

# Solutions

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## WINNING THE NUMBERS GAME

### THE ECONOMICS OF GEOMETRY AND COST

Ultimately, every project comes down to a numbers game. Does the price fit my budget? Can the project be built to return a profit? The decision to build structured parking is no different.

Winning this numbers game begins with efficiency. **Efficiency begins by controlling geometry** and nobody understands how geometry for parking works better than Finrock. Our design-manufacture-construct project delivery system enables us to take control of the geometry from the very outset of your parking garage by using standard

structural products to create greater efficiencies. In finished buildings it is the use of standard manufactured products, such as windows, doors and ceiling tiles that create efficiencies and cost savings. Finrock approaches a parking garage with the same mentality. We have designed, manufactured and constructed hundreds of significant projects and have the experience and expertise to create the best possible design to fit your available land and budget. Simply let us know what you need and we will come up with the "right angle."

### IN THIS ISSUE >>>

**Learn how the basics of geometry can increase parking efficiency and reduce construction costs.**

According to the Victoria Transport Policy Institute, the national average construction cost for a parking garage in 2008 was \$15,552 per stall. Even considering that the cost of commercial construction had declined in 2010 by 13.16% from its peak in 2008, according to Turner Building Cost Index, Finfrack finds that our costs for parking garage construction still remain considerably lower than the national average.

To achieve high efficiency and associated reduced costs, a garage should be no less than 270 feet long and two bays wide – a bay being approximately 60 feet. This allows ramps with a gentle enough slope to park on and 18' deep parking stalls on each side of a 24' drive aisle, which will accommodate two-way traffic. These sizes, however, are typical code requirements, so your local codes or particular usage could dictate different width drive aisles, larger stall sizes and particular ramp slopes.

Other factors which can affect efficiency and costs are:

- The acceptance of compact spaces which can increase stall counts.
- The approval to have column intrusion into stalls.
- The proximity to other structures which may dictate the need for sprinklers and ventilation.
- The consideration of pedestrian vertical circulation which may require the need for additional elevators or stairs.
- Foundation types.

Another important factor contributing to cost is efficiency in the layout. By avoiding irregular shapes, angled parking, misplacement of elevators and stairs and inefficient traffic flow, the total square footage dedicated to each stall decreases, thereby reducing the per stall cost. Designing the structure for long clear spans that module with the parking dimensions and eliminate inefficiencies caused by intrusive interior columns, is key in creating an efficient garage. As a manufacturer of precast /prestressed concrete garages, no designer has greater knowledge of how to properly



An extremely tight sight and desire to compliment surrounding buildings necessitated a garage of only 1.5 bays wide with a decorative exterior finish.

