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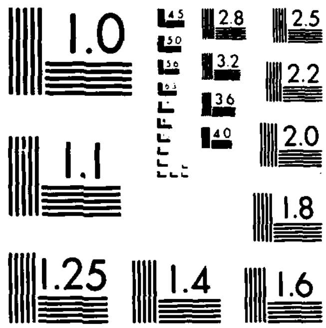

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SECTION 801 HOUSING PROGRAM
AND
HOUSING INVESTMENT
FOR THE
NORTHEAST STRATEGIC HOMEPORT

A FISCAL COST-BENEFIT ANALYSIS

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INTRODUCTION

A key feature of the 600 Ship Navy is the expansion of homeport facilites at strategic locations on both coasts of the United States. In order to maximize federal dollars spent on the most mission essential aspects of the Homeport Concept, Congress has urged the Navy to look for alternative methods of financing various supporting functions.

One method under consideration for the New York Homeport is the "build to lease" provisions used frequently at European installations. Authorized under Setion 801 of the FY 1984 Defense Authorization Bill, this concept is running into difficulty in the United States due to the extreme high cost of land in the areas where the installations are being established.

One method to encourage local government participation is to justify a cost benefit to the local government due to the increased population housed for the base. If the return is sufficient, the local government can use their authority to secure land for use at no cost to the federal government. This cost-benefit study addresses these issues for a proposed housing plan in the highly populated New York City Metropolitan area.

I. OVERVIEW

The objective of this Cost-Benefit Analysis is to estimate the added level of economic activity and the net fiscal impact on New York City resulting from a government subsidized lease-construction housing project to support U. S. Navy families associated with the operation of a new homeport facility.

Strategic Homeporting

The Strategic Homeporting Concept is based on several principals:

Dispersal of Forces to more ports and less concentrated ports improves our defensive posture, complicates conventional warfare targeting by a potential enemy and minimizes the risks associated with a relatively simply but properly placed attack. Dispersal provides the diversity and mobility needed to support offensive forward sea control which is the basis of our Maritime Strategy.

Collocation of Ships to form balanced battlegroups provides a trained and ready team which is prepared to undertake the full spectrum of naval warfare missions immediately upon clearing the harbor. As inport training opportunities are improved by technology, Battle Group integrity with a homeport can be an important adjunct to war fighting readiness.

Maintenance of an adequate industrial base by homeporting ships near locations with existing industrial capacity permits the Navy to take advantage of that capacity during peacetime, and to surge to wartime production level more rapidly if needed. Dispersing our ships spreads the opportunity to perform repairs and encourages the shipbuilding industry.

Development of additional logistic support complexes is required to support an expanding Navy and to sustain the forward Maritime Strategy. Existing bases will continue to be fully utilized while expansion into new ports will provide needed relief for the congested and aging facilities in our traditional ports.

Implementation

Cities in the proposed geographical areas (Northeast, Gulf Coast, West Coast, and Northwest) were asked to submit homeporting proposals. After consideration of proposals from Boston, Narragansett Bay region, New York and Bayonne, the Secretary of the Navy designated Staten Island, New York City, as the "preferred alternative" for a Battleship Battlegroup (BBBG). An Environmental Impact Statement (EIS) was completed in February 1985, after which the Secretary of the Navy confirmed the site for the Northeast homeport. Approximately $188 million dollars is budgeted for construction from FY 1986 to FY 1989. Additionally, the Port Authority of New York and New Jersey has contributed $15 million dollars for waterfront improvements, and transfer of 35 acres of unused waterfront land at a discounted value. In August of 1986, a Supplemental EIS was completed which addressed the issue of housing for the military families who support the new facility. An independent housing survey had found that adequate and affordable housing for Navy families is the New York region would be scarce, and alternative means of supplying same would be required.

Affordabiltiy

Critics have made the argument that the Strategic Homeporting Concept is expensive and will not provide the needs of the military members who will man the new bases. In order to maximize federal dollars spent to meet mission critical elements of the plan, yet provide for mission essential elements of personnel support functions, other financing methods must be found. These can include in part: (1) third-party financing of command private sector functions (i.e. dining facility, gym and recreational facilities); (2) commercial lease of existing functions (i.e. warehousing, repair shops); (3) private sector housing through various means of individual and government programs.

Market Housing

To carry out the Homeport at Staten Island, the Navy would berth seven ships (battleship, cruiser, three destroyers, and two frigates) at the waterfront site. Adjacent uplands would contain support facilites essential to the waterfront operations. A relatively inactive Army base located one and one-half miles from the waterfront would be the site of administrative, public works, warehousing and personnel support, such as clinics and recreation functions.

Military Families

The proposed Homeport has a personnel complement or baseloading estimated at 4,607 active duty military personnel. About 2,240 personnel would have families based on the Navy Military Personnel Command annual estimate of families. Furthermore about 11 percent of those with families choose to be voluntarily separated for various reasons. These may include: satisfaction with former location and lifestyle, spouse employment, high cost of housing in new location, and unwillingness to disrupt schooling for children. Thus about 2,002 personnel would require housing in the New York Metropolitan area.

Available Military Family Housing Assets

There are currently 644 units of Navy family housing and 850 units of Army family housing in the New York area, but such housing would not accomodate the Homeport housing need. Navy personnel currently assigned to New York would occupy most of the existing housing units, or the units would be beyond a reasonable one-hour commuting time from the Staten Island site. Navy personnel would also be assigned a priority below Army personnel for assignment to Army housing and effectively have little opportunity to compete for assignment. Both services currently have waiting lists in excess of 100 names.

