COMMITTEE OF INQUIRY INTO BUILDING COSTS: FINAL REPORT

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Introduction

The Committee of Inquiry into Building Costs was set up following the adoption by the States of Jersey of a proposition of the Finance and Economics Committee.

The original terms of reference of the Committee of Inquiry were -

> *"to investigate fully the cost of building projects in Jersey and to report back to the States with such recommendations (if any) as the Committee considers to be appropriate."*

The terms of reference were deliberately drawn wide so that the Committee might take a fresh look at all the potentially relevant issues pertinent to the cost of construction in the Island. The study has proved to be a wide-ranging, complex task covering both macro and micro issues.

The Committee's proposals seek the co-operation of several Committees and some other agencies outwith the States sector. The Committee advises, therefore, that a single Committee should be given responsibility overall for ensuring the implementation of the recommendations.

Although a number of factors have been identified as contributing to higher building costs, the Committee of Inquiry demonstrates conclusively that there is one underlying cause above all others responsible for recent very high rises in construction costs in Jersey i.e. overheating of the industry, too much demand over supply. As such, the Committee of Inquiry believes that it would be appropriate for the Finance and Economics Committee to take on this overarching role.

Recommendation 1: The Finance and Economics Committee to have overarching responsibility for ensuring the implementation of the recommendations. Lead Committee: Finance and Economics Committee.

Resource implications

The Committee of Inquiry believes the final recommendations will have some resource implications for certain areas of the public sector and for quasi-governmental agencies financially supported by the States. Because the recommendations are far-ranging and require the co-operation of a multiplicity of Committees etc. it has not been possible for the Committee of Inquiry to quantify specific financial and manpower implications for each of its 38 recommendations. Neither does the Committee of Inquiry consider it to be its responsibility to do so. Recommendations are made in respect of reducing the overall cost of building in the Island. The Committee of Inquiry considers it is the responsibility of the various Committees and departments upon which the recommendations have a bearing to quantify any resource implications and for those resource implications to be balanced against the potential savings to be accrued across the entire States sector and in the Island as a whole from implementing those recommendations. The balance of those issues requires a corporate approach and this is why the Committee of Inquiry advises that the Finance and Economics Committee should have overarching responsibility for ensuring implementation of the recommendations. Nevertheless, as a general guide the Reading Construction Forum[i] have estimated that with project-specific partnering, cost savings of 2-10% can typically be achieved, while the cost of implementing it is less than 1%.

1.0 Background to the report

The ability of both the private and public sectors to fund, construct and maintain a range of commercial, residential, public buildings and infrastructure remains a key issue for Jersey.

In the interim report of the Committee of Inquiry into Building Costs the key issues were identified as -

- escalating costs of building;
- pressure to deliver public sector projects on time and within budget;
- expectation to deliver additional housing stock at an accelerated rate;

- a construction industry working at full capacity with further increases in demand forecast over the next several years.

The Committee in its interim report recognized the following principal reasons for the higher cost of building in Jersey and made some thirty initial recommendations to overcome the problems highlighted by the inquiry -

- cost of labour;
- cost of shipping, including harbour dues, stevedoring;
- cost of transport in the Island;
- impact of States Regulations;
- design/specification;
- demand exceeding supply;
- lack of competition in certain sectors;
- lower productivity;
- inability to take advantages of economy of scale;
- macro economic conditions associated with a highly successful Island economy.

Following publication of the interim report on 4th July 2000, an extensive period of consultation has taken place with the construction industry, States Committees and other stakeholders to assess the level of support for the recommendations made in the interim report and their feasibility as workable solutions to specific problems. Additional research has been undertaken where necessary to respond to comments received and to further the objectives set out in that earlier report. Once again, the Committee is very grateful to all sectors of the construction industry, representative groups, States departments and Committees who participated in the consultation process.

During the consultation period the Guernsey Board for Trade and Industry requested and received the assistance of the Committee in providing suitable contacts and permission to use material published in R.C.25/2000 in their own inquiry into building costs in the Bailiwick of Guernsey. In the Policy Letter to the States of Guernsey the Board of Industry commented that concerns about the escalating costs of building, *"…were brought into sharp focus by the conclusions of the States of Jersey Committee of Enquiry (sic) which……provided a useful platform for research in Guernsey."* The Guernsey Board has also been reported in the press as saying that the Jersey Committee of Inquiry saved them two years of investigative work.

The Committee met on 38 occasions since July 2000. A tour was made of a local school in the private sector to investigate how a drive for "best value" achieved a project appropriate to the needs of pupils and staff within a significantly lower budget than would be expected for a public sector school project of similar type. A fact-finding visit to the United Kingdom was organised for politicians, civil servants and industry representatives to investigate two projects using the "partnering" approach - one a new school and the other a new taxiway and refurbishment of an airport terminal. In addition, representatives of the States of Guernsey Board of Industry gave a presentation in Jersey. The Committee is grateful to the Board of Industry for agreeing to share their findings with Jersey and for pointing us towards the need for greater analysis of economic factors. Furthermore, the publication of the Guernsey research has enabled the Committee of Inquiry to appreciate that similar problems in construction exist in both Bailiwicks.

This final report builds upon recommendations made in the interim report R.C.25/2000 which should be referred to for a fuller understanding of the arguments underlying many of the recommendations. The intention here is to focus more on the overarching principles involved since actual percentages of differences between particular costs were fully explored in the Committee's interim report.

The same issues identified in the interim report remain pertinent. Expectations continue at a high level while future surpluses are perceived to be vulnerable. The current fiscal policies do not show any desire to move away from a "zero debt" position. Thus, projected public sector spending in the short-term has been significantly reduced. Notwithstanding any decisions relating to fiscal policy, current and future projections of public sector budgetary restraint in the short to medium-term bring the value for money issue even more sharply into focus. This public sector budgetary restraint may help to reduce demand in the current overheated industry.

While private finance initiatives (PFI) have been used for some projects, it is generally accepted that they are better suited to projects that generate an income stream and can therefore provide the potential to be self-funding. A typical example would be a "design, build and operate" contract where the private sector has the expertise at the operational level. PFI is not really suitable for non-revenue generating projects as they simply build a different sort of corporate debt. PFI cannot be an overall solution to the funding gap, although some may see this as an easier and therefore more attractive route in the short-term. The Committee of Inquiry believes however that the fundamental problem must be addressed head-on. The high cost of building in Jersey must be dealt with and **now** is the right time to do it!

Key issue: The States cannot deliver all the construction projects identified by Committees from existing capital funds within existing fiscal policies.

The research undertaken by the Committee of Inquiry marks some comparative trends over a period of four years and provides an indication of the value of the Committee of Inquiry during its existence. During the period lower tender prices than previous trends suggested have been received for some public sector projects. Some tenders have shown more than 10% savings on predicted tender levels. While this cannot be conclusively attributed to the active work of the Committee, the correlation exists.

In addition, the Committee has sensed a growing acceptance of the concept of partnering as a way of achieving better value for money. This is all the more necessary given current budgetary restraint in the public sector.

The Committee hopes these positive developments will be built upon by the adoption by the States of the Committee's final recommendations.

Layout of the report

Section 2 - The cost of construction: updates some of the reasons for the high cost differential with other locations.

Section 3 - The review of recommendations: reviews and develops the 30 recommendations made in the interim report in the light of comments received during consultation.

Section 4 - The final recommendations: consolidates and finalises recommendations for the way forward.

2. The cost of construction

2.1 The cost of construction in Jersey

The cost of construction in Jersey is 35% more expensive than in South East England and 46% more expensive than the U.K. average.

In 1999 estimated Jersey construction costs were between 20% and 40% higher than in Southern England. While the States of Guernsey Board of Industry report even higher costs in that Island, there is no room for complacency as our construction costs remain well above the national and Southern England averages.

In the first quarter of 2002 the cost of construction in Jersey remains high relative to other locations, the highest being **over double the cost in Northern Island.** Jersey remains 21% more expensive than London, the most expensive location to build in the U.K.

Table I - Increased cost of construction in Jersey compared to other locations (1st Quarter 2002)

Region	Location factor	C.I. location factor	Percentage difference
National Average (U.K.)	1.00	1.46	46%
Greater London	1.21	1.46	21%
S.W. England	1.00	1.46	46%
S.E. England	1.08	1.46	35%
Isle of Man	1.35	1.46	8%

Source: Colin Smith and Partners.

As the cost comparisons exclude land prices the increase in construction costs in Jersey cannot be due exclusively to high land prices.

When higher average costs are applied to typical housing and office developments in Jersey and Surrey the overall difference was between 18% and 31%, respectively.

Table II - Jersey excess cost for typical construction components

Components	U.K. National average	Jersey	U.K. National average	Jersey
		1st Quarter 1998		4th Quarter 2001
Ready mix Concrete grade 30	1.00	1.93	1.00	1.99
Reinforcement	1.00	1.33	1.00	1.31
Common Bricks	1.00	2.45	1.00	2.30
Structural Steel	1.00	1.18	1.00	1.39
Blocks	1.00	1.84	1.00	1.32
Timber/treated soft	1.00	1.54	1.00	1.40
Block layers	1.00	1.12	1.00	1.05
Carpenters	1.00	1.13	1.00	1.07
Average Jersey excess	**-**	**1.56**	**-**	**1.60**

Some of the extra cost of building in Jersey is due to the higher cost of materials. BCIS maintain an extensive database and conclude that the average additional cost in the Channel Islands is 47%. The table above shows that, in Jersey, a range of typical construction components cost some 56% more in 1998 compared to the U.K. and the differential has since widened to 60%.

Not all Jersey's building cost inflation can, however, be accounted for by excess material and labour costs.

2.3 Tender prices, Building Cost Indices and Retail Price Index

The Building Cost Information Service (BCIS) maintain a wide range of index series, including *BCIS General Building Cost Index, Materials Cost Index* and *Tender Price Indices* etc. all of which can be easily accessed through subscribing to the BCIS website service.

2.3.1 The Committee of Inquiry believes that currently the Chief Quantity Surveyor obtains only the published Quarterly Reviews of building prices. Any further information the Chief Quantity Surveyor requires is obtained through a local consultancy with access to the BCIS website. There may come a time quite soon when BCIS phase-out the published reviews and the States could become wholly dependent on outside consultancy. It seems to the Committee that regular and direct access to a wide range of indices is preferable and likely to be more cost-effective.

Recommendation 2: The States to subscribe to the BCIS website service. Lead Committee(s) Finance and Economics Committee, Public Services Committee.

2.3.2 Unfortunately, BCIS do not publish discrete data for Jersey as the sample size for the Channel Islands as a whole is small and accuracy might be compromised by separate analyses. The lack of specific data for Jersey is a concern since the Guernsey Authorities concluded their building costs exceeded Jersey by 26%. Also, given that no public or private body in Jersey maintains a tender price index there is no objective evidence of movements in tender rates over time.

2.3.3 The dearth of accurate information could be overcome by the Planning and Environment Committee (and its successor) requiring notice of accepted tender prices for approved plans with this information being forwarded to the States Statistics Unit to be published as Jersey's tender price index. A building cost index should also be maintained and published by the Statistics Unit, as it is the interaction of these indices together with the RPI that will provide an objective measure of the state of the economy as it pertains to construction.

Recommendation 3: A Jersey Tender Price Index and Building Cost Index should be maintained and published.

Lead Committee: Policy and Resources Committee.

2.3.4 **Analysis of indices interaction**

An analysis of three factors and their interaction will clarify changes in building costs. These factors are -

- **Retail Price (RPI)** - a measure of general inflation in the economy.
- **Building Supply Costs** - an index of inflationary pressures in the cost of building.
- **Tender Price** - an index reflecting the cost to the client.

Examination of the interaction of these indices over time can identify rates of increase in tender prices relative to underlying building costs that may be indicative of fundamental trends in supply and demand.

Table III – Jersey/U.K. comparison of tender price, building cost and retail price indices

Indices	1st Quarter 1998	4th Quarter 2001	Increase over 4 years
U.K. Tender Price Index (BCIS)	141	168[1]	19%[2]
C.I.[3] Tender Price Index (BCIS)	176	249	41%
U.K. Building Cost Index (BCIS)[4]	175	199	14%
U.K. Building Costs[5]	-	-	12%
Jersey Building Costs[6]	-	-	14%
U.K. Retail Price Index[7]	142	154	8.45%
Jersey Retail Price Index[8]	157.2	179.7	14%

This table shows that tender prices in Jersey[9] have grown at a faster rate than those in the U.K. over the same period, by 41% compared with 19% in the U.K. Yet inflationary pressures, expressed by Retail Price Index (RPI) figures were comparatively low. The U.K. RPI rose by 8.45% while Jersey Retail Price Index rose by 14%, i.e. an additional 5.55% during the same period.

General inflation is not the main cause of significant increases in building costs.

The rate of increase in tender prices, however, is more than double the rate of increase measured on the U.K. mainland.

The 41% rise in tender prices for Jersey[9] is nearly three times the increase in Jersey RPI over the same period.

It also outstrips increases in the cost of materials during the period where, with the exception of steel and blocks, percentage differences generally follow the U.K. trends. This is not to say that construction component costs are the same as the U.K.; they are higher in Jersey and there is some evidence that the gap has widened slightly.

The high rate of increase in Tender Price Indices compared with general inflation and inflation in construction components is indicative of an industry that is overheated where demand is so high that it exceeds the capacity of the supply side to respond efficiently.

This overheating is the main cause of the increase in the costs of construction and it is the client that has had to pay the greatest inflation cost.

2.4 Housing market conditions

The local housing market is a further important factor that has contributed to the overheating of the construction industry. At 3.8 of the interim report the Committee demonstrated that house prices had increased more than four fold between 1985 and 1998. During1997 - 1998 house prices rose well ahead of inflation at levels around 27%. Rising property values have the effect of boosting wealth and encouraging homeowners to spend more on their existing houses, to buy larger or second homes and borrow more against the rising value of their properties. This trend had an obvious effect upon demand for construction services. Since 1998, however, rates of increase began to decline and stood at 4% in 2001. Nevertheless, the price of an average house is still approximately £259,000. Again, we should not be complacent as house prices are subject to short-term cyclical fluctuations, and the overall trend locally and in Britain and America has been for house price inflation rates to be in double figures.

The Committee believes that the underlying high level of housing demand and buoyant market for construction continues to result in a lack of any real sensitivity to costs among both developers and some of their major clients in both private and public sectors. In some quarters, particularly in the public sector, the Committee has identified a tone of reluctant resignation, almost acceptance, of the Building Cost Information Service (BCIS) estimated uplift for the Channel Islands' location factor of 47% as something that should be accepted automatically. Provided tenders do not go beyond that, questions about reducing costs or achieving better value for money appear to be rarely pursued with any great vigour. It is hoped that, at least within the public sector, budgetary restraint will result in a focus upon the need to achieve greater value for money.

2.5 Labour costs

Labour costs are also affected in an overheated economy. While labour rates for Jersey are similar to the U.K., standard labour rates are used less in an overheated economy. More is spent on overtime and sub-contract labour. Sheffield Hallam University's analysis of the Guernsey construction industry found overtime rates to add as much as 50% and sub-contact labour 23% extra to the cost of building and the Committee of Inquiry recorded similar figures when taking oral evidence in Jersey. The biggest problem facing contractors, however, is the difficulty in retaining labour on site for the duration of the contract. This uncertainty over the labour supply constitutes an additional risk factor that the contractor allows for by increasing tender prices.

2.6 Risk

The Guernsey Board of Industry developed a "cost stack" to allow for differences in the cost of construction, the U.K. cost stack was based on a £10 million project model and the Island cost stack was based on a£14.7 million model to take accoun of the BCIS location factor of a 47% increase. The additional cost of risk on U.K. contracts ranges from 1-5%. In Guernsey the risk factor could add between 5 and 15% to tender costs. Colin Smith and Partners confirmed to the Committee of Inquiry that very similar results would be expected for Jersey.

2.7 Productivity

The overheated situation also militates against improved productivity. There is little inclination to invest in training, or time to devote to active management and to trying new, innovative techniques.

The Jersey Chamber of Commerce Quarterly Business Trends Survey (September 2001) stated that profits in building and construction were static overall, after a profit fall in the previous quarter, and confidence levels remained unchanged at "fairly confident".

Key Issue: Low productivity is largely responsible for stagnant levels of profitability.

Concerns have been expressed about the quality and productivity of labour in construction. Overseas construction workers are seen as being better skilled and more hard-working, probably because they are away from their families and their motivation is to earn as much money as possible. These perceived differences lead to resentment and create tensions on site. It is difficult, however, to substantiate anecdotal evidence with hard facts. An analysis of short-term benefit claims, paid after two days of absence from work, shows that the construction industry is not particularly worse than any other sector. The vast

majority of absences from work will be captured in the data but anecdotal evidence of a "Friday/Monday club" may not feature in absences certified by a medical doctor.

Table IV(A)- short-term benefit claims (certified absence from work, 2001)

	Days/contributor
Island average	4.18
Construction	6.75
Range across all sectors	1.86 to 9.84

What is worthy of comment, however, is that the total number of days lost to short-term illness throughout the economy is 257,657 or approximately 706 person years. Coupled with the figure for long-term benefits, the estimated person years lost to sickness soars to over 2,500, without accounting for single days of sickness or days lost to long-term disabilities. While some short-term sickness claims may be disguising the absence of unemployment benefit; these very significant figures indicate a widespread issue about productivity throughout the Island, construction included.

This scenario has got to change for the long-term sustainability of the Island. Failure to do so will result in a local construction industry that is less productive and less competitive than in other jurisdictions; home ownership will become even further beyond the reach of first-time buyers; the exodus from the tourism industry of those unable to afford to upgrade to modern standards will continue unabated, and further cuts to essential government building, refurbishment and maintenance projects will be inevitable. The government and the industry must work together to implement the necessary changes to achieve a successful local construction industry that delivers value for money and meets the needs of the community it serves.

2.7.1 Another approach that should also be considered is to design-out the need for labour intensive operations e.g. by making greater use of pre-fabrication, steel or timber frames and dry lining. Most construction practices in Jersey are very traditional and therefore labour intensive. Prefabrication and component building can open up the prospect of building "quicker, cheaper, better" using a lower labour requirement.

2.7.2 The cause of incapacity may be due to accidents or injuries. Unfortunately the coding system used by Social Security does not always differentiate between accidents at work or outside of work but focuses on diagnosis and the number of days lost through accidents and injuries.

Table IV(B) - Accidents and injuries (certified absence from work, 2001)

	Days/contributor
Island average	0.42
Construction	1.03
Range across all sectors	0.00 to 1.70

Although construction is ranked third in terms of number of days per contributor lost due to physical trauma, **the raw total number of days lost is highest in the construction sector at 5153 days paid during 2001.**

Key issue: The high number of accidents remains a significant concern in the construction sector.

2.8 Remedying market failure

There are two types of remedy to alleviate market failure - either increase the capacity of the industry to meet the higher level of demand by removing any "bottlenecks" on the supply side or by reducing excess demand.

