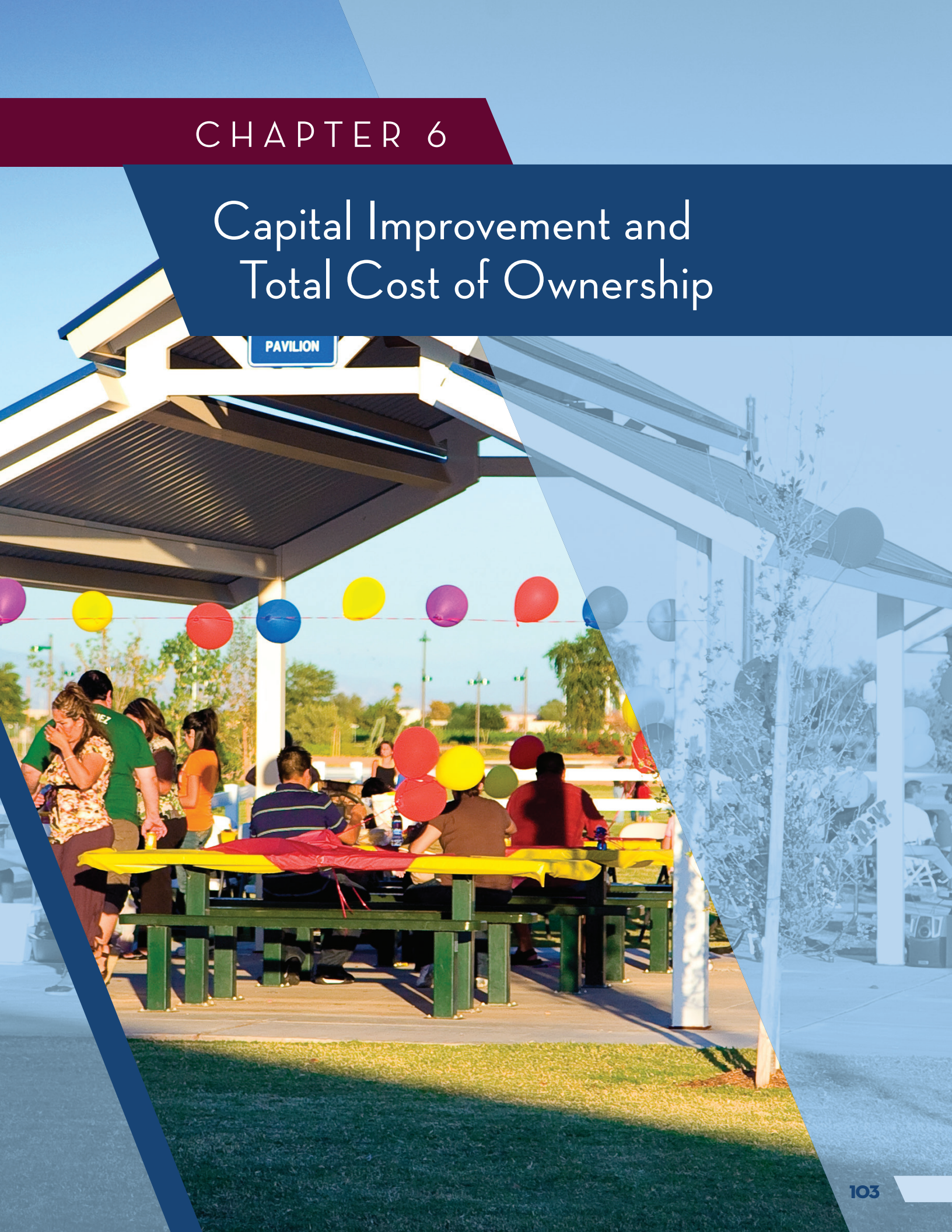
CHAPTER 6

Capital Improvement and Total Cost of Ownership



CHAPTER 6 - CAPITAL IMPROVEMENT AND TOTAL COST OF OWNERSHIP

SUSTAINABLE AND VISIONARY PROJECTS

This section provides a thorough look into the quantity of existing assets, the timeline for needed replacement, and the appropriate (future inflation adjusted) value for each. The intent of the following section is to provide a starting point in quantifying the considerable financial value of the existing physical assets contained within the entire Department using a detailed system of matrices.

