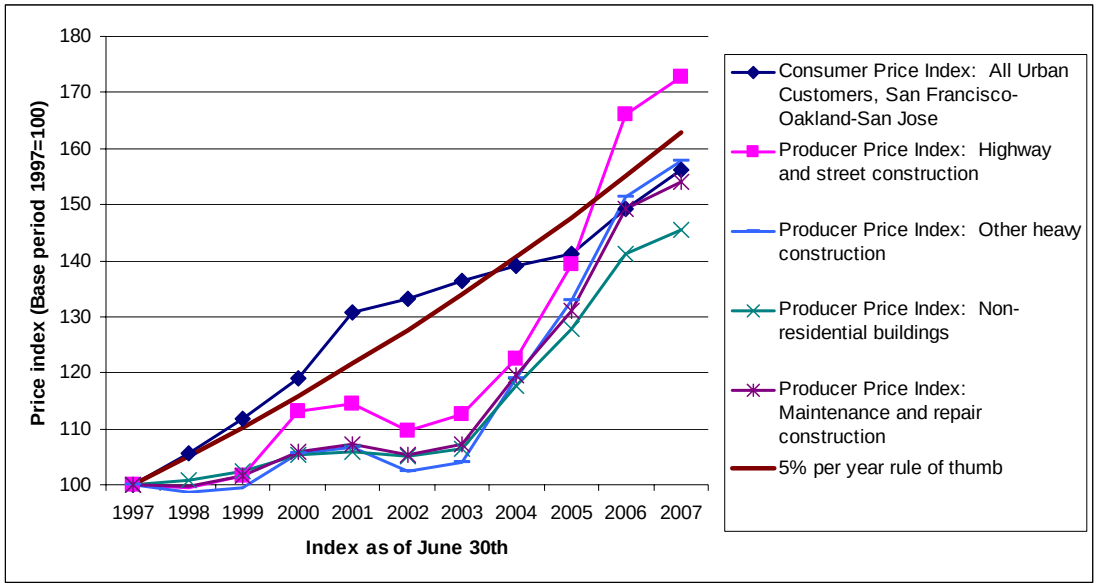
Utility Control Center, Utility substations and transmission routes, recycling center, recreation facilities, storm drains, residential neighborhoods and portions of business districts.

[19] See Appendix 2 for a list of questions to ask about infrastructure condition

[20] GFOA Recommended Practice, *Capital Maintenance and Replacement* (2007)

[21] The State of Minnesota Department of Finance provides specific direction to its agencies to first determine estimated building costs in "today's dollars", and then inflate that value (using a provided construction cost inflation schedule) to the midpoint of construction (based on the proposed project schedule).

Exhibit 8: Changes in consumer and producer price indices 1997-2007



Source: Bureau of Labor Statistics (www.bls.gov)

The importance of preventive maintenance

Experts agree that preventive maintenance of existing assets is key to holding down future costs. Whether caulking windows, painting building exteriors, or slurry sealing roadways, the purpose of preventive maintenance is to prevent further deterioration which could lead to the need to rebuild facilities. For example, according to the U.S. Department of Transportation's Asset Management Primer, "*The preventive approach is generally less costly and time-consuming than the traditional, more reactive approach. However, a strategy of prevention may be more difficult to justify because the public's expectation is that the worst roads demand immediate attention. Furthermore, the public often interprets activities related to pavement preservation as 'fixing something that isn't broken."*

Additional funding for refurbishment

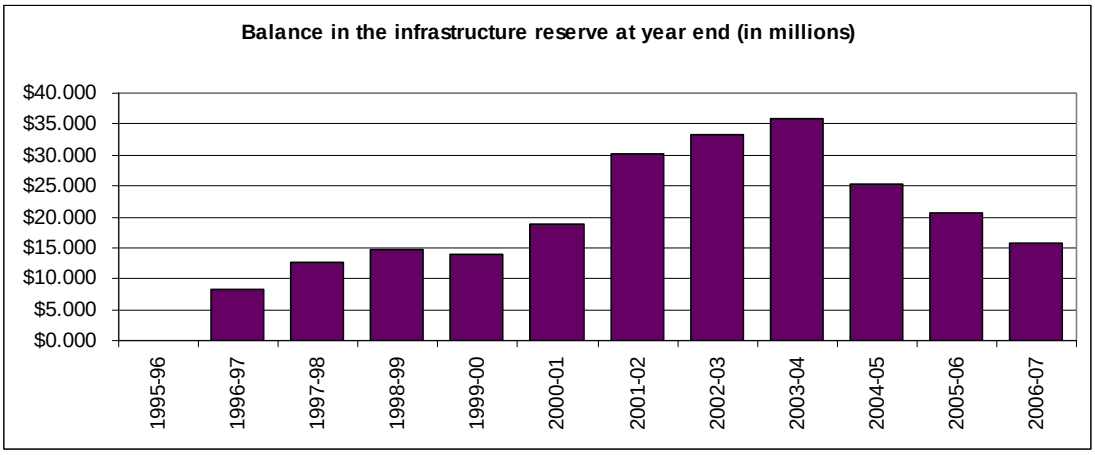
According to staff, the annual budget for refurbishment has been $50,000 per year since the 1980's. The "Facility Interior Finishes Replacement" project (PF-02022) is meant to replace worn interior finishes at various city facilities including ceilings, paint, carpet and flooring, and window coverings that are not part of a major renovation project. The need is great. For example, in 2005, the Auditor's Office recommended funding of $25,000 to $50,000 per year for unanticipated park repairs and minor improvements.[22] Similarly, in 2007, the Auditor's Office recommended funding of routine maintenance and replacement of furniture, shelving and minor repairs in Library facilities stating that even minor upgrades would help. [23]

[22] Audit of Parks Maintenance (December 2005), page 14
[23] Audit of Library Operations (July 2007), page 15

The value of an infrastructure reserve to smooth funding

As previously discussed, the infrastructure reserve was created to maintain and restore the City's infrastructure by ensuring that funding was available for infrastructure repair and replacement. As shown in Exhibit 9, the balance in the reserve has been declining.

Exhibit 9: Balance in the infrastructure reserve at year end (in millions)



Source: Comprehensive Annual Financial Reports

In our opinion, even if the current infrastructure reserve is completely spent down in the near term, it will be essential to retain the infrastructure reserve as a place to accumulate one-time monies and/or to save for anticipated future projects.