There are no simple answers. For example, one of the limitations experienced by all industries in the Island is a shortage of workers. Nevertheless, the Committee of Inquiry does not believe the answer lies in seeking to import large numbers of construction workers from abroad to ease the current tightness in the construction labour market. The construction market is overheated and would require a significant increase in immigration to meet the unchecked level of demand. Because the Guernsey Authorities have a system of residency permits they are able to provide a good estimate of the potential number of people needed to fulfil their projected construction demand over the next two to three years - some 1,200-2,000 imported construction workers! This is thought to be politically unacceptable in Guernsey and thus effort is being put in at the highest political level to reduce overheating and improve efficiency of the local industry. The Committee of Inquiry believes that such significant numbers of imported construction workers would also be unacceptable to people living in Jersey. As there are obvious limitations to removing some major supply-side "bottlenecks", the demand side of the equation must also be

addressed as a matter of urgency. The Committee of Inquiry notes that the recent capping of spending levels on capital projects will go some way to addressing problems of excess demand.

Again, on the supply side, the existence of monopolies or a limited number of competitors can also contribute to market failure. This can apply as much to the presence of monopolies in the public as in the private sector.

There is a particular form of market failure that can result from a privileged market position where there are few competitors. "Tit-for-tat" is a well-known phenomenon among management consultants and game theorists. In most situations it does not amount to collusion (and therefore would not be illegal under any competition law), it is merely a practice known as "price signalling". Its message is simply, "whatever you do, I will match it." A kind of 'cartel' can be achieved without any discussion or secret meetings.

In general terms, if a company feels it needs to get a more direct message to the competition, this is best done through some form of announcement, usually in the media. Other companies in the sector soon follow. Such behaviour is known as tacit collusion and is against competition law where such laws exist.

In most markets, if pricing becomes too inefficient, people will enter the market and earn excess returns, until prices have been driven back to their intrinsic value. Markets are at their most efficient where information is perfect. Where information is insufficient consumers will have no choice but to continue buying at a price set by producers, regardless how inefficient the market becomes.

Management of monopolies is always difficult and is usually achieved through legislation to limit profits, usually through a regulator where negotiation and voluntary approaches fail. Another approach with benefits for suppliers, contractors and clients (like the States) may be to incorporate suppliers in partnership arrangements involving best value and "open-book" accounting. A commitment to continuously improving value for money, verified by reliable benchmarks and Key Performance Indicators (KPIs) will assist in ensuring that any monopoly power is not abused.

Action must be taken to address problems occurring on both the supply side and the demand side of the economic equation.

A healthy construction industry is an essential element of any economy in terms of employment, its contribution to gross domestic product (GDP) and to future economic growth of all other sectors of the economy. Jersey's construction industry cannot be said to be in a healthy state. Even if there is some easing of pressures on the industry due to reduced public spending on capital projects, the private sector remains very buoyant and there are expectations to build much needed affordable homes at a faster rate. The construction industry has not been coping with the high level of demand, evidenced by significant increases in tender inflation indices coupled with stagnant profitability.

Constraints exist in the supply of construction materials, the availability of local labour and construction management skills. Local expertise and local sources of labour for construction have had to be supplemented from external sources. While this demonstrates innovation (after all it is said, "necessity is the parent of invention!") there are four major disadvantages that will become more significant if the present situation is allowed to continue -

(1) Imported labour and expertise can add to the cost of construction.

(2) Fewer employment opportunities in construction may be available for Islanders.

(3) The contribution to GDP by the industry will be reduced.

(4) Unless sufficient expertise is available to meet growing demand overall economic growth may be curtailed.

Action must be taken now to ensure the health of the construction industry in the short and longer term.

2.9 Lessons from Latham and Egan

Both the Latham (1994) and the Egan (1998) reports emphasised deficiencies in the culture and management of the construction industry in the U.K. as significant causes of wasted time and money. Egan presented a series of targets and challenged the industry to change the prevailing culture, to eliminate wasted effort and to maximise value for money. Likewise, through its recommendations, the Committee of Inquiry challenges both the local construction industry and the States as a major consumer of construction services to begin the process of change without delay.

Key issue: Crucially some cultural changes will need to happen if the Island is to grasp the considerable opportunities for making cost savings and delivering better value in the areas of risk management and collaborative team work.

3. Review of recommendations from the interim report

The interim report made 30 recommendations and below each has been developed to take account of comments received during the consultation process.

Interim recommendation 1: Partnering activities should best be focused upon single projects.
Lead Committee: All Committees

The Construction Industry Board response was that the Committee of Inquiry should provide further evidence of the sort of savings thought to be achievable. It is to be regretted that the Construction Industry Board did not consult *Appendix 2* of the Committee's interim report, detailing specific publications, many of which include numerous examples of actual projects where savings have been made due to the operation of partnering methodology. It was stated in *Appendix 2* that the publications were available for viewing through the States Greffe and were so available until April 2002.

At the time of compiling the interim report it seemed a better approach to the Committee to give a general overview of the potential benefits, (as well as draw attention to any pitfalls), rather than detail hundreds of specific projects from places around the world as diverse as the U.K., Canada, Australia, U.S.A. and Japan. Nevertheless, a few illustrative examples presented here are taken from the publication *Partnering in the Public Sector, A Toolkit for the Implementation of Post Award, Project Specific Partnering on Construction Projects* (European Construction Institute, 1997) The *Toolkit* is sponsored by the U.K. Department of the Environment, National Audit Office, Audit Commission for England and Wales, and the U.K. Construction Industry Board. The Committee of Inquiry recommends this publication to those involved in the practical implementation of partnering, particularly in the public sector although the principles are relevant for the private sector too.

Examples of the benefits of partnering -

(i) In the USA, the Army Corps of Engineers compared 16 partnered projects and 29 non-partnered projects and found a 9% improvement in cost and an 8% improvement in time on their partnered projects.

(ii) A report by FM1[ii], a management consultancy, into partnering in the U.S.A. surveyed 200 construction projects. It found that quality had improved on 65% of them as a result of partnering.

(iii) Project alliancing on one of BP's saved 35% on the pre-sanction estimate for the project. The original BP estimate was £450 million based on previous records of similar work. At this cost the project was not viable. Within six months of appointing key contractors, initially on a cost reimbursable basis, an estimate of £373 million was produced with a first oil delivery date of 1st January 1997. This was the estimate approved by BP to sanction the development of the field. Subsequently, through a process of continuous improvement revised estimates were made at various stages, ranging from £365 million down to £325 million, and then reducing further to £290 million. The delivery dates improved from 15th October 1996 to 1st September and finally to 15th July 1996.

(iv) U.K. Treasury experience indicates that significant savings in whole life costs (up to 40%) can be derived from the routine use of long-term strategic relationships and "best practice" methods of working.

(v) Furthermore, the appendices to this *Final Report* include an abstract from the *Journal of Construction Engineering and Management*[iii] *where detailed comparative quantitative analysis of over 400 projects has found the main benefits of partnering methodology to be in controlling cost growth and time growth.*

(vi) Sources of information additional to those used here and those listed in the *Interim Report* can also be found in the *Endnotes* to this *Final Report.*

(vii) The visit organised by the Committee of Inquiry to 3 Redcar and Cleveland Borough Council partnered projects also serve as examples of partnering in practice. The projects included a newly built school, the first in the U.K. for some 30 years, a refurbishment of the regional airport terminal building and new taxiway. The school project was the first undertaken by the Borough on a partnering basis and a significant point of interest was that their original

budget was based on a floor area of 8,200m$^{2.}$ As a direct result of working closely with the contractor, interrogating the design and construction process, they achieved a floor area of 9,200m^2 within the same budget and timeframe. (For further discussion of the Rye Hills School project see the appendices to this report.)

The Construction Industry Board also drew the Committee's attention to an article from the *Building* journal of 27th April 2001, provided by Public Services' Director of Architecture -

> *"Profit Margins throughout the supply chain increased last year*[10]*. Many companies attribute this to their switch from competitive tendering to gaining work through partnering and negotiated contracts. However, the total withdrawal of some companies and the reduction by others of their reliance on competitive work has reduced the number of companies fighting for work, leading to greater success at higher margins for those that remain."*[iv]

Rather than being a negative point the quotation illustrates one of the main advantages of partnering, that of achieving a "win-win" situation for both client and contractor.

In an interview with members of the Committee of Inquiry, Professor Latham explained the underlying reasoning for his recommendation to the U.K. construction industry to adopt partnering techniques: During the 1990s the industry was in an unhealthy condition; profitability was too low, typically 1% or in some cases lower; companies were failing to survive; quality was low, defects high and public dissatisfaction with contactors was rife. Morale throughout the industry was rock bottom. The way in which the Government's policy of Compulsory Competitive Tendering (CCT) was being implemented was found to be, if not a cause of the malaise in the industry then, a significant contributory factor in the downward spiral. Latham put forward a comprehensive programme for remedying what he saw were the intractable problems in the industry. The challenge included set targets to achieve overall, continuous improvement throughout construction. There would be no 'featherbedding' of inefficient companies that did not have the wherewithal to rise to the challenge.

Latham believed, however, that the only way to escape the downward spiral was to propose new ways of contracting and working that would benefit both contractor and client and be to their mutual advantage - in short, 'Partnering' was to be the cure. The Partnering techniques Latham advocated were incentives to meet targets and shared risks and losses, as well as savings. Soon sustainable levels of profitability were restored to the industry, quality improved and the introduction of benchmarks and Key Performance Indicators (KPIs) ensured the relationship between contactor and client did not become too cosy. Furthermore, it became possible to combine Partnering with a first-stage competitive tender, a procurement approach recommended throughout U.K. local authorities.

Although the construction industry in the U.K. was experiencing recession during the early 1990s and broader economic conditions, therefore, were dissimilar to those recently prevailing in Jersey, the underlying analysis and underpinning techniques of partnering are just as relevant. As already discussed, the industry is not in a healthy condition; it is not sustainable because of overheating. Profitability appears to be stagnant, albeit that current estimates suggest that contractors ought to be making in the region of 10% on turnover. Trust is breaking down due to the high tender price levels and the belief that among clients that the industry ought to be very profitable and that the contactors discount structures operate to avoid their true level being known by the client. The Committee of Inquiry, like Latham, believes that appropriate and sustainable change will only come about if both clients and contractors believe there is something in it for them, and Partnering is the best (perhaps only) way of delivering such a 'win-win' scenario.

The reasons why a client may consider partnering will vary according to circumstances. The key considerations for the States of Jersey include -

- better value for money;
- improved management of risk;
- greater certainty of outcome;
- transparency of risk and incentives;
- reduced confrontation;[11]

- achieving continuous improvement.

The potential benefits to the industry include -

- ability to plan ahead over a 3-5 year period;
- greater opportunity to add contractor skill in value engineering;
- avoidance of wasted effort in tendering procedure;
- improvements in skills, training and productivity of staff;
- financial incentives to meet appropriate targets;
- faster decisions from the client;
- better deal for sub-contractors;
- fairer ways of apportioning risk;
- better relationships in the working environment.

Although the greatest savings can be attained by forming strategic partnerships (up to 30%), where this is not possible, partnering on a single project basis can still deliver cost savings. A saving of 10% on the States capital budget of £50 million would provide an extra £5 million, ignoring savings that could also be made in the cost of maintenance, expenditure on which will inevitably increase as old and worn out buildings and infrastructure fail to be replaced due to a lack of success in obtaining funds from the capital vote.

In the United Kingdom, the Housing Corporation recommends that registered social landlords should attempt project partnering first, and should move into strategic alliancing only when they have sufficient experience of implementing project partnering and its benefits.

The Committee, therefore, recommends the setting up of pilot projects and, if deemed successful, the States should consider entering into strategic alliances to carry out substantial parts of the capital and revenue construction programme.

Recommendation 4: The States should adopt a partnering approach on 2 or 3 high profile pilot projects. This initiative should be supported by appropriate professional procurement advice. Lead Committee: Finance and Economics Committee.

The Committee of Inquiry proposes that the interim recommendation should be further amended to give greater clarity. Few local contractors have experience of formal partnering, although some claim experience of informal partnering arrangements of various kinds. The Committee does not believe there to be sufficient specialist procurement advice on partnering techniques available in the Island, particularly in the public sector. It is recommended that appropriate procurement advice is commissioned and that formal arrangements (i.e. a non-legally binding agreement that can be underpinned by an appropriate form of contract[12]), preceded by facilitated workshops in partnering techniques are most likely to succeed in achieving positive results through improved quality and value for money.

Recommendation 5: The use of partnering in construction should be a formal arrangement preceded by facilitated workshops in partnering techniques. Lead Committee(s): The Finance and Economics Committee through Codes of Directions; the Industries Committee by provision of guidance for the private sector.

A willingness to engage with the partnering approach, both with private and public sector clients is evidenced by the positive encouragement the Committee received to further this particular interim recommendation from the more innovative local construction companies and those with experience of partnering in the United Kingdom and elsewhere. Those with previous experience are convinced the partnering approach would have tangible benefits for Jersey. Significantly, the States of Guernsey Board of Industry have come to the same conclusion in their report, *Guernsey: Constructing the Future*. Furthermore, the Guernsey Housing Authority has set up an innovative partnering scheme for their five-year property

refurbishment programme. It is based upon a long- term strategic alliance contract amounting to £2 million per year (approximately £9.9 million in total).

In the United Kingdom the Latham report gave rise to the publication of a number of documents by H.M. Treasury and other government bodies providing advice and guidance about the selection of appropriate procurement routes.[v] U.K. official advice has consistently included the use of partnering as a recommended approach since 1997.

The Committee of Inquiry notes that the greatest resistance to its proposal to introduce partnering methodology to public sector procurement appears to have come from some individuals in the departments currently responsible for providing architectural services to States Committees and advice about procurement strategies and tenders etc, as well as from some local representatives of construction interests.

It is interesting to note that Professor Latham commented in his foreword to the 2002 report of the States of Guernsey Board of Industry that -

> *"Construction reform is never painless. There are always experienced and well-intentioned people who believe that it is easier to carry on as they have always done. Construction throughout the world is a conservative industry, suspicious of change."*
>
> (Sir Michael Latham, DL, MA, (Hon) FREng, FRIBA, FCIOB, FICE, RICS)

The Committee of Inquiry acknowledges that new ways of working always present a challenge, and that challenge should not be underestimated. By way of illustration, it is recognised that the effective use of partnering requires supporting risk and value management strategies, together with formal quality management procedures; however the setting up of such supporting mechanisms will not of itself guarantee success. Underlying attitudes are the key to their success. The simple adoption of formal quality assurance schemes, for example, may do little to improve quality unless there is simultaneous cultural change, a shift to a "right first time every time" attitude.

The Committee of Inquiry concurs with the advice provided by the European Construction Institute for effecting attitudinal change within the client organisation, which is as follows -

> *"Job concerns need special attention. Partnering will fail if the 'culture' is not accepted at all levels from top management down to the workforce and the essential commitment to it needs continuous reinforcement…Some otherwise valuable people may be temperamentally unsuited to partnering. They must be identified through a process of continuous assessment and provided with coaching. If this fails, they should be redeployed outside the programme…Without a core of committed and informed key staff within the client organisation, it will be impossible to spread the culture change to partners."*[vi]

Key issue: Considerable cultural change will need to take place if Jersey is to grasp the considerable opportunities for making cost savings and delivering better value through collaborative approaches to procurement.

Although the Committee accepts that there have been improvements towards a systematic approach to risk in States projects, it does not follow necessarily that risk is automatically placed where it is most appropriate. Without a team approach there may be a tendency to place much if not all the risk on to the contractor. Leaving aside questions of fairness, experience shows that the client pays for the passing on of that risk in the long run, either in cost overruns or claims of one sort or another.

Recommendation 6: A review of risk management procedures should take place to ensure they can be compatible with partnering methodology by providing a mechanism for risk be shared and/or placed where it is most appropriate to do so.
Lead Committee: Finance and Economics Committee.

Partnering is driven by incentives and therefore requires a mechanism for the sharing of both risk and reward. In order that the States may have the option of entering into partnering contracts the Committee further recommends -

Recommendation 7: The Finance Law should be amended to allow for incentives to be shared between the States as clients and members of the construction team involved in partnering contracts.
Lead Committee: Finance and Economics Committee.

Interim recommendation 2: Private clients and the States should adopt a strategic approach to managing costs and use Target Cost Contracts wherever appropriate.

Lead Committee: All Committees.

Target cost contracts can be used with or without a fully developed partnering approach and feedback from the consultation noted that the use of such contracts is particularly appropriate for civil engineering projects as there is greater cost certainty. The approach also promotes the adoption of a philosophy of "designing to a cost" rather than "costing to a design"; it is less adversarial, easier to administer, and forces early problem resolution. At its best target cost methodology provides cost control with incentives and drives to motivate savings and delivery on or before time. It therefore underpins the partnering approach, in conjunction with the "open book".

Any cost savings will be shared according to the agreement made by the parties. Such cost savings, however, should not be used by individual Committees to build substantial uncommitted surpluses within their own budgets.

Recommendation 8: Committees should be expected to seek maximum value for money for funds approved for specific projects with incentives to re-invest in the project to achieve improved design and/or better facilities or to refund the Treasury with savings to be utilised for future projects.
Lead Committee: Finance and Economics Committee.

Interim recommendation 3: Design competitions to be used only when they can be demonstrated as appropriate for the specific type of building required and providing value for money.

Lead Committee: All Committees.

A review of three Jersey secondary school projects[vii] concluded that design competitions -

- **Led to increased construction costs** e.g. In the case of Haute Vallée, the design competition target cost of £10.2 million had not been taken into account in the construction budget and even after applying the Jersey Location Factor to the same data for 13 U.K. sampled schools, Haute Vallée was 22.8% more expensive.

- **Militated against the full and proper consultation necessary to ensure that a building is suitable for the purpose for which it is being designed.** Schools have various and complex functions and client and users should be consulted throughout. Again**,** at Haute Vallée, the winning design of separate buildings is more suited to Sixth Form Education rather than to the eleven to sixteen curriculum. Separate buildings cause problems for administration and security.

- **Did not prove to be an effective or efficient mode of procurement for building schools** e.g. the theatre was included at the request of the original Head-Teacher and senior staff. The current incumbents question its validity on a value for money basis. Furthermore, the original budget for furniture and equipment was reduced to accommodate increases in professional fees incurred mainly as a result of the tender reduction exercise.

Recommendation 9: Design competition not to be used unless it can be demonstrated as appropriate for the specific type of building required and as providing value for money.
Lead Committee: Finance and Economics Committee.

There is much information available on public procurement policy and criteria for measuring value for money from, for example, the U.K. Treasury.[viii] Any Committee wishing to use design competition as part of their procurement strategy, should do so only with the agreement of Finance and Economics, having first met value for money criteria.

Interim recommendation 4: Tender lists for projects costing over £200,000 should be more selective and kept to a sensible length. Lists of approved contractors should be based on performance, continually monitored and updated in terms of achieving or failing to achieve benchmarks.

Lead Committee: Public Services.

Recent public policy towards procurement in the United Kingdom has focused on the need to demonstrate continual improvements in value for money. This has led to the development of measurable objectives at both strategic and project levels. Having first identified the main strategic objectives, a number of key performance indicators (KPIs) and baseline

benchmarks can be developed to measure such things as value for money, level of defects, health and safety standards etc. Performance measurement should be cascaded down through the supply chain to include sub-contractors.

Partnering methodology is an ideal driver in the pursuit of continuous improvement as it allows for **incentives** to achieve agreed targets. It is these targets and comparative benchmarking that ensures performance and guards against complacency and "cosiness". Without these in place the public sector risks are very high. In addition, there always remains the "stick" of removal from the approved list where there is a failure to meet agreed, realistic targets.

