

Life Cycles and Costs

THE FOLLOWING COSTS ARE BALL PARK ESTIMATES FOR A TYPICAL THREE BEDROOM HOME.

WHERE APPROPRIATE, TYPICAL LIFE EXPECTANCIES ARE INCLUDED IN PARENTHESIS.

THE LIFE EXPECTANCY OF SOME COMPONENTS WILL VARY WITH THE SEVERITY OF WEATHER IN THE REGION. THE DESIGN, QUALITY OF INSTALLATION AND LEVEL OF MAINTENANCE CAN ALSO DRASTICALLY AFFECT LIFE EXPECTANCY.

There are many factors that affect costs:

- Access...How difficult is it to get to? Crawlspace are harder to work in than basements. Three-story roofs are harder to work on than bungalow roofs. Steep roofs are more difficult than low slope roofs.
- Height...If you need to build scaffolding to get to the chimney, chimney repairs will cost more.
- Complexity of job...Roofs with lots of dormers and skylights are more expensive.
- Weight...Heavy roofing materials are hard to carry up the ladder.
- Disposal costs...Costs to get rid of the old materials vary and can be significant.
- Amount and difficulty of preparation work...Painting is not as expensive as stripping, scraping and sanding to get ready to paint.
- Cost of materials...Clear cedar siding costs more than paint grade wood, which costs more than vinyl siding.
- Availability of materials...Cedar roofing is significantly less expensive on the west coast than in the east.
- Installation technique...It costs more to glue and screw subflooring in place than to nail it. It costs more to put deck posts on a footing than on the ground.
- Amount of labor...It takes longer to lay a ceramic tile floor than a sheet vinyl floor.
- Skill level of labor...It costs more to tape drywall than to hang it. It costs more to paint a faux finish than a flat finish. Plumbers cost more than handymen.
- Scarcity of labor...In many areas it is hard to find people who do plaster rather than drywall, or work on steam boilers rather than forced air heat.
- Quality of system...Furnaces can cost \$2,000 to \$8,000, depending on their quality and features. It's a lot like buying a car.
- Economic conditions...Are trades people generally busy and not looking for work, or very slow and anxious to do any job? Is the market competitive, or are there only one or two companies that can do what you are looking for?
- Time of year...In many areas, there are construction seasons that depend on the weather, and renovations and repairs will be more expensive in the high season.
- Reputation of company...Are you looking for an industry leader or someone just getting started? The folks with good reputations and a long list of satisfied clients referring work to them will be harder to find, and more expensive to engage.
- The presence of hazardous materials...Are you required to remove hazardous materials such as asbestos before doing a remodel? Older homes may contain asbestos in the drywall, ceiling tiles, insulation and floor tiles. If so, the project's budget should include proper abatement costs, which may be significant.

The figures that follow include labor and materials. Many home repairs have a minimum fee based on a visit by a tradesperson.

HOME IMPROVEMENT PROJECTS

According to Remodeling Magazine, here are some national average costs for common remodeling projects in the U.S. in 2022 (figures have been rounded to the nearest \$500).

BATHROOM	1. Bathroom remodel	\$27,000	Roughly \$770/sq. ft.
	2. Bathroom remodel Premium quality (Larger bathroom)	\$83,000	Roughly \$830/sq. ft.
KITCHEN	3. Major kitchen remodel	\$81,000	Roughly \$400/sq. ft.
	4. Major kitchen remodel Premium quality	\$158,000	Roughly \$790/sq. ft.
ADDITIONS	5. Bathroom addition (48 sq.ft., above grade)	\$64,000	
	6. Master suite addition (384 sq.ft., includes ensuite bathroom)	\$175,000	Roughly \$455/sq. ft.
SIDING	7. Re-siding with vinyl	\$18,500	Roughly \$15/sq. ft.
WINDOWS	8. Replace windows with vinyl	\$20,500	Roughly \$2,050/window or \$135/sq. ft.
	9. Replace windows with wood	\$24,000	Roughly \$2,400/window or \$160/sq. ft.
DECK	10. Install wood deck (includes railing, bench and steps)	\$19,000	Roughly \$60/sq. ft.
	11. Install composite deck (includes railing, bench and steps)	\$24,500	Roughly \$76/sq. ft.