RECOMMENDATION #7 *(GFOA recommended practice)*: Allocate sufficient funds in the multi-year capital plan and annual operations budget for routine maintenance, repair and replacement of capital assets in order to extend the useful life of these assets and promote a high level of performance throughout the target period.

RECOMMENDATION #8 *(GFOA recommended practice)*: At least annually, report on capital infrastructure, including:

- Condition ratings jurisdiction-wide
- Condition ratings by geographical area, asset class, and other relevant factors
- Indirect condition data (e.g. water main breaks, sewer back-up complaints)
- Replacement life cycle(s) by infrastructure type
- Year-to-year changes in net infrastructure asset value
- Actual expenditures and performance data on capital maintenance compared to budgeted expenditures performance data (e.g. budgeted street miles reconstructed compared to actual).

RECOMMENDATION #9 *(GFOA recommended practice)*: Report trends in infrastructure spending and accomplishments in the jurisdiction's Capital Improvements Program including trends in spending, replacement cycle, and other important factors for each major infrastructure category.

RECOMMENDATION #10: Staff should propose and the City Council should consider a sustainable capital budget that:

- Provides additional funding for critical needs that have been identified in the infrastructure condition assessments, including construction cost inflation.
- Lists all other unfunded needs that were identified in those assessments in the annual capital budget document.

CONCLUSION

In recent years, Palo Alto has increased its infrastructure spending, and the net book value of Palo Alto's assets is increasing overall. Nevertheless, Palo Alto is losing ground in many categories. There is no one right level of maintenance or level of investment, however the City should maintain assets purchased by previous generations in a condition that is useful to future generations.

Recommendations

RECOMMENDATION #1: The City should adopt the Government Finance Officers Association Recommended Practice "Capital Maintenance and Replacement" as City policy.

RECOMMENDATION #2 *(GFOA recommended practice)*: Develop and maintain a complete inventory of all capital assets. This inventory should contain essential information including engineering description, location, physical dimensions and condition, "as-built" documents, warranties, maintenance history, book value and replacement cost. Operating cost information could also be included. Database and geographic information technologies should be employed to assist in this task.

RECOMMENDATION #3 *(GFOA recommended practice)*: Develop a policy to require periodic measurement of the physical condition of all existing capital assets. Document the established methods of condition assessment. Periodically evaluate the capital program using data driven analysis of asset condition as well as past expenditure levels.

RECOMMENDATION #4: The City should utilize the GIS system as a central coordinating tool and, to the extent feasible, an ongoing repository of infrastructure inventory and condition.

RECOMMENDATION #5 *(GFOA recommended practice)*: Establish condition/functional performance standards to be maintained for each component of capital assets. Such standards may be dictated by mandated safety requirements, federal or state funding requirements or applicable professional standards. Use these standards and a current condition assessment as a basis for multi-year capital planning and annual budget funding allocations for capital asset maintenance and replacement.

RECOMMENDATION #6 *(GFOA recommended practice)*: Develop financing policies for capital maintenance/replacement which encourage a high priority for those capital programs whose goal is maintaining the quality of existing assets. Consider earmarking fees or other revenue sources to help achieve this goal.

RECOMMENDATION #7 *(GFOA recommended practice)*: Allocate sufficient funds in the multi-year capital plan and annual operations budget for routine maintenance, repair and replacement of capital assets in order to extend the

useful life of these assets and promote a high level of performance throughout the target period.

RECOMMENDATION #8 *(GFOA recommended practice)*: At least annually, report on capital infrastructure, including:

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RECOMMENDATION #10: Staff should propose and the City Council should consider a sustainable capital budget that:

- Provides additional funding for critical needs that have been identified in the infrastructure condition assessments, including construction cost inflation.
- Lists all other unfunded needs that were identified in those assessments in the annual capital budget document.

Office of the City Manager

MEMORANDUM

From: Emily Harrison, Assistant City Manager
Date: February 27, 2008
Subject: Response to 2008 Infrastructure Report Card Audit Report

Staff is in general agreement with the recommendations contained in the Infrastructure Report Card audit report, and will be providing a more detailed response at the March 18 Finance Committee meeting. At that same March 18 meeting, staff will be presenting the updated inventory and costing of the General Fund infrastructure program. That report recommends additional staff resources for infrastructure, which would also be required to implement the recommendations in the Auditor's Report. Any additional staffing, however, would need to be considered within the overall context of the assignment to staff to look at identifying new revenues and expenditure reductions to accommodate debt service for the public safety building COPs and for additional infrastructure funding.

Emily Harrison, Assistant City Manager

APPENDIX 1

GFOA RECOMMENDED PRACTICE

Capital Maintenance and Replacement (2007)

Background. Capital assets comprise major government facilities, infrastructure, equipment and networks enabling the delivery of public sector services. The quality and continued utilization of these capital assets are essential to the health, safety, economic development and quality of life of those utilizing such assets.

Budgetary pressures may impede capital program investments for maintenance and replacement purposes, making it increasingly difficult to sustain existing capital asset condition and avoid functional obsolescence. Yet deferring such essential reinvestments reduces vital public services and may even endanger public safety. The financial result is increased cost as the physical condition of these assets declines. Government entities should therefore establish capital planning, budgeting and reporting practices to encourage adequate capital spending levels. A government's financial and capital improvement plans should address the continuing investment necessary to properly maintain its capital assets. Such practices should include proactive steps to promote adequate capital maintenance and reinvestment in existing public capital assets.

Recommendation. The Government Finance Officers Association (GFOA) recommends that local and state governments establish a system for planning, budgeting and periodic assessment of their capital maintenance/replacement needs. The following actions should be considered:

1. Develop and maintain a complete inventory of all capital assets. This inventory should contain essential information including engineering description, location, physical dimensions and condition, "as-built" documents, warranties, maintenance history, book value and replacement cost. Operating cost information could also be included. Database and geographic information technologies should be employed to assist in this task.

2. Develop a policy to require periodic measurement of the physical condition of all existing capital assets. Document the established methods of condition assessment. Periodically evaluate the capital program using data driven analysis of asset condition as well as past expenditure levels.

3. Establish condition/functional performance standards to be maintained for each component of capital assets. Such standards may be dictated by mandated safety requirements, federal or state funding requirements or applicable professional standards. Use these standards and a current condition assessment as a basis for multi-year capital planning and annual budget funding allocations for capital asset maintenance and replacement.

4. Develop financing policies for capital maintenance/replacement which encourage a high priority for those capital programs whose goal is maintaining the quality of existing assets. Consider earmarking fees or other revenue sources to help achieve this goal.

