

What Is Life Cycle Costing?



With ever tightening budgets, local governments and states must purchase the best equipment they can at the lowest total cost. Here's how.

Although not a new concept, Life Cycle Costing (LCC) adds a new dimension to purchasing capital goods. This concept not only retains, but actually strengthens the competitive bidding low cost philosophy essential to any government agency. With LCC all major costs are established in advance. All of the owning and operating expenses throughout a machine's working life are considered, not just the initial purchase price. When the true costs are analyzed, the results can be surprising. Apparent savings can turn out not to be savings at all.

Taxpayers expect you to get the most value for the money with your equipment purchases, and that can't be done without taking into account the total cost of operating the machine. Agencies are being asked to do more with less, and the workload doesn't stop just because budgets are tight. No one wants to have unexpected repairs and maintenance costs, or unforeseen downtime eating away at the operating budget. Used correctly, LCC can save guesswork in budgeting and will save worry about the costs of machine repairs, downtime, and lack of availability. It can also protect you against a dealer who won't or can't stand behind the machines they sell.

LCC has been endorsed and its use encouraged by several governmental associations including the National Institute of Governmental Purchasing (NIGP), National Association of State Procurement Officials (NASPO), American Bar Association (ABA), and National Association of Fleet Administrators (NAFA). More agencies

are using and applying LCC in their bidding process all the time.

LCC considers the total cost of owning construction equipment over a specific period of time...often five years. With LCC, you purchase the best machine available on a total, long-term basis, rather than settling for the lowest initial price. Uncertainty is eliminated, since LCC includes a guarantee on maximum repair costs. It also guarantees a repurchase price at the end of the contract, but does not lock you in. At the end of the contract, you can sell the machine to anyone at a higher price. For added security, the bid proposal may also include an option to purchase the machine at any time during the contract period should your needs change. Here are some additional benefits of LCC:

- **MAXIMUM VERSATILITY.** LCC bids are flexible and can be tailored to your agency's exact specifications and needs. For example, if you have the shop facilities, you can choose to do your own scheduled maintenance. If not, the manufacturer can do it for you at a guaranteed price for the length of the contract. The buyer has the choice.
- **HELPS ESTABLISH SPECS.** The specifications process is critical. Information about performance, maintenance, servicing, parts availability, and physical characteristics—every contributing factor involving the total life cycle costs of owning a machine—can be included.
- **LOWEST OVERALL COST.** LCC does not eliminate choices or give one manufacturer an edge in the bidding

process. Rather, it provides the lowest possible overall cost when considering a machine.

The LCC process is surprisingly simple (See Figure 1):

- Begin with the make and model of the equipment and the selling price.
- Subtract the trade-in amount the dealer will allow.
- Now you have the initial purchase price.
- Next, include a residual/salvage value for the equipment.
- Add the scheduled maintenance costs over the same period (See the scheduled maintenance calculation forms available at www.govengr.com/cat).
- Add the repair costs over the life of the equipment.
- Then add the extended warranty that will cover against all defective parts and workmanship.
- Next, include a provision for availability that will guarantee the in-service time of the machine.
- Finally, your total life cycle cost for the equipment is established.

Simplifies Budgets

Establishing and living by a budget can be difficult. Through LCC you can eliminate budget headaches by providing predetermined maintenance expenses and smoothing out long-term budgeting. Here's how it works:

IDENTIFIES MAINTENANCE. Whether it's next month, next year, or five years out, customer service agreements and

Figure 1. Backhoe Loader Life Cycle Cost Bid Form

Item Number	Estimated Quantity	Description	Unit Price	Total Price
1.		Backhoe Loader Purchase Price Year/Make/Model _____	\$ _____	\$ _____
2.		Trade in Price/Offer	\$ _____	\$ _____
3.		Total Maintenance Costs From Schedule Maintenance Calculation Form (See www.govengr.com/cat.)	\$ _____	\$ _____
4.		Maximum Repair Costs (Extended Warranty) (_____ Years / _____ Hours)	\$ _____	\$ _____
5.		Residual/Salvage Value (_____ Years / _____ Hours)	\$ _____	\$ _____
Total Bid Price (1 - 2 + 3 + 4 - 5)			\$ _____	\$ _____

total maintenance and repair contracts allow you to know at the time of machine purchase exactly what your maintenance expenses will be.

IMPROVES LONG-TERM BUDGETING. With LCC, you will know all of your costs up front—purchase price, maximum cost of repairs, and scheduled maintenance, as well as depreciation and minimum buy-back price. This eliminates guesswork and surprise spikes in your spending.

LCC gives you the ability to develop a precise budget, while guaranteeing

maximum repair cost and minimum resale value. Your costs are predictable throughout the life of the contract, and here's how:

RELIABLE BACKUP AVAILABLE. Equipment costs often make it impossible for you to have standby equipment in case of a breakdown. With LCC, you may wish to include backup or rental equipment in the contract provision.

ADDED PROTECTION. Your LCC agreement may include some provisions that extend beyond the usual warranty, providing additional assurance through-

out the length of the contract.

NO SURPRISES. For starters, you won't pay more for repairs than the agreed-upon maximum. Routine maintenance and any billable parts and service work will be invoiced at prevailing rates.

LCC covers all the factors in equipment acquisition. It eliminates surprises and provides the highest possible value for your equipment dollar. LCC helps you set budgets, reliably predict expenses, and establish an uncomplicated, yet solid method for selecting equipment. On top of all that, LCC saves you money. **GE**

Nebraska Highway/Rail Grade Crossing

The grain and cattle industry brings a large percentage of truck traffic to the area of Route 81 in Shelby, NE, 26 miles north of Northfolk, NE. The Nebraska Department of Roads, working closely with the Northeast Nebraska Railroad, began searching for a solution to a crossing that had failed four times since 1990. After an extensive evaluation of foundation underlayments and premium crossings surfaces, the department selected a polymer concrete grade crossing system manufactured by Transpo Industries (www.transpo.com). The Nebraska Department of Roads had used Transpo's

system, called BODAN®, to solve a similar surface degradation problem last year when 50 linear ft of the precast polymer concrete panels were laid in less than seven hours. With the favorable experience and a similar high traffic rate, the department felt the system would give



them a long life expectancy knowing that truck rates and weights would increase steadily. The polymer concrete used to manufacture the crossing system surface panels has unique performance characteristics. The polymer has a compressive strength twice that of portland cement concrete—more than 14,000 psi—which is used in traditional crossing surfaces. The system utilizes a “bridge” design concept that transfers the axle loads of vehicles directly to the rails of the track. Unlike other crossing systems, there are no permanent attachments of the modular panels to the cross ties. This eliminates stress on the crossing surface and allows for easy

access to perform routine track maintenance. The durable polymer concrete panels are resistant to road salts and diesel fuel, thus further extending their long life. The panels also incorporate a lifetime skid resistant surface, an additional safety feature for wet weather conditions.