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ROOFING/FLASHINGS/CHIMNEYS

All roofing installation prices include stripping old roofing material.

SLOPED ROOF	1. Strip asphalt shingles	\$0.75-\$1.50 per sq. ft.
	2. Install conventional asphalt shingles	\$2-\$4 per sq. ft. (twelve to twenty yrs)
	3. Install premium quality asphalt shingles	\$4-\$8 per sq. ft. (twenty to thirty yrs)
	4. Install cedar shingles or shakes	\$12-\$30 per sq. ft. (twenty to thirty-five yrs)
	5. Install concrete tile roofing (assuming no structural reinforcement)	\$8-\$16 per sq. ft. (fifty yrs and up)
	6. Install slate roof	\$30-\$60 per sq. ft. (forty to two-hundred yrs)
	7. Repair loose slates or tiles	\$25-50 per slate/tile (minimum \$1,000)
	8. Install roll roofing	\$1.50-\$3 per sq. ft. (five to ten yrs)
FLAT ROOF	9. Install built-up asphalt & gravel roof	\$10-\$20 per sq. ft. (twenty to thirty yrs) (minimum \$1,000)
	10. Install modified bitumen roof membrane	\$8-\$16 per sq. ft. (fifteen to twenty-five yrs) (minimum \$1,000)
	11. Improve flat roof drainage prior to installation of new membrane	\$2-\$4 per sq. ft.
	12. Paint modified bitumen membrane	\$0.50-\$1 per sq. ft. (minimum \$200)
	13. Install sheet metal on small roof surfaces	\$10-\$20 per sq. ft. (minimum \$1,000)
FLASHINGS	14. Reflash standard chimney: - asphalt shingle roof - built-up or modified bitumen membrane	\$500-\$1,000 \$700-\$1,500
	15. Install metal cricket at wide chimney	\$750-\$2,500 (depends on roofing material)
	16. Reflash standard skylight: - asphalt shingle roof - built-up or modified bitumen membrane	\$500-\$1,000 \$700-\$1,500
	17. Repair valley flashings	\$25-\$50 per lin. ft. (minimum \$600)
	18. Replace valley flashing	\$2,000-\$4,000

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ROOFING/FLASHINGS/CHIMNEYS (Continued)

	19. Replace parapet wall flashing	\$20-\$50 per lin. ft. (minimum \$600)
CHIMNEY	20. Rebuild typical chimney above roofline: (scaffolding not included)	
	- single flue (minimum \$1,000)	\$100-\$200 per row
	- double flue (minimum \$1,000)	\$150-\$300 per row
	21. Repoint (replace mortar in joints) typical chimney above roof line: (scaffolding not included)	
	- single flue (minimum \$400)	\$20-\$40 per row
	- double flue (minimum \$400)	\$25-\$50 per row
	22. Install concrete crown on typical chimney:	
	- single flue	\$1,000-\$2,000
	- double flue	\$2,000-\$4,000
	23. Install rain cap on chimney	\$200-\$300 each

EXTERIOR

GUTTERS AND DOWNSPOUTS	1. Install galvanized or aluminum gutters and downspouts	\$5-\$10 per lin. ft. (twenty to thirty yrs)
	2. Install copper gutters and downspouts	\$15-\$30 per lin. ft (fifty to one hundred yrs)
	3. Install aluminum soffits and fascia	\$8-\$16 per lin. ft.
	4. Install	
	- aluminum siding	\$9-\$18 per sq. ft.
	- vinyl siding	\$8-\$16 per sq. ft.
	- fiber cement siding	\$10-\$20 per sq. ft
	5. Install and finish wood siding using:	
	- cedar	\$12-\$24 per sq. ft.
	- paint grade	\$10-\$20 per sq. ft
	6. Install stucco	\$15-\$30 per sq. ft
	7. Repointing (replacing mortar in joints):	
	- Soft mortar (minimum \$500)	\$3-\$6 per sq. ft.
	- Hard mortar (minimum \$500)	\$5-\$10 per sq. ft.
	8. Replace deteriorated bricks	\$25-\$50 per sq. ft
	9. Rebuild parapet wall	\$25-\$50 per sq. ft

