

ALTERNATIVE USAGE OF PORT RESOURCES -  
A PRELIMINARY STUDY

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**ABSTRACT:** *The paper seeks to describe a preliminary, investigatory study aimed primarily at constructing a framework suitable for conducting ongoing research into the alternative usage of port resources where such activity is deemed appropriate.*

*Analysis of data received from ports having known activities which deviate from the 'traditional' activities of ports sought to -*

- (a) identify any relationship between such deviation and types of port administration; and*
- (b) gain a 'feel' for the range and scope of alternative activities undertaken by ports.*

*Additionally replies were reviewed to assess the attitudes of respondents to the question of alternative usage of port resources.*

*Concentric frameworks for the ongoing study of the alternative usage of port resources have been successfully developed.*

*This preliminary work indicates that, in the correct circumstances, there are economic advantages to ports and their communities which engage in lateral thinking and develop alternative strategies for the use of port resources.*

## INTRODUCTION

Ports are traditionally viewed as modal interchanges providing services to transport operators and the users of transport. Additionally, the role of a port as a generator of economic activity in its community is generally recognised as an equally important function. There is, however, increasing evidence that ports are recognising the benefits which accrue to a greater proportion of the hinterland populace from a wider utilisation of port resources through non-traditional, alternative activities.

Ports have been examined from a variety of standpoints including roles/functions, forms of administration, inter-port competition, congestion, productivity, cost recovery/charging practices, financial performance and port-hinterland relationships but not, it seems, from an analysis of their alternative, non-traditional activities.

The genesis of the work described by this paper stems from a discussion between the authors early in 1986 when it became evident that little documented evidence exists related to the alternative activities of ports. The classic starting point of most research, a literature search involving the Ausinet and Dialog databases (Australian Architecture Database, Australian Public Affairs Information Service, ALLIS, Australian Leisure Index, Oceanic Abstracts, PAIS International, Magazine Index, NTIS) confirmed a real paucity of literature pertinent to the alternative activities of ports consequently, it was decided to attempt to develop a basic framework in order to provide a basis for formal analytical ongoing research. This paper describes how such a framework has been developed.

## BACKGROUND CONSIDERATIONS

Ports have a variety of roles within the community they serve. Two commonly accepted roles are to provide an interface function between land and sea transport modes, and to discharge their commercial and social roles, in the widest sense, within the community the port serves. It is postulated that many ports which carry out the first role efficiently and effectively, by implication consider the second role to be properly fulfilled. The defining of the social role of ports is not the purpose of this paper; however a central proposition is that ports need to consider their role as being much wider than providing just a transport interface. The consequences of such a consideration may be that other avenues of enterprise are available to the port and should be considered when reviewing the allocation of investment resources.

Changes generated both internally and externally in both the business and operational environment make demands on port resources. These changes affect not only the efficiency and effectiveness of the interface function but also reflect on the wider functions of the port. A point may be reached where as a result of change the cost of providing access to and maintenance of facilities under the port's jurisdiction outweighs the benefits derived from traditional usage. This may lead to inefficient allocation of resources or neglect. Neglect borne of economic realities in turn leads to areas of a port becoming underutilised and in time derelict. In the past obsolete areas have frequently been allowed to languish; however in more recent times some ports with a wider view of their role in the community have found obvious, new and ingenious uses to which these areas can be put.

Apart from these uses being of direct financial advantage to the port there are frequently additional wider community benefits. In some circumstances ports have relinquished or have been forced to relinquish control of non-productive port facilities to other organisations which have taken the opportunity to put the land to good use.

The contention put forward is that many ports have either been placed in the position, or have allowed a valuable resource to be capitalised upon by others when, by the use of lateral thinking and entrepreneurial flair, they could be active initiators or participants in some commercial development outside the scope of the traditional port role but within the context of the broader commercial and social role. Any returns generated would spread port overhead costs and ideally provide a surplus to aid capital developments in areas related to the primary port function. This, of course, raises the classic issue of cross-subsidisation. In short, many ports have the opportunity before them to become involved in non-traditional activities; activities which have the potential to produce income from areas which might otherwise become liabilities, or be removed from port control. Non recognition of opportunities removes a possible source of income, one with the potential to provide a greater degree of financial flexibility.

It is important however, to realise that the concept of alternative usage is not for every port; indeed four obvious situations exist. Those to which the concept is:

- totally inappropriate;
- appropriate but subordinate to the primary function of the port;

## ALTERNATIVE USAGE OF PORT RESOURCES

- not only appropriate but the primary function of the port with the interface function being subordinate;
- the main focus, the transport function having been superseded.

The choice of the most appropriate situation for a port flows from a detailed consideration of a number of factors which are addressed later in the paper.

### CHANGE : EFFECTS ON PORTS

Before reviewing some of the effects of change it is useful to briefly consider the concept of the port's role in the community; its breadth, and how ports perceive this.