Constraints on Demand

Market constraints on demand exist for both rental and for sale housing. These constraints are not unique to the market area, but they must be considered as serious impacts on military preferences.

Rental Housing Constraints. Both financial and lease constraints exist. Military members are often: unable to pay initial, up-front costs (security deposits, first and last months rents plus realtor fees) after making a cross country move. They may need short-term leases; subsidized housing has a waiting list for periods longer than their tour of duty. In urban areas on-street parking is not available or severly restricted.

Rent control represents another constraint on the rental market. Rent control limits the amount by which a landlord may increase his rent each year. This creates two problems for military families. First, the existing tenants tend to stay in controlled units as long as possible, resulting in a 99 percent occupancy rate. Second, the rent increases permitted for new lease renewals can be less than the increased costs for utilities and repairs to the building. When the permitted rent increase is below inflation, the buildings tend to be under maintained.

Sale Housing Constraints. The demand constraints pertinent to sale housing are largely financial. These include high interest rates, unwillingness of sellers to pay points on Veterans Administration (VA) mortgages, lack of down payment money, and inability to pay closing costs.

Existing Remedies Available

Approximately 1,637 personnel will have a high degree of difficulty or be unable to find affordable, suitable housing within the total market area. The others, due to their seniority and accompanying pay levels will find suitable quarters either through rental or purchase. Other remedies within the context of programs and policies of the Navy including construction of military housing or programs as addressed in the Supplemental EIS:

Military Construction. Construction of military family housing requires Congressional approval. The SEIS proposed construction of 550 units at the personnel support site for the Homeport.

Housing Referral Service (HRS). HRS is a partial remedy in that it can provide information and advice about vacant units to military personnel, assisting them to find residences that might not be listed with realtors. The SEIS recommended an "agressive" HRS effort be implemented.

Potential Remedies

Various policy changes to alleviate the housing deficit could be initiated within the Navy and/or the Department of Defense.

Leasing of Existing Housing. One policy change would be to reintroduce the leasing of existing units by the Navy in the Continential United States. New York City presently has many vacant buildings, but is facing a severe homeless persons problem itself.

Section 801 Military Family Housing Leasing Program. This program provides for housing to be constructed on or near military installations, by private developers. Military departments can enter into long term leasing contracts (up to 20 years, excluding construction) for units constructed to DOD standards. The SEIS recommended construction of up to 1000 units on New York State owned land near the personnel support site.

II. PROGRAM CONTEXT

The Fiscal Year 1984 Defense Authorization Bill (PL 98-115) included an amendment to Section 801, 10 USC 2828 which provided for the military departments to enter into a contract for the lease of family housing units to be constructed on or near a military installation by a private developer. The lease period may extend to a period of 20 years beyond the construction time. Subsequent guidance from Congressional committees restricted these programs to non-federally owned land.

Introduction

Real property taxes are a major component of the cost of operating housing. New York City can therefore use its taxing power to offset the cost of providing land for construction by private developers of Section 801 housing for the Navy. The decision to select Staten Island as the site of the Northeast Surface Action Group Homeport was strongly encouraged by political leaders of both New York City and New York State. It was encouraged because of the perceived financial benefit to the local economy.

As the result of a thorough search of New York City or State owned property, a site of 110 acres (known as South Beach or Ocean View) was identified within 3 miles of the proposed Homeport community support base. The government orginally hopes to have 1150 units of housing on this site. The land is currently owned by the New York State Dormitory Authority. It can be made available to the City for $4 million dollars to reduce debt service on bonds secured by the site. Because of the Congressionally imposed Section 801 restriction to non-federally owned land, the federal government may not purchase the land. The cost of offsetting the city's price for the land will greatly discourage private developers, thus, the up front costs must be ameliorated in order to entice private developers. The federal government has suggested that this $4 million dollar cost be forgiven by the city in accordance with its prospects of incuring financial benefit from the Homeport. The Section 801 Housing program can then be considered along the lines of other New York City incentives in order to stimulate housing investment by the private sector.

Provisions

Section 801 of 10 USC 2828 permits the Secretary of a military department to enter into a contract for the lease of family housing units to be constructed on or near a military installation within the United States at which there is a validated deficit in family housing. Housing units under this subsection shall be assigned, without rental charge, as family housing. Such a contract shall be awarded through the use of public advertised, competitively bid or competitively negotiated contracting procedures. The contract will provide for the contractor to operate and maintain such facilities during the term of the lease.

Any contract will be for a period of 20 years (excluding construction time). At the end of the lease period, the United States shall have the right of first refusal to acquire all right, title, and interest to the housing facility.

A contract may not be entered into by the United States until the Secretary of Defense submits to the Congress an economic analysis based on life cycle costing which demonstrates that the proposed contract is cost effective when compared to alternative means of furnishing the same housing facilities (either by government construction or individual unit rentals on the open market).

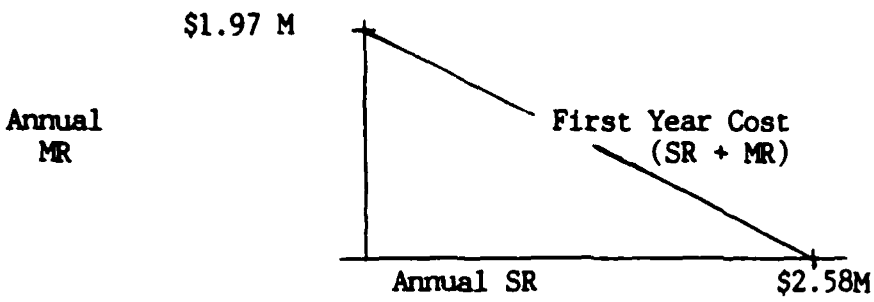
Cost of Proposal. There is a maximum first year cost for shelter rent and maintenance rent for this project. The maximum first year cost is

$$SR + 1.31\ (MR) \quad \$2.58 \text{ million}$$

SR = Shelter Rent reflects the cost of ownership to the proposer for newly constructed facilities provided to the government over the term of the lease, including, but not limited to the cost of improvements, property taxes, utility connection fees, cost of borrowing money, and profits earned thereon. Shelter rent shall be fixed for the twenty year period. One twentieth of that amount shall be stated as the first year annual least cost;

