



Design-Build Construction Method

by Roger Wade

This article illustrates that with control and by utilizing the **design-build method** of construction, municipal building projects can be built with all costs known up front, prior to signing a contract. There is no need to have cost overruns and extras on building projects and the need for Taj Mahals does not exist. We must build functional, carefully thought out buildings with future multi purpose uses and they should be environmentally friendly and energy efficient. There have been many horror stories in regions, municipalities, cities and towns about projects which have been over budget, late and not what the customer wanted. This happened because the purchaser has been ignorant about architecture, engineering and construction. It is like giving a tailor an order to make a suit, without discussing in detail the measurements, colour, material, style or budget.

THE NEED FOR OPTIMISM & LEADERSHIP

For the past 30 months, our Canadian economy has been in the worst recession since the Great Depression. Hundreds of businesses, large and small, have seen substantial declines in profits, have faced bankruptcies or had to restructure to survive. This has often caused the loss of thousands of jobs. Many USA corporations have reduced or closed their Canadian operations, again resulting in job losses.

High unemployment has drained our U.I.C. funds and increased welfare costs have put heavy financial burdens on our regions and municipalities. Monies that were needed for municipal building projects have often been diverted to other social expenditures.

This negativism has had terrible ramifications and spin-offs. Canadians stop spending or upgrading - they are hoarding and living in fear.

They are:

- afraid for their job
- they no longer trust
- security no longer exists
- there seems to be no leadership
- compounded with these difficult times is this uncertainty that has surrounded the recent constitutional talks and the time and money involved
- we are becoming a society of pessimists.



prepared to accept a lower standard of living - I believe the price of being a Canadian is this lower standard of living and this acceptance was confirmed with a "No" answer to the constitutional referendum.

We still possess and can be optimistic about our:

- natural resources
- manufacturing capabilities
- well trained skilled workers
- world class educational capabilities
- stable banking industry
- health care system and insurance plans
- judicial system
- telephone, radio and communication systems
- social assistance programs
- municipal political system.

I deliberately mentioned our municipal system last because I am optimistic about this level of government. I, and many Canadians trust this level of government which allows me to be optimistic. Many Canadians do not trust our federal and provincial governments and I believe that the provincial and fed-

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We must become more optimistic, we must become more creative, we must show wherever and whenever possible the leadership people expect and deserve.

I still believe that Canada is a great place to live in. I believe our society is

eral governments have jointly caused this pessimism that we face. I believe the recent "No" vote showed our distrust for federal and provincial politicians.

The municipal level of government is approachable.

talks to the public.
is accountable.

I believe that this is a big difference because the Provincial and Federal levels of government are not approachable and do not talk with the public and are not accountable to the public. They talk to and are accountable to their party politics first, last and only party politics should not enter municipal levels of government.

Municipal governments have it within their power to create the leadership and optimism the public is waiting for. Because temporary reduction of cash flow has hampered needed municipal projects, some municipalities have been more pessimistic these past few years. There is, however, a creative method of funding those needed building projects.

FINANCING: LEASE TO OWN

The Ministry of Municipal Affairs has a task force investigating innovative infrastructure financing.

Lease to own is just one method of funding building projects; others are bonds, debentures and co-ventures.

In a "handout" at a meeting of regional treasurers last June 1992, one of the methods presented was:

"Another co-venturing technique that the group felt had particular merit is lease-to-purchase. This technique avoids the need for the government to secure up-front capital and allows a municipal government to benefit from tax advantages via capital cost allowances to the private sector partner. The typical saving is about 85 basis points on a project of \$10 to \$15 million dollars, often legal costs which (initially at least) would be larger than for debenture financing which is currently done in large volumes. The Income Tax Act limits the use of such arrangements to buildings. Lease-to-purchase could be a suitable way to finance major construction projects such as schools, administration buildings and recreational facilities. Where lease-to-purchase arrangements are undertaken with off-shore companies, Canadian Income Tax Act provisions are not relevant and applicability of this technique can be extended to large purchases of rolling stock.

While there are no legal impediments to using lease-to-purchase arrangements, some Provincial ministries would have to reconsider their approval criteria "

SCENARIO: A new Civic Building of approx. 200,000 sq.ft.

BUDGET VALUE:

25 Million Dollars (\$125.00 per sq.ft.)

All costs - exclusive of land

Includes architects, engineers, permits, fees, parking, interior finishes, and bridge/draw down financing.