In addition to its existing assets, it is important for the Department to continually invest in regular redesign and rebuilding of the City's parks and recreation facilities to ensure that they are aligned with the everchanging nature of public demand and programming needs. Changes such as these should be considered visionary projects, or projects which expand and/or replace facilities at existing parks that are currently not in place or needed. The consultant team worked directly with Department staff to determine a list of visionary projects for each park and facility.

Utilizing the results of the on-site inventory and assessment, detailed matrices were developed which utilized the previously established grading standards along with current construction pricing to create an improvement priority plan and associated value for each facility. Assets scored with grading standards F (1) and D (2) were considered critical and therefore capital improvement projects for the next one to seven year to correct safety hazards and accelerated deterioration. Assets scored with grading standard C (3) were categorized as capital improvement projects for years eight to 15 and those scored grading standards B (4) and A (5) were categorized for longer term improvements, 16+ years as assets were early enough in their lifecycles to not be in need of immediately replacement.

The detailed matrices included in this section should be built upon by the Department moving forward as new facilities are constructed and/ or old facilities replaced. With careful planning and a keen vision, the information will assist the City in its efforts to ensure that infrastructure operation, maintenance, rehabilitation, and park development is as efficient and effective as possible.

Additionally, the following information will allow staff to strategically anticipate future expenditure and plan for adequate funding of future improvements while negotiating confidently with forward well-evidenced information in always difficult climate of budget constraints.

SYSTEM-WIDE SUMMARY

Category	CIP (1-7 Years)	*CIP (8-15 Years)*	CIP (16+ Years)
Sustainable Projects	$44,460,375	*$217,685,449*	$103,910,819
Visonary Projects	$92,292,350	*$164,751,504*	$116,114,348
Totals	**$136,752,725**	***$382,436,953***	**$220,025,166**

WEST PLANNING AREA

SUSTAINABLE PROJECTS SUMMARY

Park/Facility	CIP 1-7 Years	CIP 8-15 Years	CIP 16+ Years
DESERT BREEZE	$2,405,000	$17,949,272	$1,170,250
HARTER		$998,577	$2,422,030
MOUNTAIN VIEW	$783,000	$2,874,957	
NOZOMI	$2,412,000	$8,059,939	
PINE SHADOWS		$1,010,107	$1,185,750
PRICE	$67,500	$2,147,650	$2,557,500
PUEBLO ALTO	$86,000	$264,189	$775,000
SUNDANCE		$2,302,592	
SUNSET	$200,000	$1,279,807	
WINDMILLS WEST		$1,630,276	$1,650,750
Sub Totals	$5,953,500	$38,517,367	$9,761,280

VISIONARY PROJECTS SUMMARY

Park/Facility	CIP 1-7 Years	CIP 8-15 Years	CIP 16+ Years
DESERT BREEZE		$523,800	$1,661,213
HARTER	$160,000	$40,500	
MOUNTAIN VIEW	$80,000		
NOZOMI		$47,250	
PINE SHADOWS		$270,000	
PRICE	$20,000	$109,013	
PUEBLO ALTO	$10,000		
SUNDANCE		$40,500	
SUNSET	$30,000	$114,750	$34,875
WINDMILLS WEST		$40,500	
Sub Totals	$300,000	$1,186,313	$1,696,088

SUSTAINABLE PROJECTS + VISIONARY PROJECTS

	CIP 1-7 Years	CIP 8-15 Years	CIP 16+ Years
Totals	$6,253,500	$39,703,679	$11,457,368

Note that costs shown are intended to be rough order of magnitude and based on park and recreation related amenities only. Projected costs do not include additional associated infrastructure or soft costs related to project implementation. The values shown within this document are based on 2021 dollars with cost escalators added in years 7-15 (35%) and years 16+ (55%). City staff should continue to evaluate costing information with current market conditions throughout the life of the plan as project funding opportunities arise.