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EXTERIOR (Continued)

	10. Painting (exclusive of repairs):	
	- trim only (soffits, fascia, door and window frames)	\$2,000 and up (typically five to ten yrs)
	- trim and wall surfaces (wood, brick, stucco)	\$5,000 and up (typically five to ten yrs)
BASEMENT	11. Dampproof foundation Dampproof walls from exterior and install drainage tiles	\$150-\$300 per lin. ft. (minimum \$3,000)
DRIVEWAY	12. Resurface existing asphalt driveway	\$3-\$6 per sq. ft. (ten to twenty yrs)
	13. Seal asphalt driveway	\$0.30 per sq. ft. and up (one to three yrs)
	14. Install interlocking brick driveway	\$8-\$16 per sq. ft. (fifteen yrs and up)
	15. Install concrete driveway (no pattern)	\$8-\$16 per sq. ft. and up (thirty to forty yrs)
	16. Install drain at bottom of sloped driveway	\$2,000 and up
PATIO	17. Install concrete slab patio	\$8-\$16 per sq.ft. and up (thirty to forty yrs)
	18. Install concrete patio stones	\$2.50-\$5 per sq. ft. (thirty to forty yrs)
	19. Rebuild exterior basement stairwell	\$5,000 and up
	20. Install drain at existing basement stairwell	\$750-\$1,500
GARAGE	21. Build detached garage	\$140-\$280 per sq. ft.
	22. Break wood/soil contact at detached garage	\$25-\$50 per lin. ft. (minimum \$1,000)
	23. Demolish and remove detached garage	\$2,000 and up
	24. Install garage door:	
	- single metal	\$1,000-\$2,000 and up
	- double metal	\$1,800-\$4,000 and up
	- single wood	\$1,500-\$3,000 and up
	- double wood	\$2,500-\$6,000 and up
	25. Replace garage door opener	\$450-\$1,000 (eight to twelve yrs)
	26. Build retaining wall:	
	- wood	\$25-\$50 per sq. ft. (minimum \$1,000)
	- concrete	\$75-\$100 per sq.ft. (minimum \$2,500)

EXTERIOR (Continued)

27. Replace porch steps :	
- wood	\$1,000 and up
- concrete	\$2,000 and up
28. Replace porch flooring	\$4-\$8 per sq. ft.
29. Replace porch skirting	\$10-\$20 per lin. ft.
30. Replace step railing	\$400-\$800 and up
31. Install fencing:	
- wood	\$20-\$50 per lin. ft.
- chain link	\$10-\$20 per lin. ft.
32. Install lawn sprinkler system	\$2,000 and up
33. Excavate and repair foundation cracks	\$2,000-\$4,000 each
34. Damp-proof foundation walls and install perimeter drainage tiles	\$150-\$300 per lin. ft. (minimum \$3000)

STRUCTURE

1. Underpin one corner of house	\$5,000 and up
2. Underpin or add foundations	\$300 and up per lin. ft. (minimum \$3,000)
3. Lower basement floor by underpinning and/or bench footings	\$300 and up per lin. ft. (minimum \$5,000)
4. Replace deteriorating sill beam with concrete	\$60 and up per lin. ft. (minimum \$2,000)
5. Replace main beam in basement (unfinished)	\$4,000 and up
6. Re-support joist by sistering another alongside	\$250 and up
7. Install basement support post with footing	\$800-\$1,600 and up
8. Chemical treatment for termites	\$2,000 and up (ten to twenty yrs)
9. Termite inspection performed by a specialist	\$200-\$400
10. Remove or open bearing wall (exclusive of decorating)	\$3,000 and up
11. Remove partition wall (exclusive of decorating)	\$3,000 and up