MR = Maintenance Rent reflects the annual costs of providing operational services, maintenance of the housing units and real property and repairs required to maintain the complete facility for the term of the project lease. The maintenance rent shall be adjusted at a rate pegged to the Housing, Shelter, Maintenance and Repair Index for the proceeding twelve months of the "Economic Indicators" prepared for the Joint Economic Committee of Congress by the Council of Economic Advisors.

The relationship between SR and MR can be adjusted over the following graph of values such as that the combined total for the first year never crosses the solid line.



Program Performance

Public Law 98-115 allowed for the establishment of this program as a test to determine if leasing is more cost effective that alternative means of furnishing the same housing. Economic analysis will be prepared and submitted to the Congress for review on each project.

The FY 84 Defense Authorization Bill identified test cases to be conducted, by each service at sites of their choice. The first two projects to be launched were at Fort Drum, New York and Naval Weapons Station, Earle, New Jersey.

Among the assumptions originally behind the proposal were the use of a modified turnkey process to simplify the specifications and bidding process, head to head competition among those developers who specialize in larger developments and are presumably more responsible, use of regional labor wages vice imposition of Davis-Bacon Act on the contractor, and use of real estate contracts rather than the cumbersome Federal Acquisition Regulations. These assumptions suggested that this type of project would attract the best developers in the industry.

The first projects hit immediate trouble when the use of federal land was restricted by Congress. Even with the presumed benefits to the developer built into the program, the cost of land to the developer discouraged their participation. Though both sites are located in generally rural areas, with presumed low land values, the bidding was disappointing. Only one bidder at Fort Drum, and none at Earle. The Navy was forced to request Congressional approval for re-bidding the project on government land.

In FY 1986 another case was chosen for New York. A two hundred unit, non-site specific Request for Proposal did not receive any interest. For this reason, the Navy then turned it's efforts to obtaining land, either from other federal agencies as an inter-governmental transfer of property, or from state and city government at no cost. With State and City assistance, an extensive study of available parcels of land identified 110 acres witin a ten minute commute of the proposed homeport support base.

It appears that the Congress must review its stipulation for use of non-federal land if this program is to succeed. Private financing for construction of government housing requires private sector returns. The government must be willing to put up equity or financing for the developer. One form of equity would be the developer having use of land at no cost.

III. THE EVALUATION FRAMEWORK

Prorgam evaluation must be done in the context of program objectives. Evaluation, however, should not be restricted only to the orginal objectives, since the needs of the community change over time, with existing programs serving new objectives of governmental policy.

Program Objectives

The Section 801 Housing Program was originally proposed as an alternative means of providing government Family Housing for military families. Traditionally, family housing has been provided as a captial investment through the Military Construction provisions of the annual Appropriations and Authorization Bills passed by Congress each year.

However the mood of the Congress has been to restrict government involvement in areas which it sees as more of a responsibility of the private sector. Even when the need for construction of housing is apparent, each individual proposal must compete with other proposals equally as valid. Subsidizing of middle income housing is a controversial objective of government. However, if a subsidy is viewed as not an end in itself, but as a means of stimulating the production of housing and the local economy as a whole, and if the stimulation is strong enough, the initial subsidy will actually be repaid through the generation of additional property, sales, and income taxes. Financial assistance turns out not to be a subsidy on the part of the government but rather an efficient investment that not only pays for itself, but also benefits the private sector as well.

In order to determine if an 801 project is an investment for the city, for example, whether the initial subsidy in the form of land at no cost for the developer is eventually recouped, a fiscal impact analysis is required. The analysis must first outline the costs (city income foregone) incurred and benefits (tax revenue created) of the program from the New York City coffers. The model is then developed quanitatively, employing hypothetical parameters based whenever possible on actual data available. Where no actual data is available, best assumptions are made about costs and benefits.

Program Costs

The costs inherent in a program such as 801 are both quantitive, in terms of actual revenue "lost" and municipal service costs to new residents, and qualitative, in terms of negative effects on the supply of middle income housing. Critics may maintain that much of the affected housing would have been built in the private sector for the Navy personnel in the absence of the program. If so, in the absence of governmental support, then the city would bear a cost of forgone tax revenues to subsidize owners or tenants. In addition, if new projects came from the demolition of previously occupied buildings or displacement of existing tenants in rehabbed units, then this would result in further economic burdens on the city.

Program Benefits

The potential streams of benefits may be substantial. Assessed values of currently vacant real property are increased so that revenues in the form of real property taxes to the city are generated. A large number of middle income households are added to the city generating additional income and sales taxes for the city. Spending by these households could lead to an expansion of commercial space in the immediate area of the site, and increased property tax revenues. However, the increase in people and expansion of commercial space increases also the level and cost of municipal services, partially offsetting these benefits. The actual spending on construction will generate not only employment opportunities in the local economy, but also sales and income tax revenues to the city, subject of course, to some loss when spending goes to workers who are not city residents or for goods purchased outside of the city. Additionally, some income tax will be lost as many military families maintain their home state as official homes of residence, subject to taxation from the home state.