WEST NOTES

Per Park Reinvestment Range: $1.1 Million – $23.7 Million

Median Reinvestment Cost: $3.4 Million

Lowest Reinvestment Cost: Pueblo Alto

Largest Reinvestment Cost: Desert Breeze

NORTH PLANNING AREA

SUSTAINABLE PROJECTS SUMMARY

Park/Facility	CIP 1-7 Years	CIP 8-15 Years	CIP 16+ Years
AMBERWOOD	$1,159,500	$2,194,765	$93,000
APACHE	$930,000	$2,111,785	$2,299,425
ARMSTRONG	$114,000	$155,126	$129,115
ARROWHEAD MEADOWS	$3,235,000	$10,568,433	$465,000
ASHLEY TRAIL		$555,426	
BOYS & GIRLS CLUB	$32,250	$2,207,968	$238,700
BROOKS CROSSING	$343,000	$2,463,390	$232,500
DESERT OASIS		$202,770	$914,500
DR AJ CHANDLER	$358,000	$2,309,445	$2,192,475
EAST MINI	$540,588	$8,843	
ESPEE	$240,000	$10,078,757	$4,851,500
FOLLEY	$1,834,000	$7,687,974	$1,243,100
GAZELLE MEADOWS	$750,967	$465,953	$1,550,000
HARMONY HOLLOW	$645,856	$260,888	
HARRIS	$54,042	$31,050	$423,228
HOMESTEAD SOUTH			$1,597,740
HOOPES		$2,263,768	$1,276,425
JACKRABBIT		$87,075	$1,136,978
LOS ALTOS	$528,000	$141,949	
MAGGIO RANCH	$237,500	$2,217,157	
NAVARRETE	$735,000	$826,562	$1,162,500
PARK MANORS		$800,220	$21,700
PEQUENO	$5,500	$2,155,004	
PIMA	$37,500	$8,616,835	$1,525,975
PROVINCES		$1,969,996	
SAN MARCOS	$120,000	$2,484,490	$1,249,300
SAN TAN		$94,500	$3,136,898
SHAWNEE		$4,190,104	$1,904,950
STONEGATE		$2,891,425	$337,900
SUMMIT POINT		$9,450	$981,933
THUDE	$550,000	$2,890,881	
TIBSHRAENY FAMILY		$2,168,702	$3,534,310
WINN	$185,000	$137,491	$775,000
Sub Totals	$12,635,703	$75,248,181	$33,274,151

The North Planning Area has the largest funding required in CIP Years 8-15 for facility upkeep and improvements.

NORTH NOTES

Per Park Reinvestment Range: $498,000 – $18.4 Million

Median Reinvestment Cost: $3.2 Million

Lowest Reinvestment Cost: Armstrong

Largest Reinvestment Cost: Folley Memorial

VISIONARY PROJECTS SUMMARY

Park/Facility	CIP 1-7 Years	CIP 8-15 Years	CIP 16+ Years
AMBERWOOD	$15,000	$457,988	
APACHE	$348,500	$51,030	$93,000
ARMSTRONG	$60,000	$40,500	
ARROWHEAD MEADOWS	$360,000	$966,600	$232,500
ASHLEY TRAIL	$15,000		
BOYS & GIRLS CLUB		$1,674,675	
BROOKS CROSSING	$790,000	$20,250	$7,750
DESERT OASIS		$122,175	
DR AJ CHANDLER	$12,222,000		
EAST MINI		$33,750	
ESPEE		$40,500	$77,500
FOLLEY	$7,670,000		
GAZELLE MEADOWS		$257,850	$105,788
HARMONY HOLLOW	$1,815,000	$270,000	
HARRIS	$5,500	$40,500	$77,500
HOMESTEAD SOUTH		$13,500	
HOOPES		$83,700	
JACKRABBIT	$60,000	$506,250	
LOS ALTOS		$155,250	
MAGGIO RANCH		$108,000	
NAVARRETE	$25,000	$20,250	$1,278,750
PARK MANORS		$20,250	
PEQUENO		$182,250	
PIMA	$103,750	$94,500	
PROVINCES		$81,000	
SAN MARCOS		$27,000	$1,007,500
SAN TAN	$20,000	$1,659,150	
SHAWNEE	$10,000	$246,375	
STONEGATE		$20,250	$15,500
SUMMIT POINT	$10,000		$74,400
THUDE	$325,000	$81,675	
TIBSHRAENY FAMILY		$51,975	
WINN	$75,000		
Sub Totals	$23,929,750	$7,327,193	$2,970,188