5. Allocate sufficient funds in the multi-year capital plan and annual operations budget for routine maintenance, repair and replacement of capital assets in order to extend the useful life of these assets and promote a high level of performance throughout the target period.

6. At least annually, report on capital infrastructure, including:

a. Condition ratings jurisdiction-wide
b. Condition ratings by geographical area, asset class, and other relevant factors
c. Indirect condition data (e.g., water main breaks, sewer back-up complaints)
d. Replacement life cycle(s) by infrastructure type
e. Year-to-Year changes in net infrastructure asset value
f. Actual expenditures and performance data on capital maintenance compared to budgeted expenditures performance data (e.g., budgeted street miles reconstructed compared to actual)

7. Report trends in infrastructure spending and accomplishments in the jurisdiction's Capital Improvements Program including trends in spending, replacement cycle, and other important factors for each major infrastructure category.

References

- John Vogt, *Capital Budgeting and Finance: A Guide for Local Governments,* ICMA, 2004.
- Nicole Westerman, *Managing the Capital Planning Cycle: Best Practice Examples of Capital Program Management*, Government Finance Review, 2004.
- GFOA & National Advisory Council on State and Local Budgeting Best Practices in Public Budgeting (Practice #s 2.2, 5.2, 6.2, 11.5). – www.GFOA.org/services/nacslb.
- GFOA Recommended Practice, *Capital Project Budget (2006);* www.GFOA.org.
- GFOA Recommended Practice, *Establishing the Estimated Useful Lives of Capital Assets (2002, 2007);* www.GFOA.org.
- GFOA Recommended Practice, *Considerations on the Use of the (GASB 34 Reporting Model) Modified Approach to Account for Infrastructure Assets (2002);* www.GFOA.org.

Approved by the GFOA's Executive Board, October 19, 2007.

APPENDIX 2

QUESTIONS TO ASK ABOUT INFRASTRUCTURE CONDITION

DESCRIPTION AND CONDITION ASSESSMENT: General description of current assets and their condition.

- PHYSICAL CONDITION: Description of overall condition and average age. Are assets wearing out, or wearing well?
- AVERAGE AGE/EXPECTED SERVICE LIFE: What's the average age (e.g. when were parks established, when last renovated) and estimated service life (e.g. what's expected interval between major renovations)?
- HISTORIC COST AND ESTIMATED REPLACEMENT COST: In accordance with GASB Statement 34, the City records its infrastructure assets in its financial statements. What is the historic cost of these assets net of depreciation? What is the estimated replacement cost, if available?
- CAPACITY/UTILIZATION: Description of current capacity/utilization. Is there sufficient capacity to serve current/future demand? How intensively is the asset used?
- SAFETY: Description of any near-term or long-term safety issues (e.g. seismic).
- FUNCTIONALITY: Description of how well assets are suited to the functions they serve. Is the physical infrastructure meeting program delivery needs?
- SUSTAINABILITY: Description of energy efficiency, water conservation, storm water or other environmental impacts of the facility/assets.
- CLIMATE CHANGE: Will this facility/asset be impacted by climate change (e.g. storm impacts or sea level rise).

DESCRIPTION OF MAINTENANCE AND IMPROVEMENT PLAN: Description of current renovation and maintenance programs.

- ANNUAL MAINTENANCE: Description of annual maintenance efforts and costs (i.e. what is estimated maintenance cost per year? Projected future maintenance needs?)
- DEFERRED MAINTENANCE/ BACKLOG: Description from 1997 Adamson report or other studies. What is nature of maintenance need – minor maintenance, major rehabilitation, replacement? What would it take to restore it to nearly new conditions?
- PLANNED IMPROVEMENTS: General description of proposed 5-year capital improvement program (CIP).
- NOT SCHEDULED FOR FUNDING: General description of improvements identified but not yet funded or scheduled.

APPENDIX 3

CROSS-CITY COMPARISON OF CAPITAL ASSETS

No other nearby city owns and maintains a full range of utility infrastructure like Palo Alto, and each city classifies its infrastructure in different ways. For example, as shown below, even under GASB 34, Palo Alto, Mountain View, and Redwood City each chose different classifications for their assets that make comparisons difficult.

Cross-city comparison of capital assets as of June 30, 2007 (in millions)

	Palo Alto	Mt. View	Redwood City
POPULATION	62,615	73,262	77,025
GOVERNMENTAL ACTIVITIES			
Land and improvements	$ 71,407	$ 71,708	$ 29,303
Street trees	$ 15,042	$ -	
Construction in progress	$ 34,309	$ 69,834	$ 70,533
Buildings and improvements	$ 93,542	$109,455	$ 57,445
Improvements other than buildings	$ -	$105,546	$ 7,731
Equipment	$ 40,155	$ 20,994	$ 16,693
Roadway network	$239,179	$ 41,440	$ 75,745
Sidewalks, curbs and gutters	$ -	$103,769	$ -
Traffic signals	$ -	$ 6,956	$ 2,452
Streetlights	$ -	$ 7,476	$ -
Storm drains	$ -	$ -	$ 8,131
Bridges and culverts	$ -	$ 8,055	$ -
Recreation & open space network	$ 13,532	$ -	$ -
Parks, bridges, etc.	$ -	$ -	$ 21,609
Less accumulated depreciation	$(171,465)	$(240,680)	$ (69,761)
SUBTOTAL	$ 335,701	$ 504,553	$ 219,881
Per capita	*$5.36*	*$6.89*	*$2.85*
BUSINESS-TYPE ACTIVITIES			
Land and improvements	$ 1,953	$ 220	$ 3,448
Construction in progress	$ 88,969	$ 27,834	$ 47,690
Buildings and improvements	$ 18,915	$ 8,927	$ 10,915
Improvements other than buildings	$ -	$ 62,987	$ 81,750
Equipment	$ -	$ 2,755	$ 1,366
Transmission, distribution, and treatment systems	$ 480,143	$ -	$ -
Harbor improvements	$ -	$ -	$ 3,305
Less accumulated depreciation	$(206,171)	$ (35,403)	$ (39,736)
SUBTOTAL	$ 383,809	$ 67,320	$ 108,738
Per capita	*$6.13*	*$0.92*	*$1.41*
TOTAL	$ 719,510	$ 571,873	$ 328,619
Per capita	*$11.49*	*$7.81*	*$4.27*