LEASE TO OWN:

Tenant/Owner commences paying a monthly rent upon occupancy over a 25 YEAR PERIOD as outlined below

MORTGAGE RATE	MONTHLY PAYMENTS	ANNUAL PAYMENT	SQ.FT. RATE CONSTANT 25 YRS
9 %	\$207,000	2,484,000	\$12.42
9.5 %	\$215,000	2,583,000	\$12.92
10 %	\$223,000	2,682,000	\$13.41

Final payment: 1 million dollars at end of lease.

SITE: The proper site is most important. The site must allow for major complimentary high profile future development. The size of the site must therefore be unrestrictive.

BENEFITS: A new Civic Centre is the core or hub of future development within the city centre area. It provides leadership, jobs, business activity and development. It should be a practical, functional, high profile building designed for long range future use.

Many different types of municipal building projects are needed but due to lack of municipal cash flows, some of these projects have been deferred.

This cash shortage was caused by the loss of tax revenues, additional increased welfare costs and loss of jobs.

New infrastructure financing was and is needed. Personal visitations with major pension fund companies and with major banks were conducted to establish the interest in funding on a "lease to own" basis municipal building projects.

The funding is available for municipal building projects on a lease-to-own basis. Pension fund carriers, capital venture groups and bankers are interested provided that functional and practical buildings are designed and the municipality is the tenant/owner. It will of course cost more to finance an arena than an administrative office building because of its restrictive usage.

The lease-to-own is simply a mortgage with 100% financing. The Ontario Municipal Board must approve of the arrangement to ensure a municipality is financially capable of their future commitment.

Should the municipality wait until af-

ter the recession to build or should it be done now ?

The advantages to go ahead now are:

- construction rates are low - equivalent to 1984 -85 prices
- interest rates are the lowest in several decades
- financial institutions believe in our long term ability to pay
- construction projects would help locally and provincially

TWO METHODS OF CONSTRUCTION

At the beginning of any building project the owner or user usually forms a building committee. Whether the building committee is an industrial client, an insurance company, a banker or a municipality, they have several things in common;

- 1.They have a mandate to spend money on their building project.
- 2.They, very often, know little about architecture, engineering and construction.
- 3.It is difficult to feel confident about what they are buying - they can't see it - they can't visualize it - they are not even

sure about how much it will end up costing.

Two methods of construction that have been generally accepted are:

ONE - The TRADITIONAL method - where you hire an architect first and pay them to design your building project. After you have approved the design you then hire a general contractor to construct your building - you have hired two companies.

TWO - The DESIGN/BUILD method - after you approve of the concept design and proposal you hire a design-build team, which consists of your architect, engineers and constructor and sign one contract.

A comparison of these two methods follows:

this company 3/4 of 1% to 1 1/4% of the project value to do all of the following steps 2 -10 with you and for you. Cost on 25 million at .75% = \$187,500.00 includes all paper costs (**advertising - document preparation - general tender documents - building specifications**).

2. Determine the project requirements - type of building required - people requirements -location of site preference - design requirements - number of stories - aesthetics - exterior and interior wall preferences - energy - air conditioning requirements - roofing -doors - finishes - electrical requirements - occupancy date required - prepare sketches and "information packages".

3. Prepare a design-build general tender document - requesting that interested parties may pick up the "information packages" to design and build an administra-

4. Scrutinize and review qualifications and short list to finalists (**selected by Building Committee**).

5. Pay the 3 - 5 finalists a fee of .125 to .3% of your budgeted amount (i.e. on a 25 million dollar project a payment @ .125% or \$31,250.00 each and have them prepare the following):

- 5.1 A design concept
- 5.2 A typical floor plan
- 5.3 A site plan
- 5.4 A coloured perspective drawing of finished building
- 5.5 An outline specification
- 5.6 A schedule and completion date
- 5.7 A final, guaranteed cost
- 5.8 A proposal and bonding proof

All of this information can be given to the finalist design-build competitors at a