STRUCTURE (Continued)

12. Install door opening in interior wall (exclusive of decorating)	\$750-\$1,500
13. Rebuild arch above window or door opening	\$1,000 and up
14. Install lintel above opening in masonry wall	\$1,000 and up
15. Install exterior basement stairwell	\$10,000 and up
16. Build an addition:	
- foundation to roof	\$200-\$400 per sq. ft.
- additional story	\$150-\$300 per sq. ft.
17. Install collar ties in attic	\$30-\$60 each (minimum \$400)
18. Install lateral bracing on collar ties in attic	\$100-\$200
19. Replace roof sheathing	\$4-\$8 per sq. ft.

ELECTRICAL

1. Upgrade electrical service to 100-amps (including new panel and breakers)	\$1,500-\$3,000
2. Upgrade electrical service to 100-amps (if suitable panel already exists)	\$800-\$1,600
3. Upgrade electrical service to 200-amps	\$2,000-\$4,000
4. Replace main electrical grounding system:	
- home on public water system	\$300- \$600
- home on private well (Install ground rods)	\$400-\$1,000
5. Install new breaker panel	\$700-\$2,000 (add \$200 for 200A panel)
6. Install auxiliary breaker panel	\$350-\$700
7. Replace circuit breaker (20 amp or less)	\$100-\$200
8. Add 120-volt circuit (microwave, freezer, etc.)	\$250-\$500
9. Install exterior outlet with waterproof cover	\$150-\$300

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ELECTRICAL (Continued)

10. Add 240-volt circuit (dryer, stove etc.)	\$300-\$600
11. Add conventional receptacle	\$200-\$400
12. Add kitchen split receptacle	\$200-\$400
13. Replace conventional receptacle with ground fault circuit interrupter receptacle	\$70-\$140 (\$200-\$400 for kitchen)
14. Replace conventional receptacle with aluminum compatible type (CO/ALR)	\$60-\$120 each (assuming several are required)
15. Upgrade entire house with aluminum wire compatible connectors , receptacles etc.	\$1,000-\$3,000
16. Rewire electrical outlet with reversed polarity	\$5-\$10 each (\$100 minimum)
17. Rewire entire house from aluminum to copper wiring	\$1,000-\$2,000 per room
18. Replace switches (dimmer, standard, lighted etc.)	\$10-\$20 each (\$100 minimum)
19. Install light fixture	\$100-\$200 and up
20. Install exterior light	\$250-\$500 and up
21. Rewire entire house during remodelling	\$750-\$1,500 per room
22. Replace knob & tube wiring with modern wiring	\$1,000-\$2,000 per room

HEATING

1. Install high efficiency forced-air furnace	\$3,500-\$8,000 (fifteen to twenty yrs)
2. Annual furnace service	\$200 minimum
3. Replace blower and/or motor	\$350-\$700 (ten to twenty yrs)
4. Replace induced draft fan	\$600-\$1,200 (five to ten yrs)
5. Install humidifier	\$300-\$600 (five to ten yrs)
6. Install electronic air filter	\$1,000-\$2,000 (ten to twenty yrs)

HEATING (Continued)

7. Install mid efficiency boiler	\$4,000-\$10,000 (fifteen to twenty-five yrs)
8. Install high efficiency boiler	\$5,000-\$12,000 (fifteen to twenty-five yrs)
9. Replace refractory pot	\$400-\$800
10. Install circulating pump	\$400-\$800 (ten to twenty-five yrs)
11. Install expansion tank	\$400-\$800
12. Install backflow preventer	\$250-\$500
13. Install chimney liner (for gas)	\$500-\$1,000 and up
14. Install programmable thermostat	\$200-\$400
15. Replace indoor oil tank	\$1,200-\$2,400
16. Remove oil tank:	
- interior	\$600 and up
- underground	\$10,000 and up
17. Replace radiator valve	\$300-\$600
18. Replace radiator	\$750-\$1500
19. Add electric baseboard heater	\$300-\$600 and up
20. Clean ductwork	\$400-\$800
21. Install heat recovery ventilator	\$2,500-\$5,000