Although standard sets of KPIs[ix] are available for construction it may be more appropriate to develop our own. As the Jersey public service is likely to lack expertise in this sphere, specialist advice should be commissioned.

Key Issue: a shift away from a culture meeting accepted standards to one of continuous improvement is essential.

Recommendation 10: Jersey should set its strategic objectives for construction and develop appropriate key performance indicators and benchmarks to measure and encourage continuous improvements through incentives.
Lead Committee(s): Finance and Economics Committee and Industries Committee.

Recommendation 11: Lists of approved contractors should be based on performance, continually monitored and updated in terms of achieving or failing to achieve benchmarks.
Lead Committee: Public Services Committee.

Some concern was expressed within the public sector that when an 'approved' contractor has a full order book only a 'token' tender will be provided *"to pacify the system."* Further on in this report the Committee of Inquiry recommends the establishment of an economic model of construction and this would provide invaluable information about when periods of overheating may occur in the industry, indicating that it might not be the best time to build given the objective of achieving best value for money. Alternatively, the information could be shared with the private sector, giving advance notice of potential limitations for the company in achieving the project. The company could then have the opportunity to decide whether to enter into a strategic partnership with a U.K. or French Company, as happens now, to meet the projected increase in demand.

The Committee of Inquiry received suggestions that tender lists could be structured as set out below -

Table V - Suggested initial length and structure of tender lists

Estimated Project Cost	**Number of Tenders to be sought**
Less than £250,000	3 to 4
More than 250,000	4 to 5
Over £1,000,000	No more than 6

The Committee of Inquiry advocates, however, that the length of tender lists should be determined solely on the basis of continuous performance, rather than any other criteria.

Interim recommendation 5: The Capital Projects Review Sub-Committee conduct pre-contract reviews of projects where preliminary estimates are significantly higher than expected.
Lead Committee: Finance and Economics through the Capital Projects Review Sub-Committee.

Whilst the Committee of Inquiry accepts that the Institute of Public Finance (IPF) review of capital controls should result in greater scrutiny of projects at an earlier stage in the project lifecycle, enabling estimates to more closely reflect outturn costs, the Committee remains concerned about a lack of accountability in the current system for high initial estimated costs and cost overruns during and on completion of capital projects.

Key issue: "Ownership of cost" is not well established in the current system and this will change only where each Committee has the responsibility to deliver "best value" together with the design and construction team.

The Committees of the States enjoy a high degree of autonomy and this extends to the way capital projects come forward to bid for funds. The sponsoring Committee is responsible for determining its requirements, considering options and promoting specific projects. The sponsoring Committee is responsible for compiling the brief, overseeing design development, signing off the final design, monitoring construction and assessing functionality and fitness for purpose.

It appears to the Committee of Inquiry, however, that there is little "ownership" of cost in the current system. Individual Committees do not have clear incentives to ensure "best value" but this need not be the case.

A "best value" attitude must be adopted at the inception of any project proposal. The Committee of Inquiry believes that a more corporate approach and closer scrutiny is required at the outset to establish -

- whether a particular project is necessary,
- whether refurbishment rather than new build may be more appropriate,
- whether the specification is appropriate.

Pre-contract reviews have an important role in such assessments, but ideally this should be part of a value for money culture to be adopted by sponsoring Committees so that continuous review takes place throughout the whole process from inception to post completion evaluation.

Furthermore, the accuracy of some bids gives cause for concern. Extreme examples exist. The St. Helier drainage project was severely under budgeted. The original budget was £8 million!!! Some other high-profile projects causing similar concerns include the Airport Terminal Building and the Marina. Nonetheless, there are a number of less headline-grabbing instances of inaccurate initial budgets. For example, James R. Knowles commenting on Haute Vallée School highlighted that the construction budget was insufficient because one year's inflation had been omitted and the design competition target costs of £10.2 million were, it appears, ignored. Also, it has also been suggested to the Committee that some initial project budgets have been inflated fallaciously to avoid an "inquisition" in the event that the tenders received are high.

Recommendation 12: There should be pre-contract reviews of projects where preliminary estimates are significantly higher or lower than expected. Cultural change should be towards a process of continuous review and a value for money culture.
Lead Committee: Finance and Economics Committee.

Interim recommendation 6: The budget for a specific project would not be announced in the States without jeopardising general openness and accountability.
Lead Committee: Finance and Economics.

The States publishes the budget for a project in advance of the tendering process and the Committee of Inquiry in its interim report asserted that this might influence cost considerations, particularly in an overheated industry. The Committee noted in its interim report that over the three-year period analysed, tenders from winners and runners-up were remarkably similar. Nevertheless, the Committee accepts that it would be difficult to implement the above recommendation without compromising openness and accountability. Were the States, however, to implement the "open book" approach advocated by the Committee there would be greater clarity about the cost basis on which tenders are developed.

Furthermore, concern has been expressed about the way in which sponsoring Committees and the States as a whole give approval to the drawings that come before them. It is felt that this is a technical area with which few States Members are familiar and therefore the approval procedures become something of a "rubber-stamping" exercise.

While it is accepted that the current procedures for tendering, procurement, approval and managing contracting arrangements have done much to reduce the risk of overspends, those procedures have been criticised as an overly bureaucratic regulatory framework that does not produce value for money per se.

One suggestion put to the Committee was that, following a review of such procedures the role of the Property Services team (when it is moved to its new place in the States organisation) could be expanded to include procurement matters and procedures, providing a centralised body with appropriate expertise. The Committee of Inquiry makes no specific recommendation here prior to such a review of procurement procedures taking place.

Recommendation 13: The States should conduct an urgent review of the process of tendering, procurement, approval and contracting arrangements

and make recommendations to ensure compliance with current good practice and value for money.
Lead Committee: Finance and Economics Committee.

Interim recommendation 7: The Construction Board of the Industries Committee to work with the Jersey Construction Forum to adopt a proactive approach to educating clients about their role in project management, perhaps through a series of client guides.

Lead Committee: Industries Committee.

This recommendation has been welcomed and the Committee believes work has already begun to adopt a more proactive approach to educating clients. The Committee would like to see this area of education further developed with the overall focus being on improving construction performance and developing best practice throughout the industry.

Recommendation 14: The Construction Board of the Industries Committee should develop further guides and programmes of education with a view to developing best practice in the construction industry.
Lead Committee: Industries Committee.

A wide range of construction interests were brought together when the Construction Industry Board was formed in the UK. It was formed on the recommendation of Latham and it has a best practice, modernising agenda. The Committee accepts that on a small island it is not always easy to find sufficient suitable volunteers with the necessary skills to serve on such quasi-governmental agencies. Those who give their time freely are to be commended. Nevertheless, the Committee of Inquiry believes it is important to keep under review the membership of the Board to ensure current best practice continues to be promoted.

Recommendation 15: The Industries Committee to regularly review membership of the Construction Industry Board to ensure the on-going promotion of best practice and continual improvement in the construction industry.
Lead Committee: Industries Committee.

Interim recommendation 8: Formal induction process for P70 Groups, detailing individual responsibilities and accountabilities.

Lead Committee: Finance and Economics Committee through the Capital Review Group Sub-Committee.

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Interim recommendation 9: P.70 Groups concerned with major capital projects should be chaired by a project manager with proven professional experience.

Lead Committee: All Committees.

The Committee of Inquiry remains concerned that the current system militates against "ownership of costs" and some members of P.70 Groups lack necessary expertise. A better approach could be utilised through the adoption of partnering methodology. Furthermore, rather than forming a P.70 Group, an appropriately qualified project sponsor should appointed to represent the interests of the States and be part of the construction team. The Committee believes this client project sponsor role should be independent of the promoting committee and all client project sponsors should complete an approved sponsors training course which is at least comparable to that provided by the U.K. Government Centre for Management and Policy Studies.[x] The resource could be either developed in-house as part of Property Services or commissioned from outside the public administration on a value for money basis on short-term contracts for the duration of the project only.

Recommendation 16: The States should consider replacing P70 Groups with appropriately qualified client project sponsors to represent the interests of the States and be part of the construction team.
Lead Committee: Finance and Economics Committee.

Interim recommendation 10: States Departments should raise the profile of the States as a leading client by using the best suppliers of goods and services; establishing tender procedures with the aim of procuring those who offer the best service; advocating team-working rather than adversarial relationships; pursuing dialogue with the industry to reduce the potential for conflict within projects; discouraging the "claims culture"; using modern and unambiguous contracts; stating how variations are to be dealt with; and seeking quicker settlement of contractual issues.

Lead Committee(s): Finance and Economics Committee and all client Committees.

This interim recommendation has been universally welcomed. The Committee of Inquiry now believes the States needs to

commit to a specific timetable to achieve results.

Recommendation 17: Within 3 years the States should have in place all the policies and strategies necessary to be a corporate "best practice" construction client working in partnership with the industry. Lead Committee: Finance and Economics Committee.

Interim recommendation 11: The States to consider the development of structured methodologies to involve end users more actively in the construction procurement process e.g. through a system of post-occupancy evaluation of all new facilities.

Lead Committee: Finance and Economics through the Capital Review Group Sub-Committee.

The use of post-contract/post-implementation reviews (or whatever the preferred terminology might be) is essential as part of a culture of continuous improvement and achievement of value for money. Few are carried out at present, although sponsoring Committees are ostensibly responsible for assessing the functionality and fitness for purpose. The salient point is that such reviews should be part of a process for improving value for money by ensuring that feedback from end-users is fed into the evaluation process and is used to inform future projects. To take a school construction project for example, teachers, pupils and even parents should be asked for their views on fitness-for-purpose issues. This could be done by way of structured questionnaires, although a corporate approach to developing the structured methodologies will be necessary. The Committee recommends that any such reviews should be carried out independently of the sponsoring Committee. Property Services may be the appropriate vehicle.

Recommendation 18: Structured methodologies to involve end-users in post-occupancy evaluations of all new facilities should be introduced. Lead Committee: Finance and Economics Committee.

Interim recommendation 12: The Construction Board of the Industries Committee to take forward the concept of partnering using a phased approach as discussed in the Report and outlined in Appendix 3.

Lead Committee: Industries Committee.

The Committee of Inquiry believes that the agenda for change will require strong drivers with the will, the resources and expertise to make the necessary difficult decisions that lie ahead.

Recommendation 19: The Finance and Economics Committee and the Industries Committee to be charged with joint responsibility for implementing an agenda for change, reporting back to the States where necessary. Lead Committee: Finance and Economics Committee.

Interim recommendation 13: Clients treat the abuse of trust appropriately severely e.g. by removing offenders from future tender lists, finding alternative suppliers etc.

Lead Committee: Public Services Committee and all client Committees.

At present, there is no specific mechanism in place to ensure offenders are removed from future tender lists. Indeed, although one client Committee may have had a bad experience with a particular contractor/ specialist/supplier etc. the same company will appear on a list of tenderers for other client Committees and sometimes for another project for the same Committee!

Recommendation 20: The establishment of a mechanism to remove contractors, suppliers etc from future tender lists (for all States projects, if appropriate) should form part of a review of tender procedures. Lead Committee: Finance and Economics Committee.

Interim recommendation 14: Further research should be undertaken to investigate why certain costs are so high in Jersey compared with the South East of England, for example, concrete including pre-cast concrete and the use and charging for pumps; mechanical and electrical installations.

Lead Committee: Committee of Inquiry into Building Costs.

This issue more than any other gave rise to the greatest number of complaints from contractors.

The principal importer of cement is Ronez Limited and then they sell cement on to other merchants. In some cases this is used directly for making ready mixed concrete and in others it is bagged and used by third parties. Recently, one local construction company even found it more cost effective to import cement from abroad and set up their own batching plant on-site. There is no doubt that the cost is higher than on the mainland (approximately double) and that a number of factors are identified as contributing to the higher cost such as transport regulations and inefficient use of plant and equipment.

In a small island economy there may be room only for a single supplier or at most a couple, particularly where opportunities for exploitation of raw materials are limited and the costs of establishing industrial plant are high. Such a scenario, however, may pose a challenge to the Island's ability to maintain a competitive environment.

What is particularly significant in this case is that there is little cost difference between local suppliers of ready mixed concrete, bagged cement and cementitious products even though, Granite Products, for example, has its cement provided by a third party supplier. In addition prices tend to be set just slightly above that which could be obtained by importation and it is therefore usually not worth the extra effort of doing so.

The Committee had taken oral evidence from both Ronez and Granite Products during the initial stages of the inquiry in February 2000 and, as a result of responses to questions put by the Committee, had set itself the task of investigating further the cost of cement. On the release of the Committee's interim report, published in July 2000, immediate feedback from the construction industry urged the Committee to research the issue of very similar pricing levels used by the two main suppliers of cement and cement based products.

The Committee, seeking to understand what produced the particular pricing structures adopted by the main suppliers of cement and their charges for pumps, wrote to Ronez and Granite Products on 24th August 2000 to request that they **voluntarily** produce copies of their full financial accounts, which the Committee would treat in the strictest confidence. Both Companies declined, with Ronez Limited providing only a copy of the consolidated accounts of its holding company, which is a U.K. registered Plc. and is obliged, therefore, to submit consolidated accounts to the Registrar of Companies in London. The consolidated accounts did not help the Committee in its task. Granite Products replied through its Lawyers asserting a breach of human rights and invasion of privacy.

Consequently, the Committee sought advice about its powers. The advice received was as follows -

> "The extent of the Committee's powers were limited in regard to the production of records or documents, where any such records or documents were of a private nature possibly containing personal or sensitive information…(and) …would therefore have to show that a company's right to privacy in the context of its examination was outweighed by the interest in pursuit of its investigation and that only information contained in the accounts which was relevant to the inquiry was asked for and given, which information was treated in such a way that interference to the companies' rights was kept to a minimum."

Thus, the Committee's powers extended only to asking specific questions and it was not in a position to know exactly which precise pieces of information from the accounts would further its objectives. It was clear that this line of investigation had to be pursued by other means.

The Committee wishes to make clear it does not impugn any improper motives to the companies mentioned or to any other monopolies/duopolies that exist. The Committee believes, however, that the JCRA has an important role to play in promoting transparent competition throughout the Island economy.

Recommendation 21: Further research should be undertaken to investigate the high cost of concrete in Jersey (compared to other locations) and pricing structures including charges for pumps. Lead agency: Jersey Competition and Regulatory Authority (JCRA).

Recommendation 22: In future the States should manage monopoly or near monopoly supply relationships through the development of value for money measures underpinned by reliable benchmarks and effective key performance indicators to deliver better value for all. "Open book" accounting relationships linked to "partnered" projects would be a way of demonstrating value for money. Lead Committee: Finance and Economics Committee.

Workload in all specialist services has been very high coupled with a general shortage of trained mechanical and electrical engineering staff. In electrical engineering private contractors also alleged that they face unfair competition, particularly for staff, with the Jersey Electricity Company, a public quoted company in which the States have a majority holding. No hard evidence was produced but, again, the JCRA has the function of ensuring public utilities do not abuse any privileged market position they may have, and the Committee notes that these issues are beginning to be addressed.

The higher cost of lifts, their installation and maintenance relative to other locations has been a concern, so much so that one States Committee has found it to be more cost effective to import a well-known British brand name in lifts from France!

The high cost of specialist services has been caused mainly by an overheated construction industry, although training issues are a contributory factor in the shortage of local supply of specialist staff.

Improved training opportunities and the States recent decision to reduce capital spending should result in some lowering of costs to the consumer of specialist services.

Interim recommendation 15: The Construction Board of the Industries Committee to work with the relevant trade associations to review the levels of qualification and experience required to operate as a contractor or subcontractor in certain trades.

Lead Committee: Industries Committee.

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Interim recommendation 16: TEP in consultation with the Industry to develop a comprehensive programme to meet all the immediate and longer-term training needs of the construction industry as discussed in the Report, and to review the co-ordination of all training and education in construction. TEP should also consider the merits of introducing a training levy with the money raised being hypothecated for training purposes.

Lead Committee(s): Employment and Social Security and Industries Committee through the TEP Board.

The Committee of Inquiry is pleased to see that a joint Construction Training Development Group including representatives of all stakeholders in construction training has been set up and is taking forward the recommendations arising from the Construction Audit carried out by Westminster Business School. As a result, Jersey now has an on-island part-time degree in Construction, delivered by South Bank University in partnership with Highlands College. Ten local students have commenced the course.

In addition, the Jersey Apprenticeship Scheme has been completely revised and restructured. Outcomes of the learning are now measured by a combination of work based recorded, college learning activities, and achievements in nationally recognised qualifications. The funding structure has been changed to reflect the findings of the audit; the first two years receive a higher percentage than the later two. A small incentive is also offered to the individual. Over 60 local firms have registered for the revised apprenticeship scheme.

TEP also run a small business management programme to encourage management training in all sectors, including construction and a dedicated TEP funded consultant has been appointed to play a key role in improving communication and provision between training providers and the industry.

TEP itself has undergone an independent review with the aim of clarifying roles and responsibilities as well as general effectiveness.

The Committee of Inquiry believes that the Construction Industry Board could have an important role in promoting training at all levels which reflects current best practice in the construction industry.

The idea of a training levy does not appear to have progressed any further from the initial suggestion put forward by the Jersey Construction Industry Forum. The Forum commented that it, *"feels strongly that the industry itself should be in control of its own training requirements."* The Committee of Inquiry fails to see how any system for a training levy could be established on a voluntary basis and without the intervention of government and therefore makes no further recommendations in respect of this matter.

Interim recommendation 17: Further research should be undertaken to evaluate the extent to which the level of higher costs for stevedoring in Jersey is justified.

Lead Committee: Committee of Inquiry into Building Costs.

During the taking of oral evidence the subject most often referred to by interviewees after that of general labour costs was stevedoring. Furthermore, the present stevedoring monopoly was strongly criticised in a service review of the Harbour Department in September 1999. Although the Committee had concluded in its interim report that, *"the high level of criticism aimed at stevedoring costs are due more to historic emotions than to current facts"*, it drew attention to an overlap in the membership of the stevedoring company and that of the shipping company. The Committee did not allege any formal vertical integration but were concerned that where stevedoring rates are set independently they should be seen to have been so. Thus, the Committee of Inquiry set itself the task of investigating further the structure and process of setting stevedoring rates. On the release of the Committee's interim report, published in July 2000, immediate feedback from the construction industry was disappointment with the Committee for not having done more to fully research the issue. Many wanted some action to be

taken but did not specify what kind of action that should be.

The Committee of Inquiry wrote to the monopoly suppliers of stevedoring services on 24th August 2000 to request they **voluntarily** produce copies of their full financial accounts, which the Committee would treat in the strictest confidence. The company replied through their Lawyers asserting a breach of human rights and invasion of privacy.

The Committee, having sought legal advice, concluded that its powers extended only to asking specific questions and as the Committee was not in a position to know exactly which precise pieces of information from the accounts would further its objectives decided to pursue matters by other means.

The Committee of Inquiry wishes to affirm it does not impugn any improper motives to the company concerned. The Committee believes, however, that the JCRA has an important role to play in promoting transparency and accountability throughout the Island economy, particularly where competition is restricted and where there is a monopoly supplier.

Recommendation 23: Further research should be undertaken to evaluate the structure and process of setting stevedoring rates.
Lead Agency: Jersey Competition Regulatory Authority (JCRA).

The further recommendation made above (see discussion of interim recommendation 14) with regard to managing a monopoly supply relationship is appropriate here too.