Source: Comprehensive Annual Financial Reports

APPENDIX 4

1997 ADAMSON REPORT
Summary of repair and replacement needs over the next 25 years
(1996-97 dollars, in millions)

	Years 1-10	Years 11-15	Years 16-20	Years 21-25	TOTAL
MODULE 1: BUILDINGS					
Civic center	4,224	575	1,008	1,685	7,492
Fire stations	2,342	390	243	309	3,284
Municipal services center	3,607	368	840	496	5,311
Community centers	3,755	1,079	930	908	6,672
Libraries	2,886	446	492	228	4,052
Park and golf facilities	4,322	170	347	147	4,986
Parking lots	407	667	185	1,127	2,386
Cubberley	6,984	971	2,213	401	10,569
Other	190	60	60	30	340
Subtotal	**28,717**	**4,726**	**6,318**	**5,331**	**45,092**
MODULE 2: TRAFFIC AND TRANSPORTATION					
Streets	24,679	9,000	-	-	33,679
Sidewalks	14,790	2,790	-	-	17,580
Bikes and pedestrian facilities	1,261	186	-	-	1,447
Medians, islands, plants	6,377	5,329	-	-	11,706
Subtotal	**47,107**	**17,305**	**-**	**-**	**64,412**
MODULE 3: PARKS					
Parks	9,373	1,753	1,512	1,108	13,746
Open space	5,408	1,489	1,307	1,841	10,045
School sites	385	125	-	125	635
Other	4,256	60	210	170	4,696
Subtotal	**19,422**	**3,427**	**3,029**	**3,244**	**29,122**
TOTAL	**$95,246**	**$25,458**	**$9,347**	**$8,575**	**$138,626**

APPENDIX 5

CAPITAL SPENDING AND DEPRECIATION

The City values capital assets at historical cost or estimated historical cost if actual historical cost is not available. Depreciation is provided on capital assets. The City has assigned useful lives to capital assets as follows:

Governmental activities	
Buildings and structures	10-30 years
Equipment	4-10 years
Roadway network including pavement, striping and legends, curbs, gutters and sidewalks, parking lots, traffic signage and bridges	5-40 years
Recreation and open space network including major park facilities, park trails, bike paths and medians	25-40 years
Business-type activities	
Buildings and structures	25-60 years
Vehicles and heavy equipment	3-10 years
Machinery and equipment	10-50 years
Transmission and distribution systems	10-100 years

In a positive trend, the City's financial statements show that net capital assets in both the general governmental funds and the enterprise funds are growing. Since FY 2001-02, annual capital outlay/expense (i.e. what we are investing in capital assets) has exceeded depreciation expense (i.e. what we are using up).

	General governmental funds (in millions)				Enterprise funds (in millions)		
	Net general capital assets	Capital outlay[24]	Depreciation		**Net enterprise capital assets**	Capital expense	Depreciation
FY 2001-02	**$266.9**	$16.9	$6.7		**$301.2**	$25.0	$10.4
FY 2002-03	**$293.1**	$32.4	$9.4		**$315.2**	$24.1	$11.0
FY 2003-04	**$310.0**	$22.3	$8.8		**$329.1**	$22.8	$11.4
FY 2004-05	**$318.5**	$21.3	$9.5		**$346.9**	$22.8	$11.7
FY 2005-06	**$324.8**	$13.2	$12.3		**$360.9**	$20.3	$11.8
FY 2006-07	**$335.7**	$17.5	$11.0		**$383.8**	$28.9	$12.7

Source: Comprehensive Annual Financial Reports as shown in the Annual Service Efforts and Accomplishments Report

[24] Includes capital expenditures in the General Fund, Capital Projects and Special Revenue funds. Does not include capital expense associated with Utility or other enterprise funds. FY 2002-03 and FY 2003-04 outlay included $32.3 million for two new downtown parking structures funded by an assessment district.

APPENDIX 6

DESCRIPTION OF INFRASTRUCTURE ASSETS

The following list, compiled from various City documents, shows more detail about the assets included in the infrastructure assessment, and the broad scope and nature of City-owned infrastructure assets.[25]

PARKS AND OPEN SPACE

Parks: The City owns and maintains about 158 acres of urban parkland in more than 30 parks. Facilities at the parks include lawns and pathways, playgrounds, picnic areas and benches, tennis and basketball courts, signage and fencing, and some restrooms and parking lots. In addition, there is a stadium baseball complex and softball field at Baylands Athletic Center, a lawn bowling green and clubhouse, swimming pool facilities at Rinconada, skateboarding facilities at Greer, and field houses at Peers Park, Rinconada Park, and Mitchell Park.

Park and location	Amenities	Acres	Date opened
Baylands Athletic Center 1900 Geng Road	Softball diamond, baseball field, restrooms, pathway	6.0	1965
Bol Park 3590 Laguna Ave	Large lawn area, jogging and bicycle path, benches, playground	3.0	1970's
Boulware Park 410 Fernando Ave	Lawn area, basketball court, picnic area with barbeque facilities, toddler playground	1.5	1965
Bowden Park 2380 High St	Lawn area, playground, benches, picnic areas	2.0	1952
Briones Park 609 Maybell Ave	Lawn area, picnic areas, 2 playgrounds	3.7	1967
Cameron Park 2101 Wellesley St	Playground, picnic tables, lawn area	1.1	1965
Cogswell Plaza 264 Lytton Ave	Benches, redwood trees and an open lawn area	0.6	1924
El Camino Park 100 El Camino Real	Soccer field, softball field with bleachers and lights, restrooms	6.8	1914
El Palo Alto Park 117 Palo Alto Ave	Home of the 1,000 year old El Palo Alto tree (the City's namesake), path, educational signage	0.5	1971
Eleanor Pardee Park 851 Center Dr	Playground, picnic areas with barbeques, multipurpose concrete stage area, jogging path, community garden plots and Master Gardener Palo Alto Demonstration Gardens	9.6	1922
Greer Park 1098 Amarillo Ave	Lawn, area, 5 soccer fields, 3 softball fields, 1 Little League diamond, 2 basketball courts, picnic area with barbeques, par course, small dog run, skateboard bowl, playgrounds, restrooms	21.7	1974/ 1990

[25] Sources include the City's financial system, *Infrastructure Management Study City of Palo Alto* by Adamson (1997), *Departmental Infrastructure Assessment* by the Community Services Department (1997), *GASB 34 Compliance Package* by Harris & Associates (2002), *Appraisal Report* by Maximus (2002), *Local Agency Formation Commission of Santa Clara County Service Reviews – City of Palo Alto* by LSA Associates Inc. (2007), City of Palo Alto website (www.cityofpaloalto.org), Palo Alto Online (www.paloaltoonline.com), and *All About Your Utilities* by City of Palo Alto (2007).