Likewise, subsidized new construction may create neighborhood externalties that actually induce the upgrading of adjacent parcels without any additional subsidies. Finally, any spending on construction or by tenants that would not have taken place in the absence of subsidies generates multiplier effects on income and employment as initial spending is respent by receipients so that tax revenues to the city are multiplied upward from secondary sales, income, and property tax generation.

The cost and benefits to the city discussed above are summarized as Table 3-1.

Total Program Impact

The analysis of the fiscal impacts of the 801 program has been undertaken using assumptions of the program's ability both to induce Navy families to move to New York City with the military member, and to induce developers to build units that otherwise may not have been constructed. The net fiscal impact is established as the present discounted value of costs and benefitts for the period 1986 through 2005. An 8 percent discount rate is applied to all future costs and revenues to determine the present discounted value as of 1986.

Injections of income and sales taxes from military households moving to the city as a result of the homeporting program, real estate taxes generated from expansion of commercial space to meet additional spending by these households, and the cost of added municipal services for these households are included. For units that would not have been built, the induced constuction spending will generate multiplier effects to the extent that it goes into and out of the pocket of other city residents and firms. There multiplier effects are also included in the analysis.

Upgrading effects on adjacent parcels are not taken into effect because it requires an extended analysis beyond the limits of this study.

Alternative assumptions are made about the percentage of units induced by the program, and whether or not expansion of municipal services and commercial space occurs as a result of occupancy by households that would not otherwise enter the city. While marginal increases in the number of households can be accomodated with given commercial and municipal services, after a certain point it is necessary to expand facilities. Because the point at whch expansion becomes necessary is unknown, calculations are made with and without these long run effects.

The primary determinant of program impact depends on whether the unit would have been built in the absence of the cost of land. For units which would have been built even with the land cost, the net impact on the city would be the initial cost of the land versus the increased assessed value of the parcels. Even though such units may attract some military families, the number of units may not be large enough without the program to represent an offset to forgo the cost of the land.

Only those units which would not have been built in the absence of the land cost offset are capable of generating revenues for the city beyond what the free market would have provided. Hence, the total number of units needed for military families arriving to support the new base, the breakdown for providing housing is as follows.

Total number required: 2002 families

Provided by:	Military Construction:	550 families
	Private Sector:	302 families
	Section 801:	1150 families

TABLE 3-1

COST AND BENEFITS TO THE CITY ASSOCIATED WITH SECTION 801 HOUSING

COSTS	BENEFITS
Income forgone through provision of site	Taxes generated through income and sales by families that would not otherwise reside in the city
Added cost of municipal services for families who would not otherwise reside in the city	Property taxes generated by expansion of commercial facilities to meet additional spending
Administrative costs	Real estate taxes generated on upgraded adjacent parcels
	Sale and income taxes generated by construction spending
	Taxes generated by multiplier effects of construction spending and spending by tenants who would not otherwise reside in the city
	Permit fees

IV. DETERMINING FISCAL IMPACT

This chapter describes the calculations necessary to compute the fiscal impact as presented in Table 3-1. Determination of the following items is included:

1. Real estate taxes created due to the subsidy.
2. Generation of tax revenues through induced construction spending.
3. Generation of tax revenues through multiplier effects of induced construction spending.
4. Net injection of sales and income taxes by an induced resident.
5. Generation of tax revenues through multiplier effects of net spending by induced residents.
6. Generation of real property taxes through expansion of commercial space due to spending by induced residents.
7. Estimation of the per capita cost of common municipal services.

The analysis is based on the assumption that a dwelling unit's assessed value increases $20,000, that construction costs per unit total $55,650, and the typical military household in residence comprises two adults whose gross income before taxes is $25,000, and whose monthly rent (paid by government as part of the lease cost) is $900.

Real Estate Taxes Created Due to Subsidy

Table 4-1 details the calculations required to establish taxes created for a unit that would not have been built in the absence of the 801 program.

It is assumed that the subsidy is the reason the construction was completed. It must also be assumed that no new taxes on increased assessed values would have occurred without the program because obviously there would not have been an increase in assessed value.

The present discounted value per unit of taxes generated is equal to $22,384 over the twenty year life of the project.

The calculations are based on nominal real estate tax of $9.00 per $100 market value, although properties within the city are substantially undervalued for assessment purposes. The "official" New York equalized tax rate is $4.50 per $100 market value. An increase in rate of .5% per annum for the first five years is projected but assumed to remain at 11% per $100 of assessed value for the remaining 15 years. An 8 percent discount rate is employed.

Generation of Tax Revenues Through Induced Construction Spending

It is estimated that the construction costs of a typical unit are approximately $55,650.

Construction spending on labor and materials not only stimulates the local economy, but also contributes direct tax revenues through taxation of the initial round of spending and through taxation of additional spending due to multiplier effects. The Fiscal Impact Analysis assumes that 45% of the costs for labor will go to New York City residents, and 55% to non-residents. Because of New York City's sale tax, it is also assumed that only one third of costs for materials is made within the city. A 1969 study by Mckinsey and Company for New York City shows that historically construction costs are divided into 40% for labor, 45% for materials, and 15% for overhead and profit.

Given these parameters, the total tax contribution of the initial spending on construction is equal to $896 per unit. See Table 4-2.

Generation of Tax Revenues Through Multiplier Effects of Induced Construction Spending

With a cost of $55,650 per dwelling unit, and assuming a local multiplier of 1.67 in secondary and tertiary spending, the induced income generation is another $32,285. It is estimated that 8 percent of local spending returns to the city as tax revenues through sales, income or property tax. This 8 percent figure is based on analysis of the typical household budget of 801 housing residents. Hence, induced spending effects eventually generate $2,583 in tax revenues.