Interim recommendation 18: The States and the Harbours and Airport Committee should conduct a review with the aim of ensuring that harbour users only bear directly related costs and that the harbours should not be used as a source of revenue.
Lead Committee(s): Harbours and Airport Committee and Finance and Economics Committee.

In response to this recommendation the Harbours and Airports Committee commented that they, *"…cannot make charges solely on the basis of directly related costs. All organisations have indirect costs which must be borne as well."* The Committee of Inquiry notes that the Harbours and Airports Committee is working towards an accounting system that would assist in identifying the costs in each area of operation. Nonetheless, the Committee of Inquiry is concerned to learn that the Port Users Group was not in favour of analysing the nature of goods carried and wishes to maintain the current system of levying charges across the board regardless of the cargo or the method of loading/unloading employed.

It is estimated that transportation costs can add in the order of 10% to the cost of materials imported to the Island.

Recommendation 24: The Industries Committee to press for harbour dues to be based on more equitable charging structures for handling bulky, low value items, typical of many construction materials.
Lead Committee: Industries Committee.

Interim recommendation 19: The Finance and Economics Committee to agree that internal loans should be at competitive rates.
Lead Committee: Finance and Economics Committee.

The Finance and Economics Committee considers that internal loans represent competitive rates at the time they are agreed with the relevant Committee. In the case of the Harbours, the Finance and Economics Committee argues that the Harbours and Airport Committee took a commercial decision when seeking to fix rates to provide certainty within their financial forecasting. At the time of fixing, the long-term fixed rate offered what was a favourable rate in comparison with the prevailing variable rate.

The Committee of Inquiry notes that an alternative school of economic thought would not seek to recoup loans with interest at competitive rates for essential infrastructure but makes no further recommendations on this issue as the change would require a major paradigm shift to current States policy.

Interim recommendation 20: The Planning and Environment Committee should adopt Option 5,"Sand imports only/long-term port development" as set out in Section 6.3.5. of the *Jersey Mineral Study*.
Lead Committee: Planning and Environment Committee.

The Committee of Inquiry notes that the Mineral Strategy has not yet come before the States for debate. A number of outstanding issues can only be resolved through a decision of the States as the Planning and Environment Committee does not have the authority to undertake many of the essential recommendations. Furthermore, the resolution of some other pressing issues might obviate the need for some of the measures suggested in the *Jersey Mineral Study* e.g. addressing what appears to be the relatively high cost of port dues and stevedoring relative to Guernsey and London could initiate the

importation, not just of sand but also other base materials. The main responsibility for regulating port charges, however, remains with the Harbours and Airport Committee. A corporate view should be taken and the Committee of Inquiry believes this can be best achieved by a decision of the States, although the groundwork would need to be prepared either by joint Committee meetings of all stakeholder Committees or by Policy and Resources being requested to take a lead co-ordinating role.

Recommendation 25: The Planning and Environment Committee to bring a Jersey Mineral Strategy to the States at the earliest opportunity. Lead Committee: Planning and Environment Committee.

Interim recommendation 21: The Industries Committee to develop a policy of greater competitiveness within the construction industry and to investigate and evaluate the appropriateness of anti-competitiveness legislation for Jersey.
Lead Committee: Industries Committee.

The Industries Committee expressed concern that any competition policy or consumer protection strategy they may develop might conflict with the Committee of Inquiry's proposals for partnering. The Committee of Inquiry does not share that concern. In U.K. central government and local authorities 'best value' has been achieved by successfully combining partnering with compulsory competitive tendering within comprehensive laws on competition and protection of consumer rights. U.K. Local Authorities have adopted a variant of partnering known as 'post-award project-specific partnering' i.e. Partnering combined with a first-stage competitive tender.

Other key statutory requirements for the U.K. public procurement are -

Articles 30 and 59 of the Treaty of Rome, the purpose of which is to ensure the free movement of goods and services, and Article 85 of the Treaty of Rome which outlaws practices which prevent, restrict or distort competition in the European Union. These would also be relevant for Jersey.

E.U. Public Works Directive, the Public Supplies Directive and Public Services Directive which have been taken into U.K. Law by the enactment of the Public Works Contracts Regulations 1991, the Public Services Contracts Regulations 1993, and the Public Supply Contracts Regulations 1995. These impose certain obligations on the procurer with the aim of ensuring fairness in the selection of contractors.

The requirements of such rigorous regulations are not incompatible with partnering -

> *"Partnering is acceptable under E.U. rules if -*
>
> - *it is competitively arranged;*
> - *the client's needs and objectives are clearly stated;*
> - *the contract is for a specified period;*
> - *safeguards for future competition are incorporated."*
>
> (Construction Procurement by Government. An Efficiency Unit Scrutiny, HMSO, July 1995)
>
> *"There should be specified and measurable milestones for improved performance as part of the contract with a partner."*
>
> (Setting New Standards: A strategy for government procurement, White Paper, HMSO, 1995)
>
> *"Many of the recommendations of the handbook 'Quality in Balance', published by the Local Government Management Board to provide guidance to local authorities in respect of competition, would be facilitated by partnering."*
>
> (Partnering in the Public Sector, European Construction Institute, 1997)

Indeed, U.K. public authorities wishing to partner generally follow the restricted award procedure as opposed to either open or negotiated tender routes. The open procedure suffers from the disadvantage (pointed out by Latham) of allowing unlimited numbers to be invited to tender, whether or not they are able to or willing to work using partnering methodology. Contract awards under the restricted procedure can be made according to "the most economically advantageous offer", provided the criteria for this are clearly stated prior to tendering. These can include criteria related to partnering such as -

- understanding and experience of partnering;

- organisation structure proposed to effect partnering;
- methods proposed to spread partnering throughout the organisation.

Where the purchaser considers such factors would be to their economic advantage.

Of more immediate and significant concern to the Committee of Inquiry has been the restriction of the Committee's ostensible powers. It is the view of the Committee of Inquiry that a competitions **policy** is insufficient to address the issue of monopolies and the promotion of transparent competition. **Legislation** is required. The States has already charged the Industries Committee with coming forward with such legislation but as yet none has been brought to the States.

Recommendation 26: The Industries Committee to bring a comprehensive Competition Law to the States without further delay which would include all necessary powers to be vested in the JCRA to carry out investigations essential to the promotion of transparent competition. Lead Committee: Industries Committee.

Interim recommendation 22: The Home Affairs Committee to consider the feasibility of relaxing transport regulations on prescribed routes.

Lead Committee: Home Affairs Committee.

The maximum size of lorry permissible in Jersey is a non-standard size. Some flexibility, if only to get imported goods to builders merchants storage depots could reduce a small element of the extra cost of materials and therefore of construction.

Recommendation 27: The Home Affairs Committee to consider the feasibility of relaxing transport regulations on prescribed routes for the specific purpose of getting imported goods to builders' merchants' storage depots obviating the need for double handling. Lead Committee: Home Affairs Committee.

Interim recommendation 23: The 5 per cent Rule for mainland contractors should be abolished.

Lead Committee: Industries Committee.

The response of the Jersey Construction Forum was as follows -

> *The general feeling amongst the larger contractors is that the retention of the 5 per cent rule is probably inappropriate in today's climate as there is adequate competition between them. However, there is apprehension amongst sub-contractors, mechanical and engineering industries, because of the skill requirements of the labour force and the training commitment that has to be made. This is a complicated issue and requires detailed consultation."*[xi]

Although it has been argued that because some mainland contactors have joined in partnership with local contracting firms and therefore the 5 per cent Rule is no longer a manifest disincentive to contractors from outside the Island, the Committee of Inquiry does not accept this view. An incoming contractor will wish to come to Jersey only if the price for the work is high enough to meet the additional overheads of operating in the Island context and if they can make a substantially larger profit than they can earn in other markets given current and expected market conditions and risk levels. At a time when construction is booming in the U.K. the 5 per cent Rule is likely to be a further disincentive to potential tenderers from outside the Island, coming on top of Jersey's tight labour market and relative lack of affordable accommodation.

The Committee received representations from the industry that it would be preferable to reduce the "Rule" to zero rather than abolish it entirely lest circumstances change and the States consider its reintroduction necessary for the survival of the local industry. It will also ensure that contractors from outside the Island will be engaged only where they tender at the same or at a lower level than local contractors. This is in keeping with current States policy to have regard -

- for the need to secure a viable local construction industry;
- for the fact that viability depends to some degree on continuity of work;
- for the long term employment and training of Island residents.

The general policy of also granting licences to non-local contractors where work is of a specialist nature and cannot be

undertaken by local firms should also continue.

Given that the Committee of Inquiry agrees this constitutes an acceptable approach the corollary is that offshore contractors while holding out the hope of addressing some shortages in capacity may do little to bring down prices in the short term due to the buoyant market conditions in the U.K. and elsewhere.

Recommendation 28: The 5 per cent Rule for mainland contractors to be reduced to zero. Lead Committee: Industries Committee.

Interim recommendation 24: Clients in both the public and private sector should conduct a cost-benefit analysis on major projects to determine the extent to which a higher initial capital cost due to higher specification relates to long-term costs.
Lead Committee(s): All client Committees and the Committee of Inquiry.

Overall appearance and aesthetics are important in preserving the character of the Island, but an appropriate balance must be struck between aesthetic considerations, the purpose and usage patterns of the proposed building and its predicted lifetime.

It appears that the balance is sometimes weighted towards aesthetic considerations above all others. James R. Knowles, i their implementation review of Haute Vallée School made the following comments -

> *"Too much attention was paid to planning issues at the expense of users requirements……The design had resulted in the separation of buildings, which has led to problems regarding administration and security. Whilst this fragmentation has enhanced the external appearance, it is not the most efficient, as the buildings suffer from a lack of integration…Internal materials and finishes have been reduced in standard, at the expense of the external envelope.* ***This could also cause unnecessary added ongoing maintenance costs."***

Whole life costing

The separation of funding sources for capital and revenue can lead to a focus on keeping capital costs low whilst ignoring the future costs of operating and maintaining buildings during their lifespan. The "whole life cost" aspects should be included in any feasibility study and risk analysis of a project proposal. This would cover standards of specification and would be influenced by the purpose and uses to which the building is to be put, the design life of the project, running costs and potential recurrent maintenance costs etc.

In response to this recommendation the Public Services Committee commented that it is essential for the entire public sector should adopt the concept of "whole life costing".

The Committee of Inquiry advocates a rigorous procedure for making cost-benefit assessments as to whether the higher initial capital cost (due to higher specification) will in fact deliver better value for money on any particular project. Such assessments are necessary in order to achieve the optimum balance between initial capital cost and on-going running costs. H.M. Treasury in the U.K. publish guidance on the evaluation of "whole life" costs and benefits for public buildings.[xii]

Recommendation 29: The States should apply the concept of "whole life" costing to public buildings through the development of a rigorous procedure which achieves the optimum balance between initial capital cost and on-going running costs with the overall aim of delivering best value. Lead Committee: Finance and Economics Committee.

Local specifications

Nobody wants to repeat the planning mistakes of the 1960s but the Committee of Inquiry received very many representations that specifications were higher than either the U.K. or France and that this lead to higher and unnecessary extra costs. Some contactors also believe the inflexibility of local specification standards is detrimental to innovation. The Committee of Inquiry heard from one local contractor that has linked up with a French company that savings that could have been made through the use of French products using new techniques. For such savings to be achieved in future there would need to be greater flexibility in specification standards and the contractors would need to be involved right at the start of project conceptualisation.

James R. Knowles also drew attention to the cost of substructure works for Haute Vallée which was more than double that of Tanbridge School in the U.K. This was due to the substructure design.

Inflexibility and lack of clarity of planning requirements were also highlighted in the review of Haute Vallée School -

"The fact that some planning considerations became abstract and difficult to define, prompted the decision to mount an architectural competition…The architectural design competition based on certain fixed planning and Environment parameters was to the detriment of architectural input and user requirements."

Maximising efficiency and minimising risk in the design and planning process requires a common perception to be developed.

Recommendation 30: The Planning and Environment Committee to review current specification standards; the clarity, purpose and delivery of current planning requirements and to consider setting up a Forum (similar to the Housing Forum) where the development, design and construction professionals can discuss matters of concern with planning officers.
Lead Committee: Planning and Environment Committee.

Interim recommendation 25: Consideration should be given to the feasibility of central bulk purchasing for example for the housing and education programmes and the use of standard components in future building projects.
Lead Committee: Committee of Inquiry and all client Committees.

Many respondents expressed a high degree of enthusiasm for adopting this recommendation. The potential opportunities were seen as outweighing the disadvantages. If implemented the opportunities are -

- consistent pricing across tenders for standard products;
- potential cost reductions;
- consistent, reliable products with known characteristics;
- familiarity with products may reduce the cost of installation, as there is no "learning curve";
- spares and servicing costs may be lower;
- opportunities to improve the quality of products offered instead of/as well as reducing cost.

The Housing Committee, in particular, is keen to be involved and Corporate Supplies were very helpful in discussions with the Committee of Inquiry. Corporate Supplies, with the help of representatives of the Chamber of Commerce Construction Industry Sub-Committee and the Director of Architecture have identified a range of products used in construction suitable for standardisation/aggregation. Corporate Supplies already employs supply chain management strategies in other areas of States expenditure, with significant savings being the consequent result. It will be possible to accrue similar savings if the strategy is extended to include certain building components and products, including electrical and mechanical for new developments, refurbishment, and maintenance and response repairs. The strategy could also work with a collaborative approach with the building industry being consulted on potential areas for cost reduction. The Committee of Inquiry would like to see other Committees following the Housing Committee's lead by discussing their requirements with Corporate Supplies.

Recommendation 31: Central bulk purchasing of standard construction materials should be considered in all future States building projects.
Lead Committee(s): Finance and Economics Committee and Corporate Supplies, all client committees.

A further policy matter to be considered is whether the policy of bulk buying (which should reflect cost savings) should be extended to housing trusts and other bodies that are supported financially by the States. The Committee of Inquiry believes this is a policy issue beyond their remit and therefore makes no specific recommendation on the topic.

In addition, sourcing materials from France and elsewhere may provide some savings. The potential savings, however, must be judged against frequency of delivery, storage on site etc.

Recommendation 32: Jersey should be more proactive in sourcing materials and services from outside the Island where this represents better value for money.
Lead Committee(s): Finance and Economics and Corporate Supplies, all client Committees.

Interim recommendation 26: The States to adopt a policy of lump sum professional fees without unduly compromising standards and quality in the design process.
Lead Committee(s): Public Services and Planning and Environment Committee.

The term "professional" is used here to cover any construction related services provide by professionals working in private

practice e.g. architectural, quantity surveying and engineering services.

In the Review of Three Schools undertaken by James R. Knowles, concern was expressed at the level of professional fees The Quantity Surveying Appraisal of Haute Vallée School commented that the *"base professional fee budget was overly inflated to include known increased professional activity during the design stages."*

Mr. Simon Kolesar, recent past President of the Royal Institution of Chartered Surveyors, informed the Committee of Inquiry that the use of scale fees has been phased out in the U.K. in favour of lump sum agreements. This was confirmed by the Committee's knowledge of various U.K. public sector projects.

In Jersey, however, the majority of architects work to fee scales, but in some contracts the architect quotes a fee based on costs plus overheads and an allowance for profit. The States and some larger private clients have asked for fee competition on certain projects. This is generally based on a price (40%)/quality (60%) basis.

The cost stack developed for the Guernsey Board of Industry (which informed opinion agrees is relevant for Jersey) shows a design team fee of 8% which is considered to be reasonable for both the Channel Islands and the UK. The Guernsey authors noted, however, that whilst the fee percentage is the same an 8% fee on a £14.7 million project equates to a far larger cash sum than an 8% fee on a £10 million project. (i.e. fees of £1.18 million compared to £0.80 million, a difference of £380,000 extra in fees for Channel Island construction professionals for the equivalent "typical" building.

Consulting Engineers

The Committee of Inquiry received a response from a firm of consulting engineers operating in the Channel Islands to the effect that they had consistently advocated to their Federation the concept of scale fees being adopted with a **reduction** of an agreed percentage to reflect the increased building costs locally. If all construction professionals could agree to implement such a change this would go a long way to reducing the overall cost of construction.

Recommendation 33: The States to consider introducing a policy **either** of lump sum professional fees **or** a reduction of an agreed percentage to reflect the increased building costs locally without unduly compromising standards and quality in the design process. Lead Committee(s): Finance and Economics Committee and Public Services Committee.

Interim recommendation 27: Increases in existing charges should be kept to a minimum and should not be increased automatically by the cost of living each year.

Lead Committee: All Committees.

All Committees accepted this recommendation but a typical comment was that, *"budgets need to be balanced and the costs of some States' services are dependent, to a degree, on external costs beyond the control of the States."* Others remarked that it was sometimes necessary to raise charges above the cost of living in pursuit of States strategic objectives. While the Committee of Inquiry acknowledges this to be the case, it also raises concerns about the States' "User Pays" policy which can sometimes result in higher charges having knock-on effects for all construction clients. The recent increase in tipping charges was an example quoted many times to the Committee.

Recommendation 34: Unless in the pursuit of States strategic objectives, increases in existing charges should be kept to a minimum and should be evaluated to ascertain how the increase is likely to deliver overall "best value" in the longer-term, before taking such action. Lead Committee(s): Finance and Economics Committee and all Committees.

Interim recommendation 28: The Construction Board of the Industries Committee to review the latest JCT Building Contract for Homeowners/Occupiers issued in late 1999 with a view to adjusting it for use in Jersey, and the desirability of producing guides and useful information for smaller and occasional clients.

Lead Committee: Industries Committee.

There is widespread agreement in the industry for adjusting the latest JCT Contract for Homeowners for use in Jersey and for the production of guides for this segment of the construction market. The Committee of Inquiry has been informed that the Public Services Department, through the Chief Quantity Surveyor has been looking at the possibility of achieving this objective.[13] The Committee of Inquiry believes the Construction Board of the Industries Committee would be the appropriate vehicle for publishing information for the public once work has been completed this project. The on-going need to reflect best practice will lead to continuous revision and development of construction client guides.

Recommendation 35: The Construction Board of the Industries Committee to keep under review any adjusted JCT Building Contract for Homeowners/Occupiers in Jersey and any guides and useful information produced for smaller and occasional clients.
Lead Committee: Industries Committee.

Interim recommendation 29: The Industries Committee to utilise Part Three of the Regulations of Undertakings and Development (Jersey) Law 1973 as a means of managing demand for construction.
Lead Committee: Industries Committee.

The Committee of Inquiry received many pleas from the construction industry for the States to manage demand more effectively in order to alleviate peaks and troughs in the business cycle.

Unlike the United Kingdom, Jersey has few fiscal tools to manage demand in the economy e.g. the Island cannot set its own interest rates. Taking both fiscal and monetary instruments, taxation, the Regulation of Undertakings and control of public spending are the local measures available for managing demand in the economy. Other jurisdictions, such as Singapore, place formal controls over the timing and value of both private and public sector projects. The Committee of Inquiry recommended a similar approach for Jersey.

The recommendation met with some resistance from the Industries Committee, the Committee charged with the regulation of undertakings, and from the Jersey Construction Forum who made the general comment that, *"In responding, the constitution of the JCF requires the membership to avoid expressing views that conflict with those of our co-sponsors, the Jersey Branch of the Institute of Directors and the Jersey Chamber of Commerce."* It is well-known that both organisations espouse an economic doctrine which privileges market forces and purports to be against government intervention. (But see above discussion of interim recommendation 23, the 5% rule.)

