



THE BAY DIMENSION

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tbd consultants

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The client may have a budget identified, however the planning phase should validate or establish the budgets based on cost model(s) prepared. These cost models should reflect the quality of various buildings and building systems that are envisaged, and relate to schedule and procurement methods. These cost models, broken down into building systems, will then provide a cost skeleton to review alternates and to track the various projects through all of the design phases.

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Cost Management Gordon Beveridge

Construction cost management requires a systematic approach and requires the buy-in of all parties in the decision making process.

The Project Budget includes Construction Costs (Direct) and Soft Cost (Indirect). The design team is usually focused on the Direct Cost, however it is important to define both categories to ensure there are no cost gaps between categories and it is clearly understood where the demarcation is found (this is very pertinent when Contingency(s) are defined).

As decisions must be made on building components the cost of same needs to be identified and checked against the cost models to determine if the targets within the models are being exceeded, and any corrective action can be made or proposed to maintain the systems or building cost. Check estimates should also be made at various milestones. These estimates provide a check on the cost of all components, and update the various contingencies based on the latest data. Requesting and reconciling check estimates by a contractor or CM can be a useful tool to verify budgets and provide a second opinion.

Value Engineering should be ongoing as decisions are made to determine which alternates fit within the budget

and goals set by the client. These goals may include Life Cycle Costing and Sustainability requirements.

Construction cost management requires a systematic approach and requires the buy-in of all parties in the decision making process.

Identifying contingency items, and applying appropriate allowances to cover same, needs to be embedded in the cost model(s). These Contingencies identify items of Risk that must be allowed for as appropriate and reviewed at various stages of the project. These include Escalation, Design Contingency, Phasing, and Bidding Contingency.

Above all, the design team, client and contractor must be in harmony with the goals of the cost management process. Communication internally and with the client is critical to make informed decisions in a timely manner.

Heavy and Light Rail Systems - On Track

Geoff Canham

With city streets becoming ever more choked with vehicles, a more ecological approach has been called is being called for. Consequently, rail transit systems are starting to reshape many of our cities and reaching out into adjacent communities, and new commercial and residential developments frequently emerge around new stations.

The difference between heavy rail (metro systems) and light rail is one of philosophy, not technology. Heavy rail systems stem from systems such as the Boston Metro, whereas light rail derives from the trolleys that used to ferry people around our city streets. The two types of rail systems may use virtually identical technology: for instance, Chicago's "L" is one of the oldest metro networks, but the portion of the same network known as the Skokie Swift is considered to be one of the first of the modern light rail systems.



Light rail systems usually run trains of not more than two or three carriages (which may be articulated) and which often have overhead pick-up for the power supply. They also frequently, but not necessarily, utilize city streets for parts or all of their route. They may use elevated structures to support the track, but seldom use tunnels (although some do, such as San Francisco's Muni). Stations are frequently little more than raised platforms or sometimes non-existent except for a sign.

Heavy rail trains usually have four or more carriages (although the above mentioned 'L' sometimes runs two car trains and three car trains are not unknown on BART), and they usually have electrical pick-up from a third rail. The closest they come to running on streets is sometimes having their track on the median strip of a freeway, and in city centers they normally run in tunnels. Stations are normally significant structures.

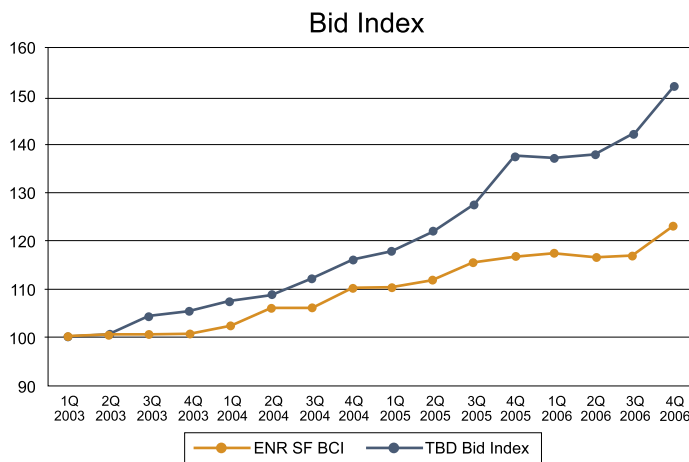
The costs of such systems can vary dramatically depending on issues such as the length of the system, the type of structure used (surface track, elevated structure, tunnel), type and size of station, etc., but heavy rail systems are likely to be somewhere in the range of 150% to 250% more expensive than a light rail system.