As previously stated the traditional primary role of a port is to serve the needs of its hinterland in terms of providing a transport interface for the shipping community. The community in this context refers to ship operators, shippers/receivers and the inhabitants of the port hinterland. All are reliant, to a greater or lesser extent, on the port's activities and well-being. The role of seaports has been summarised (Taylor, 1974, p.3) in terms of the provision and operation of the land/sea transport interface and of peripheral activities of both a marine and land-based nature. Taylor (1974, pp 3-10) writes not only of design and provision of physical environments and services but also in terms of forecasting, marketing, liaison with users, costing and charging. Specifically related to the last two points Taylor (1974, p.22) contends that ports should:

- provide a realistic cost and charge structure of sufficient flexibility to meet the variety of users involved, and;

- anticipate change so as to make suitable investment decisions.

It appears that many port authorities view the provision of the terminal functions to service transport as being the end in itself, rather than the provision as being a means to an end. Consequently, the focus has been on the marine and cargo function to the exclusion of all else. Some authorities would believe that to divert attention and effort in directions other than those traditionally addressed is absurd however, provided the primary port objective, whatever that may be, is not obscured any efforts which add towards meeting such objectives, either in a tangible or intangible way, is to the overall advantage of the port and its community.

We live in times of rapid change; to ignore change or to focus on only one small area is fraught with danger especially in the port industry. Changes imposed on ports on one hand make previously productive areas obsolete, whilst on the other hand provide the opportunity, if grasped, to diversify and become less vulnerable in terms of financial dependence and short-term trade fluctuations. Thus the nature of change becomes an irrepressible modifying force on the port. What is being advocated is that since change is inevitable, why not use it to advantage. To participate in activities wider than those traditionally engaged in by ports, parallel to the transport function, enables either overall strengthening of the organisation and hence provides indirect benefits to the community or, alternatively direct benefits from the intrinsic nature of the activities themselves.

The genesis of change in the port industry is found in a number of areas including evolving technology, trade fluctuations, competition from other modes and ports, population trends, as well as economic, political, social and environmental factors. Ship dimensions, materials handling technology and unitisation have, as never before, placed heavy financial demands on ports in the areas of capital equipment (moving and lifting) and capital projects (dredging, navalds and terminal construction). Areas of the port which were previously productive in terms of break-bulk cargoes cease to be so as unitisation changes handling and storage techniques as well as vessel types. New handling and storage systems demand greater land areas of differing physical geometry to that required for pre-container berth and wharf layouts. Handling equipment requires pavements that can withstand heavier point loads both on the wharf apron and in storage yards.

Economic considerations involved in upgrading or redeveloping areas that are in reasonable condition but do not suit the requirements of the day may lead to further underutilisation or obsolescence. Areas of the port that need repair are frequently neglected due to viability considerations - usage versus depth of available water versus cost of dredging etc. Trade fluctuations due to the world economy, competition from developing nations, protectionist policies and subsidies as well as more efficient competitors can make areas of the port, including specialised areas, redundant. Competition from adjacent and trans-shipment ports, or commercial practices such as centralisation may reduce throughput to the extent that facility viability is eroded.

## ALTERNATIVE USAGE OF PORT RESOURCES

Urban growth patterns create access and flow problems from the landward side of the port. Minimal room is available for expansion or upgrading of rail systems and heavy vehicular traffic causes road congestion, noise and air pollution problems. Social awareness of the environment has involved ports in the need to change. Air pollution in the form of dust around bulk ports and odours around chemical facilities have caused stringent controls to be adopted. In the case of dangerous goods the necessity to locate away from urban centres becomes desirable. The restrictions on the disposal of dredged material, particularly that which contains toxic waste, has prevented necessary maintenance or redesign which in turn can cause areas of a port to become unusable for commercial ships.

The 'Anyport' model of port development (Bird, 1971, pp. 68-72) illustrates the process of port change due to factors such as those previously mentioned.

During the eras of the primitive port (1st era), marginal quay extension (2nd era), and marginal quay elaboration (3rd era) the focus of the surrounding population centre is on the port area. Daily life, commerce and industry and the day-to-day running of the population centre revolve about the port. Quayside buildings, transit sheds and warehouses characterise the area immediately behind the waterfront. As the population centre expands and land-based transportation modes develop the authority of water transportation decreases and the community looks outward away from the port. As land transport systems develop shipping finds itself better served by dock elaboration (4th era) and simple lineal quays (5th era) located downstream of the original port facilities.

During these latter eras of port development transition in industry also occurs. Centres of industry move away from heavy production, which relies on the existence of sea ports, towards more sophisticated production areas such as consumer goods. As a consequence, industry moves away from the port environment to locations near land-based radial centres which are the focus of road and rail interchanges. The further step towards electronics-based industry also places a location emphasis on air ports. In essence communication with the sea port is maintained but now involves, to a much greater degree, land-based transport modes.

Time constraints imposed by dock systems and river passages are incompatible with today's shipping environment in general and with containerised traffic in particular. Thus, today, we see the development of lineal quays (5th era) and specialised quays (6th era) as characterised by T-head jetties and, although not specifically included in Bird's model, container and offshore terminals.

As transit times through the urban sprawl increase for land transport the focus, rather than being away from the population centre turns inward towards vacated port and urban areas. The realisation has occurred that in many cases a most valuable asset is being overlooked; valuable in terms of real estate and available inner city land, as a recreational and residential resource, as a source of local history and, importantly, as a source of potential development. It is the use of these areas, the remnants of Bird's eras 1 through 5 that present potential for those ports and port communities that still possess these facilities.