Heritage Park Homer Ave	Lawn area	2.0	2003
Hoover Park 2901 Cowper St	2 tennis courts, 2 handball courts, tennis backboard, softball field, playgrounds, picnic areas with barbeques, restrooms, multipurpose concrete bowl with basketball hoop, dog run, lawn area	4.2	1954
Hopkins Creekside Park Palo Alto Ave	Mile-long strip of land along the creek, 3 open grassy areas with benches and tables	12.4	1907
Johnson Park 200 Waverly St	Lawn area with shade trees, playground, wide concrete slide, basketball hoops, picnic area, sand volleyball pit, community garden plots	2.5	1980's
Lawn Bowling Green 474 Embarcadero Rd	Lawn area, bowling green, clubhouse	1.9	1933
Lytton Plaza University Ave	Paved area with benches and public art	0.2	1960's
Main Garden 1313 Newell St	60,000 sq ft organic community garden located behind the main library, bordered by fruit trees and flower beds	1.4	1970
Mayfield Park 2300 Wellesley St	Small lawn area with benches; site of College Terrace Library and child care center	1.7	1898
Mitchell Park 600 East Meadow Ave	7 tennis courts, 2 paddle tennis courts, 4 handball courts, shuffleboard courts, checkerboard/chess tables, jogging trails, picnic areas with barbeques, multiuse concrete bowl, playgrounds, children's water park, large dog run, restrooms, field house, large lawn areas	21.4	1955
Monroe Park 4305 Miller Ave	Mounded grassy area, playground, benches (this park is split between the cities of Mountain View and Palo Alto)	0.6	1975
Peers Park 1899 Park Blvd	2 tennis courts, picnic tables, restrooms, field house, playground, basketball court, large lawn area	4.7	1922
Ramos Park 800 East Meadow Ave	Playground, picnic areas with barbeques, multipurpose square cement slab with basketball hoop, lawn area, paths with benches	4.4	1950's
Rinconada Park 777 Embarcadero Rd	Swimming pool (built in 1940), picnic areas with barbeques, 9 tennis courts (6 with lights), 2 shuffleboard courts, 1 tennis backboard, multipurpose cement bowl, 2 playgrounds, jogging paths, Magic Forest, large lawn areas	19.0	1924
Robles Park 4116 Park Blvd	Picnic areas with barbeques, playground, lawn area	4.7	1956
Sarah Wallis Park 202 Ash St	Lawn area with benches, short path	0.3	1980
Scott Park 911 Scott St	Circular basketball court, playground, picnic benches, small lawn area	0.3	1970's
Seale Park 3100 Stockton Pl	Lawns, playground, picnic area, barbeque area, large open areas for volleyball and soccer	3.6	1950's
Stanford Palo Alto Community Playing Fields El Camino Real	2 artificial turf soccer fields, warm-up area, night lights, restrooms, parking	6.0	2005
Terman Park 655 Arastradero Rd	4 tennis courts, 1 basketball court, 2 soccer fields, 1 softball field, large lawn area, pathway	7.7	1983
Weisshar Park 2298 Dartmouth St	2 tennis courts, small lawn area with benches	1.1	1965
Weery Park 2100 Dartmouth St	Large open lawn area, playground	1.1	1965

Open Space: The City owns and maintains nearly 4,000 acres of open space in the baylands and foothills. In addition, the Midpeninsula Regional Open Space District owns and maintains 2,400 acres of open space in Palo Alto (2,200 acres of Montebello Open Space Preserve and 200 acres of Los Trancos Open Space Preserve). In total, over 1/3 of Palo Alto's land area consists of open space preserves. The City employs 5 park rangers and operates 3 interpretive centers in these areas.

Open Space Areas	Amenities	Acres	Date acquired
Baylands Nature Preserve (Byxbee Park) Embarcadero Rd	Open space with trails, duck pond, ranger station (Harbormaster House built 1930), sailing station, parking, 3,600 sq ft Lucy Evans Baylands Nature Interpretive Center, Byxbee Hills Park (public art), wildlife observation platforms, boardwalks, benches, picnic areas, restrooms, culverts and flood control tide gate, Emily Renzel Wetlands, Harriet Mundy Marsh, and Sea Scout building (listed under other community facilities). Faber Laumeister Tract (totaling 452 acres) was purchased 1926 and 1944.	1,940	1946
Foothills Park 3300 Page Mill Rd	Open space with 15 miles of trails, 7 picnic areas (tables, barbeques, and water), dam and lake with boat dock, 5,000 sq ft interpretive center, restrooms, maintenance facility, seasonal campground, fire trails, roadways and parking lots, large lawn area, fire trails	1,400	1965
Pearson Arastradero Preserve 1530 Arastradero Rd	Open space with 10.25 miles of trails, bridges, interpretive center with restrooms, fencing, parking	609	1986/ 2006
Esther Clark Park Old Trace Rd	Undeveloped nature reserve of grassland and oaks with no public access or services	22	1965

Golf Course: The City owns and maintains a 176-acre municipal golf course at 1875 Embarcadero Road which opened in 1956. The golf facility includes an 18-hole championship length course, lighted driving range, practice putting green area, 8,600 square foot Golf Pro Shop and restaurant constructed in 1979 (the interiors are the responsibility of the tenants), and maintenance facilities (3,600 square feet). The City subcontracts operations of the golf course, golf shop, driving range, and restaurant. Golf course revenues are currently sufficient to cover golf course operations, maintenance, debt service, and overhead.

COMMUNITY FACILITIES

Community centers: The city owns and operates nearly 300,000 square feet of community center space.