The Committee of Inquiry accepts that the economic management of the construction industry hitherto would not have been possible at all. Two factors, however, open up the future opportunity of doing so. Firstly, an attempt, though tentative, has been made to estimate the capacity of the local industry.

Secondly, the Guernsey Authorities have expressed a wish to work with Jersey on developing a detailed model of the construction industry in the Channel Islands. In their report, *Guernsey: Constructing the Future*, the Guernsey Board of Industry predict that the Guernsey construction industry will soon experience conditions similar to those that have pertained in Jersey -

> *"The rise in prices, and consequent windfall profits, might be expected to result in additional offshore firms entering the market, probably in partnership with local companies…There will also be a strong demand for additional labour, which will, in the short term, have to be satisfied by importation. Whilst the above scenario would eventually bring the market back into equilibrium, experience elsewhere shows that construction markets in general react relatively slowly to large changes in economic conditions…In addition the influx of large numbers of workers will result in a substantial amount of the money spent being remitted offshore rather than remaining within the Island's economy. It is primarily for this reason, as well as to protect itself against the vagaries of wider external markets, that… (there needs to be) …a healthy and sustainable indigenous construction industry, capable of satisfying the long term underlying "base load" demand."*[xiii]

Key issue: Neither inaction nor overreaction is likely to ensure a sustainable future for the construction industry.

The Committee of Inquiry considers that, although there will be some temporary "cooling off" of excess demand due to current capping of capital expenditure levels, the continued high demand in the private sector, together with present and future expectations for increased provision of homes at faster rates will ensure the normal operation of the market will continue to be compromised and that the construction industry will remain unstable. Equally, if the income of the States was to become perilously short of expected revenues, more ruthless cuts in States capital expenditure would have to be made and, there is a danger that this would be done without a proper strategic view of the construction economy. Such action could have a "shock" effect resulting in a sudden and severe spiral of decline in the industry that could spread wider than anticipated.

The percentage of economically active (by sector) engaged in construction and quarrying is approximately 10%. If related sectors such as manufacturing, electricity, gas and water, wholesale/retail trades, transport, storage and communication etc are taken into account this figure could increase significantly. It has been suggested that it may be as high as 20% of the working population when the industry is buoyant. Determining approximate numbers employed within the construction process is critically important for measuring the overall capacity of the industry, the role of the industry within the wider

economy and projecting potential effects of policy changes. Relying solely on financial estimates of capacity could be misleading.

The Committee believes that if construction supply and demand is to be brought back into a stable equilibrium within a sensible timeframe, some economic management of the industry is required. This would properly require an economic model based upon the reality of the construction industry as it operates in the Island. In Jersey, much of the information needed to develop the model is already being gathered in an informal way. This now needs to be placed on a more formal basis and the establishment of both a tender price index and a building cost index (referred to above) will be essential to underpin any such model. Economies of scale can be achieved by collaboration with Guernsey on the project.

The Committee of Inquiry is convinced that both the industry and the taxpayer would benefit from the development of a robust economic model of the construction sector, as outlined in the report of the Guernsey Board of Industry[xiv]. In summary, the model would -

- measure public and private sector demand for construction over a five-year period;
- measure on-going capacity of the industry;
- anticipate areas where capacity is likely to fall short of increased projected demand e.g. in particular specialist trades;
- indicate limitations in labour, capital, equipment, technology, etc.;
- provide a strategic view of construction to assist in planning and policy making;
- provide the States with a robust measure of demand and supply against which to prioritise States construction projects in order to achieve best value;
- enable the States to set realistic policy "targets" for construction in the public sector;
- help to even out the discontinuities of demand regularly experienced by the industry;
- give a better estimate of anticipated inflation costs for planned capital projects;
- provide market-forecasting information that would allow the States to actively and more accurately manage construction demand arising from the public sector and thus could be developed as an alternative to trying to regulate the private sector market;
- facilitate on-going comparison of the construction industry in both Jersey and Guernsey.

Recommendation 36: The States of Jersey should collaborate with the Guernsey Authorities in the development of an economic model of the construction industry.
Lead Committee(s): Policy and Resources Committee and Industries Committee.

The model once created could be used not only to track construction performance and to actively manage construction demand in the public sector but could be further developed as a tool to assist in future management of the States capital spending as part of the overall economy. To take advantage of this last opportunity the States of Jersey would need to employ similar economic models of all major sectors of the Island's economy. Guernsey already has developed models of important sectors of their economy, evidenced by the following comment in the Board of Industry report -

> *"…(In Guernsey)…The construction industry is the largest single sector of the economy for which no comprehensive economic model exists."*[xv]

Recommendation 37: The States should develop a comprehensive economic model for all major sectors of the Island's economy.
Lead Committee(s): Policy and Resources Committee and Industries Committee.

Interim recommendation 30: The Finance and Economics Committee to give further consideration to the recommendation of the Fiscal Review Working Group in respect of mortgage interest tax relief and other interest tax relief and to bring proposals to the States thereon.

Lead Committee: Finance and Economics.

At section 2.4 above, the Committee of Inquiry outlined how housing market conditions have an effect upon the market for construction services. Clearly fiscal policy as it influences the housing market is relevant to any comprehensive investigation of market conditions contributing to overheating in the construction sector. The United Kingdom and other advanced economies have either phased out or placed a cap on mortgage interest tax relief because of the effect it is considered to have in artificially inflating the housing market. The Committee of Inquiry believes that a cap on mortgage tax relief would result in some reduction in overheating in the construction market. Without a well-developed model of the construction sector (as recommended above), it is not possible for the Committee of Inquiry to be precise about the likely level of effects.

Recommendation 38: To request the Finance and Economics Committee in their review of proposals to cap/phase out over time mortgage interest tax relief to consider the likely effects on the construction sector.

Lead Committee: Finance and Economics Committee.

4. Final Recommendations and summary of the way forward

	Recommendations	Lead Committee (s) or Agency
1	The Finance and Economics Committee to have overarching responsibility for ensuring the implementation of the recommendations.	Finance and Economics
2	The States to subscribe to the BCIS website service.	Finance and Economics, Public Services
3	A Jersey Tender Price Index and Building Cost Index should be maintained and published.	Policy and Resources
4	The States should adopt a partnering approach on 2 or 3 high profile pilot projects. This initiative should be supported by appropriate professional procurement advice.	Finance and Economics
5	The use of partnering in construction should be a formal arrangement preceded by facilitated workshops in partnering techniques.	Finance and Economics, Industries
6	A review of risk management procedures should take place to ensure they can be compatible with partnering methodology by providing a mechanism for risk be shared and/or placed where it is most appropriate to do so.	Finance and Economics

	Recommendations	Lead Committee (s) or Agency
7	The Finance Law should be amended to allow for incentives to be shared between the States as clients and members of the construction team involved in partnering contracts.	Finance and Economics
8	Committees should be expected to seek maximum value for money for funds approved for specific projects with incentives to re-invest in the project to achieve improved design and /or better facilities or to refund the Treasury with savings to be utilised for future projects.	Finance and Economics
9	Design competition not to be used unless it can be demonstrated as appropriate for the specific type of building required and as providing value for money.	Finance and Economics
10	Jersey should set its strategic objectives for construction and develop appropriate key performance indicators and benchmarks to measure and encourage continuous improvements through incentives.	Finance and Economics, Industries
11	Lists of approved contractors should be based on performance, continually monitored and updated in terms of achieving or failing to achieve benchmarks.	Public Services
12	There should be pre-contract reviews of projects where preliminary estimates are significantly higher or lower than expected. Cultural change should be towards a process of continuous review and a value for money culture.	Finance and Economics
13	The States should conduct an urgent review of the process of tendering, procurement, approval and contracting arrangements and make recommendations to ensure compliance with current good practice and value for money.	Finance and Economics
14	The Construction Board of the Industries Committee should develop further guides and programmes of education with a view to developing best practice in the construction industry.	Industries

	Recommendations	Lead Committee (s) or Agency
15	The Industries Committee to regularly review membership of the Construction Industry Board to ensure the on-going promotion of best practice and continual improvement in the construction industry.	Industries
16	The States should consider replacing P.70 Groups with appropriately qualified client project sponsors to represent the interests of the States and be part of the construction team.	Finance and Economics
17	Within 3 years the States should have in place all the policies and strategies necessary to be a corporate "best practice" construction client working in partnership with the industry.	Finance and Economics
18	Structured methodologies to involve end-users in post-occupancy evaluations of all new facilities should be introduced.	Finance and Economics
19	The Finance and Economics Committee and the Industries Committee to be charged with joint responsibility for implementing an agenda for change, reporting back to the States where necessary.	Finance and Economics
20	The establishment of a mechanism to remove contractors, suppliers etc from future tender lists (for all States projects, if appropriate) should form part of a review of tender procedures.	Finance and Economics
21	Further research should be undertaken to investigate the high cost of concrete in Jersey (compared to other locations) and pricing structures including charges for pumps.	Jersey Competition and Regulatory Authority (JCRA)
22	In future the States should manage monopoly or near monopoly supply relationships through the development of value for money measures underpinned by reliable benchmarks and effective key performance indicators to deliver better value for all. "Open book" accounting relationships linked to "partnered" projects would be a way of demonstrating value for money.	Finance and Economics

	Recommendations	Lead Committee (s) or Agency
23	Further research should be undertaken to evaluate the structure and process of setting stevedoring rates.	Jersey Competition and Regulatory Authority (JCRA)
24	The Industries Committee to press for harbour dues to be based on more equitable charging structures for handling bulky, low value items, typical of many construction materials.	Industries
25	The Planning and Environment Committee to bring a Jersey Mineral Strategy to the States at the earliest opportunity.	Planning and Environment
26	The Industries Committee to bring a comprehensive Competition Law to the States without further delay which would include all necessary powers to be vested in the JCRA to carry out investigations essential to the promotion of transparent competition.	Industries
27	The Home Affairs Committee to consider the feasibility of relaxing transport regulations on prescribed routes for the specific purpose of getting imported goods to builders' merchants' storage depots obviating the need for double handling.	Home Affairs
28	The 5 per cent Rule for mainland contractors to be reduced to zero.	Industries
29	The States should apply the concept of "whole life" costing to public buildings through the development of a rigorous procedure which achieves the optimum balance between initial capital cost and on-going running costs with the overall aim of delivering best value.	Finance and Economics
30	The Planning and Environment Committee to review current specification standards; the clarity, purpose and delivery of current planning requirements and to consider setting up a Forum (similar to the Housing Forum) where the development, design and construction professionals can discuss matters of concern with planning officers.	Planning and Environment

	Recommendations	Lead Committee (s) or Agency
31	Central bulk purchasing of standard construction materials should be considered in all future States building projects.	Finance and Economics, Corporate Supplies, all client Committees
32	Jersey should be more proactive in sourcing materials and services from outside the Island where this represents better value for money.	Finance and Economics, Corporate Supplies, all Committees
33	The States to consider introducing a policy **either** of lump sum professional fees **or** a reduction of an agreed percentage to reflect the increased building costs locally without unduly compromising standards and quality in the design process.	Finance and Economics, Public Services
34	Unless in the pursuit of States strategic objectives, increases in existing charges should be kept to a minimum and should be evaluated to ascertain how the increase is likely to deliver overall "best value" in the longer-term, before taking such action.	Finance and Economics and all Committees.
35	The Construction Board of the Industries Committee to keep under review any adjusted JCT Building Contract for Homeowners /Occupiers in Jersey and any guides and useful information produced for smaller and occasional clients.	Industries
36	The States of Jersey should collaborate with the Guernsey Authorities in the development of an economic model of the construction industry.	Policy and Resources, Industries
37	The States should develop a comprehensive economic model for all major sectors of the Island's economy.	Policy and Resources, Industries
38	To request the Finance and Economics Committee in their review of proposals to cap/phase out over time mortgage interest tax relief to consider the likely effects on the construction sector.	Finance and Economics

This summary of the way forward gives an overview the key issues, conclusions and recommendations made throughout the body of the report.

The cost of building has been found to be greater in Jersey then in the United Kingdom. Extra cost factors have been found associated with transport, labour and material costs but the research has also identified considerable 'strategic costs', 'hidden costs' and 'culture costs'. The recommendations address these cost issues and provide some steps towards delivering "best value" for both the public and private sectors.

The most significant cost factor identified over four years of tracking the construction industry is an inflation cost due to an overheating industry. The Committee of Inquiry believes that the decision to cap public sector capital spending will cool this overheating but considers that without the implementation of a clear strategy for the industry the measure runs the risk of becoming an extremely blunt tool, possibly exacerbating the problems that already exist due to the cyclical nature of construction.

Building on its interim report the Committee of Inquiry is now proposing a strategy addressing the high cost of construction in Jersey. That strategy depends on accepting that the industry in recent times has been near to breaking point with over demand from both the private and public sectors and now the States faces the need to tightly control expenditure. If the control on expenditure is applied too tightly and without proper economic modelling, this could spark off unanticipated decline. The industry cannot negotiate the transition from 'boom' to 'bust' painlessly, and the States would soon face a dangerous political situation should they not be able to fulfil pent-up expectations for more and better quality housing, health care facilities, improved roads and services etc. Addressing these issues will depend on a corporate approach and will only be successful if the interface between government and the construction industry can be improved. The Committee believes that

doing so will deliver benefits and cost savings across the Island.

The solution will be neither easy nor quick.

The Latham and Egan reports (Latham, 1994, Egan 1998) both highlighted deficiencies in the culture and management of the construction industry as significant causes of wasted time and wasted money. Egan presented the industry with a series of targets to change the culture of the industry, to eliminate wasted effort and to maximise value for money.

The Committee of Inquiry believes that such a strategy is appropriate here.

The States as a major consumer of construction services should commit to becoming a "best practice" client and thus begin the change in culture necessary to deliver "best value", evidenced by the achievement of measurable targets.

The Committee suggests the following initial targets that should be achieved within a 3-5 year period -

Target one: reduce the level of increased cost of construction in Jersey compared to the U.K.

Target two: all projects completed on time and within budget.

Target three: 20% reduction per year in defects on handover leading zero defects in 5 years.

Target four: 20% reduction per year in accidents on construction sites, leading to zero accidents in 5 years.

A further target could be to improve productivity by 10% per year.

Key issues

The majority of detailed recommendations address different aspects of the linked issues of the **cost** of construction and the **value** that ensues from it. Whilst many of the measures suggested should reduce costs, others focus on increasing value for money.

Cost reduction

Some measures that concentrate on cost reduction involve options such as bulk-supply agreements, using less expensive and less labour-intensive alternatives, reducing harbour dues for common construction materials, sourcing materials from France and elsewhere etc.

The States will need to develop policies and strategies over the next 3 years to become a leader in"best practice", if there are going to be beneficial knock-on effects in the industry and across the Island.

Attaining this goal will require a considerable change in attitudes and improvements in managerial skills, both in construction and in the civil service, and will present a challenge because the public sector does not constitute the sole construction industry workload and in times of high private sector demand work in the public sector may not be seen as so desirable.

Strategic issues

- For future policy planning purposes the States of Jersey needs to better understand the construction industry and its role within the whole economy. A tender price and a building cost index, together with an economic model of the industry should be developed as a matter of urgency.

- Monopoly supply relationships must be managed in the interests of promoting competition, fairness and transparency in the market place. The States can achieve this by developing value for money measures with monopolistic suppliers underpinned by reliable benchmarks and key performance indicators. "Open-book" accounting relationships linked to partnered projects would demonstrate value for money. The alternative is to involve the Jersey Competition Regulatory Authority.

- Another potentially intractable issue is the high level of public expectations and the need to provide public infrastructure in support of future economic development coupled with the States' inability to deliver all the construction projects identified by Committees from existing capital funds within existing fiscal policies. The development of a sustainable fiscal policy is crucial to construction and the economic well-being of the Island as a whole.

- The States must and can find ways of reducing costs and achieving better value from their construction projects. The Committee of Inquiry believes this can be done through working more collaboratively with the industry, resulting in necessary public works being delivered in a realistic timescale, to acceptable standards of quality and in a way that demonstrably provides value for money, together with a healthy, sustainable construction industry for the future. The Committee advocates the use of consultants experienced in collaborative procurement methods to ensure the process of change is both expeditious and effective. This would enable the States to replace the traditional tendering process with the most appropriate procurement route. Best value is unlikely to be achieved for high value, complex projects through traditional tendering. There are alternative options available e.g. design and build, turn-key, partnering - but, unlike other advanced economies, partnering has featured very little in public procurement in Jersey. Partnering is well suited to the needs of the public sector to demonstrate transparency and accountability. Partnering promotes due diligence, open book accounting procedures, and clearly acknowledged shared benefits.

- Jersey's current public sector procurement methods do not reflect changes in the construction industry. The States cannot continue to ignore the savings that could accrue from changing current practices -

  - 1% would be valuable;
  - 10% is feasible;
  - up to 30% with strategic change.

  These are the potential benefits to the States, to commerce and the first-time house buyer.

What would Partnering entail for the States and the industry?

- A formal agreement to partner with a carefully selected contractor.

- A structured team working approach which drives the relationship between the partners.

- A proactive approach focused on achieving project objectives and performance improvement.

- Shared benefits and risks within a supportive structure and a capital ceiling.

Issues for the construction industry

'Quicker, cheaper, better'

- More out of Island sourcing (U.K. and France).

- Different materials and processes - more use of alternatives e.g. Timber frame and steel instead of concrete and block, prefabrication, pre-build components etc.

- Improvements in quality, quality assurance and benchmarking.

- Zero defects.

- Lean-build.

- Better planning, more ordering "just in time".

- Improved health and safety.

- Better supply chain management.

- Labour

  - more skills and training, all levels, specialist and management;
  - more life-long learning;
  - consideration of training levy;
  - improved productivity.

What are the options facing the States and the Industry?

No action -

- continuing cost inflation;
- increased labour requirements;
- States not able to fund essential projects;
- will not achieve best value;
- existing systems 'creaking at the seams';
- breakdown of trust and increasing confrontation.

Over-reaction -

- a "bust" scenario for the industry due to the States' need to contain public spending without the support of a robust economic model of the industry;
- pent up demand resulting in future overheating;
- unfulfilled expectations could lead to political problems.

Positive action - Agenda for change -

- focus on the issues the States can and should address;
- recognise the important role of construction in the economy as a whole and reflect this at a high policy level;
- develop an economic model of construction supply and demand;
- plan potential investments for downturns in the economic cycle;
- facilitate industry development and teamwork;
- implement whole life costing and value for money regime;
- develop "ownership" of cost and value;
- review tendering procedures;
- pilot projects for new procurement methods including partnering/"open book" accounting/incentives and guaranteed profits;
- use benchmarks and key performance indicators;
- States to become a "best practice" client;
- address supply constraints including monopoly suppliers;
- develop supply chain management;
- promote labour saving construction methods;
- engineer in value and engineer out cost;
- States to make use of expertise in the industry and to work with the industry;
- develop a TEAM approach to address the agenda for change together;
- learn from the U.K. and Guernsey.

The work for this report benefited greatly from information from Guernsey. The construction industries in both Islands are similar and the challenges facing both Islands are great. Every opportunity to share information and learn from each other's experience should be taken in progressing any future plan of action.