It is evident from responses received that many port authorities see old underutilised areas of the port as a nuisance rather than possessing a potential to develop alternative activities. However, in fairness, many ports are governed by legislative provisions that do not permit them to engage in non-traditional alternative activities. This raises the question of who is best fitted to develop under-utilised facilities; the port authority as in the case of San Francisco, the port authority in partnership with private enterprise as in the case of the Maritime Services Board of NSW in Sydney, or private enterprise as in the case of Brisbane. To the critics who would say that there is little to be gained by a port authority becoming involved in alternative use projects on port land the question might be asked - why is it that private enterprise has generally been happy to become involved in such projects; projects which have in the main been successful. Implicit in this private enterprise association is the element of commercial viability at acceptable risk levels.

#### SCOPE OF ALTERNATIVE ACTIVITIES

When reviewing the methods adopted by ports that have areas which are becoming increasingly marginal to operate four responses are evident. Ports have:

- done nothing, resulting in derelict areas;
- used the areas with shallow access for coastal shipping or fishing fleet activity which results, in some instances, in underutilisation of assets;
- carried out expensive dredging and rebuilding programs incurring large capital costs and ongoing maintenance costs;
- either voluntarily, or compulsorily, relinquished control of the area; generally to the city or the state who have then used it in conjunction with a private developer to their mutual benefit

## ALTERNATIVE USAGE OF PORT RESOURCES

This poses some interesting questions such as: do ports know what business they are in and has the business emphasis of ports changed with the development of any given community? The obvious answer to the first question is obviously yes in relation to the transport interface. But what of their role in the wider sense? Have port managements the flexibility and the breadth of vision to engage in projects outside the traditional sphere - to utilise the resources under their control to the utmost? The answer to this in some cases is possibly no, and definitely no in others.

In order to determine the range of alternative activities in which ports are engaged some forty ports, known to be involved in alternative activities, were targeted. Targeted ports were primarily located in the USA and Australia as this reflected the authors' personal experiences. The results of the investigatory survey are presented in Table 1: Categories of Alternative Activities, and Table 2: Summary of Responses from Port Authorities replying positively to the Investigatory Survey. It is recognised that the survey can be criticised on a number of grounds, including its selective approach and the non-determination of a statistically significant sample, however it is emphasised that at this early stage the purpose was to gain a feel for the type of alternative activities which are carried out which, in turn, would allow the development of a framework for properly structured future research.

The activities contained within Table 1 comprise a composite of those occurring in and about the port areas surveyed. They have specifically been mentioned in literature provided in answer to the investigatory survey. The extent of port authority involvement in any one of these specifically addressed activities varies from total control through to some type of landlord function. A few activities represent uses to which underutilised port land has been put, with little evidence being available to show port authority involvement. These are areas referred to previously as being land which has been appropriated due to its lack of suitability in today's port environment.



TABLE 1: CATEGORIES OF ALTERNATIVE ACTIVITIES

1. Property Management  
Leasing of retail, commercial and light industrial properties and warehousing facilities including cold storage.
2. Recreation and Leisure  
Marinas, sporting complexes (golf courses, athletics fields, tennis courts).
3. High Technology Concepts  
Self contained high technology living and working environments (i.e. the Technoport Concept).
4. Skill Marketing  
The supply of auxiliary transport support services either marine or aeronautical, based on the resource inherent in a skilled and well-trained workforce.
5. Expertise Marketing  
Consultancy services, publication of manuals and books, computer problem-solving and time-sharing of computer capacity.
6. Ferry Services
7. Tourism Activities  
Water front amalgams of static and dynamic marine-orientated displays and activities, restaurants, shops, markets and aquariums.
8. Residential Activity  
Hotels, condominiums, dwellings (both new and/or restored or converted water front buildings), floating hotels (ships which are no longer economic but have a 'past' i.e. the 'Oriana' in Tokyo, the 'Queen Mary' in Long Beach).
9. Cruise Industry Activity

(contd over)

## ALTERNATIVE USAGE OF PORT RESOURCES

TABLE 1 (contd)

10. Aeronautical Activity

The running of air ports and/or associated facilities such as catering.

11. Trade Centre Activity

The provision of services to shipping industry users and peripheral service organisations. Leasing of office space and the provision of business services. Conference activity.

12. Cultural Activity

Broadly includes museums, theatres and historical conservation of significant architecture within the water front precinct.

13. Parks

Walkways, access areas, camping grounds, ecology - wild-life breeding and observation areas (i.e. wetlands)

14. Fishing

The provision of facilities for the fishing industry as a primary rather than secondary function in relation to cargo handling.