SUSTAINABLE PROJECTS + VISIONARY PROJECTS

	CIP 1-7 Years	CIP 8-15 Years	CIP 16+ Years
Totals	$36,565,453	$82,575,374	$36,244,339

SOUTHWEST PLANNING AREA

SUSTAINABLE PROJECTS SUMMARY

Park/Facility	CIP 1-7 Years	CIP 8-15 Years	CIP 16+ Years
BLUE HERON	$131,500	$506,300	$1,819,700
CHUPAROSA	$1,424,000	$5,688,717	$1,088,100
DOBSON	$997,000	$2,301,567	$1,550,000
FOX CROSSING	$631,818	$1,566,068	
PECOS RANCH	$596,500	$2,001,040	$775,000
RYAN	$755,000	$3,209,547	
SNEDIGAR SPORTSPLEX	$8,462,000	$28,078,988	$1,640,675
Sub Totals	$12,997,818	$43,352,226	$6,873,475

VISIONARY PROJECTS SUMMARY

Park/Facility	CIP 1-7 Years	CIP 8-15 Years	CIP 16+ Years
BLUE HERON	$10,000	$13,500	
CHUPAROSA		$40,500	$77,500
DOBSON	$325,000		
FOX CROSSING		$33,750	
PECOS RANCH	$15,000		
RYAN	$25,000		
SNEDIGAR SPORTSPLEX	$75,000		
Sub Totals	$450,000	$87,750	$77,500

SUSTAINABLE PROJECTS + VISIONARY PROJECTS

	CIP 1-7 Years	CIP 8-15 Years	CIP 16+ Years
Totals	$13,447,818	$43,439,976	$6,950,975

SW NOTES

Per Park Reinvestment Range: $2.2 Million – $38.2 Million

Median Reinvestment Cost: $3.9 Million

Lowest Reinvestment Cost: Fox Crossing

Largest Reinvestment Cost: Snedigar Sportsplex

SOUTHEAST PLANNING AREA

SUSTAINABLE PROJECTS SUMMARY

Park/Facility	CIP 1-7 Years	CIP 8-15 Years	CIP 16+ Years
ARBUCKLE PARK		$1,764,452	$1,760,025
BEAR CREEK GOLF COURSE			
CENTENNIAL PARK	$49,000	$805,950	$3,622,680
CHUCKWALLA PARK	$250,500	$2,338,901	$201,500
CITRUS VISTA		$79,313	$4,391,529
CROSSBOW PARK	$329,000	$865,890	$1,422,125
LA PALOMA PARK	$760,000	$2,076,247	$866,450
LANTANA RANCH PARK			
LOS ARBOLES PARK	$8,500	$1,122,938	
MEADOWBROOK PARK		$50,288	$3,395,951
MESQUITE GROVES PARK			
PASEO TRAIL	$174,500	$8,773,743	$1,585,650
PASEO VISTA RECREATION AREA	$1,664,000	$3,694,275	$8,440,525
PINELAKE PARK	$758,624	$549,383	$1,643,000
QUAIL HAVEN PARK	$162,000	$2,283,753	$143,375
ROADRUNNER PARK		$158,963	$4,524,956
TUMBLEWEED PARK	$8,717,230	$31,559,043	$3,944,750
VALENCIA PARK		$114,750	$4,620,897
VETERANS OASIS PARK		$4,329,788	$13,438,500
Sub Totals	$12,873,354	$60,567,675	$54,001,912

At over 450 million dollars, the Southeast Planning Area has the largest Capital Improvement funding required.

Note that costs shown are intended to be rough order of magnitude and based on park and recreation related amenities only. Projected costs do not include additional associated infrastructure or soft costs related to project implementation. The values shown within this document are based on 2021 dollars with cost escalators added in years 7-15 (35%) and years 16+ (55%). City staff should continue to evaluate costing information with current market conditions throughout the life of the plan as project funding opportunities arise.