APPENDIX A

Since the Interim Report was presented, the following individuals and organisations have met with/assisted the Committee of Inquiry into Building Costs -

Local Contacts

Mr. P. Wade, Head of Technology, Highlands College
Mr. M. Moretta, Principal, De La Salle College
Mr. J. Scally, WEB
Mr. M. Palfrey, Camerons
Mr. G. Jones, Stansell QVC
Mr. P. Stirrup, Chamber of Commerce
Mr. R. McAllister, Stansell QVC
M. J.J. Project Manager, Spie Batignolles Camerons
Mr. B. Beadle, of M.P. Agencies Limited (Mantle Panel)
Mr. J. Poole, Colin Smith & Partners
Mr. P. James, MD, Style Shopfitting
Mr. M.G. Hocquard, Joint Managing Director, Pentagon

Members of Construction Industry Board

Deputy F.G. Voisin, Chairman
Mr. I. Smith (Charles Le Quesne (1956) Limited)
Mr. C. Clarke (Ross-Gower Associates)
Mr. T.B. Anthony

Members of the Committee of Inquiry

Senator W. Kinnard, President
Deputy M. Vibert, Vice-President
Deputy H.H. Baudains
Deputy A. Breckon
Deputy K. Syvret

Other States Members

Senator C. Stein
Senator P. Le Claire
Deputy R. Hacquoil
Deputy B. Fox
Deputy P. Ozouf

States of Jersey Officers

Mr. P. Read
Mr. G. Hutchison
Mr. D. Roberts
Mr. A. Mallett,
Mr. R. Foster
Mr. M. Le Fevre
Mr. J. Young
Mr. T. Miziolek
Mr. P. Harding
Mr. T. Gales

Reprsentatives from Guernsey

Deputy Lyndon Trott, Chairman of the Board of Industry, Guernsey
Mr. John Ogier, Economic and Strategic Adviser, Board of Industry, Guernsey

Representatives of construction industry from France including -

Members of the Building Federation, Caen including -
Fouchard Ltd (Mr. Fouchard)
Rufa/Safour Ltd (M. Rufa, M. Chigot, M. Marquand, Mme. Guinebault)
Quille Ltd (M. Vaultier, M. Lirot, M. Gunter)
(The group was accompanied by M. Canavan.)

Representatives from Redcar and Cleveland, U.K.

Mr. Geoff Mitchell, Assistant Director, Design and Construction, Redcar and Cleveland Borough Council
Mr. D. Walsh, Council Leader, Redcar and Cleveland Borough Council
Ms. V. Collins, Mayor, Redcar and Cleveland
Ms. L. Martin, Mayoress, Redcar and Cleveland
Ms. S. Szinti, Lead Councillor Environment and Infrastructure
Mr. C. Moore, Chief Executive
Mr. G. McQueen, Acting Deputy of Education
Mr. M. Erskine, Deputy Head Teacher, Rye Hills School
Mr. C. Howden, PMPS
Mr. D. Knusden, DKS Architects
Mr. D. Sellers, Deputy MD – Shepherd Construction
Mr. M. Webber, Director - Shepherd Construction
Mr. K. Hodgson, Area Manager - Shepherd Construction
Mr. M. Catterick, Business Development Manager - Shepherds
Mr. A. Harrison, Senior Site Manager - Shepherds
Mr. S. Hayman, Senior Planning Surveyor - Shepherds
Mr. T. Lumley, Financial Director/Deputy Managing Director

Knowles Management, U.K.

Mr. N. Barr, Executive Director, Knowles Management
Ms. S. Taylor, Director, Knowles Management

Marshalls Plc, U.K.

APPENDIX B(i)

SUMMARY OF THE VISIT TO RYE HILLS SCHOOL, REDCAR

The Committee of Inquiry into Building Costs was of the opinion that there could be significant benefits in a mixed group of politicians viewing various projects adopting a partnering approach.

After some discussion, the Committee agreed that Friday 22nd June 2001 might be a suitable date for the visit, failing which the week of 2nd to 6th July 2001 could be utilized. In the event, 6th July was chosen. (The delay was due to the need to consult Senator Frank Walker for his availability on the above dates - he was out of the Island and preliminary enquiries had to be made in the U.K.)

It was agreed that the following representatives should be invited to attend -

Members of the Committee of Inquiry (5)
President and Vice-President of the Finance and Economics Committee
President of the Public Services Committee
Chief Quantity Surveyor
Chief Architect
President of the Education Committee
Director of Education
Treasurer of the States
President of the Policy and Resources Committee
Mr. A. Mallet, Officer of Policy and Resources, previously of Education
President of the Housing Committee
Chief Executive Officer of Housing
Deputy F.G. Voisin, Chairman, Construction Industry Board/Chairman, Capital Projects Review Sub-Committee
Ms. L. Burst, Chief Internal Auditor, States Treasury

All of those listed above (19), were invited to attend and the following declined (12) -

Deputies
M. Vibert
K. Syvret
D. Maltwood
T. Le Main,
S. Crowcroft

Senators
L. Norman
P. Horsfall

Officers:
Mr. I. Black
Ms. L. Burst
Mr. E. Le Ruez
Mr. G. Hutchinson
Mr. D. Roberts

Although notification was duly given on 23rd June 2001 for the trip to be made on 6th July, some of the above already had other commitments. As arrangements were already in hand, the original list of invitees was amended to include other interested persons. The intention was to achieve a balance of politicians, officers, contractors and others with knowledge of the construction industry.

Those who actually attended were as follows -

Building Costs Inquiry
Senator W. Kinnard
Deputy A. Breckon
Deputy H. Baudains

Other States Members
Senator C. Stein
Deputy R. Hacquoil
Deputy G. Voisin
Deputy P. Ozouf
Deputy B. Fox

Officers
Mr. M. LeFevre, Health
Mr. T. Mckeon, Education
Mr. A. Mallet, Policy and Resources
Mr. R. Foster, Treasury
Mr. J. Young, Planning and Environment

Others
Mr. J. Scally, W.E.B
Mr. I. Smíth, Charles Le Quesne Ltd.
Mr. M. Palfrey, Camerons
Mr. G. Jones, Stansells
Mr. T. Miziolek, Project Manager
Mr. P. Hardíng, Senior Architect
Mr. P. Stirrup, Chamber of Commerce

Travel
Direct air travel from Jersey to Teesside is seasonal only, Easter to October and only on Saturday and Sunday - therefore travelling by the regular airline (British Midland) was not a viable option. An early start with a same day return by charter was considered to the most cost-effective solution, as it did not involve overnight accommodation.

Partnering Seminar

The Building Costs Inquiry arranged an introductory seminar prior to the trip to Rye Hills School, Redcar, to gain a better understanding of partnering in practice. On 29th March 2001, the Committee of Inquiry held the seminar entitled, *Partnering in Practice,* which included a presentation by Mr. G. Mitchell of the Rye Hills School Partnership. This seminar was organised for States Members, relevant officers and representatives of the local construction industry.

Mr. Mitchell is assistant Director of Design and Construction for Redcar and Cleveland Borough Council. He was invited to discuss the details of the partnered project to build a new school, the first for some 20 years. Very few new schools have been built in recent times in the U.K. and we were fortunate to hear from those working with a partnering approach during the actual building of a school. Rye Hills was chosen because we in Jersey are looking to build a number of new schools in the immediate future and it was unlikely that there would be any other on–going U.K. School projects available to visit during the life of the Committee of Inquiry.

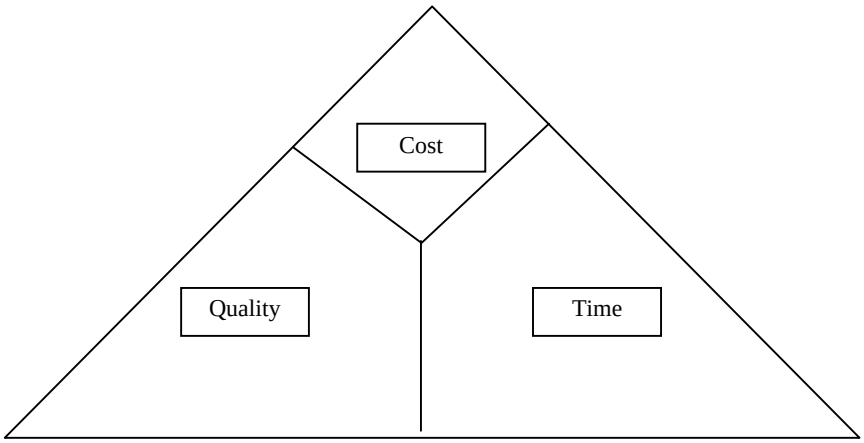
It was felt that there were broad lessons that could be learned, notwithstanding that the School was situated in a locality with somewhat different economic parameters from those in Jersey. The Committee of Inquiry made this fact of different economic circumstances clear at the seminar, in all the literature given to interested parties, and during the visit to Redcar. The objectives of the seminar and the organised visit were to understand how partnering works in practice from the perspectives of all members of the team and to learn from the team's experiences of what worked, how difficulties were overcome by acting as a team, and from what the team felt could be improved upon next time. The team considers the project a success, a useful learning experience, and a good example of how teamwork overcame some severe constraints on the project in terms of the limited budget and need to complete in time for the start of the September term. In addition the original budget was based on a floor area of 8,200m^2 and as a result of working directly with the contractor, interrogating the design and construction process, they achieved a floor area of 9,200m^2.The team is convinced that this would not have been achievable without the agreement to partner.

The initial setting of the budget and time constraints were beyond the control of the team but were the result of the way in which capital projects such as schools are commissioned in the U.K. Councils have to bid for funding for capital projects and the Rye Hills School bid was made under the Department for Education and Environment (DfEE) *New Deals for Schools* initiative. Advice from the Department was that bids had to conform to their stated criteria for schools servicing the 11-16 year old age group. The stated criteria would deliver what the Department for Education and Environment considers is an adequate footprint and accommodation for such a school but those involved in the Rye Hills project were aware that the DfEE guidelines were somewhat ungenerous.

The bid was constrained, therefore, by the Department's requirement that the new school for 1,500 pupils should have an area of 8,200m^2 and the funding would be made available on that basis, taking into account building costs and the local economy in the area. It is likely that an initial bid seeking a larger (and therefore more expensive) school than that calculated as adequate by the Department for Education and Environment would have run the risk of being rejected in the bidding process.

The bid was approved and granted in April 1999 with the completion date being the beginning of September 2001. The Council were told that they would not receive funding above the £8 million granted and, therefore, the cost ceiling for construction was fixed - although any savings achieved during the construction process could be reinvested in the project.

The basic constraints on any project are -



The objective is to achieve an acceptable balance between the three constraints of costs, time, and quality. If one element becomes overly dominant, the other two will be compromised. For example, the Guernsey authorities are faced with a number of older public buildings of relatively poor quality because of a focus in the past on lowest price often at the expense of quality. Such models are, of necessity, abstract and simplistic. The general principles of the model are removed from any economic or other context. Achieving a satisfactory result in accordance with the model will, however, be dependant on the context in which these constraints operate. It is difficult, for instance, to achieve a proper balance between the three elements in an overheated market for construction. In this situation the cost will be greater for expected/acceptable quality and time may be compromised due to supply-side 'bottlenecks. The result is unlikely to be "value for money".

Given the constraints of the very tight budget, pressing time scale and the need to achieve acceptable quality, the Rye Hills team had to find a way to make better use of the available budget.

The tight timescale served to reduce any effects of inflation, albeit the Northeast has a low rate of inflation relative to more prosperous regions. A partnering approach was chosen as the best means of achieving acceptable quality given the other constraints and thus achieving the best value for money within the given constraints. This methodology was supported by the NEC, Engineering and Construction Contract, 2nd Edition, Option C, Target contract with activity schedule. The contract was awarded after a competitive first stage tender. Two facilitated workshops were held with all stakeholders ("the team") prior to construction to familiarize all parties with the methodology and to achieve agreement on roles, responsibilities and appropriate lines of decision-making. An open-book policy, involving full access to cost accounting records was adopted. Shared incentives applied to any savings achieved below target cost, insofar as they did not result in omissions from the brief or a reduction in quality and were due to the genuine efforts of the construction team.

The construction team consisted of -

The assistant director of the Borough Council's Technical Services Department
Representatives of the Borough Council's architects department
The Deputy-Head teacher of Rye Hills School
Representatives of Shepherd Construction
Representatives of PMPS, quantity surveyors
Representatives of DKS, architects
Representatives of Shepherd Engineering Services
An officer of Planning and Building Control

As the design developed and the team worked together to maximise the effectiveness and the resources of each party, savings made it possible to bring down the cost per square metre so that two laboratories, four extra classrooms and associated storage and circulation space could be added, increasing the floor area to 9,216m^2 at a cost of £717.36/m^2.

Targets, including time, cost and quality had been set for various elements of the work. Where results were better than the set targets savings accrued to be used elsewhere. Where targets were not met, a compensatory saving could be engineered in another element. The partnership approach with a commitment to discuss and resolve problems at an early stage and at an appropriate level, together with the "open-book", provided the opportunity to constantly update cost information, to quickly identify cost savings or cost overruns.

Difficult choices and therefore compromises had to be made because of the tight budget. For example, the shared use assembly/dining room, necessitating staggered lunch breaks for groups of year-groups, as happens in some Jersey schools. Although JCG Secondary School has separate facilities for assembly and dining, the dining facility is insufficient to accommodate all pupils if they arrive together at lunchtime.

The object of the visit was to expose the Jersey contingent to a new way of working in construction and to show how the partnering methodology enabled an acceptable capital project to be delivered despite severe cost and time constraints. The Committee of Inquiry does not believe that a budget of £8 million would be adequate nor that the standard of some elements of the building would be acceptable in a school for 1,500 pupils in Jersey. Attendees were asked to "step outside the box" of accepted Island thinking towards the way projects, particularly public buildings, are promoted, procured, managed and constructed. The majority of those who attended from Jersey were able to apply the lessons learnt in Redcar to the local context, as comments[14] on the post-visit evaluation forms demonstrate -

Attendee A

"The decision on what budget to allocate for a certain project is the seminal moment in the decision for any capital project. In Jersey the decision on whether or not to carry out a capital project is done in isolation of the budget…

…In the Jersey context this would involve the Education Committee agreeing with the Treasury and an aggressive budget for a school such as Hautlieu or Le Rocquier and then submitting that bid to a decision conference. We need to change the way we decide which projects actually go forward…

…In Jersey we are simply going to have to convince the senior politicians such as Senators Horsfall and Walker together with their Chief Officers that economy is possible. The tone must be set at the top…"

Attendee B

"…My conclusion about the Redcar trip is that the evidence supported strongly my arguments for a complete revision in the way we go about procuring major capital schemes. There was overwhelming evidence that an overly bureaucratic regulatory framework whilst it stops overspends, does not produce good value for money per se. The key lessons for me were the seconding of the client representative to the project team and authorisation to them to be part of the design decisions, complete absence of political interference in the procurement process and early participation of the builder in a design and build type of contract. This all being done within the discipline of an externally imposed rigid cash limit. The task for the team in Redcar was simply get the best value school you can from this sum of money. That was accepted from the start and drove every decision that took place…

…It is this which is entirely absent in the States processes. We neither achieve best value from our architects or professional teams but we continue to pay unnecessarily high-scale fees. We do not involve the builders in ensuring their ideas for cost savings are built into the design. They know what is cost effective to build and what is not. We do not properly ensure the user briefs are robust nor do we externally benchmark the outcomes. The design process takes part largely in a vacuum. We surround it by a plethora of procedures but produce little value added…

…I have proposed many times at the Capital Projects Sub-Committee that we look at a reformed organisation for procurement of capital projects and I think this will be best done by expanding the role of the Property Services team when it is moved in its new place in the States organisation…"

Attendee C

"…The visit was particularly valuable as one element of the on-going process to research and develop alternative and/or improved methods of capital procurement."

Attendee D

"…I believe Jersey is unique and faces it's own individual challenges and that a pilot scheme is the way forward…"

Attendee E

"…Very useful visit. It reinforces my view that Committees are not subjected to a rigorous process in setting and justifying budget needs in the first place…"

…The time allowed enabled a full visit and sufficient question and answer session…(The) open approach enabled the tour group to study any aspect…(We) didn't feel 'shepherded'(!) around the building or direct(ed) to specific areas…

…A follow up visit to the school-in operation-to include (the) Presidents of F&E, Education and Planning would be valuable."

Attendee F

"…This part of the day trip was the most useful & proved that (the) success of partnering involves the contractor early in the design."

Attendee G provided a full analysis of his thoughts and observations on the Rye Hills Project:

"…Specification of project:
The school seen accepts a different quality of specification than that found in Jersey schools namely:

Roof:
A single material of industrial looking metal profiled, sloping (assumed 20°) has been used throughout Rye Hills School. Recent schools built in Jersey have natural slate, clay tile, copper, lead or saran-fil. On Jersey projects there is often a mixture of different roofing products which no doubt offer a less bland appearance but are expensive to procure and incur design details to avoid leaks where one product meets another.

Walls (Internally):
Decorated blockwork walls were the most common specification within the Rye Hills School. In Jersey this would be specified only in stores, as plastered walls are considered the minimum standard.

Floors:
The Rye Hills Project applied flooring direct to a concrete slab rather than to a sand and cement screed. This is a cheaper option but in areas where blockwork walls are being used this limits the available routes for services.

Fixtures & Fittings:
Most were refurbished from the existing school.

Method of procurement (partnering)

Advantages to Contractor:

- *Profit and overhead recovery is protected (ring fenced).*
- *Ability to influence design, introducing methods and materials most suited to contractor.*
- *Client shares risk of overspend (to a limit).*
- *Opportunity to secure a commitment to repeat work with client, allowing predictable future turnover which helps borrowings, training and reinvestment.*

Disadvantages to Contractor:

Client share of overspend risk capped, leaving Contractor with full risk over a certain level, at Rye Hills this was 110% of contract sum, i.e. 10% over spend 50:50 client / contractor, thereafter all contractor risk.
Project pre-commencement period requires a high commitment of management expertise.

Advantages to Client:

- *Best value judgement on contractor possible, not just cheapest price.*
- *Ability to influence design (not possible in Design and Build).*
- *Opportunity to share savings realised by contractor and design team.*
- *Closer ownership of design/building specification.*

Disadvantages to client

- *A "champion" of the project needs to be provided by the client to ensure client priorities are realised.*
- *May not necessarily deliver lowest price (best value is not the same as the cheapest).*
- *Audit trail more complicated than traditional tender when providing choice of selected contractor.*
- *Choice of suitable Contractors to Partner with may be limited (Rye Hills started with 20 applicants).*

Attendee H

"…The general standard of building was acceptable and similar to that achieved in Jersey…"

The Committee is extremely grateful to Mr. G. Mitchell and the Rye Hills Partnership for the open and welcoming approach they adopted to our enquiries, including providing detailed supporting paperwork, and for the extra assistance they gave to the Chief Quantity Surveyor and Director of Architecture when they visited the project on a separate occasion. Our appreciation also goes to Sharron Taylor and Nigel Barr of Knowles Management who assisted with the arrangements and facilitated the day's proceedings. Thanks are also due to the President of the Finance and Economics Committee for his support in our request for funding for the trip.