TBD Bid Index

Our TBD Bid Index is now showing bid prices as being just over 50% higher than they were four years ago, with no immediate end to this increasingly upward trend in sight. We all know that these things go in cycles, and a downturn can be expected sometime, but currently the index is still

showing a steepening rise. The TBD Index was launched in the second quarter of this year and is backdated to the start of 2003, being based on a school classroom building model.

The graph and chart below shows the trending in the last four years with the graph showing the TBD index plotted along with the ENR San Francisco Building Cost Index which represents the trend in selected labor and material prices. The difference between the two lines illustrates the gap between the bidding market and the narrow fines of an index based on raw cost of materials and labor.



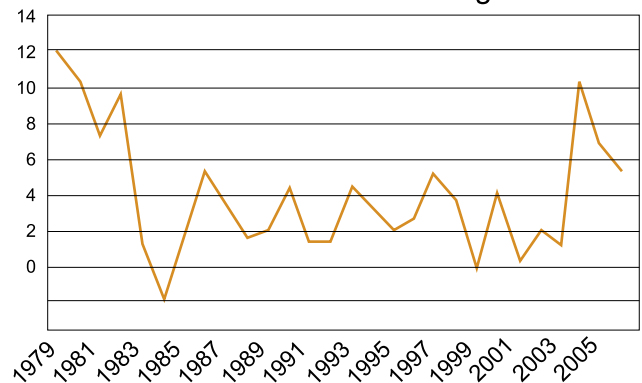
2003	2004	2005	2006
1Q: 100.00	1Q: 107.62	1Q: 118.39	1Q: 137.80
2Q: 100.10	2Q: 109.17	2Q: 121.04	2Q: 138.93
3Q: 104.60	3Q: 112.33	3Q: 128.06	3Q: 143.36
4Q: 105.58	4Q: 116.33	4Q: 138.09	4Q: 152.65

One troubling spike in the graph is the jump in the ENR San Francisco BCI, because that is indicating a considerable rise in underlying labor and material costs, outside of market conditions. This is presumably reflecting the latest wage agreements, which have been considerably higher than those in preceding years, as well as the ongoing changes in material prices.

How long will this trend continue before we get a calming in the market? Some of the recent bidding has been described as 'predatory' or 'opportunistic', and while there is certainly some truth in that, the market conditions that are driving bid prices up so high are basically related to the old economic factors of supply and demand. The fact is that contractors and subcontractors generally have as much work as they can readily handle at present, and do not

need to get every job that comes along. They are content to put in high prices, partly because they don't care if they don't get the job, but also because it is going to cost them to attract the staff to man the project if they do get it. They also need to cover themselves against potential material price rises. The contractors need to implement their own risk management against the kind of wild fluctuations that have been occurring in material prices, and which have forced some subcontractors into bankruptcy when they haven't been able to recoup the increases in their raw materials.

SF BCI Annual % Changes



The chart above shows the way annual percentage changes in the ENR San Francisco BCI have occurred since 1979, and the bid prices would normally be expected to follow a similar, but exaggerated version of this graph. So, just as we have seen rapid increases in recent years, we can also expect some possible rapid reverses in the future, but how far into the future is still impossible to predict. A slowing down in the housing market is certainly occurring, which will free up some materials and labor, but the number of bonds that got passed in the November elections (providing for around \$40 billion in construction work over the next ten years or so) is an indication that the volume of general construction is likely to remain high, plus the approaching SB 1953 deadlines in the healthcare industry will keep that market hot.

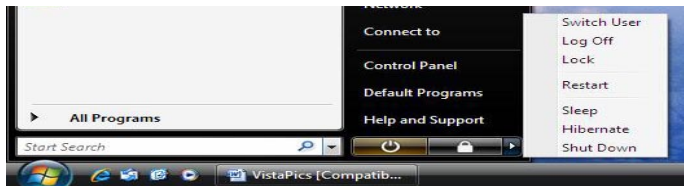
It is always dangerous to predict the future, however based on an informal survey of major contractors in the Bay Area we would recommend the following escalation rates going forward into 2007: For the twelve months ending in December 2007 we would recommend 8% and for the following two years 6% per annum. These predictions assume there will be a downward trend in escalation as measured in the last four years. The theory is that the current rates of inflation are not sustainable in the long term and in any event these rates should be revisited at least once a quarter.