SE NOTES

Per Park Reinvestment Range: $1.1 Million – $60 Million

Median Reinvestment Cost: $4.2 Million

Lowest Reinvestment Cost: Los Arboles

Largest Reinvestment Cost: Tumbleweed

Additional Visionary Project: South Chandler Regional Park - $271 Million

SOUTHEAST PLANNING AREA (CONT)

VISIONARY PROJECTS SUMMARY

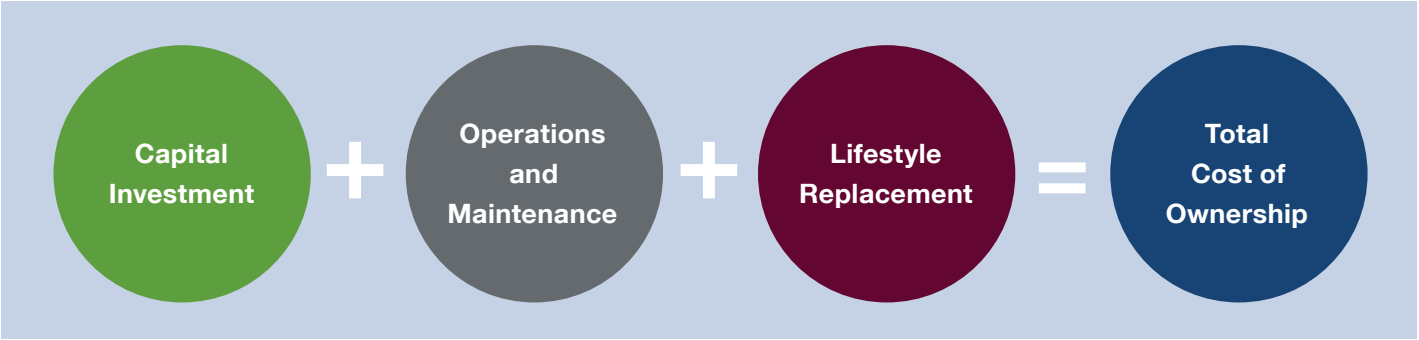
Park/Facility	CIP 1-7 Years	CIP 8-15 Years	CIP 16+ Years
ARBUCKLE PARK	$162,600	$20,250	
CENTENNIAL PARK		$13,500	
CHUCKWALLA PARK	$25,000		
CITRUS VISTA			$15,500
CROSSBOW PARK		$62,100	
LA PALOMA PARK		$33,750	
LANTANA RANCH PARK	$4,703,000		
LOS ARBOLES PARK	$50,000		
MEADOWBROOK PARK		$13,500	
MESQUITE GROVES PARK	$40,928,000		
PASEO TRAIL		$477,900	
PASEO VISTA RECREATION AREA		$324,000	
PINELAKE PARK	$960,000	$20,250	
QUAIL HAVEN PARK	$25,000		
ROADRUNNER PARK	$10,000		
SOUTH CHANDLER REGIONAL PARK	$150,000	$151,248,399	$98,404,823
TUMBLEWEED PARK	$18,099,000	$3,675,375	$12,803,000
VALENCIA PARK		$13,500	
VETERANS OASIS PARK	$2,500,000	$247,725	$147,250
Sub Totals	$67,612,600	$156,150,249	$111,370,573

SUSTAINABLE PROJECTS + VISIONARY PROJECTS

	CIP 1-7 Years	CIP 8-15 Years	CIP 16+ Years
Totals	$80,485,954	$216,717,924	$165,372,485

TOTAL COST OF OWNERSHIP

It is critically important to view the financial sustainability of the parks system through the concept of "Total Cost of Ownership" as shown in the graphic below.



The following sections will explore best-practice opportunities that the City should focus on to ensure the delivery of high-quality experiences to Chandler residents and visitors.

PARKS MAINTENANCE

Parks have played a major role in the livability of Chandler since its inception. Parks, facilities, and amenities that are clean and functioning efficiently are a critical element to delivering high-quality programs and services. Today, Chandler's public park system consists of approximately 1,550 acres of developed, natural area, and green spaces woven throughout the city. The core services that the Park Maintenance Division provides are:

- Park Lands Management and Maintenance
- Facilitation of Community Partnerships and Events

PARK MAINTENANCE STANDARDS

Regular maintenance requires unit-based quantification for most major resource requirements and provides the methods for projecting future resource needs. The City's maintenance efforts are expansive and address diverse aspects of maintaining high-quality facilities, amenities, and infrastructure to preserve the integrity of public assets and their meaningful use. The prevailing objectives of a standards-based park maintenance program are presented below but not in order of importance:

- Maintain and improve the sites, grounds, facilities, and structures of the City parks and recreation system to provide optimal and enjoyable use.
- Provide landscaping and general maintenance for a multitude of City amenities, including but not limited to, landscaped beds, turf, and urban open spaces.
- Be responsive to maintenance needs of the City's open-space tracts. Particular attention must be paid to access points, trail repair, erosion control, and trash removal.
- Protect and preserve the value of City assets so that long-term maintenance costs are minimal due to extending the service life of those assets.