COOLING/HEAT PUMPS

1. Add central air conditioning on existing forced-air system	\$3,000-\$6,000 (ten to fifteen yrs)
2. Add heat pump on existing forced-air system (dependent on source of heat)	\$4,000-\$8,000 (ten to fifteen yrs)
3. Install independent air conditioning system	\$10,000-\$20,000 (ten to fifteen yrs)
4. Install ductless air conditioning system or heat pump	\$3,000-\$7,000 (ten to fifteen yrs)
5. Annual service	\$200 minimum

INSULATION

1. Insulate open attic area to modern standards	\$1-\$3 per sq. ft.
2. Blow insulation into flat roof, cathedral ceiling or wall cavity	\$3-\$6 per sq. ft.
3. Improve attic ventilation (while re-roofing)	\$30-\$60 per vent
4. Install spray foam insulation (typical 2 story, 3 bedroom)	\$5,000-\$10,000
5. Insulate basement from interior	\$2 and up per sq. ft.

PLUMBING

1. Replace galvanized piping with copper: - per kitchen - per bathroom	\$750-\$1,500 \$1,500-\$3,000	NOTE: Figures do not include repairs to finishes after disruption
2. Replace public water supply pipe to house	\$150-\$300 per lin. ft. (minimum \$2,000)	
3. Replace main shut off valve	\$200-\$500	
4. Install conventional water heater	\$1,000-\$2,000 (eight to twelve yrs)	
5. Install power vented water heater	\$1,500-\$4,000 (eight to twelve yrs)	
6. Install tankless water heater	\$2,500-\$5,000	
7. Typical monthly rental of conventional water heater	\$20-\$35	
8. Replace toilet	\$500 and up (thirty to forty yrs)	
9. Replace toilet flush mechanism	\$100-\$200	
10. Unclog or remove obstruction from toilet	\$100-\$200	
11. Replace seal on toilet	\$150-\$300	
12. Install bidet	\$1,500 and up (thirty to forty yrs)	
13. Replace basin: - vanity - pedestal	\$500 and up (twelve to twenty yrs) \$700 and up (twelve to twenty yrs)	

PLUMBING (Continued)

14. Replace faucet set	\$250 and up (ten to fifteen yrs)
15. Replace bathtub, including ceramic tile	\$2,000 and up (twenty to thirty yrs)
16. Install refinished claw foot bathtub	\$2,500 and up (fifteen to twenty yrs)
17. Replace bathtub/shower faucet set	\$400 and up (ten to fifteen yrs)
18. Install whirlpool bath	\$3,500 and up (fifteen to twenty-five yrs)
19. Re-tile bathtub enclosure	\$1,500 and up
20. Replace leaking shower stall pan	\$1,000-\$2,000
21. Rebuild tile shower stall	\$2,500-\$5,000 and up
22. Install plastic bathtub enclosure	\$1,000-\$2,000 (ten to fifteen yrs)
23. Install plastic shower stall	\$1,500-\$3,000 (ten to fifteen yrs)
24. Install bathroom exhaust fan	\$500-\$1,000 (five to ten yrs)
25. Install modest basement bathroom	\$7,500 and up
26. Replace laundry tubs	\$400-\$800 (fifteen to twenty-five yrs)
27. Install laundry facilities	\$1,000 and up
28. Install kitchen sink: - single - double	\$500 and up (fifteen to twenty-five yrs) \$800 and up (fifteen to twenty-five yrs)
29. Install solid waste pump	\$1,500-\$3,000 (five to ten yrs)
30. Connect waste plumbing system to municipal sewers	\$5,000 and up
31. Snake out obstruction in main sewer line below yard	\$250-\$500
32. Repair collapsed or damaged section of sewer line below yard	\$2,000 and up
33. Install submersible pump in well	\$1,000 and up (ten to fifteen yrs)
34. Install suction or jet pump for well	\$700 and up (ten to fifteen yrs)
35. Replace water tank for pump	\$300-\$700