Further post-visit note

The Chief Quantity Surveyor and the Director of Architecture were unable to join the visit to Rye Hills School, Redcar and Teesside Airport arranged by the Committee of Inquiry. The Capital Projects Review Sub-Committee, however, separately commissioned both individuals, together with a representative of a private quantity surveying practice to report on the background and detail of the Rye Hills School project. Complete assistance was forthcoming from the Rye Hills Partnership.

The highly critical report which runs to some 68 pages (with appendices) includes a good deal of material already made available to those who attended the seminar and the trip organised by the Building Costs Inquiry, together with what appeared to the Committee of Inquiry to be some opinions based on unsubstantiated assertion.

Although the visit to Redcar on behalf of the Capital Projects Review Sub-Committee took place on 30th July 2001, the Committee of Inquiry only became aware that a written report existed in April/May 2002. The Act of Committee of 3rd May 2002 states that the Committee of Inquiry was to request the Chairman of the Capital Projects Review Sub-Committee to consent to release details of the report prepared by the Chief Quantity Surveyor and the Director of Architecture relating to the development, procurement and construction of Rye Hills School, to interested parties. The Committee of Inquiry was keen to have the report peer-reviewed and thereafter to publish appropriate details in the Committee of Inquiry's final report.

In a letter to the President of the Building Costs Inquiry dated 29th July 2002, the Chairman of the Capital Projects Review Sub-Committee refuses to publicly issue the report (See Appendix C for the full text).

One reason given for keeping the document confidential is that:

"*Although freely supplied, it must be considered that the information was given 'in confidence' and is commercially and politically sensitive to the Rye Hills Partnership."*

The Chairman makes it clear that he is concerned that the contents of the report would create "…potential friction with the partnership" and says that the Report should remain within the confines of the States of Jersey, claiming that the Report fits the criteria for confidentiality in accordance with section 3.2(b) of the States Code of Practice on Public Access to Official Information which reads that material can be exempted under the code where it is,

> *"given to the authority concerned in confidence on the understanding that it the information concerned was would be treated by it as confidential, unless the provider of the information agrees to its disclosure."*

Firstly, the assertion that the information was given 'in confidence' is at odds with the open approach adopted by the Rye Hills team with each other, including the 'open-book' and with all who showed an interest from Jersey. Nevertheless, the Committee of Inquiry would have checked the status of any material intended for publishing with the Rye Hills Partnership prior to doing so, in the same way a request was made to the Chairman of the Capital Projects Review Sub-Committee in

respect of the report prepared by the Chief Quantity Surveyor and the Director of Architecture. Of course, the Committee of Inquiry would have given the Rye Hills Partnership the opportunity to comment on the content of the report prior to publishing any details in the Committee's final report.

The Committee of Inquiry cannot help but notice the completely different approach to openness adopted by the Rye Hills team compared to that of the Capital Projects Review Sub-Committee, and to view the difference with concern.

The Committee of Inquiry counsels the Finance and Economics Committee to send for peer-review the report commissioned by Capital Projects Review Sub-Committee.

APPENDIX B(ii)

RYE HILLS SCHOOL PROJECT

A Presentation on Partnering Working

Sharron Taylor
(James R. Knowles)
and
Geoff Mitchell
(Assistant Director, Redcar & Cleveland B.C.)

Project Background/Timetable

- Construction of 1150 place Secondary School
- Project funded solely by DfEE, as part of the 'New Deals for Schools' initiative
- In-House design team lead architects for the project (after competition)
- Funding allocated April 1999
- Initial Consultation/Client Spacial Accommodation Brief May 1999
- OJEC Prior Information Notice June 1999
- Outline Sketch Design July 1999
- 1st Stage Tenders Returned November 1999
- Preferred Contractor Appointed December 1999
- Construction started April 2000
- Completion July 2001

Project Details in Brief

Floor area 9,200 sq.m.	• Art suite
Two-storey traditional construction	• Drama studio
34 General teaching classrooms	• 3 Computer laboratories
10 Science laboratories	• Dedicated administration area
Design and technology suite	• Dining Room and Assembly Hall
Music suite and practice rooms	• Sports Hall and changing facilities
Library	• Pastoral offices

Procurement Options

- Traditional Design and Build.
- Management or Cost Reimbursable forms of Contract.
- Partnering Arrangement.

Partnering Approach

- All parties work together, pooling their combined skills and experience, to produce a building of quality which is fit for its intended purpose.
- All partners/key players share the same vision.
- Savings made during construction benefit all.
- Any gain (profit) or pain (loss) shared equally.
- LEA profit invested in the project.

Potential Risks of Partnering

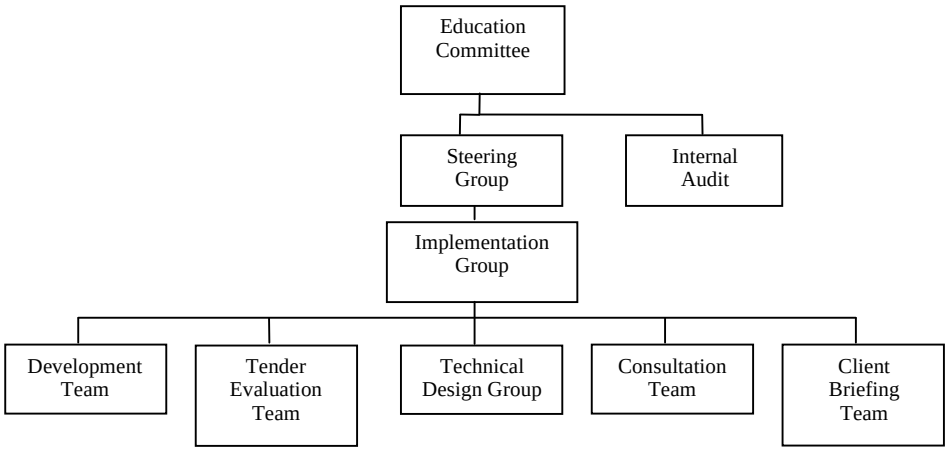
- Limited time available to train all staff in the new culture.
- Choice of contractor and timescale for the project.
- Potential failure of the team to work together effectively to deliver the agreed objectives.
- Potential lack of accountability.

Measures Taken To Reduce Risk

- Use of Specialist Facilitators/Workshops.
- Develop Clear Understanding of Partnering Concepts.
- Formal Contracts Prepared with Guaranteed Maximum Price (GMP) for the Works and Provision for Damages.
- The Level of Quality Specified.
- Completion Date Determined.
- Accountability Procedures Developed to Control Quality and Cost.
- Incentives To Reward Contractor if Savings Achieved Within GMP and Quality Maintained.

Reporting Procedures

Rye Hills Management Structure



The Partners

- Redcar & Cleveland B.C.
- Rye Hills School Staff and Governors
- PMPS - Quantity Surveyor
- DKS Architects
- White Young Green - Planning Supervisor
- James R. Knowles - Awareness/Development
- Shepherd Construction - Contractor
- Shepherd Engineering Services - Sub-Contractor

Contract Procurement

- OJEC Advertisement

- Pre-Qualification Submissions
- 1st Stage Tenders (Price/Quality evaluation) by T.E.T.
- 2nd Stage Interview (Shortlist)
- Appointment of Preferred Contractor
- Workshop
- Develop Detailed Design Proposals
- Prepare Target Cost Figure
- Prepare Contract based on N.E.C. 2nd edition Option 'C'
- Sign and Seal Contract

Contract Management

- Shared Office Complex/Admin. Support
  - Contractor
  - Client
  - School
  - Architect
  - Project Manager
  - Quantity Surveyor
- Open Book Financial Accounting System
- Monthly Progress/Financial Control Meetings
- Two Weekly Site/Technical Meetings

Budget Provision/GMP

•	Established March 2000		•	Fees	
•	Building Costs	£6,960,000	-	Architecture	3.3%
•	Loose Furniture	£100,000	-	Q.S.	1.6%
•	Demolition Costs	£200,000	-	M&E	1.7%
•	New Entrance	£140,000	-	Civils/Struct.	0.9%
•	Design/Super	£600,000	-	Landscape	0.15%
•	Total	£8.0M	-	Plan. Supervisor	0.15%
			-	Statutory	0.3%
			-	Supervision	0.5%
			•	Total	8.6%

Benefits of Partnering

- Reduced lead in time prior to construction.
- Enables maximum involvement of all parties in the project.
- Maximise the benefits to the School and Council during construction.
- Provide a test for Best Value for the Council.
- Provide a quality control and cost certainty.
- Non Adversarial, Problem Solving Approach.
- Reduced Contractual Correspondence.

APPENDIX C

States of Jersey Treasury

P.O. Box 353, Cyril Le Marquand House, St. Helier, Jersey JE4 8UL, Channel Islands
Telephone: 01534 603000 Fax: 01534 789901 E-mail: treasury@jersey.gov.uk

Senator W. Kinnard
President - Committee of Inquiry into Building Costs
States Greffe
Morier House
St. Helier
JE1 1DD

29th July 2002

Dear Wendy,

Committee of Inquiry into Building Costs - Rye Hills School Report

I am writing to explain the decision of the Capital Projects Review Sub-Committee not to publicly issue the full Rye Hills report.

As you may be aware, two officers of the States and a private sector quantity surveyor were commissioned by the Sub-Committee to undertake an extensive examination of the project. In the course of producing the subsequent report, the team met with members of the client team and contractor representatives (the 'Rye Hills Partnership').

Although the team received co-operation from members of the Rye Hills Partnership, the time available for the study was limited. The full report produced contains the professional opinions of the team as interpreted from the documentation examined and information received. Unlike a traditional 'audit' report, however, the Rye Hills Partnership provided the information for research purposes and has not had the opportunity to comment on the report's content.

Also, both the body of the report and the appendices contain detailed information concerning the structure of the contractual arrangements and the contractor's final account. This information was provided in order that we might understand contradictions in previous presentations. Although freely supplied, it must be considered that the information was given "in confidence" and is commercially and politically sensitive to the Rye Hills Partnership.

I am not aware that we have received any formal request for a copy of the report from either the Rye Hills Partnership or Cleveland Borough Council. I consider that the report was prepared for the Capital Projects Review Sub-Committee to consider the experience of the procurement method used on this project and determine its merits and shortcomings in a Jersey context. As such, I consider that its circulation should remain within the confines of the States of Jersey.

If the Committee of Inquiry into Building Costs wishes a copy of the report to be provided to an appropriate client representative of the Rye Hills Partnership for information, I would be willing to discuss with you how best this can be achieved without creating potential friction within the Partnership.

I understand that you have now received a copy of the full report for your consideration as President of the Committee of Inquiry into Building Costs, which has been treated as confidential in accordance with section 3.2(b) of the States Code of Practice on Public Access to Official Information.

Yours sincerely,

Signed

Deputy F.G. Voisin
Chairman - Capital Projects Review Sub-Committee

APPENDIX D

QUANTITATIVE ANALYSIS OF PARTNERED PROJECT PERFORMANCE

By Douglas D. Gransberg,[15] P.E., Member, ASCE,

William D. Dillon,[16] P.E., Member, ASCE,

Lee Reynolds,[17] and Jack Boyd[18]

ABSTRACT: Partnering is a technique that has become the construction industry's application of total quality management and enjoys widespread use throughout the industry. This paper details the results of a statistical analysis of over 400 Texas Department of Transportation construction projects worth a total investment of nearly $2.1 billion. Half the projects were completed under partnering agreements. After comparing the two groups of projects, the paper concludes that partnering promises to furnish a means to control the two prime project performance indicators - cost growth and time growth. Additionally, in a large construction program the continuous application of partnering will result in improved project performance across the entire program.

INTRODUCTION

Partnering construction contracts are popular throughout the United States and in certain countries overseas. The term partnering evokes different meanings to different sectors of the engineering and construction industry. Among the designers and builders of privately financed projects, partnering is a strategic relationship that is developed for relatively long periods and for multiple projects. These strategic partnerships garner many advantages to their members. The main one is the development of a thorough understanding of the partners' motivations, trustworthiness, and means of communication. This understanding allows one partner to gauge the other partner's potential reactions to impending crisis. It also encourages the honest sharing of bad news in a timely manner that permits joint action to avert or minimize the impact of the crisis on the successful completion of the project in question.

Private strategic partnerships have an advantage over their counterparts in the public sector in that private entities are relatively free of regulation on the form and substance of their internal operational activities and contractual relationships. Public agencies must answer to lawmakers, regulators, and the public alike. Thus, the freedom for public agencies to develop longstanding, strategic partnerships with private organizations is greatly diminished if not eliminated altogether. As a result, agencies like the Texas Department of Transportation (TxDOT), have focused their partnering activities on single project, team-building seminars.

The literature shows that the growth of partnering is directly related to the growth in claims and litigation regarding construction contracts throughout the nation (Kubal 1994). In the late 1980s, the U.S. Army Corp of Engineers (USACE) led the way for public agencies to begin using this new business practice as a means to avoid disputes and, consequently, reduce the ultimate cost of delivering public facilities. To verify the success of partnering, projects must be measured. One pitfall in past efforts to measure partnering performance involves the collection and interpretation of statistics regarding partnering. In public agencies, there is a tendency to credit partnering for project successes even when there was no tangible evidence of any improvement over the status quo. This was caused by the intense personal investment public project managers and contractors make during partnering sessions. There is no doubt that enhanced communication greatly improves a project's management/dispute resolution environment. However, most serious studies of the process have failed to identify significant benefits that can be directly attributed to partnering programs. An earlier study done on TxDOT (Grajek 1995) found that partnering (on 65 TxDOT projects) did not have a statistically significant impact on cost growth, change order cost, or net change cost. The same study found that partnered projects finished an average of 13.73% ahead of schedule as compared with nonpartnered projects that only finished 9.68% ahead of schedule. Although this appears to show some impact, the fact that most projects finish ahead of the contract completion date indicates that TxDOT is generally conservative in establishing contract duration., Even though there is nothing fundamentally wrong with this policy, it makes interpretation of actual performance data difficult with regard to schedule. A study of the Ohio DOT's partnering program (Chapin 1994) addressed only cost growth and found that 20 partnered projects had a 1.00% cost growth as compared to 123 nonpartnered projects that averaged a 4.03% growth. Although the partnered sample size is small, it does seem to promise potential benefits for partnering transportation projects.

USACE found that partnering is most valuable on projects with tight schedules where techniques such as issue escalation and open communication tend to enhance the efficiency of critical decision making. Thus, the contractor is allowed the maximum amount of time to react to scope changes and retain satisfactory progress. Additionally, change order

time extensions are much more important to a contractor on a project with a tight schedule than on one that has greater schedule flexibility (Kubal 1994). Thus, the contractor will be more likely to formalize a dispute over a time extension on the former than on the latter (Kane 1992). This fact further blurs the validity of the apparent schedule improvement on partnered TxDOT projects.

The above discussion is not meant to cast doubts on the validity of the partnering process but rather to indicate the importance of understanding the dynamics of the process that produces the contract performance data. Studies done on USACE and Naval Facilities Command projects confined themselves to competitively bid, firm fixed price projects (Pina 1993; Weston and Gibson 1993; Schamder and von Rosenvinge 1994). Since the date of those studies, best value selection has been implemented on a broad scale by USACE and to a limited degree by Naval Facilities Command. Best value selection removes the requirement to award to the low bidder and has changed the dynamic under which partnering was developed in the federal government (Ellicott and Gransberg 1997). This approach shows much promise in that strategic relationships that produce positive outcomes for both parties are able to reap benefits from the synergy of repetition.

In September of 1996, TxDOT, through their Continuous Improvement Office, awarded a research contract to Texas Tech University to identify and quantify the impacts of their partnering effort. The purpose of this paper is to document the collection and analysis of the data. The discoveries, conclusions, and recommendations of this report are based on trends of the emerging data using parametric statistical analysis techniques.

DATA COLLECTION AND REDUCTION

To complete the required tasks, the researchers were required to interact with several departments within the TxDOT. These include the Continuous Improvement Office, Construction and Maintenance Division, and the Information Systems Division. The goal of the study was to attempt to identify benefits specifically accrued due to partnering. Therefore, the study population for each group was selected in a "before and after" mode with a time period that did not overlap the date ranges of the partnered and nonpartnered projects. The data collection effort started with the identification of 204 completed partnered projects during the period of January 1992 to November 1996 and then proceeded to an equal number of nonpartnered projects in the 5-year period (February 1987 to December 1991) immediately preceding the implementation of partnering. The control group of 204 nonpartnered projects was selected from a list of 255 projects that actually started before partnering was an option. All of these projects were of a nature that would have made them candidates for partnering if the program had been in existence. The database contains data from 408 completed projects worth $2.1 billion, which is three times as many projects as any of the other studies found in the literature search.

In addition to the collection of quantitative project performance data, surveys of over 500 TxDOT and contractor personnel were conducted to develop qualitative data regarding the perceived costs and benefits of partnering. The focus of the questionnaires was on identifying those features of a project that make it a good candidate for partnering. The results of the surveys can also be used to help explain the results of the quantitative data as well as to assist in appropriately grouping the project performance data for analysis. Complete results of the surveys can be found in Gransberg et al. (1998).

DATA ANALYSIS

Analysis of the data collected permitted the calculation of thirteen separate project performance parameters. Each of these parameters mathematically describes some performance measure, which can be compared between partnered and nonpartnered projects. The intent of this effort is to identify trends, which will help develop a method for partnering decision making.

Cost Growth

Cost growth (CG) is a standard measure of project performance. In essence, cost growth is defined as the change in contract amount with respect to the original contract amount. This can be described by the following equation:

$$CG = \frac{\text{Final Contract Amount - Original Contract Amount}}{\text{Original Contract Amount}} \quad (1)$$

This number can then be converted to a percentage of growth over original contract amount. The comparison of this parameter between partnered and nonpartnered projects should permit the determination of whether partnering has any impact on subsequent cost growth within a project.

Average Cost per Change Order

Average cost per change order (AC/CO) is merely the arithmetic average cost of the actual changes on each project. This parameter allows the researcher to develop an idea of the order of magnitude of changes that occur on typical projects. This parameter is described by the following equation:

$$AC/CO = \frac{\text{Final Contract Amount - Original Contract Amount}}{\text{Number of Change Orders}} \quad (2)$$

Average Percent Increase per Change Order

Average percent increase per change order (A%/CO) is a measure of incremental cost growth. A contract with no change orders would be the perfect situation and have no cost growth. A large average percent increase per change order would indicate that cost growth occurs as a step function and provides a means of assessing the quality of the contract documents. The larger the average percent increase per change order the higher the probability that some errors of design were contained in the project. This would indicate that regardless of the quality of the relationship due to partnering a flawed design will require change orders and encourage cost growth. This parameter is described by the following equation:

$$A\%/CO = \frac{\text{Cost Growth (\%)}}{\text{Number of Change Orders}} \quad (3)$$

Average Total Change Orders per Project

Average total change orders per project are merely the arithmetic total of the number of change orders per project. This ratio further defines the impact of original contract quality on project performance. This parameter quantifies the number of times the owner and the contractor had to reach an agreement. The number used in this analysis is an adjusted total after removing “administrative” change orders that had nothing to do with the design/construction process itself. Examples are such things as on-the-job training costs, contractor reimbursement for the partnering workshop, etc. It should also be noted that the writers recognize that a single change order might correct several design deficiencies. No effort was made to determine the number of contract modifications made in each change order as this information was not available in digital form.