Steps and procedures involved in designing and constructing a building project. (Applicable to projects valued up to 10 million)	Traditional Method		Design/Build Method	
	YES	NO	YES	NO
• work from customers specifications, general information - needs - site location - usage - aesthetics - budget etc.	X		X	
• use professional architects and engineers as required by law.	X		X	
• meet local and provincial building code requirements.	X		X	
• use reputable general contractors, trades and subtrades.	X		X	
• prequalify through a general tendering process.	X		X	
• submit a concept design plan at no up front charge.		0	X	
• permit conceptual design changes at no charge.		0	X	
• submit an outline building specification at no charge.		0	X	
• prepare a site plan and perspective at no charge.		0	X	
• commit to an overall price including all fees and construction costs prior to signing a contract.		0	X	
• have one contractual agreement.		0	X	
• commit to a guaranteed completion date prior to signing a contract.		0	X	
• have the ability for "fast-track" design and construction.		0	X	
	6	8	14	0

THE DESIGN/BUILD METHOD PROVIDES

- MORE KNOWN FACTORS UP FRONT
- GREATER COST CONTROL UP FRONT

CONTROL OF PROJECTS OVER \$10 MILLION

Maintaining total control over the building project is of utmost importance.

1. If necessary, hire a project development co-ordinator at the beginning. Pay

tive building or public works building of approximately 200,000 sq.ft. This request for information will consider only qualifications and experience at this time.

A short list of 3 - 5 finalists will enter a paid competition.

finalist bidders meeting and the "information packages" will contain more detailed information and your "maximum budget figure".

Set a closing date of 6 - 8 weeks.

NOTE: The paid for presentations are your property. This way you will receive combined bids from qualified, well known architects joint venturing with qualified well known general contractors.

6. Scrutinize and review the final proposals - allow each finalist 1 1/2 hours to present their proposal to your building committee (selected by building committee).

7. Select your finalists - best 2 or 1. If you have design changes you want made - do it now as part of their presentation cost - be fair - not a completely new design - but they will do minor changes and re-costing at this stage (selected by building committee).

8. Review 1 or 2 finalists with new final cost information and all items covered in item 5.

9. Enter into a legal contract agreement with the successful design-build bidder (pending funding) (selected by building committee).

10. Prepare a general tender document to the financial institutions based on the successful design-build contract and have the financiers prepare their lease to own proposals.

Build in your options if required: (selected by building committee)

- i.e. - Level rate - 20 to 25 year lease
- Level rate - 20 to 25 year lease with balloon or buy out options in the 10 to 15 year.

11. Review and select financier (selected by building committee).

12. Commence project.

Control has been featured throughout this process by your building committee.

SUMMARY

The main features of a design/build project on a lease-to-own basis are:

CONTROL - ONE CONTRACT - KNOW WHAT YOU ARE BUYING - GUARANTEED COSTS

On a 25 million dollar project as illustrated (item 5 "control") and (item 1 "control") your total development costs would be:

- 1. From item 5, if you selected 4 finalists @ \$31,250 each \$125,000
- 2. From item 1, project development co-ordinator fees (Paid out monthly over length of project) \$187,500

TOTAL OUTLAY \$312,500

This \$312,500.00 is only 1 1/4 of the 25 million dollars and is your only cash flow required during the design/construction period. Upon occupancy you start paying a rent to ownership.

The design/build process on a lease-to-own basis offers you the opportunity of getting on with those needed building projects.

- you have total control
- you know all costs up front
- you do not require to raise taxes
- you know what your project will look like
- you have 4 or 5 qualified finalist design-build proposals
- you know your design-build team
- you have one contractual agreement
- you stimulate your economies
- you create jobs
- you provide optimism
- you provide leadership

Economic Development Officers represent over 800 municipalities, cities, towns, villages, regions and townships in Ontario. Just imagine the combined power you have if you could convince each area to spend one million dollars on a single project, we could easily create one billion dollars worth of construction projects.

Would one billion dollars of work help our economy?

We have not even mentioned the work potential from schools, bridges, roads, provincial and federal building projects.

Work projects and jobs are needed to reduce unemployment, create more income tax, reduce welfare, create self esteem, reduce crime and create hope and optimism.

Part of the job of economic development officers is to assist in:

"providing excellent service to the people of Ontario by recommend-

ing to the minister and the government policies and programs which promote financially accountable and viable municipalities". (mission statement Ministry Municipal Affairs)

Our own EDCO mission statement says that we are to:

"promote and advance the best civic, economic and social interests of the communities and areas served by and through honest, personal endeavour"

The design-build on a lease to own basis addresses both of the above mission statements.

!This article was prepared as an address for Municipal Economic Development Officers, Mayors and Councillors.