Many of the objectives assigned to the Park's maintenance teams go beyond the traditional responsibilities of park maintenance employees, such as special event support.

It is recommended that the Parks Division adopt a system of grounds maintenance levels wherein functions are organized into a tiered structure with three different levels of service. These levels are referred to as maintenance modes, and each has a unique standard that dictates routine maintenance tasks and their frequency. The appropriate maintenance mode is assigned to each park or site, which creates a framework for organizing and scheduling tasks and responsibilities at each location. A description of each of the maintenance modes is provided below:

MAINTENANCE MODE/LEVEL 1

- Maintenance Mode/Level 1 (Mode/Level 1) applies to parks or sites that require the greatest level of maintenance standard in the system. These parks or sites are often revenue-producing facilities, such as a sports complex, where the quality and level of maintenance has a direct impact on the park facility's ability to maximize revenue generation.

MAINTENANCE MODE/LEVEL 2

- Maintenance Mode/Level 2 (Mode/Level 2) applies to parks or sites that require a moderate level of effort and maintenance standards in the system. These include developed and undeveloped parks with amenities that are heavily used such as community and neighborhood parks, and special-use facilities found in the Chandler parks system.

MAINTENANCE MODE/LEVEL 3

- Maintenance Mode/Level 3 (Mode/Level 3) applies to parks or sites that require a nominal level of effort and maintenance standards in the system. These generally include undeveloped parks with minimal amenities, such as natural areas.

PARKS MAINTENANCE KEY FINDINGS

MAINTENANCE MANAGEMENT PLAN

Through the review of data and workshops with staff, the consulting team determined that the Parks Division does generally operate within the maintenance modes identified above. The Parks Division also intuitively follows a set of routine parks and grounds maintenance standards with task, frequency, and season of year for each of their four functional work areas; however, a formalized, documented, and detailed maintenance management plan for work performed by City staff does not exist. Formalized standards are provided for third-party contractors that manage and maintain landscaped areas as defined in the scope of work.

A formalized maintenance management plan includes not only maintenance modes and standards for each park but also tracks the performance of the work against a set of defined outcomes, as well as the costs expended to achieve each outcome. A maintenance management plan is typically memorialized within a work order management system.

WORK ORDER MANAGEMENT SYSTEM

The Parks Maintenance Division in Chandler does not currently utilize an asset management-based work order management system and should consider the implementation of such a system to document maintenance and asset replacement schedules, as well as the performance of work completed.

COST OF SERVICE/SYSTEMATIC APPROACH TO THIRD-PARTY CONTRACTING

Given the varying cycles of the economy, it is imperative that the Parks Division continually evaluate the capacity and cost of service in the private sector. Currently, the Parks Division does not track unit activity costs and therefore cannot analyze the unit cost to perform work internally against the unit cost to perform work by a third-party vendor. Without this level of analysis, the Parks Division is unable to determine if it is more effective and efficient to perform work in-house or to contract it out.

PARK MAINTENANCE KEY RECOMMENDATIONS

IMPLEMENT WORK ORDER MANAGEMENT SYSTEM

An asset-based work order management system should be used to track lifecycle maintenance requirements that are tied to weekly and monthly work orders. This will help the staff to stay ahead of preventative maintenance and limit breakdowns. Further, utilizing the system will provide staff the necessary "actual cost" data for work being performed. The typical components of a work order management system are as follows:

Schedule Work Activities

Detailed framework for asset management by incorporating GIS into the asset repository. Allows for grouping of assets by location, type, age, or other key parameters. These groupings can then be used to create maintenance activities, such as preventive work, reactive work, tests, or inspections.