This multiplier from construction spending does not work immediately, but rather, over the life of the construction period. To get the present value, the revenues are spread over three years and discounted back to present value using the 8 percent discount rate.

The result is a contribution of $2,396 to the fiscal impact of any unit that would not otherwise have been built. See Table 4-3.

Net Injection of Sales and Income Taxes by an Induced Resident

The typical military family living in 801 housing will be composed of two adults earning a total annual income of $25,000, before taxes.

Income Tax

The first tasks in deriving probable income tax payments is to estimate what proportion of Navy personel being assigned to New York is expected to be residents of New York State. Under New York State law, only those military personnel assigned to New York who are State residents have a State and City income tax liability. Two methods can be applied to estimate the likely proportion of State residents:

1. Survey current Navy personnel assigned in the New York City area.
2. Survey Navy personnel assigned to ships similiar to those being homeported.

A survey of Navy personnel assigned in New York City in 1984 indicated approximately 35 percent to be New York State residents.

A survey of ships in Norfolk, Virginia in 1985 indicated that up to one third of all personnel were New York residents prior to joining the Navy, but many have changed their residency since joining. Taking this into account, an average of 25 percent is used to determine New York State residents among all those assigned to New York City.

Of the 2000 families expected to be assigned in the New York area, the 500 New York State residents will pay an average of $318 income tax. Table 4-4 is derived from the Fiscal Impact Analysis and is based on an estimate considering the following adjustments: the number of dependents, other deductions and household credit. It also excludes income of spouses not legal residents of New York City but residing in the city. Despite their City residency, according to City tax regulations they would pay commuter tax rates. These commuter rates are .45 percent of income, however, it is nearly impossible to estimate the number of non-resident spouses who may be employed, so it is not included in this calculation.

Using the 25 percent number of New York residents assigned in the New York City area, it is estimated that 288 of the 801 housing residents may have New York State residency. Or, another way of stating this would be that the average New York State income tax paid by all 801 housing residents is $80 (25% of $318).

Sales Tax

Sales taxes are closely linked to income; as income rises, so do taxable purchases. However, the sales tax is mildly regressive and tax collections do not rise at the same rate as income.

Military personnel differ from civilian counterparts in that they may purchase goods at a Post Exchange (PX), and those goods are not subject to a sales tax. Since New York City has such a competitive retail market, a considerable portion of purchases are still likely to be made in commercial businesses except for high tax items such as cigarettes and alcoholic beverages. Also, PX shopping is more convenient. It is assumed that 25% of all sales will be in the PX, and 75% in private stores.

Next to be considered is the fact that most Navy personnel will not be in homeport for up to 5 months each year. This assumes that married personnel or their families will purchase up to 90 percent of their taxable goods in New York City. An adjustment of 1.26 is added to reflect the consumer purchases of automobiles and other major items which are not quantified.

The resident family sales tax per unit is $223. See Table 4-5.

Net injection of sales and income taxes by an induced resident total $303 ($80 + $223). If income and expenditures grow at roughly 4 percent (average value of inflation over past year), the present discounted value of the flow over 20 years is equal to $4,329, using an 8 percent discount factor. See Table 4-6.

Generation of Tax Revenues Through Multiplier Effects of Net Spending by Induced Residents

In addition to taxes generated by the household spending in New York City, multiplier effects of this spending within the local economy will also result in increased city revenues. It is assumed that 60% of the average household income will be injected into local spending, exclusive of all taxes. This gives $15,000, to which a multiplier of 1.67 is added. The result is a stream of $10,050 additional spending in the community. At an assumption that 8 percent of expenditures ends up in sales, income or property taxes, the result of such spending is $804. in tax revenues for the city.

Such a stream would be generated each year. Assuming expenditures grow at 9 percent and an 8 percent discount factor, the present value of the multiplier effects is $11,507. See Table 4-7.

Generation of Real Property Taxes Through Expansion of Commercial Space Due to Spending by Induced Residents

Expanded commercial activity will result in an expansion of commercial space, which will provide additional revenues to the city through payment of property taxes. Since New York City has the largest concentration of commercial activity in the United States, business taxes comprise an important element in the City's revenue structure. A considerable share of added commercial activity stimulated by development is subject to local taxes, and the city revenues grow.

To estimate the effect of added household outlay on property taxes paid by business, the first task is to determine the extent to which resident households contribute to commercial activity. Retail business in Staten Island can be expected to expand its selling and storage space in response to purchases by Navy families.

Table 4-8 lists real property catagories, their assessed values and assessed values allocated per city household. About 49% of all business property is estimated to be directly linked to city household income. Thus, the typical New York City household is responsible for about $5,132 in assessed value of business property, and this business property pays $472 in real property taxes to the city. However, Navy households, primarily because of their lower income and non-private sector purchases of some goods and services, are expected to have a lesser impact on business property than the typical New York City household. It is assumed that this impact will be about two-thirds of the city household average or $3,335, for $306 allocated per household.

If the flow of property tax revenues grows at 5 percent for the first five years due to increases in the property tax rates, stabilizing after five years, the present discounted value of this stream of property taxes discounted back at 8 percent equals $5,119 per unit. See Table 4-9.

Estimating the Per Capita Cost of Common Municipal Services

It is difficult to determine at just what point additional housholds begin to cause the expansion of common municipal services. It is probably a step function in which the cost and level of services remain constant over a certain range and then take a discrete jump to a higher level. However, such functions can be approximated by a curve and, if the long run average cost curve of municipal services tends to be in a range of minimum long run average costs, then the approximate long run marginal costs of services can be determined on a per capita long run costs.