Geoff's IT Gems

Windows Vista is Here!

Windows Vista is finally due to go on the market in January 2007, replacing Windows XP as Microsoft's primary operating system, and there is a lot that's new about it. In fact, it is all new, as Microsoft has developed this version of Windows from scratch. That is good news and bad news. The good news is that a lot of aging coding that has been bloating previous versions of Windows has now been dropped, but the bad news is that some compatibility problems are almost certain to occur.

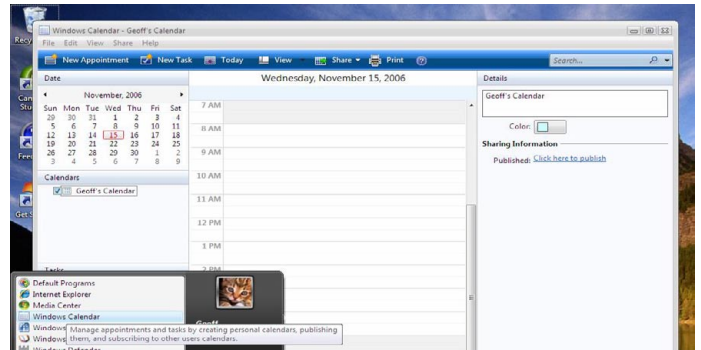
While the operating system has a new look to it, it is not the dramatic change that users had when Windows 95 emerged as a replacement for Windows 3.1. You'll still find the task bar where it was before, and the important Start menu is still there, although we'll have to stop referring to 'My Documents', since the 'My' part has been dropped. You also have more options available where 'Turn Off' used to be – this is in line with the 'always on' environment that we are moving towards.



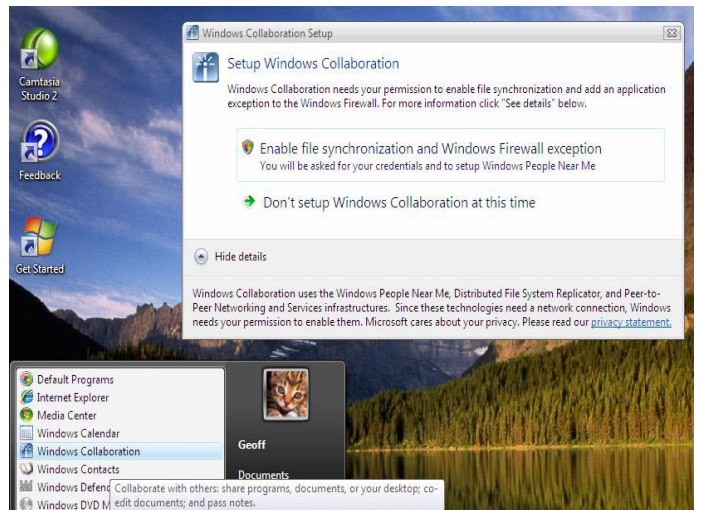
Security has become one of the hot issues in computing, and Microsoft has gone out of its way to address it in Vista. While Vista is great at giving you a lot more information about what is happening in all aspects of the computing environment, the place you are likely to see notices most is in relation to security issues – especially if you have User Access Control turned on. User Access Control will mean that an administrator's password is needed whenever software is to be installed (which should prevent most of the adware and other malware from infecting your computer).



Windows Vista comes with a number of useful applications. Of course there is Internet Explorer 7.0, along with Windows Media Player and Windows Photo Gallery. There is also Windows DVD Maker and Windows Movie Maker. Windows Mail replaces the old Outlook Express, and with Windows Contacts and Windows Calendar you have to ask if Microsoft Outlook is really needed anymore.



Another interesting application is Windows Collaboration, which allows you to set up a Windows Meeting Space where you can carry out peer-to-peer work sessions with colleagues.



The new Aero interface achieves a 3D look by utilizing the new Desktop Windows Manager that uses vector graphics, in lieu of the bit-mapped graphics of previous Windows versions. That should be ideal for graphical modeling of buildings, but when I went to try out AutoDesk's Revit software, it refused to install on Vista. There is that compatibility problem again, which is likely to take a little while to be completely resolved.