Community Centers	Amenities	Size	Date built
Lucie Stern Community Center 1305 Middlefield Rd	Community center complex which includes Children's Theatre, Children's Library, Community Theater, large ballroom, community room, fireside room, kitchen, outdoor patio, offices, restrooms, Boy Scout offices and fire circle, parking. The buildings are traditional Spanish style with wood framed structures, stucco exterior and clay tile roof. Lucie Stern was seismically upgraded in 1991.	10,350 SF	1934
Lucie Stern Children's	Fully equipped 200-seat theatre consisting of an auditorium,	15,700	1937

Theatre 1305 Middlefield Rd	stage, fly, lighting and sound systems, shop, costume room, dressing rooms, offices	SF	
Lucie Stern Community Theater 1305 Middlefield Rd	Fully equipped 500-seat theatre	14,000 SF	1933
Mitchell Park Community Center 3800 Middlefield Rd	Main hall, kitchen, patio, meeting room, offices, parking	10,400 SF	1967
Palo Alto Junior Museum and Zoo 1451 Middlefield Rd	Wood frame stucco structure, mostly single story with offices over the main entry.	9,100 SF	1941
Palo Alto Art Center 1313 Newell Rd	Former City Hall (1956-1971), now includes art studios, gallery, offices and meeting rooms. It was remodelled after city offices moved to 250 Hamilton in 1971, and seismically retrofitted in the mid-1980's. The Palo Alto Art Center Foundation provides financial support and volunteers to help operate the Art Center.	30,000 SF	1956
Cubberley Community Center 4000 Middlefield Rd	The City leased 35 acres of the site from the Palo Alto Unified School District in 1990. In 2002, the City transferred ownership of 8 acres at the Terman school site to the Cubberley school site. As a result, the City now owns 8 acres at Cubberley (including 76,138 square feet of buildings) and continues to lease 27 acres at Cubberley from the school district. Facilities total approximately 180,000 square feet including auditorium, theater, 2 gyms, amphitheater, dance studio, kitchen, offices, meeting rooms, and restrooms. The facility also includes tennis courts, soccer fields, softball field, football field with bleachers, and parking. The City is solely responsible for maintenance of the facilities.		1955

Library facilities: The City owns and operates 5 library facilities – Main, Mitchell, Children's, College Terrace, and Downtown – totaling 51,000 square feet. In comparison to other nearby libraries, Palo Alto's libraries are cramped and dilapidated. Only Children's Library has been completely renovated; it reopened in September 2007.

Library Facilities	Description	Square feet	Date built
Main Library 1213 Newell Rd	Single story wood frame structure with concrete columns and partial basement; heated by hot water using boiler in the Cultural Center; small remodels over the years include additional staff work areas, seismic bracing to the stacks, computer room addition, restroom remodels, asbestos abatement, carpet replacement	26,313 SF	1958
Mitchell Park Library 3700 Middlefield Rd	Single story wood framed structure with 2 small additions; renovations in the late 1980's included new carpet, stack lighting and bracing, and ADA upgrades	9,478 SF	1958
College Terrace Library 2300 Wellesley St	Wood frame/stucco exterior and clay tile roof (half the building is leased to a child care facility)	2,392 SF[26]	1935
Children's Library 1275 Harriet St	Wood frame/stucco exterior with clay tile roof (part of the Lucie Stern Community Center complex)	6,043 SF[27]	1940/ 2007

[26] The College Terrace facility includes 2,392 SF of library space and 2,650 SF of child care space, for a total of 5,050 SF.

Downtown Library 270 Forest Ave	Single story wood framed structure with concrete columns	8,774 SF	1971

Other community facilities: In addition to maintaining athletic fields and facilities at 15 Palo Alto Unified School District sites[28], the City owns several other community facilities that are operated by community groups:[29]

Other Community Facilities	Amenities	Size	Date built
Gamble Garden 1431 Waverley St	Formal and demonstration gardens, historic home, carriage house, tea house; property is owned by the City and leased to Elizabeth F. Gamble Garden (a local non-profit community horticultural foundation). The Foundation is responsible for all maintenance and improvements.	2.5 acres with 8,800 SF facilities	1900
Roth Building 300 Homer Ave	Historic 2 story office building with basement and added "spine" with elevator; property is owned by the City and leased to the Palo Alto History Museum (a local non-profit). It is expected that the Museum will be responsible for all maintenance and improvements.	17,000 SF	1931
Sea Scout Building	Historic wood frame structure; option to lease awarded to Environmental Volunteers in 2007 with potential cost sharing for a public restroom that the City would maintain; otherwise proposed improvements, maintenance and operation of the property at no cost to the city	2,209 SF	1941
Senior Center 450 Bryant St	2 story wood framed stucco with tile roof; property is owned by the City and leased to Avenidas (a local non-profit providing services to mid-peninsula seniors). The City is responsible for the exterior shell of the building; Avenidas is responsible for interior maintenance and improvements.	17,800 SF	1930's
Ventura Community Center 3990 Ventura Ct	Former elementary school purchased from the school district in the early 1980's. Includes 4 wood frame buildings leased to various tenants including Palo Alto Community Child Care.	23,000 SF	1958
Williams House 351 Homer Ave	2 story historic Craftsman-style residence with historic gardens; property is owned by the City and leased to the Museum of American Heritage in 1998; the museum constructed the Frank Livermore Learning Center in the rear of the property in 2000. The City has limited responsibility for the driveway; otherwise the Museum is responsible for all maintenance and improvements.	8,000 SF	1907/ 2000
Winter Lodge 3009 Middlefield Rd	Outdoor skating rink (only permanent outdoor ice rink west of the Sierras), tennis courts, parking. Property is owned by the City and leased to Community Skating Inc. which is responsible for maintenance and improvements.	3.6 acres	1956

[27] The original Children's Library was 3,442 SF.

[28] The City and School District jointly share maintenance and capital costs of athletic fields at specific sites and tennis courts located on school grounds.

[29] Does not include:

- Lou Henry Hoover Girl Scout House (1120 Hopkins Ave), which is located on City land, but owned by the Girl Scouts of America. Built in 1926, it is the oldest Girl Scout meeting house remaining in continuous use in the United States.
- University Avenue Depot leased from Stanford University and subleased to others.

CIVIC FACILITIES

Civic Hall: Built in 1970, the civic center at 250 Hamilton Ave is a 10-story office tower housing city offices, city council chambers, police station, and 3 levels (260,000 SF) of underground parking. The 90,000 SF building was seismically retrofitted in the mid-1980's. The city is currently considering vacating the Police Wing of City Hall, and building a new public safety building on Park Boulevard.[30]

Municipal Services Center (MSC): The 16-acre Municipal Services Center on E. Bayshore Blvd houses Public Works and Utilities operations, the warehouse, and animal services center.