Time Growth

Time growth (TG) is the change in time with respect to the original contract completion date. Time growth is generally a result of changes in scope of the project. Time growth can be either positive (when the project is completed later than the original completion date) or negative (when the project is completed earlier than the original completion). In TxDOT con tracts, time growth is a function of allowable working days. These contracts typically have a given number of days associated with the project. Things such as poor weather require field personnel to determine whether to charge a working day to the contract period. This system promotes the accurate interpretation of project time performance by making it unnecessary to cull out time growth due to circumstances beyond the contractor’s control. Time growth is calculated using the following formula:

$$TG = \frac{\text{Days Charged - (Total Days Allowed + Additional Days Granted)}}{\text{Total Days Allowed + Additional Days Granted}} \quad (4)$$

where Days Charged = actual contract duration; Total Days Allowed = original contract duration; and Additional Days Granted = number of days added by change order.

Average Percentage of Additional Days Granted

The average percentage of additional days (AD%) granted is an indicator of the owner’s willingness to reduce time pressure on the contractor.

$$AD\% = \frac{\text{Additional Days Granted}}{}$$

	Total Days Allowed

(5)

Average Liquidated Damages as Percent of Total Cost

Average liquidated damages as a percent of total cost (ALD) is included as a means to measure the impact of partnering on those projects that have some problems as indicated by the imposition of liquidated damages (LDs). When new performance enhancing programs are introduced, focus tends to be on those projects that go well. If a program is to become totally institutionalized, it must also produce positive results in those projects that have problems. Measuring LDs on those projects, which finish late, is an objective metric with which to compare partnered projects to nonpartnered projects. This parameter can be calculated with the following formula:

ALD =	LDs Cost
	Total Contract Cost

(6)

Average Liquidated Damage Days as Percentage of Total Time

Average liquidated damage days as a percentage of total time (LDD) is a metric designed to measure the effect of LD days on the overall contract period. Again, comparing this parameter between the two types of projects should give us the ability to quantify the impact of partnering on project performance. This parameter is computed as follows:

LDD =	Number of Day LDs
	Total Days Allowed + Additional Days Granted

(7)

Percent of Projects with Liquidated Damages

The percentage of projects with LDs (%LD) is a direct measure of the TxDOT's willingness to assess LDs. Additionally, it provides an indicator of the contractor's ability to prosecute the projects as they were originally planned and bid. A difference in this indicator between partnered and nonpartnered projects will provide a means to explain the value of partnering on projects that do not finish as expected. This metric is calculated by the following formula:

%LD =	Number of Projects with LDs
	Total Number of Projects

(8)

Percentage of Projects with Deducts

A deduct is defined as a change order that reduces the contract amount. This parameter was developed to provide a measure of contractor willingness to keep total project costs as low as possible. Generally, contractors are reluctant to agree to deductive change orders because they throw off the balance achieved by spreading overhead and profit margin across bid items and possibly put a contractor in the position of not being able to recover anticipated markups. Thus, the percentage of projects with deducts is a good indicator of the success of the partnering charter. This parameter is calculated by dividing the number of projects that had negative cost growth by the total number of projects.

Claims Cost as Percentage of Original Cost

Claims are requested by contractors for compensation for work performed that the contractor believes is outside the scope of the contract. Generally, claims begin as contractor requests for a change order and become claims when the owner rejects the change order request. Negotiations ensue and if a settlement is reached, the contract is increased by the amount of the settlement. For purposes of this study, claims are defined as contract disputes that are settled above District level. TxDOT's primary purpose for instituting partnering is to avoid claims Cost (*Partnering* 1996). Theoretically, a partnered contract should have no claims. Typical output of the partnering workshop is an issue escalation ladder to deal with disagreements and to attempt to keep them from becoming claims (*Partnering* 1996). An issue escalation ladder is the process of agreeing to move the settlement of an issue in disagreement up both the owner's and the contractor's chain of command to seek resolution without the need to resort to a claim. In essence, it relieves project personnel of the responsibility

to settle and permits them to focus their efforts on project completion without wasting management energy promulgating and defending claims. Therefore, analysis of project performance in relation to this indicator is an important point. Claims cost (CC) is determined as follows:

$$CC = \frac{\text{Total Cost of Claims}}{\text{Original Contract Cost}} \tag{9}$$

Dispute Cost as Percentage of Original Cost

Disputes, for purposes of this study, are claims that are settled at or below District level. Again, the establishment and use of an issue escalation system in a partnered project would lead one to believe that partnered projects should have a significantly lower level of disputes than nonpartnered projects. This is also an important parameter because it speaks directly to the most highly touted benefit of partnering - dispute resolution. Dispute cost as a percentage of original cost (DC) is calculated as follows:

$$DC = \frac{\text{Total Cost of Disputes}}{\text{Original Contract Cost}} \tag{10}$$

Award Price

Award price is merely the original contract amount for each project and provides a method to separate and discriminate between projects based on their relative financial size. This parameter is important because the size of a project may influence the amount of benefit it can actually accrue from partnering. For example, a small project that has a $20,000 change order will experience a larger percentage of cost growth than a large project with the same size change order. Thus it is important to look at similar sized projects as measured by award price to accurately assess the impact of partnering on the TxDOT construction program.

ANALYSIS OF STATISTICS

Table 1 shows a breakdown of the aforementioned parameters for the 204 partnered projects and 204 nonpartnered projects. These groupings were selected as they represent the typical ordering of project size in use in TxDOT. The total sample population of projects was equal, but it can be seen that when the projects are grouped according to size that the significant grouping for partnered projects was in the $l,000,000 - $5,000,000 range, and the significant grouping for nonpartnered projects was in the $1,000,000 or less range. Because of this disparity in subgroup population sizes, the projects were assembled into two sub-groups of virtually equal populations of partnered and nonpartnered projects by breaking them at the $5,000,000 award price. Additionally, the surveys of field personnel further reinforced this decision when 67% of TxDOT and contractor personnel indicated that projects above $5,000,000 should be formally partnered (Gransberg et al. 1998). Thus, as shown in Table 2, there are equal groups of projects less than $5,000,000 and projects greater than $5,000,000 that enhance the value of the inferences that can be made from the statistics. The individual dynamic found in large and small projects is germane to the focus of this study in determining which projects to formally partner. The intuitive solution is to spend the time and resources required to formally partner those projects that are large and complex. Analyzing this data should provide the answer to that question.

TABLE 1. Project Groupings by Award Price

Project parameter (1)	AWARD PRICE RANGE							
	$0-$1,000,000		$1,000,000-$5,000,000		$5,000,000-$15,000,000		$15,000,000-$40,000,000	
	Partnered (2)	Non partnered (3)	Partnered (4)	Non partnered (5)	Partnered (6)	Non partnered (7)	Partnered (8)	Non partnered (9)
Number of projects	35	100	110	46	45	35	14	23
Award price (dollars)	667,572	429,912	2,643,916	2,413,961	8,557,678	8,552,594	22,240,253	24,281,065

Project parameter (1)	AWARD PRICE RANGE					
	$0-$5,000,000		$5,000,000-$40,000,000		$0-$40,000,000	
	Partnered (2)	Nonpartnered (3)	Partnered (4)	Nonpartnered (5)	Partnered (6)	Nonpartner (7)
Number of projects	145	146	59	58	204	204
Award price (dollars)	2,170,135	1,055,024	11,860,368	14,789,745	4,925,201	4,959,994
Cost growth	5.22	2.39	1.87	3.94	2.93	3.70
Number of change orders	11	6	28	29	16	10
Average cost growth per change order (dollars)	10,485	9,309	7,946	21,032	9,198	18,713
Average percent cost growth/change order	0.48	0.88	0.07	0.14	0.19	0.38
Percent of projects with deducts	17.16	31.86	5.39	3.92	23.53	36.27
Time growth	-0.32	-9.16	-14.97	36.62	-4.70	10.04
Percent additional days granted	28.15	22.57	15.62	25.52	8.32	12.49
Percent of projects with LDs	11.76	11.27	1.96	12.25	21.08	23.53
LD percent of total contract days	3.09	5.14	0.91	14.85	5.04	14.56
LD as percent of total cost	0.32	0.34	0.07	0.93	0.07	0.21
Claims cost percent of original cost	13.04	5.61	0.00	1.15	0.33	0.61
Dispute cost percent of original cost	0.13	13.84	0.00	0.71	0.04	0.93

Partnering's Impact on Cost Growth

This parameter is the classic metric for project performance. Table 2 shows that partnered projects outperformed nonpartnered projects in the upper award price range and overall for the total population. It appears that the change from adversary relationships brought on through partnering positively impacts cost growth. This conclusion is confirmed by the survey data where 67% of TxDOT personnel and 71% of contractor personnel stated that partnering improved working relationships (Gransberg et al. 1998). When the entire population is considered, partnered projects have a slightly less cost growth. This leads to the conclusion that implementing partnering generally improves cost growth performance with the greatest impact being felt in projects that are larger than $5,000,000.

Partnering's Impact on Change Orders

Change orders are the major source of cost growth. There were three parameters developed to evaluate partnering's effect on project change orders. The first concern that needs to be looked at is the feeling by field personnel that partnering makes the owner's representative more likely to accept contractor-initiated change requests (Gransberg Ct al. 1998). Table 2 shows that partnered projects have more change orders than nonpartnered projects. This would seem to confirm that suspicion. Partnering may make the owner's personnel more willing to consider contractor-initiated change requests. It should be noted that the researchers have no way of differentiating between contractor-initiated and other types of change orders. Next, the idea that the contractors "return the favor" by keeping change order costs down needs to be tested. Table 2 indicates that across the entire population mean partnered project change order cost was roughly half the average cost of the average nonpartnered change order. In the lower price range, partnered change order cost was slightly larger than the nonpartnered group. In the $5,000,000 and larger range, the partnered average change order cost was less than half that of nonpartnered. This reinforces the field survey data conclusion that projects over $5,000,000 will accrue more benefits from partnering than smaller projects (Gransberg et al. 1998). When viewed as a percentage of contract amount, the amount of each partnered change order is about half of nonpartnered change across the entire population and in both price ranges.

If contractor willingness to minimize overall project costs is measured by looking at the percentage of projects with negative cost growth (percent of projects with deducts in Table 2), the percentage of deducts is roughly twice that in nonpartnered projects for partnered projects in the less than $5,000,000 range. This trend reverses itself in the largest projects. However, considering the entire population, nonpartnered projects again outperform partnered projects. Therefore, partnering seems to create a desirable effect with regard to deducts only in the $5,000,000 and above range.

Partnering's Impact on Time Growth

The other objective measure of project performance is time growth. Two parameters were designed to provide trend information with regard to partnering. The first is a mean percentage time growth. Table 2 shows the most vivid difference in the entire study. For the three project groups, time growth was negative in partnered projects. It is positive in the large nonpartnered projects and the population as a whole. For the entire population, the average partnered Project finished 4.7% earlier than originally planned and the average nonpartnered finished 10.04% later than originally planned.

The second metric is the number of additional days granted expressed as a percentage of total days allowed. The parameter was meant to test the owner's willingness to grant time extensions because of a partnering relationship. Table 2 shows this is true only for the lower grouping of partnered projects.

Partnering's Impact on LDs

This analysis may be the acid test for partnering. It is easy to grant accolades for innovative approaches that were tried on projects that went well. The real test of a partnering relationship comes from those projects that do not proceed according to plan. The data showed that there were LDs assessed on partnered projects. That means that some partnered projects finished late in spite of the investment in team building and relationships. Table 2 shows that for partnered projects greater than $5,000,000 only 2% have LDs compared with over 12% on nonpartnered projects in the same category. Whereas, for those under $5,000,000, the two types of projects are roughly equal. The $5,000,000 breakpoint seems to have some significance.

Table 2 also shows the impact of LDs with respect to the total project cost. Partnered projects outperformed nonpartnered projects in every grouping. Finally, looking only at LDs in terms of time, partnered projects had a fewer number of LD days than nonpartnered projects in all categories. Thus, the conclusion can be drawn that partnering does work on projects with time problems by reducing the number of days that a project finishes late.

Partnering's Impact of Disputes and Claims

Remembering that disputes are defined as issues that are settled at District level or below and that claims are issues that are settled above District level (*Partnering* 1996), studying the potential impact of partnering on these two parameters is extremely important. The data show that partnering seems to virtually eliminate the cost allocated to disputes and has the same effect on claims for projects greater than $5,000,000. The only significant costs that remain in these two parameters are for claims on projects that are less than $5,000,000. For the upper range, there are no costs associated with disputes and claims on partnered projects. The total percentage of dispute and claims costs on nonpartnered projects is relatively low, whereas in the lower half of the projects, there are significant dispute and claims costs associated with both types of projects. This disparity is hard to explain. The survey data show that 71% of TxDOT personnel and 90% of contractor personnel believe that partnering greatly facilitates the resolution of disputes and claims (Gransberg Ct al. 1998).

CONCLUSIONS

The above discussion springs from the statistical analysis of the data collected for this project. Significant trends have been identified and conclusions can be made as follows:

- Partnered projects outperformed nonpartnered projects in virtually every category if they were awarded at a price above $5,000,000.
- Partnered projects have slightly less cost growth when the entire population is considered.
- Partnered projects have more change orders than non- partnered projects.
- Across the entire population, mean partnered project change order cost was roughly one half the average cost of the average nonpartnered change order.
- Partnering seems to create a desirable effect with regard to deducts on projects greater than $5,000,000.
- For the entire population, the average partnered project finished 4.7% earlier than originally planned and the average nonpartnered finished 10.04% later than originally planned.
- Partnered projects have a fewer number of LD days than nonpartnered projects in all categories. Thus, partnering seems to have a positive effect on projects with time problems by reducing the number of days that a project finishes late.
- For the $5,000,000 - $40,000,000 range, there are no costs associated with disputes and claims on partnered projects.

In summary, instituting partnering in a large public construction program such as the TxDOT's program seems to be worth the effort. It would be tempting to take the data collected and use it to quantify the savings "due to partnering." That approach would be to allocate the 1% less cost growth across about $1 billion worth of partnered projects and say that partnering saved TxDOT nearly $10,000,000 over the 5-year study period. This would be a misstatement.

Partnering is a change in business behavior and not a technical change to a contract. For it to have a positive influence, the people on both sides of the construction contract must be willing to accept a higher level of trust than that which has traditionally been found in public construction contractual relationships. Therefore, to ascribe a specific amount of savings is to try to use the past to predict the future. The database contained many examples of partnered projects that did not conform to the desired goal. Some partnered projects finished late and some partner projects had higher cost growth than similar nonpartnered projects.

What the data does show is that partnering promises to furnish a means to control the two project performance indicators - cost growth and time growth. The field survey showed that 60% of TxDOT personnel and 85% of contractor personnel felt that implementing partnering improved the quality of the project as well (Gransberg et al. 1998). Additionally in a large construction program, the Continuous application of partnering will result in improved project performance across the entire program. Therefore, it can be recommended that partnering be implemented on a program-wide basis and that particular emphasis be placed on those projects which exceed $5,000.000 Over time, a public agency such as the TxDOT can expect to benefit due to increased project performance.

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APPENDIX II. NOTATION

The following symbols are used in this paper:

AC/CO	=	average cost per change order;
AD%	=	average percentage of additional days;
ALD	=	average liquidated damages as percent of total cost;
A%/CO	=	average percent increase per change order;
CC	=	claims cost;
CG	=	cost growth;
DC	=	disputes cost as percentage of total cost;
LDD	=	average liquidated damages days as percentage of total time;
TG	=	time growth; and
%LD	=	percentage of projects with liquidated damages.

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[1] Updated figures (19/04/02).

[2] Updated figures (19/04/02).

[3] Source: BCIS quoted in *Guernsey: Constructing The Future*, States of Guernsey Board of Industry.

[4] Source: BCIS quoted in *Guernsey: Constructing The Future*, States of Guernsey Board of Industry.

[5] Based on data compiled by Colin S. Smith and Partners/E.C. Harris.

[6] Based on data compiled by Colin S. Smith and Partners/E.C. Harris.

[7] U.K. rebased to March 1989 = 100.

[8] Base: March 1989 = 100.

[9] BCIS figure for Channel Islands, separate data for Jersey and Guernsey not available.

[10] Historically profit margins have been 1.5% - 2.5% on turnover in the U.K. compared with Jersey where estimated profit margin is 10% on turnover.

[11] Although the perception is that there is little adversarialism and that "we all know each other and can talk through difficulties", disputes do arise although not many of them hit the headlines like the "Cavern" project under St. Helier. For example, a recent dispute concerning another Committee involved what was described by one member as "a whole suitcase" of papers relating to potential claims and counter-claims.

[12] In the U.K. the modern engineering contact 2000 has most often been used to underpin partnership arrangements. There are problems for Jersey in seeking to adopt such "standard" forms of contract in that they contain developments in English law that do not apply in the Island. Careful, substantial amendment may be required and the advice of

the States of Jersey Law Officers should be sought during the process of review.

[13] There are problems for Jersey in seeking to adopt such "standard" forms of contract in that they contain developments in English law that do not apply in the Island. Careful, substantial amendment may be required and the advice of the States of Jersey Law Officers should be sought during the process of review.

[14] The comments quoted were made by attendees who were not members of the Committee of Inquiry.

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[i] *Trusting the Team: The best practice guide to partnering in construction* (Bennet & Jayes, Centre for Strategic Studies in Construction, 1995).

[ii] *Partnering* (FMI Consultants, 1993).

[iii] *Quantitative Analysis of Partnered Project Performance* (Gransberg, Dillon, Reynolds and Boyd) pp.161-166 *Journal of Construction Engineering and Management* May/June 1999.

[iv] Quoted from a letter dated 16th July 2001 from the President of the Industries Committee to the President of the Building Costs Inquiry.

[v] See for example RICS 1996 and HM Treasury 1999 in respect of procurement; CIB 1996 and CIB 1997 about the appointment and briefing of consultants and contractors; *Review of Civil procurement in Central Government* (Gershon 1999); *Modernising Procurement* (National Audit Office 1999); *Modernising Construction* (National Audit Office 2001). See also the Office of Government Commerce (OCG) website.

[vi] *Partnering in the Public Sector, A Toolkit for the Implementation of Post Award, Project Specific Partnering on Construction Projects*, p.9 (European Construction Institute, 1997).

[vii] *A Review of Three Schools* (James R Knowles 1999) presents a post completion review of Haute Vallée pre contract appraisals of Hautlieu and Le Roquier.

[viii] See for example RICS 1996 and HM Treasury 1999 in respect of procurement; *Review of Civil procurement in Central Government* (Gershon 1999); *Modernising Procurement* (National Audit Office 1999); *Modernising Construction* (National Audit Office 2001). See also the Office of Government Commerce (OCG) website; *Appraisal and Evaluation in Central Government*, also known as "The Green Book" (HM Treasury 1997).

[ix] See CBPP (2001) www.cbpp.org.uk

[x] See www.cmps.gov.uk

[xi] Quoted from a letter to the President of the Committee of Inquiry on behalf of JCF, dated 24/08/00.

[xii] *Appraisal and Evaluation in Central Government*, also known as "The Green Book" (H.M. Treasury 1997).

[xiii] *Guernsey: Constructing the Future*, pp.99-100, States of Guernsey Board of Industry, April 2002.

[xiv] *Guernsey: Constructing the Future*, pp.100-101, States of Guernsey Board of Industry, April 2002.

[xv] *Guernsey: Constructing the Future*, pp.99, States of Guernsey Board of Industry, April 2002.