Mapping Tools

ArcGIS maps are an integral part of the work management process. This allows for the creation of map visualizations of database queries, including open work orders, service requests, or work orders of a specific type and assignment. These tools empower both management and staff to interact with asset data.

Data Mobility

A variety of tools to help maintenance staff access and update valuable information while in the field.

Asset Management

Track work performed on any asset at any given time throughout its lifecycle. Users can easily search for active work orders and view them dynamically on the GIS map. Track overdue work orders and monitor work associated with a specific task, contractor, or project.

COST OF SERVICE/SYSTEMATIC APPROACH TO THIRD-PARTY CONTRACTING

Through the development of management processes, the Parks Division must begin to track unit activity costs through the implementation of a work order management system, which would in turn, analyze the unit cost to perform work internally against the unit cost to perform work by a third-party vendor.

UPDATE WORK PLANS BASED ON MAINTENANCE STANDARDS

Maintenance standards are based on Level (1), (2) and (3) modes (tasks and frequencies of each task and follow best practices as established by the National Recreation and Park Association. Maintenance standards have been provided as a stand-alone Excel spreadsheet.

PLEASE NOTE: The best-practice maintenance standards may differ from current City park maintenance practices and may include standards for assets that are currently not a part of the City's park system, but might be in the future. The Division should update and continue to customize the standards based on the park values of City residents The standards should be adopted and implemented by staff and followed regardless of whether work is performed by City staff or third-party contractors.

LIFECYCLE REPLACEMENT SCHEDULE

As noted in the Community Needs Assessment chapter, most Chandler residents support funding being allocated for the reinvestment in the existing parks system. To achieve this goal, the Community Services Department will need to closely monitor the condition of the parks system's assets throughout their lifecycle to ensure the safety of park patrons. It is highly recommended that assets be replaced, as needed, to ensure efficient and effective utilization of operational dollars. The lifecycle replacement schedule found on the following page should be utilized as a guide for the creation of an asset management system. Unit costs are also provided (in 2020 dollars).

LIFECYCLE REPLACEMENT SCHEDULE

AMENITIES	Unit	Suggested Lifecycle (in years)	Average Replacement Cost (per Unit)
Aquatic Center	SF	35	$400-$500
Recreation Building	SF	50	$425
Barricades	EA	25	$500
Baseball/Softball Field (Lighted) - Metal Halide	EA	25	$325,000
Basketball - Outdoor Court (Lighted)	EA	25	$85,000
BBQ Grill	EA	10	$500
Benches	EA	15	$1,000
Bike Rack	EA	10	$350
Concession Stands	SF	25	$250
Disc Golf Hole	EA	15	$1,000
Dog Parks (Lighted)	AC	25	$70,000
Drinking Fountain	EA	10	$6,000
Emergency Phone	EA	15	$1,800
Fit Course	Course	10	$900
Flag Pole	EA	35	$3,200
Fountain	EA	30	$1,500
Gardens	SF	30	$.02-$.05
Horseshoe Pit	EA	30	$6,000
In-Line Hockey (lighted)	EA	20	$75,000
Lake	AC	25	$500,000
Parking Space	EA	25	$5,000
Pedestrian Bridge	LF	50	$500-$2000
Picnic Tables	EA	15	$1,500
Playground (Shaded)	EA	10	$250,000
Racquetball Court	EA	25	$50,000
Ramada/Shelter 10 x 10	EA	35	$50,000
Ramada/Shelter 20 x 20	EA	35	$85,000
Restroom	EA	25	$250,000
Restroom	SF	25	$250-$350
Scoreboard	EA	10	$55,000
Shade Canopys (separate from Playgrounds)	EA	10	$30,000
Shuffleboard Court	EA	20	$8,500
Signage (Monument-Park Name)	EA	25	$12,000
Signage (Rules & Reg)	EA	10	$500
Skate Park above ground	SF	10	$30
Skate Park in-ground	SF	30	$150
Soccer Field (Lighted) - Metal Halide	EA	25	$1,000,000
Tennis Court (Lighted)	EA	20	$140,000
Trail (Decomposed Granite)	LF	25	$8-$12
Trail (Paved)	LF	25	$60
Trash (Receptacle)	EA	15	$1,000
Volleyball Court (Sand)	EA	30	$16,000
Walkways	LF	25	$60