Municipal Services Center	Description	Size	Date built
Building A 3201 E. Bayshore Blvd	Concrete tilt-up structure with tar and gravel roof; warehouse and offices	15,300 SF	1966
Building B 3201 E. Bayshore Blvd	Concrete tilt-up structure with tar and gravel roof; offices, maintenance shops, vehicle maintenance shop	22,200 SF	1966
Building C 3201 E. Bayshore Blvd	Concrete tilt-up structure with tar and gravel roof; offices and shops for Public Works and Utilities operations divisions	30,300 SF	1966
MSC SCADA 3241 E. Bayshore Blvd	Concrete block structure with plaster exterior and metal framed roof; utility control center. The 1996 Adamson report found this relatively new building was in relatively good condition.	5,500 SF	1987
Animal Services Center 3281 E. Bayshore Blvd	Several single story wood-framed structures with some concrete block walls; connected by an exterior walkway; small office addition in the early 1990's; and parking lot.	6,300 SF	1972/ 1986

Fire Stations: The City operates 8 fire stations (2 of the buildings are owned by others)

Fire Stations	Description	Size	Built
Station 1 301 Alma St	Largest of the fire stations with a partial second floor. Concrete block, steel framed structure with tar and gravel roof.	9,100 SF	1965
Station 2 2675 Hanover St	Second largest fire station. Single story, block wall construction with wood framed roof.	6,800 SF	1965
Station 3 790 Embarcadero Rd	Smallest and oldest station. Wood framed structure with cold applied roof.	3,000 SF	1942
Station 4 3600 Middlefield Rd	Wood framed construction with wood shake roof.	3,000 SF	1954
Station 5 600 Arastradero Rd	Single story structure with concrete block and wood frame construction and tar and gravel roof.	3,600 SF	1962
Station 6 711 Serra St Stanford	Located on the Stanford Campus. Owned by Stanford, the shell is the responsibility of the University; the interiors are responsibility of Palo Alto.	18,308	1969
Station 7 2575 Sand Hill Rd Menlo Park	Located at the Stanford Linear Accelerator (SLAC). Owned by Stanford; built with funding from the Department of Energy.	2,615	1966
Station 8 3300 Page Mill Rd	Wood frame and siding with composition shingle roof, located in Foothills Park.	1,500 SF	1986

[30] In 2007, the City entered into an option to purchase the 1.27 acre Essex Park Blvd site for the proposed public safety building.

STREETS AND PARKING

Streets: The City owns and maintains 197 linear miles (or 463 lane miles) of City streets. The approximately 40 million square feet of pavement has an estimated useful life of 40 years.

Sidewalks, curbs and gutters: The City owns and maintains approximately 10 million square feet of sidewalks and 2 million linear feet of curbs and gutters with an estimated useful life of 40 years.

Parking facilities: In addition to parking facilities managed by Parks and Open Space, and at City Hall, the City owns and operates at least 20 parking lots and parking structures.

Parking Facilities	Description	Size	Date built
California Avenue surface parking lots	Lots on Sherman Ave and Cambridge Ave		
Cambridge Parking Garage Mimosa and Cambridge	Single deck over on grade parking	58,000 SF	1968
Parking Garage Lot B Ramona and University	2 floors below grade. The city has responsibility for the first level below grade only. The city is 100% responsible for all cost associated with the public parking areas, 47% of lower level capital items, and 17% of replacement cost for elevators.	20,000 SF	1988
Downtown surface parking lots	Lot A (400 block Emerson St), Lot C (400 block Ramona St), parking lot D (300 block Hamilton Ave), Lot E (600 block Gilman St), Lot F (400 block Florence St), Lot G (600 block Gilman St), Lot H (400 block Hamilton Ave), Lot K (300 block Waverley St), Lot N (500 block Emerson St), Lot O (400 block Emerson St), Lot P (500 block High St), Lot T (Kipling)		
Parking Garage Lot Q 430 High St	3 floors below a retail/housing development. The city has joint responsibilities with the homeowner's association for 85% of elevator, mechanical and electrical costs, and 50% of seismic improvements	48,000 SF	1984
Lot R garage Entrances on Alma and High			2003
Lot L and S garage Between Bryant and Florence			2003
Ted Thompson Garage 275 Cambridge	2 floors	55,000 SF	1994
Webster Cowper Garage	5 floors above grade plus basement; concrete/steel/wood structure with 2 elevators	180,000 SF	1988

Street lights and traffic signals: The Utilities department maintains 89 traffic signals and 6,240 street lights as part of the Electric Enterprise Fund.

Trees: The City owns and maintains nearly 35,000 trees, including street trees, trees in parks, and trees at City facilities. Public Works is responsible for planting new trees, trimming/pruning existing trees, removing dead/diseased trees, fertilizing and pest control, line clearing around electrical wires, 24/7 emergency response, and providing Certified Arborist advise to residents regarding care of street trees. Canopy, a local non-profit organization, also plants City trees. Managers in the tree

group also oversee several tree-related contracts including stump removal, electrical line clearing, and annual tree maintenance contracts.

Other roadway improvements: The City is also responsible for bike paths, bridges, medians, traffic signage, striping and legends.

Other roadway improvements	Quantity	Estimated useful life
Bike paths	35,300 feet	40 years
Bridges, underpasses and crossings	22 bridges (including roadway, pedestrian, and bike bridges)	40 years
Traffic signage	10,000 signs	5 years
Striping and legends	425,000 square feet	5 years
Medians, islands and planters	Including at least 150 landscaped and non-landscaped median strips, 15 concrete median strips, 50 traffic islands, 70 planters, 7 gateway areas, 4 traffic circles, 30 traffic diverters, 70 side strips and right-of-way areas	25 years

UTILITIES

The City of Palo Alto operates several utility systems. Each of the utilities is responsible for its own infrastructure.

Electric Utility: Founded in 1900, the electric utility purchases and delivers over 975,000 megawatt hours per year to its customers. Electric utility infrastructure includes the following (traffic signals and street lights are shown above as part of the roadway network):

Description	Quantity	Estimated useful life
Distribution system	413 miles of overhead and 186 miles of underground[31] distribution system	10-100 years
Services and meters	28,700 service connections	10-50 years
Miscellaneous	11 substations	10-100 years

Fiber Optic Utility: Founded in 1996, the Fiber Utility is a sub-fund within the Electric Fund that owns and operates a fiber optic network with the following infrastructure:

Description	Quantity	Estimated useful life
Fiber backbone	40.6 miles	10-100 years
Services to customers	161 service connections; 39.5 miles of fiber	10-100 years

[31] Since 1965, approximately 45% of the City's electric system has been undergrounded – including the majority in commercial areas, and about 14% of residences. Undergrounding requires the cooperation of telephone and cable companies, but California Public Utilities Commission rules limit their recoverable costs. At the current rate of 150-200 homes per year (with funding set at 2% of annual electric revenues per year), staff estimates it would take 70-100 years to complete the undergrounding of the entire city.