**TABLE 2: SUMMARY OF RESPONSES FROM PORT AUTHORITIES  
REPLYING POSITIVELY TO THE INVESTIGATORY SURVEY**

Activity Category															Port Administ.
Port	1	2	3	4	5	6	7	8	9	10	11	12	13	14	
Osaka		.	.					.			.	.	.		Municipal
Yokohama		.	.					.			.	.	.		Municipal
Singapore	.		.	.		.			.		.	.	.		Autonomous
Oslo	.					.		.			.	.	.		Autonomous
Astoria	.	.				.		.							Municipal
Baltimore	.					.						.			State
Canaveral	.	.	.			.		.					.		Municipal
Los Angeles	.	.				.		.				.	.		Municipal
New York	.	.				.	.	.				.	.		Municipal/ State
Oakland	.	.		.	.		.	.	.						Municipal
Philadelphia	.					.	.	.				.	.		Municipal
San Diego	.	.	.			.	.	.	.			.	.	.	Municipal
San Francisco	.	.				.	.	.				.	.		Municipal
Bell Bay	.	.		.											Autonomous
Brisbane	.	.													Autonomous
Bunbury	.					.									Autonomous
Bundaberg	.					.									Autonomous
Burnie	.	.							.						Autonomous
Darwin	.							.						.	Autonomous
Fremantle	.	.				.	.	.				.	.		Autonomous
Geelong	.	.				.		.				.	.		Autonomous
Geraldton	.					.									Autonomous
Gladstone	.											.	.		Autonomous
Melbourne	.		.	.			.	.				.	.	.	Autonomous
Townsville	.	.					.	.				.	.	.	Autonomous

A few ports, notably some in the USA and Japan, demonstrate a thorough knowledge of the possibilities raised in the survey: they are already actively and profitably involved. The remainder presented a spectrum of attitudes ranging from an attempt to understand the question through non-comprehension to total rejection of the question

## ALTERNATIVE USAGE OF PORT RESOURCES

A cursory inspection of our data indicates that the municipal form of port administration is inclined to be more active in alternate activities than those ports with the autonomous trust form of port administration. The reasons for this could be related to the legislative framework in which port authorities operate however, this hypothesis requires further testing.

### BARRIERS TO THE PURSUIT OF ALTERNATIVE ACTIVITIES

The variance noted in attitude and involvement led to a consideration of the question: why is it that some ports derive significant income from alternative usage whilst others ignore these results and remain oblivious to opportunities.

To suggest that the view of management has been too narrow, which in some cases may be warranted, is to over-simplify the situation. Naturally a degree of priority and consideration to existing port investors and users must be maintained. Geographical situation, population cost/benefit and obligation to traditional sectors may mitigate against action; however three other factors have been identified in the context of the investigatory survey.

These are:

1. the legislative factor - the charter, mandate or legislative provisions under which the port is founded and operates e.g. National/State, Autonomous Trust, Municipal, Private;
2. the capital factor - the fact that capital may not be available for such activity and the ability to raise extra funding outside the normal channels is restricted or non-existent;
3. the resources factor - planning, purchasing and organising such projects, particularly when referring to large scale sites, are outside the resources available to most port authorities.

These three factors are now considered.

It has been said (Johnson, 1971, p.141) that the extent to which port undertakings can diversify into other activities, for example airport operations, is often limited by their powers. The charter of any organisation will determine the

functional parameters of the port. The quoting of the Queensland Harbours Act 1855-1982 by the Director of Harbours and Marine illustrates the point when he states (J. Leach, pers. comm. 1986) that land held by a Board must be designated as either:

1. Harbour Lands - land which is required for use in connection with the harbour; or
2. Industrial Lands - land which would be suitable for manufacturing, industrial, or business purposes, and the use and development of which for such purposes would be likely to improve the trade of the harbour.

Additionally any land held by a Harbour Board which is surplus to the requirements of the Board, under the above designations, must be disposed of. Therefore Queensland Harbour Boards are not able to indulge in activities which depart from the traditional roles of ports. However the interpretation placed upon such legislative provisions is an important factor in the latitude taken by ports in complying with their governing legislation. Too narrow an interpretation will lead to lost opportunity. In the USA the mandate statements of some ports (e.g. New York, Los Angeles, Seattle) have been rewritten to reflect the changing environment in which ports operate and particularly as a result of Federal legislation focusing on rights of public access (Kildon, 1981, p.128).

Financial policies, which may or may not be as a result of legislative provisions, will affect the ability of a port authority to raise capital. Johnson (1971, p.139) considers that ports may also be subject to a marked degree of statutory control, for example as regards limits on investment, borrowing and charging powers, and that some ports are solely concerned with the provision of infra-structure and the control of navigation while others also provide a wide range of goods and services.

Many of the USA ports have the right to issue bonds to companies and members of the public. Because interest earned is free of Federal and State income tax such bond issues are particularly attractive to those with high tax liabilities (Goss, 1970, p.24). Two types of bonds, the General Obligation Bond and the Revenue Bond, are issued; the difference being that the former is secured over the assets of the community as a whole and requires voter affirmation before issue, whereas the latter is secured over the revenue of the

## ALTERNATIVE USAGE OF PORT RESOURCES

port and as such is easier to issue and attracts a higher interest rate. As a consequence ports able to issue bonds are more likely to be publicly scrutinised because ports' credit ratings are regularly assessed and published as a guide to potential investors. The market is interested in the security of the port as a whole, not the profitability of the project the bonds are intended to finance. Thus a more profitable project in a port with a lower overall performance may prove more difficult or expensive to finance (Goss, 1979, p.25). The disadvantages to poorly performing ports are obvious. The advantages of this system, apart from an element of financial flexibility, are the need for a port to be seen to perform to expectation and the indirect involvement of the public in its well-being and development.