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PLUMBING (Continued)

36. Install water softener	\$1,000 and up (five to fifteen yrs)
37. Install outdoor faucet	\$300-\$600
38. Replace sump pump	\$350-\$700 (seven to fourteen yrs)
39. Install sauna	\$3,000 and up

INTERIOR

1. Add drywall over plaster	\$4-\$8 per sq. ft.
2. Remove old plaster (not lath) and install drywall	\$5-\$10 per sq. ft. (plus disposal costs)
3. Add wire lath and new plaster over existing plaster	\$5-\$10 per sq. ft.
4. Spray stipple on existing ceiling	\$3-\$6 per sq. ft.
5. Install suspended tile ceiling	\$6-\$12 per sq. ft.
6. Install drywall on unfinished basement ceiling	\$5-\$10 per sq. ft.
7. Sand and refinish hardwood floors	\$2-\$4 per sq. ft.
8. Install hardwood floors	\$10-\$20 per sq. ft.
9. Install parquet flooring	\$8-\$16 per sq. ft.
10. Install ceramic floor tiles	\$15 and up per sq. ft.
11. Install vinyl floor tiles	\$5 and up per sq. ft.
12. Install sheet vinyl	\$6-\$12 per sq. ft.
13. Install wall-to-wall carpet	\$25-\$50 and up per sq. yard
14. Install wool wall-to-wall carpet	\$35-\$70 and up per sq. yard
15. Install laminate flooring	\$5-\$12 per sq. ft.
16. Clean carpets	\$50 and up per room (minimum \$150)

INTERIOR (Continued)

17. Replacement windows :	
- Sliding	\$50-\$100 and up per sq. ft.
- Casement	\$65-\$130 and up per sq. ft.
- Awning	\$55-\$110 and up per sq. ft.
- Double hung	\$60-\$120 and up per sq. ft.
- Fixed	\$35-\$80 and up per sq. ft.
- Bay	\$55-\$110 and up per sq. ft.
18. Storm windows	\$200-\$400 each
19. Convert coal-burning fireplace to wood-burning unit (if possible)	\$4,000 and up
20. Install masonry fireplace:	
- with single flue chimney	\$7,000 and up
- from rough-in	\$3,000 and up
21. Install zero clearance fireplace	\$3,500 and up
22. Install gas fireplace (excluding interior finishes)	\$4,000 and up
23. Install glass doors on fireplace	\$500 and up
24. Clean fireplace chimney flue	\$100-\$200 each
25. Install fireplace damper	\$700 and up
26. Install interior hollow-core door	\$300-\$600
27. Install interior custom wood door	\$450 and up
28. Install exterior door	\$750-\$3,000 and up
29. Install closer on garage man door	\$200-\$400
30. Install storm door	\$500-\$1,000 (ten to twenty yrs)
31. Install sliding glass doors :	
- brick wall	\$3,500-\$7,000 and up
- wood frame wall	\$2,500-\$5,000 and up
32. Replace sliding glass door	\$2,000-\$5,000 and up (ten to twenty yrs)
33. Install skylight	\$3,000 and up

INTERIOR (Continued)

34. Install kitchen cabinets	\$300 and up per lin. ft.
35. Install kitchen counter	\$50 and up per lin. ft.
36. Install ceiling fan	\$500 and up
37. Install conventional alarm system	\$1,000 and up
38. Install central vacuum system	\$1,000-\$2,000 and up
39. Install central vacuum canister only	\$500-\$1,000
40. Paint interior (walls, ceilings, doors, trim) of entire house	\$3,000 and up (five to ten yrs)
41. Hang wallpaper	\$3 and up per sq. ft.
42. Urethane injection of poured concrete foundation cracks	\$400-\$800 each
43. Injection repair of tie rod hole	\$250-\$500 each
44. Install interior dampproofing system on inside of foundation walls	\$100-\$150 per lin. ft.

