

# ESTIMATING PROJECT COSTS

## Capital Project Cost Breakdown

- I. Construction Estimate
- II. Construction Contingencies (% of Construction Estimate)
- III. Includes all unknowns (construction conflicts, change orders, bid climates, etc.)
  - A. 30% for planning level
  - B. 20% for preliminary design\*
  - C. 10% for final design\*
- \* Base cost estimate provided by design engineer
- IV. Professional / Consultant Services
  - A. Design: approximately 8% of Construction Costs
  - B. Construction: approximately 9% of Construction Costs
- V. City Administrative Costs
  - A. Up to 2.5% of Construction Costs
- VI. Program Management & Oversight (“Engineering Administration”)
  - A. Up to 2.5% of Construction Costs
- VII. Administration Costs for Property Acquisitions & Easements
  - A. Up to 10% of Land Costs
- VIII. Other Costs, if required
  - A. SID legal and financial
  - B. Start-up and training
  - C. Capital costs for land
  - D. Pre-project feasibility studies
  - E. Furniture, fixtures and equipment (Up to 10% of Construction Costs)

#1 plus #2 = Construction Costs

#1 through #6 = Typical Project Costs

#1 through #7 = Typical Project Costs with Other Costs, if required

## SPACE PLANNING

### Space Envelope

When evaluating space needs for expansion or rental space, please use the following to obtain an order of magnitude estimate based on the anticipated number of staff. This value is for useable space; for gross area which includes general circulation, bathrooms, etc. multiply the total by 1.3. The space envelope should be calculated using the following allocations:

Standard Space Envelope Allocations	
FTEs	Useable Space per FTE
	ft <sup>2</sup>
First 5	246
Next 5	195
Remaining	185

### Special Purpose Space

In addition to general purpose space which is accommodated within the space envelope, most departments will require special purpose space. This space is not included in the space envelope calculation.

Special purpose space requirements must be determined through a functional program and justified based on an inventory of the furniture, equipment, supplies and materials to be accommodated.

If a special purpose space will contain a workstation (e.g., librarian, lab technician), the position allocated the workstation will not be included in the FTE count used to calculate the department's space envelope.

### Space Estimate Example

Assuming a department requires office space for 50 FTEs and has justified a requirement for 600 square feet of special purpose space, the estimated space requirement would be calculated as

Number of FTEs (A)	Space Allocation per FTE (B)	Space Allocation (A) x (B)
	ft <sup>2</sup>	ft <sup>2</sup>
5	246	1,230
5	195	975
40	185	7,400
Space Envelope:		9,605
Plus Special Purpose Space:		600
Total Useable Space Requirement:		10,205
Total Gross Space Requirement (x 1.3):		13,266.50

follows:

## BUILDING / FACILITY COSTS

When estimating facility construction costs, building remodeling costs, and/or making tenant improvement estimates, the following cost per square footage will give you a ballpark range for construction costs only. See the Estimating Project Costs guide for estimating project-related costs.

FACILITY COSTS	
Type of Activity	Cost Per Square Foot
New Building (Class B building types include recreation center, fire stations, municipal office facilities, libraries, etc.)	\$275
Building Remodel & Tenant Improvements	\$25 -- \$80
Lease Costs	\$2 -- \$2.50
Lease Space Tenant Improvements	\$20 -- \$25

## ROADWAY COSTS

There are several elements that must be considered when estimating roadway construction costs, including utility relocations, installation of water and sewer laterals, installation of fire hydrants, asphalt, curb and gutter, sidewalk and sidewalk ramps, geotechnical requirements, fiber optic conduit and wire placement/connectivity, signalization, etc. Use the following guide for estimating general roadway improvement costs:

ROADWAY COSTS	
Description	Cost
120' ROW with medians (8" AC, 16" Type II & storm drain)	\$4,000,000 / mile
100' ROW with medians (5" AC, 13" Type II & storm drain)	\$3,250,000 / mile
80' ROW (4" Asphalt with 13" Type II)	\$1,750,000 / mile
60' ROW (3" Asphalt with 10" Type II)	\$1,000,000 / mile
32' Access Road (3" Asphalt with 10" Type II)	\$350,000 / mile
Traffic Signal with Interconnect Conduit	\$350,000 / intersection
Slurry Seal	\$2.50 / square yard
Rotomill & 2" Overlay	\$7.50 / square yard
Reconstruction	\$22.50 / square yard
Property Acquisition & ROW	\$10 / square foot

# PARKS

## New Parks

In general, costs for parks can be broken into two categories, open space and ball fields. Most neighborhood parks consist of a combination of these two, with open areas and turf, with circulation paths, and intensified park elements like baseball fields, or basketball courts, and a restroom structure; a good guide for a typical 10 acre park would be 60% open spaces and 40% ball fields. Please refer to the following for general estimates for park-related facilities:

PARK COSTS	
Description	Cost
New Parks: Open Space	\$285,000 / acre
New Parks: Ball fields, courts, and special use areas	\$400,000 / acre
Basic Trail (25' wide)	\$1,750,000 / mile
Property Acquisition & ROW	\$10 / square foot

# OPERATIONS & MAINTENANCE

## Facility Maintenance

For calculation of facility maintenance costs, the City evaluated the costs associated with routine building maintenance, custodial activities, energy costs, and equipment maintenance on a square footage basis. This value includes labor, supplies and materials, indirect costs, and the use of subcontractors or maintenance contracts: \$8.48 / square foot.

## Park Maintenance

The costs associated with the staffing, equipment, water and power for maintenance of neighborhood and regional parks, and trails is reflective of the City's staffing and equipment philosophy:

Parks Maintenance	
Description	Cost
Annual Maintenance (staffing, services & supplies, and facility operations)	\$12,100 / acre
Capital Outlay – first year only (Mowers, equipment, vehicles, etc.)	\$5,000 / acre

## Personnel Salary & Benefits

For calculation of staffing costs associated with completion of a project and its initial operation, use the staffing tables contained in the City's Adopted Budget for salaries, included within the appendix. For estimating benefits and fringe costs, add 30.5% for non-public safety employees and 42.75% for public safety employees and add the appropriate health insurance costs reflected at the end of the salary tables.