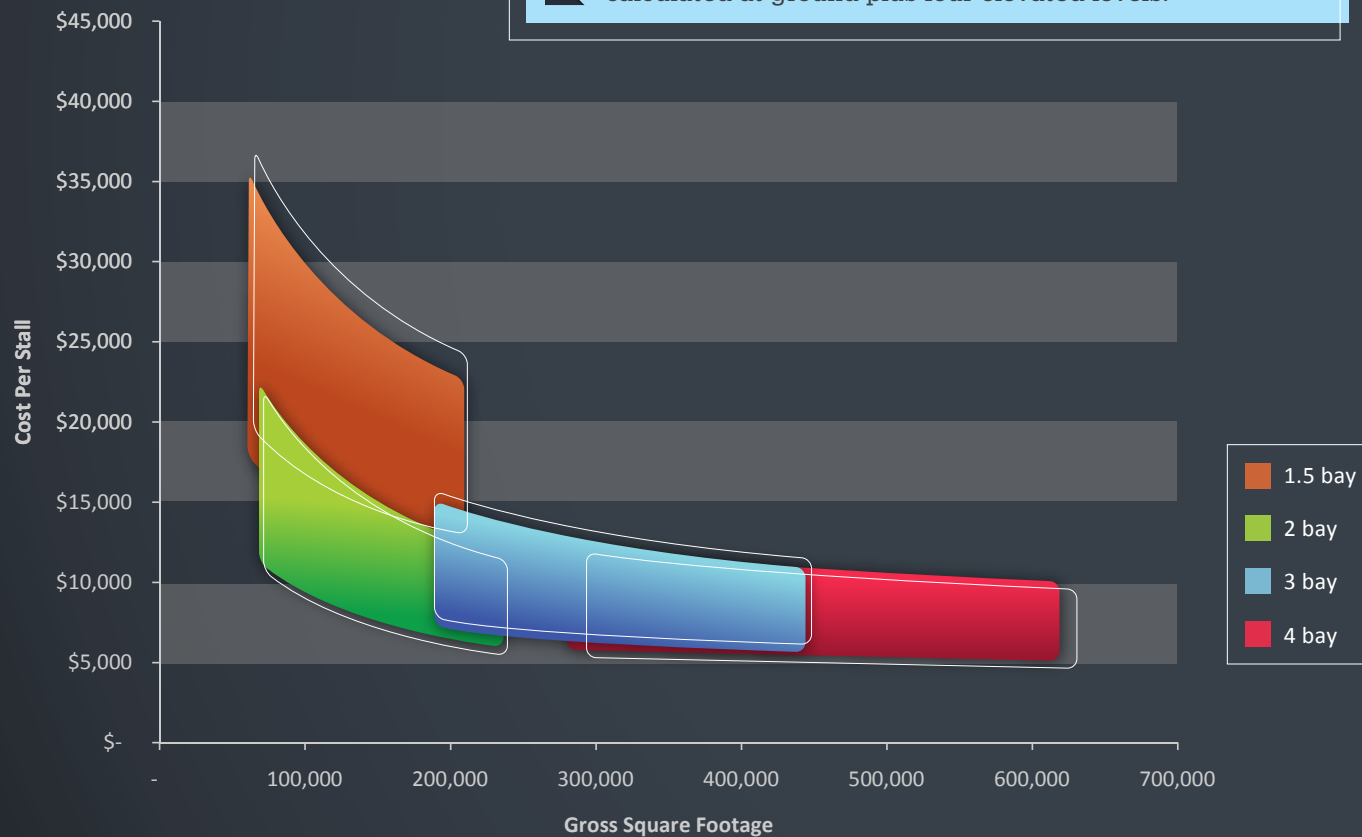
## DESIGN FOR SIGNIFICANT COST SAVINGS.

use the manufactured product than Finfrack. Different precast manufacturers have specific product modules which they can economically produce so designing around those particular modules will increase economic efficiency. Through our associations with other precasters we also know the types of precast concrete products which are available in any particular geographic region

and will be able to design for significant cost savings even when we are not the precast manufacturer.

If you find you are more confused than ever about the costs of structured parking, call us. We are more than happy to answer questions and help you establish a budget for your project.

The graph below indicates what happens to costs as garage widths and lengths change to accommodate different numbers of cars on various footprints. All garages are calculated at ground plus four elevated levels.



Exceptional cost efficiencies were achieved in this 4 bay, 3 elevated level garage with very clean lines.





DESIGN-BUILD PROJECTS HISTORICALLY  
HAVE SHORTER PROJECT DURATIONS  
AND FAR FEWER LEGAL CLAIMS.

## QUESTION & ANSWER

### ISN'T MY RISK INCREASED IF FINFROCK IS THE ARCHITECT, STRUCTURAL ENGINEER, PRECAST MANUFACTURER AND GENERAL CONTRACTOR OF MY PROJECT?

**No!** In the traditional design-bid-build project delivery system, an owner receives the construction documents from his architect, and in turn issues them to the selected general contractor. In the process, the owner assumes the risk since he is warranting the accuracy and completeness of these documents. This single step leads to over 90% of all construction change orders and litigation.

Conversely, in the design-build project delivery system it is the design-builder who warrants to the owner not only the accuracy and completeness of the construction documents but also the finished building. This eliminates the owner's risk of contractor initiated change orders and litigation. Design-build projects historically have shorter project durations and far fewer legal claims.

Finrock takes the design-build delivery system a step further by putting every aspect of the Design-Manufacture-Construct process under one roof to provide a **single source of responsibility**. Our unique design-manufacture-construct project delivery system places one entity in charge of delivering the complete structure, **greatly tipping the balance of risk and reward in favor of the owner**. Your risk is further reduced by Finrock's superior financial strength. Because we are the owner of a large manufacturing facility, we have assets that far exceed most architects and general contractors and a **bonding capacity of several hundred million dollars**.

What could be less risky for you and your project?



**Do you have a question about structured parking?  
Email us at [glk@finrockdmc.com](mailto:glk@finrockdmc.com)**