Data on the FY 84 budgetary outlays for New York City are used to determine the per capita cost of common services. In FY 84, the budget outlays totaled almost $17 million. Approximately 63 percent of all expenditures are net from revenue collected by New York City and unrestricted state and Federal funds (primarily through revenue sharing). The share of Federal and state payments differ by category. See Table 4-10.

Although most major services are utilized by households, some are used more
Although most major services are utilized by households, some are used more
directly by both households and business enterprizes. These services include (public safety, utilities, transportation and general government). Police and fire protection are provided to residents, commuters, and businesses, trucks and personal cars use the city streets. The majority of the services, including social services, schools,and hospitals, are used almost exclusively by households and are allocated to households. The common municipal services which are starred (*) are used to determine per capita costs.

The total city shares of common services are estimated to be $7.195 million dollars. The city population based on Bureau of Census statistics for 1984 was 7,086,000. The average 1984 per capita outlays is thus $1,015, or $2,030 per household. Based on a 4 percent per year increase, the 1986 per capita outlay will be $2,196.

If these costs are expected to continue to grow at 4 percent per year, and are discounted back at 8 percent per year, the present value of outlays over the life of the contract is $31,394. See Table 4-11.

TABLE 4-1

REAL PROPERTY TAXES GENERATED

YEAR	INCREASE IN ASSESSED VALUE	TAX RATE	TAXES GENERATED	DISCOUNTED PRESENT VALUE OF TAXES GENERATED
0	$20,000	.09	$1800	$1800
1	$20,000	.095	$1900	$1759
2	$20,000	.100	$2000	$1714
3	$20,000	.105	$2100	$1667
4	$20,000	.11	$2200/year	$1617
5	$20,000	.11	$2200/year	$1497
6	$20,000	.11	$2200/year	$1386
7	$20,000	.11	$2200/year	$1283
8	$20,000	.11	$2200/year	$1188
9	$20,000	.11	$2200/year	$1100
10	$20,000	.11	$2200/year	$1018
11	$20,000	.11	$2200/year	$943
12	$20,000	.11	$2200/year	$873
13	$20,000	.11	$2200/year	$808
14	$20,000	.11	$2200/year	$748
15	$20,000	.11	$2200/year	$693
16	$20,000	.11	$2200/year	$642
17	$20,000	.11	$2200/year	$594
18	$20,000	.11	$2200/year	$550
19	$20,000	.11	$2200/year	$509
				$22,389

TABLE 4-2

ESTIMATED TAX REVENUES GENERATED DIRECTLY FROM INDUCED CONSTRUCTION SPENDING

Estimated Construction Cost $55,650		
Labor Cost: .40 X $55,650 = $22,260		
A. Labor Income to City Residents		
	.45 x $22,260 = $10,017	
Income Taxes paid on Labor Income by City Residents		
	.016 x $10,017	= $160.
B. Labor Income to Non-residents		
	.55 x $22,260 = $12,243	
Income Taxes paid on Labor Income by Non-residents		
	.0045 x $12,243	= $55.
Cost of Materials: .45 x $55,650 = $25,042		
Material purchased in city = .33 x $25,042 = $8,264		
Sales Tax on purchased material = .0825 x $8,264		= $681.
Total Taxes Accruing from Construction Per Unit		$896.

TABLE 4-3

DETERMINATION OF PRESENT VALUE OF TAX REVENUES DERIVED FROM MULTIPLIER EFFECTS OF CONSTRUCTION COSTS

Estimated Construction Cost = $55,650/unit

With Local multiplier added $92,935

Induced income generated $32,285

Local spending returned to city

.08 x $32,285 = $2,583

	Local Income	Discounted Present Value at 8%
1988	861	$861
1989	861	$797
1990	861	$738
		$2,396/unit

Multiplier effects result from the fact that an intitial injection of spending will be respent. Multiplier effects are usually expressed in terms of jobs or added expenditures to the direct job or expense. As each round of respending occurs, the rounds become smaller because of leakages to savings, taxes, etc.

TABLE 4-4

NEW YORK CITY INCOME TAX PAYMENTS FROM NAVY PERSONNEL @

INCOME GROUP	NO.	TAX PER HOUSEHOLD	TOTAL TAX
$8,900	38	0	0
$11,250	91	35	3.2
$13,750	21	86	1.8
$16,250	83	149	12.4
$18,750	69	221	15.2
$21,250	31	300	9.3
$23,750	52	426	22.2
$27,500	54	559	30.2
$32,500	30	858	25.7
$37,500	19	1051	20.
$45,000	7	1341	9.4
$60,000	5	1922	9.6
	500	$318	$159,000

@ = From Stapleton Homeport Fiscal Impact Analysis, April 1986

TABLE 4-5

NEW YORK CITY SALES TAX PAID BY MILITARY HOUSEHOLDS@

NO.	AVERAGE INCOME	SALES TAX	ADJUSTMENT	ADJ SALES TAX
1840	$25,000	$177	1.26	$223.