Within Australia, finance is derived from four sources:

1. Federal government grants - this only occurs occasionally and for specific small scale projects (Goss, 1979, p.23).
2. State government loans.
3. Direct borrowings from financial institutions. These borrowings are often explicitly or implicitly guaranteed by another public authority by way of form assets (inscribed stock or debentures) which must be held as part of statutory reserve requirements.
4. The ports' own resources

Control over aggregate borrowing was achieved through Federal policy decisions which stipulate the percentage reserve ratios to be held. The differences between the USA and Australian approaches to the same problem are self-evident.

The scale and scope of a proposed project will have a significant bearing on whether or not a port should be the major participant in an alternative use project, or whether it should act as a partial participant providing the instigation and direction during the development stage only and then retaining a long-term interest as a landlord. The Walsh Bay and Woolloomooloo Marina projects instigated by the Maritime Services Board of NSW are examples. When the area considered for some alternative use project is of such dimensions as to dilute the resources of the port in terms of finance, time or expertise it is clear that the port authority's role should be that of instigator only. The redevelopment of the London up-river docklands and Sydney's Darling Harbour are classic

examples of such a situation. Clearly the sheer magnitude of the projects precluded any single existing organisation, other than one whose sole responsibility was to carry out the task, from being anything other than peripherally involved. Conflicts of interest often arise because of the great variety of existing needs and controlling authorities involved in any water front development. Tsukio, Sagi, Yasui and Tamura (1984, p.4) state that there are more than a few cases where the path to completion has been a harrowing one, due to differences in the systems and methods applied and areas of interest of the parties concerned not only from the city and harbour authorities but also from the public and private sector too. This view reinforces the establishment of a single authority to control very large alternative usage projects.

#### MANAGEMENT OF ALTERNATIVE USAGE PROJECTS

The preliminary investigation indicated that many of the projects previously thought to be at least in some part port sponsored were in fact not. Further investigation found that a variety of management structures have been, and are being, employed to enable the development of underutilised port land and facilities to proceed. Broadly speaking three specialised forms of management structures have been adopted with the port structure as a fourth.

##### 1. Waterfront Management Councils/Commissions

These organisations comprise a mixture of all levels of government, private business and citizens groups. The port will be represented as a member of local government if of a municipal structure. Glazer and Delaport (1980, p.15) report this approach being taken in San Francisco.

##### 2. Quasi Public (non-profit) Development Corporations

These organisations provide an unaligned third party negotiation role, when for what ever reason, difficulties have been experienced between local officials and developers. Typically this occurs when traditional public efforts to guide development have not been successful. Developments within the Port of Baltimore have been achieved by using this method (Glazer and Delaport, 1980, p.20).

## ALTERNATIVE USAGE OF PORT RESOURCES

### 3. Private (Profit Making) Development Corporations

These organisations either lease or purchase land for specific projects. New York uses a number of management structures to suit a given situation; this being one.

### 4. Port Authorities

Glazer and Delaport (1980, p.24) consider that the combination of legal authority, fiscal strength and substantial political influence give port authorities significant resources for urban water front development. A number of ports exhibit good examples of projects developed, marketed and managed through their own expertise. New York instances six sites identified for development, returning 20% on investment, having generated an additional 20,000 jobs and US\$300 million annually in payrolls (Kildon, 1981, p.138). Kildon (1981, pp.143-145) also reports that San Diego port revenue from property operations was more than three times greater than revenue from marine operations in the financial year 1980, the management aspect representing 40% of total revenues. As with the New York example, employment generated by the firms occupying the properties was substantial - 300,000 people. In the San Francisco port area commercial operations revenue provided 54% of the port's total operating revenue in the fiscal year 1984/85 (San Francisco Port Authority 1985, p.10). The share of profits generated by subsidiary and associated companies with whom the Port of Singapore is involved, in the 1984 financial year amounted to US\$6.4 million after tax (Singapore Port Authority 1985, p.34).

It is results such as these which lead to the question of when, and under what circumstances, are alternative use projects appropriate for a given port and how should they be initiated and managed? There is no set answer, except in broad terms to say that it will be the financial viability that determines whether a given section of a port is to be considered for alternative use. What that use might be will be a function of the location of the area and the perceived community needs.



SPECIFIC BENEFITS - THE EXAMPLE OF THE CRUISE INDUSTRY

For a port to successfully become involved in the cruise industry requires not only an understanding of the variables but also a commitment to the philosophy. Moreover, a degree of investment is also necessary; the seaport industry must become more involved in assisting the expansion of the cruise industry by developing its own facilities as the cruise lines develop their products. (Lunetta, 1985, p.2.)

The classification of alternative usage can be applied to participation by ports in the cruise industry because:

- the operational nature of passenger participation requires, amongst other things, the provision of port facilities;
- the provision of more than just facilities for the vessel and disembarkation of passengers, i.e. an environment consistent with the tone of the cruise package;
- this implies the need for investment in a specialized area outside cargo handling or other traditional associated functions.