The City has considered expanding the network to serve Palo Alto residences. A fiber to the home (FTTH) trial, approved in Nov-2000, was terminated in Dec-2005. The City is considering a proposal to deploy FTTH citywide. The estimated cost of that deployment is approximately $40 million.

Gas Utility: Founded in 1917, the gas utility purchases and delivers over 31 million therms to over 23,000 customers. Gas utility infrastructure includes the following:

Description	Quantity	Estimated useful life
Distribution pipelines	207 miles of gas mains	10-100 years
Services and meters	23,400 gas meters	10-100 years
Miscellaneous	4 gas receiving stations, 1 booster station	10-100 years

Refuse and landfill: The City owns and operates a 137-acre landfill, including a 2.5-acre recycling drop-off center and 9,300 sq feet of buildings, at 2380 Embarcadero Road.[32] In FY 1991-92, a section of the refuse area was capped with final cover and Byxbee Park was constructed on top of that section. A second section was capped with final cover during FY 1992-93, but has not been opened to the public. The City expects that the landfill will soon reach maximum capacity and that the remaining areas of the landfill will be closed in 2011. The City is required by State and federal laws and regulations to make annual funding contributions to finance closure and post-closure care. As of June 30, 2007, the city was in compliance with those requirements with the establishment of a fully-funded liability of $7.1 million for that purpose. The site is owned by the General Fund and is dedicated parkland (the Refuse fund pays rent to the General Fund for use of the property). The City has a masterplan for final development of Byxbee Park, but has not budgeted for park development on the site.

The Refuse Fund also owns a portion of the former Los Altos Treatment Plant (LATP) site. In 1985, Palo Alto entered into a lease purchase agreement with the city of Los Altos for an undivided half interest in the 13.26-acre former LATP site with the intent of building a solid waste facility. The General Fund purchased the remaining half interest in 2007.

Storm drainage: The City owns and operates a storm drainage system that collects storm water runoff from streets and developed properties, and conveys the water to one of four local creeks (San Francisquito, Matadero, Barron and Adobe) that flow directly into San Francisco Bay without receiving any treatment. Most of the storm drain system was built by private developers over the past 100 years as a component of individual residential subdivisions and commercial developments. Upon completion of construction, the City accepted the storm drain infrastructure from the developers and is now responsible for the maintenance and operation of the system.[33]

In April 2005, Palo Alto property owners approved a storm drain fee increase to provide resources for the storm drain improvements project. Due to rapidly increasing construction costs, projects were reprioritized and available resources were reallocated among projects. Supplemental funding may be required.

[32] In addition, the Palo Alto Sanitation Company (PASCO) currently leases 1.9 acres of city-owned land on Geng Road adjacent to the Baylands Athletic Center. That use may end in 2009 when the PASCO refuse hauling agreement expires. The existing Comprehensive Plan land use designation for the Geng Road site is Public Park; the zoning is Public Facilities with Site and Design overlay.

[33] *All About Your Utilities* (2007) page 26

Asset description	Quantity	Estimated useful life
Collection system	107 miles of underground pipeline; 2,750 storm drain inlets; 800 manholes; 7 pump stations	10-100 years

Sewers: Founded in 1989, the wastewater collection utility maintains more than 200 miles of sanitary sewer lines, annually transporting over 3 billion gallons of sewage and wastewater to the Regional Water Quality Control Plant. The FY 2007-2012 CIP includes $26 million for an ultraviolet disinfection system to replace the current use of chlorine for disinfection.

Asset description	Quantity	Estimated useful life
Collection system	202 miles of sewer mains	10-100 years
Service to customers	21,800 service connections	10-100 years

Wastewater Treatment: The City owns and operates a regional wastewater treatment plant that treats about 26 million gallons of wastewater each day from Palo Alto, Mountain View, Los Altos, Los Altos Hills, Stanford, and East Palo Alto. Water that goes down a sink or toilet is treated and released to the Bay about 12 hours later. The cities of Palo Alto, Mountain View and Los Altos shared the original costs of acquisition and construction of the plant, and participate jointly in the cost of maintaining the plant.

Water utility: Founded in 1896, the water system purchases and distributes more than 580 million cubic feet per year to its customers. The FY 2007-2012 CIP includes a $40.2 million emergency water supply project (WS-08002).[34]

Asset description	Quantity	Estimated useful life
Distribution and treatment	219 miles of water mains	10-100 years
Services and meters	19,700 customer water meters	10-100 years
Reservoirs and wells	5 emergency standby wells; 4 steel and 2 reinforced concrete reservoirs with a total capacity of 10.5 million gallons of stored water	30-100 years
Hydrants	2,699 hydrants	50 years

OTHER

Other infrastructure, not specifically attributable to specific categories above includes other land owned by the General Fund and leased to Utilities, the Palo Alto Airport (leased to Santa Clara County), and levees.

Palo Alto Airport: The City owns the 100-acre Palo Alto Airport at the end of Embarcadero Road, adjacent to the Palo Alto Baylands and the Golf Course. The County of Santa Clara operates the airport under a 50 year lease with the City ($25 for the entire term 1967-2017). Under the terms of the lease, all revenue from the Airport is to be used to reimburse the County for continuing

[34] Note that proposed costs to retrofit and improve the Hetch Hetchy water system will be passed along to Palo Alto customers through increased water rates.

operations and/or for maintenance and capital improvements at the Airport. Airport facilities include a lighted, paved, 2,443 foot long runway, a small temporary terminal building, 357 tie-down spaces, a heliport, taxiways, and parking. The airport control tower is entirely funded and operated by the FAA. Two fixed based operators (FBOs) provide hangar space for about 95 aircraft, 3 large maintenance hangars, and airport-related office and commercial space. All facilities are the property of the City upon termination of the lease (2017 or sooner).

Levees and sea level rise: The Santa Clara Valley Water District (SCVWD) and San Mateo County control easements and levees along San Francisquito Creek. Palo Alto is a participant in the San Francisquito Creek Joint Powers Authority, working with the Army Corps of Engineers to address flooding from the creek. The SCVWD is also responsible for the flood control basin in the baylands.

According to a recent staff report, a projected 1 meter rise in sea level and increased storm surge would likely impact not only the baylands, but the Municipal Airport, Water Quality Control Plant, Municipal Services Center and Utility Control Center, Utility substations and transmission routes, recycling center, recreation facilities, storm drains, residential neighborhoods and portions of business districts. To date, projected costs to increase flood protection for these facilities has not been included in infrastructure projections.