@ = From Stapleton Homeport Fiscal Impact Analysis, April 1986

TABLE 4-6

DETERMINATION OF PRESENT VALUE OF SALES AND INCOME TAXES

YEAR	TAXES	$(1.04)^t$	x $\left(\frac{1}{1.08}\right)^t$	PRESENT VALUE
0	$303	1.000	1.000	$303
1	$303	1.040	.9259	$291
2	$303	1.0816	.8573	$280
3	$303	1.1248	.7938	$270
4	$303	1.1648	.7350	$260
5	$303	1.2166	.6805	$250
6	$303	1.2653	.6301	$241
7	$303	1.3159	.5834	$232
8	$303	1.3685	.5402	$224
9	$303	1.4233	.5000	$215
10	$303	1.4802	.4631	$207
11	$303	1.5394	.4288	$200
12	$303	1.6010	.3971	$192
13	$303	1.6650	.3676	$185
14	$303	1.7316	.3484	$182
15	$303	1.8009	.3152	$172
16	$303	1.8729	.2918	$165
17	$303	1.9479	.2702	$159
18	$303	2.0258	.2502	$153
19	$303	2.1068	.2317	$148
				$4329/per unit

TABLE 4-7

DETERMINATION OF PRESENT VALUE OF MULTIPLIER EFFECTS OF SPENDING

YEAR	MULTIPLIER EFFECTS OF SPENDING	$(1.04)^t$ x	$\left(\frac{1}{1.08}\right)^t$	PRESENT VALUE
0	$804	1.000	1.000	$804
1	$804	1.040	.9259	$774
2	$804	1.0816	.8573	$745
3	$804	1.1248	.7938	$717
4	$804	1.1648	.7350	$691
5	$804	1.2166	.6805	$665
6	$804	1.2653	.6301	$641
7	$804	1.3159	.5834	$617
8	$804	1.3685	.5402	$594
9	$804	1.4233	.5000	$572
10	$804	1.4802	.4631	$551
11	$804	1.5394	.4288	$531
12	$804	1.6010	.3971	$511
13	$804	1.6650	.3676	$492
14	$804	1.7316	.3484	$485
15	$804	1.8009	.3152	$456
16	$804	1.8729	.2918	$439
17	$804	1.9479	.2702	$423
18	$804	2.0258	.2502	$407
19	$804	2.1068	.2317	$342
				$11,507

TABLE 4-8

BUSINESS REAL PROPERTY TAX ALLOCATION TO HOUSEHOLDS@

($ MILLIONS)

REAL PROPERTY	TOTAL ASSESSED VALUE	PER HOUSEHOLD	% ASSESSED VALUE/ HOUSEHOLD	ASSESSED VALUE/ HOUSEHOLD
WAREHOUSES	$523	$192	25	$48
FACTORIES	$1104	$406	5	20
GARAGES	$610	$224	50	112
HOTELS	$908	$334	-	-
THEATERS	$128	$47	50	$23
STORES	$2243	$824	65	$535
LOFTS	$1390	$511	25	$128
OFFICES	$10,456	$3844	50	$1922
MISC	$1450	$543	50	$272
PUBLIC UTILITIES	$8209	$3018	60	$1810
OTHER	$1450	$533	50	$267
	$28,551	$10,466	49.0	$5137

REAL PROPERTY TAX ALLOCATED PER HOUSEHOLD

$5137 X .092 = $473

@ From City of New York Comprehensive Annual Financial Report of the Controller for FY 84

TABLE 4-9

DETERMINATION OF PRESENT VALUE OF REAL ESTATE TAXES OF EXPANDED COMMERCIAL SPACE

YEAR	REAL PROPERTY TAX	$(1.05)^t$	x $\left(\frac{1}{1.08}\right)^t$	PRESENT VALUE	
0	\$306	1.00	1.000	\$306	
1	\$306	1.05	.9529	\$297	
2	\$306	1.102	.8573	\$289	
3	\$306	1.157	.7938	\$281	
4	\$306	1.215	.7350	\$273	
				\$1446	\$1446
5	\$306	1.00	1.00	\$306	
6	\$306	1.05	.9259	\$297	
7	\$306	1.1025	.8573	\$289	
8	\$306	1.1576	.7938	\$281	
9	\$306	1.2155	.7350	\$273	
10	\$306	1.2762	.6805	\$265	
11	\$306	1.3400	.6301	\$258	
12	\$306	1.4071	.5834	\$251	
13	\$306	1.4774	.5402	\$244	
14	\$306	1.5513	.5002	\$237	
15	\$306	1.6288	.4631	\$230	
16	\$306	1.7103	.4288	\$224	
17	\$306	1.7958	.3971	\$218	
18	\$306	1.8856	.3676	\$212	
19	\$306	1.9799	.3404	\$206	
				\$4998	\$3673
					\$5119

TABLE 4-10

OUTLAYS FOR SERVICES BY NEW YORK CITY DEPARTMENTS FY 84 ($ MILLIONS)@

SERVICE	TOTAL OUTLAYS	ESTIMATED HOUSEHOLD SHARE OF OUTLAYS	
PUBLIC SCHOOLS	$3500	$1535	
CITY UNIVERSITY	$375	$126	
* POLICE	$958	$886	
* FIRE	$480	$447	
* CORRECTIONS	$255	$233	
* SOCIAL SERVICES	$3800	$1488	
* HOUSING	$362	$55	
* HEALTH	$127	$77	
* MENTAL HEALTH	$161	$57	
HOSPITAL	$483	$454	
* SANITATION	$392	$360	
* TRANSPORTATION	$216	$169	
* PARKS AND RECREATION	$126	$108	
* ENVIRONMENTAL PROTECTION	$211	$175	
* LIBRARIES	$84	$75	
SUBTOTAL	$11,530	$245	
* MISC FUNCTIONS	$1217	$1030	
* ALL OTHER FUNCTIONS+	$1125	$718	
DEBT SERVICE	$1597	$1384	
* PENSION FUND	$1506	$1317	
*SUBTOTAL		$7,195	COMMON MUNICIPAL SERVICES
TOTAL	$16,975	$10,694	