When referring to the variables that 'drive' the cruise industry, Lunetta (1985, p.23) states, 'only when the seaport industry understands these requirements and prepares itself to lend every measure of assistance to the cruise lines in meeting their goals, will the future success and profitability of cruising for both the seaport and cruise industries be assured'. A great many ports find themselves in the awkward position of wanting to promote their cruise activity, but not wishing to spend public funds for the promotion of a particular line. This can create problems with other port activities wishing the same treatment. (Nelson, 1985, p.23.)

So what is the financial return for a port which decides to enter the cruise market? The economic impact can be substantial not only in the port itself but also in the hinterland behind the port. The direct economic impact on the port of Miami in 1985 was of the order of US\$0.75 billion (Nelson, 1985, p.26) to US\$1 billion (Lunetta, 1985, p.3), with the indirect benefits to Dade County being of the order of US\$2.5 billion. This is a most spectacular example; however other ports derive quite useful incomes when viewed against their investment in facilities (excluding general port overhead costs).

## ALTERNATIVE USAGE OF PORT RESOURCES

### Baltimore (1984)

Terminal cost US\$2 million - Revenue US\$1 million (five vessels only for the year). (Nelson, 1985, p.24.)

### Boston (1984)

Terminal cost US\$4 million - Revenue more than US\$3.5 million. (Nelson, 1985, p.24.)

### San Diego (1984)

Only old facilities are being used presently. The total impact has not been assessed but a study is underway.

It is known however that a 650 foot vessel calling weekly will spend US\$10.5 million annually on bunkering, provisions and port fees. Passenger spending will be assessed in the impact study. (Nelson, 1985, p.24.)

### San Francisco (1984)

The Pier 35 terminal is presently being used to cater for cruise traffic. It is generally considered to be inadequate, both aesthetically and functionally. The San Francisco waterfront special area plan recommends that Pier 35 '... be renovated as a modern functional and attractive passenger terminal with associated commercial recreation uses such as a restaurant and small shops' (Evers, 1975, p.19). The first stage of this development was completed in 1982. The present (1984) economic impact of cruising is of the order of US\$40 million per year. (Nelson, 1985, p.30.)

### Port Canaveral (1984)

In 1984 cruise revenue produced 48 per cent of the total revenue produced by cargo and cruise traffic combined (Port of Canaveral, 1985, p.K-8). A system of simple but effective permanent and semi-permanent dome shaped structures have been designed to provide terminal facilities. Bright colours and tropical landscaping provide a festive island atmosphere. They are inexpensive but viable and satisfactory to the industry and currently are providing 30 per cent return on initial capital. (Fairplay, 1986b, p.19.)

The spectacular growth in the cruise market in this region would now see cruise revenue exceeding cargo revenue.

The relevance to Australian ports of these trends is that due to wider market penetration and repeat passenger business, several cruise lines are committing themselves to more destinations. Those destinations are increasingly in the Pacific Basin (Fairplay, 1986b, p.11), the South Pacific Islands and Australia being amongst them.

It is appropriate to mention that expansion in cruising does not need to result in conflict with general cargo handling activity. This has been amply demonstrated in a number of ports. Whether a port decides to participate in the cruise business is one of simple economics.

'... What has to be sacrificed in order to participate ... to the point where economic gains can be realized without jeopardising existing general cargo activity?' (Nelson, 1985, p.23)

and

'Can the port accommodate cruise ships without spending millions of dollars with no guarantee that the cruise business will succeed in that particular port?' (Nelson, 1985, p.23).

Both sides of the question deserve serious thought considering potential benefits that might accrue for the port itself and the multiplier effect such participation would have on the community behind the port.

#### THE DEVELOPMENT OF AN INVESTIGATORY FRAMEWORK

The point is made by Kildon (1981, p.157) in her Boston Harbour Management Study that often a catalyst is needed for a change in direction within a port. For the Port of Seattle it was the public exposure of mismanagement whereas in the case of the Port of San Diego an inability to compete with larger Californian ports for marine commerce facilitated the change towards property management (Kildon, 1981, p.143). Even when a catalytic factor is not instantly identifiable it is not too early in the investigatory process to attempt to bring order to the variables involved in alternative usage projects.

In an attempt to compile and define clearly the variables involved in all alternative use projects a framework is offered showing the parameters which surround any decision and the factors which must be considered when assessing a situation for any given use.

## ALTERNATIVE USAGE OF PORT RESOURCES

All projects be they large or small can be defined in terms of a mix of:

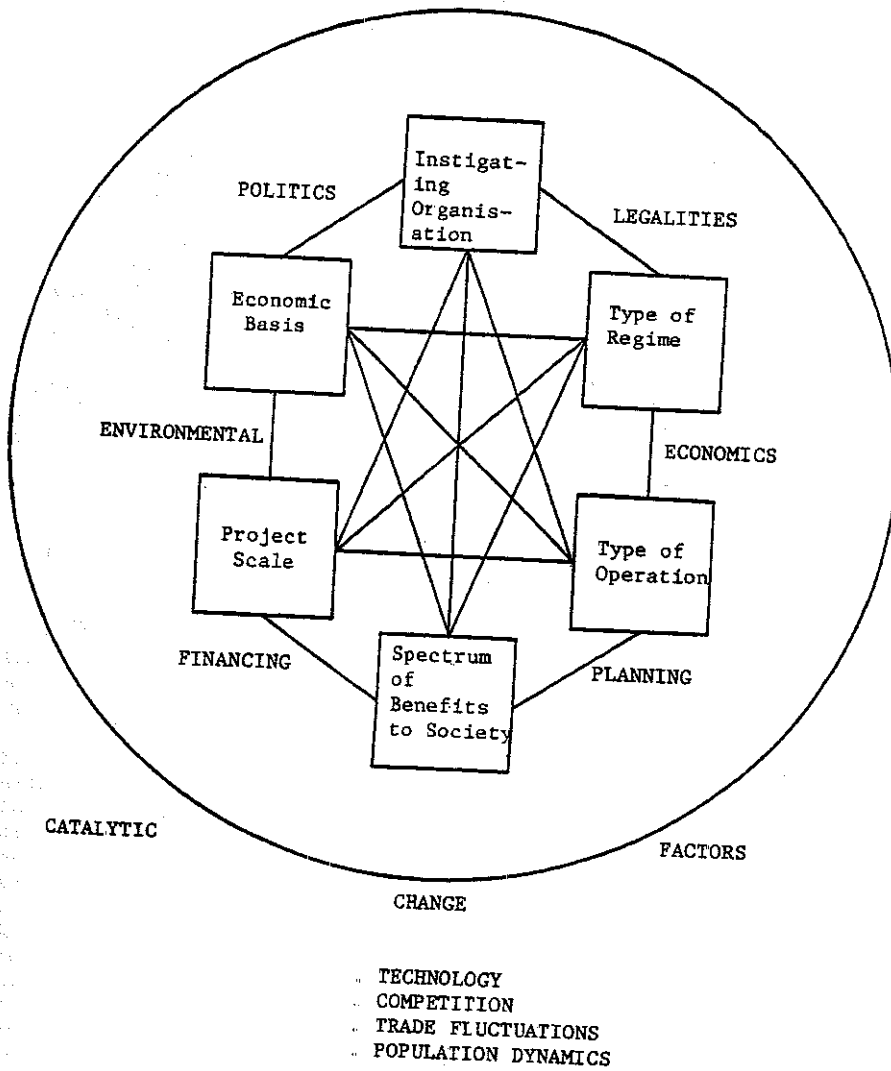
1. type;
2. scale both in physical and financial terms;
3. economic basis or objectives;
4. initial instigating or motivating body or organisation;
5. project management regime;
6. spectrum of benefits in the social sense.

Figure 1 illustrates the broad macro environmental factors which surround any specific project considerations whilst Figure 2 illustrates the more detailed micro factors which represent an expanded form of the six variables previously mentioned. Whilst Figure 2 shows the micro factors as separate, the reality is, of course, that these variables are all interactive and should be construed as such. It is our contention that these concentric frameworks can now be used for the ongoing study of alternative usage of port resources.

In particular we expect to undertake the following:

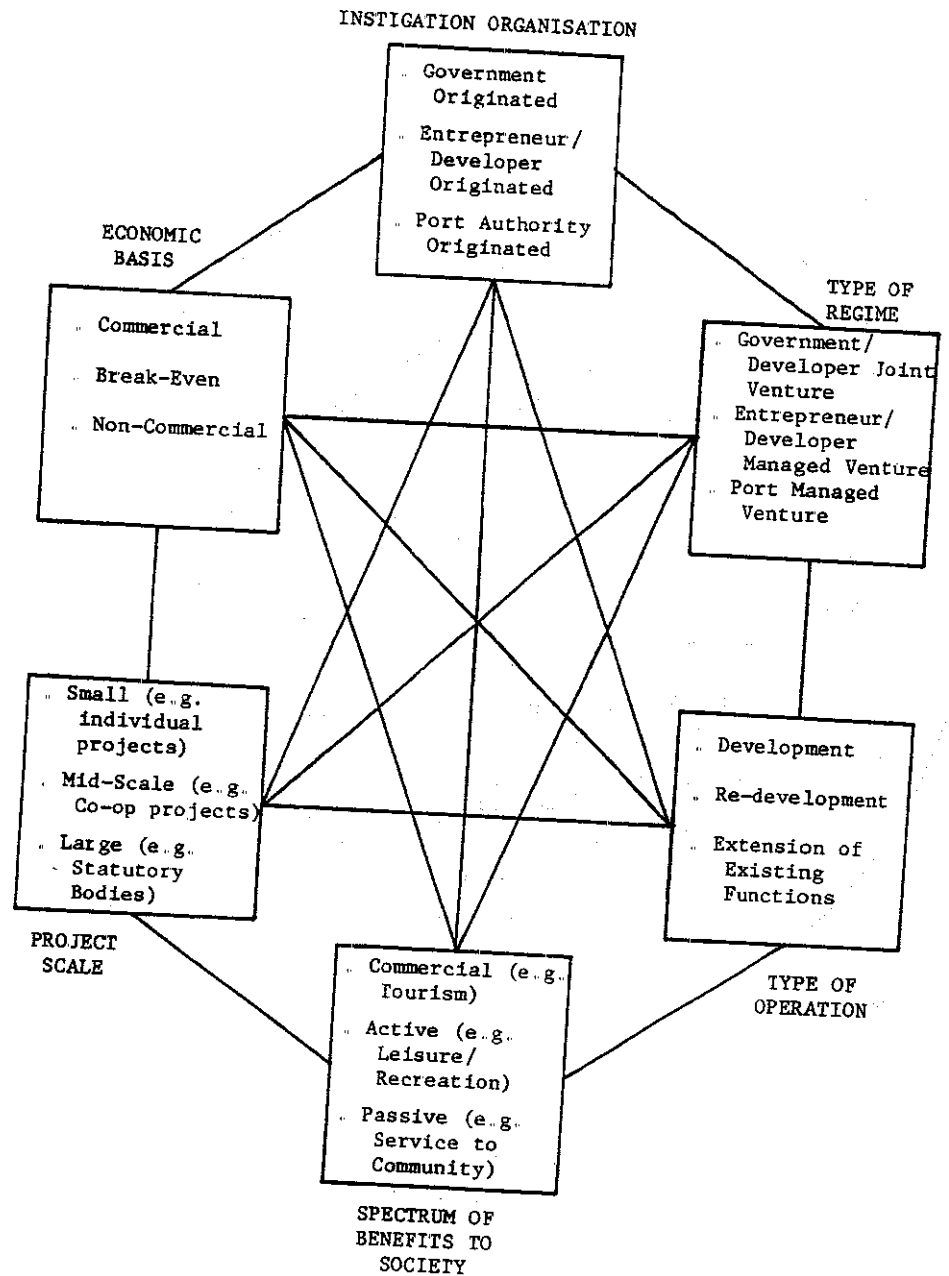
1. a detailed follow-up survey of Australian ports to gain a full picture of the alternative activities undertaken;
2. an examination of legislative provisions affecting Australian port authorities in order to determine their ability to engage in alternative activities;
3. a detailed examination, using the micro factors encapsulated in the framework, of a number of Australian and overseas alternative usage projects with a view to determining some general rules to govern the choice and suitability of alternative usage projects.

FIGURE 1 INVESTIGATORY FRAMEWORK - MACRO FACTORS



# ALTERNATIVE USAGE OF PORT RESOURCES

FIGURE 2 INVESTIGATORY FRAMEWORK - MICRO FACTORS



CONCLUSIONS

The determination of which of two development schemes is preferable needs to be judged with careful consideration. Kildon (1981, p.5) raises the question of whether the market place is adequate to determine the development configuration of the harbour or whether there is a need for public intervention to assure that the public as well as private interests are protected. An implied note of warning is offered in this regard by Rossi (1985, p.1) when he writes:

"More importantly, the Port's [referring to San Francisco] example illustrates the synergy inherent in a real rather than a 'stage set' juxtaposition of the working waterfront and its more genteel counterpart of offices, shops, restaurants, parks and open space."

In redeveloping areas, the trend is towards 'adding meaning' rather than just filling up an available area. Rossi's message regarding authenticity and balance adds weight to this view.

A speaker at the Association of Australian Ports and Marine Authorities Conference in 1984 referred to a financing threat being presented to Australian ports. The view was expressed that the increased cost of port development finance for traditional facilities, following the switch during 1984 to market interest rates and the need for port authorities to carry the full borrowings, could precipitate something of a financial crisis (Schrope, 1984, p.67). In light of this view it is obviously pertinent for port authorities to be examining all facets of port income and in particular potential sources which, in the past, may have been overlooked. To look for unexplored opportunity does not infer a deviation from the primary port function, but rather a way of aiding and ensuring the viability of the ongoing services provided by the port to its community.

Finally, it is of interest to note the major redevelopment schemes underway, or about to commence in Australian ports. In Sydney, the Darling Harbour, Walsh Bay and Woolloomooloo schemes compare with some of the larger overseas developments, whilst the Port of Fremantle has been the beneficiary of America's Cup investment. Brisbane (e.g. redevelopment of the 40 hectare Expo '88 site), Adelaide (e.g. Harbourside Quay redevelopment of a 13 hectare waterfront site), Melbourne (e.g. the World Trade Centre) and Hobart (e.g. a new waterfront international hotel) are examples of selective alternative usage projects which suggests that Australia's capital city ports are, at the very least, prepared to become involved in activities of a wider nature.

## ALTERNATIVE USAGE OF PORT RESOURCES

Clearly alternative usage projects cannot be viable in all port situations thus it is postulated that a more rigorous examination of the factors involved through the use of the framework developed could aid the process of selecting suitable alternative usage projects in any given situation. This could avoid problems such as have occurred in Melbourne with the World Trade Centre where it has been suggested that port rates to shippers may rise to pay for increased loan repayments associated with less favourable exchange rates, which during 1985/86 caused a A\$14.4 million trading loss. (Joy, 1987, p.9.) This loss is clearly due to improper financial planning causing the Victorian Government to consider the sale of the World Trade Centre. However, poor management does not negate the validity of the concept. The problem was management not the alternative activity itself.

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