@ From City Of New York Executive Budget For FY 85

+ Includes buildings, General government, and economic development

TABLE 4-11

DETERMINATION OF PRESENT VALUE OF COMMON MUNICIPAL SERVICES COSTS

YEAR	COST	$(1.04)^t$	x $\left(\frac{1}{1.08}\right)^t$	PRESENT VALUE
0	$2196	1.00	1.00	$2196
1	$2196	1.04	.9259	$2115
2	$2196	1.081	.8573	$2035
3	$2196	1.124	.7938	$1959
4	$2196	1.109	.7350	$1883
5	$2196	1.216	.6805	$1817
6	$2196	1.265	.6301	$1750
7	$2196	1.315	.5834	$1684
8	$2196	1.368	.5402	$1622
9	$2196	1.423	.5000	$1562
10	$2196	1.480	.4631	$1505
11	$2196	1.539	.4288	$1449
12	$2196	1.601	.3971	$1396
13	$2196	1.665	.3676	$1344
14	$2196	1.731	.3404	$1294
15	$2196	1.801	.3152	$1246
16	$2196	1.872	.2918	$1199
17	$2196	1.947	.2702	$1155
18	$2196	2.025	.2502	$1112
19	$2196	2.106	.2317	$1071
				$31,394

V. CONCLUSION: THE TOTAL IMPACT

Introduction

The results of the proceeding analysis can be combined in various cases to establish the overall impact on the city of New York for subsidizing the cost of land in order to implement the 801 program.

Alternatives

Case 1: The units would not have been built in the absence of the land cost subsidy, and the Navy personnel would still have resided within the city.

Case 2a: The units would have not been built in the absence of the land cost subsidy, and the Navy personnel would have resided outside the city. No additional commercial space would be generated and no additional cost of municipal services would be required.

Case 2b: Same as 2a above, except that commercial space would be generated and municipal services costs would be incurred as a result of an equivalent household expansion and commercial expansion.

Case 2c: Same as 2b above, except that multiplier effects from construction spending and from spending of induced residents is added to the analysis.

Case 1 considers only the cost of property taxes and the direct tax impact of construction for units that would not have otherwise been built without the land cost subsidy, but where the Navy personnel would still have lived within the city. The impact of the program then is only from the taxes generated if the houses are constructed. Since the Navy personnel would live inthe city anyway, any taxes from them would still be collected.

Case 2a includes the same benefits as Case 1, but also includes the net injection of sales and income taxes by the induced households who would not have otherwise located in units that would not have been built except for the land cost being subsidized.

Case 2b includes the long term effects of the in-migration of the induced residents. The property tax revenues accruing from the expansion of the commercial space, and the costs of added common municipal services which the city must provide. The average expenditures on common municipal services per capita in order to meet the needs of increased population and business are used.

Case 2c adds to Case 2b the indirect program benefits resulting from multiplier effects of initial construction spending and spending by households that would not have otherwise located in the city.

The Total Impact

The fiscal impact per unit is listed in Table 5-1 for all cases. The net sum of the costs and benefits determines the net fiscal impact for each case.

Case 1 is the most pessimistic assumption, for example, even had the units been built without the subsidized cost of land, the Navy personnel assigned in New York would find housing elsewhere within the city. The city would still benefit in property taxes and construction spending in the amount of $23,285. However, the purpose of the 801 program is to induce military families into private sector housing in the immediate area of the military installation. The parcel of land identified for this program has been vacant for 15 years, during which time the borough of Staten Island has been the only one of the five city boroughs to show an increase in populations and housing new starts. The fact that neither the state nor the city has been able to put the land to a profitable use indicates that the cost for the land makes private development prohibitive.

Under the most optimistic example, Case 2c, that the land cost subsidy would allow development which would benefit military families, hence expanding commercial space through induced spending, and providing multiplier effects for construction spending as well as induced spending, the fiscal impact of a unit still results in a benefit of $15,242. For the total project site of 1150 units, the net present value is in excess of $17.5 million dollars. This more than offsets the $4 million dollar cost for the land which the city would subsidize.

Therefore, the conclusion is that under the most reasonable assumptions, the subsidized cost of the land for the 801 program by the city more than pays for itself. That these assumptions are reasonable is based on the fact that they have been conservative throughout the analysis of impacts. Low levels of ability to stimulate new growth, low construction - generated revenues and secondary tax impacts, and a low propensity to consume locally (multiplier) have all been used. Likewise, the marginal cost of common municipal services has been assumed to be equal to the long run average cost of services.

TABLE 5-1

PER UNIT FISCAL IMPACT OF THE 801 PROGRAM UNDER ALTERNATIVE ASSUMPTIONS
(PRESENT DISCOUNTED VALUE 1986-2005)

FISCAL EFFECT	1	2a	2b	2c
1. REAL ESTATE TAXES CREATED	$22,389	$22,389	$22,389	$22,389
2. TAXES THROUGH INDUCED CONSTRUCTION SPENDING	$896	$896	$896	$896
3. NET SALES AND INCOME TAXES FROM INDUCED RESIDENTS		$4329	$4329	$4329
4. REAL ESTATE TAXES ON EXPANDED COMMERCIAL SPACES			$5119	$5119
5. ADDED PER HOUSEHOLD COST OF COMMON SERVICES			-$31,394	-$31,394
6. MULTIPLIER EFFECTS OF INDUCED CONSTRUCTION				$2396
7. MULTIPLIER EFFECT OF INDUCED RESIDENT SPENDING				$11,507
8. PER UNIT NET FISCAL IMPACT	$23,285	$30,614	$4,339	$15,242

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6. Sternlieb, George, Roistacher, Elizabeth, Hughes, James W.; Tax Subsidies and Housing Development; Center for Urban Policy Research, Rutgers - The State University of New Jersey, New Brunswick, New Jersey; 1976.

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