

**Central Pine Barrens  
Joint Planning and Policy Commission**

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Robert J. Gaffney, *Chairman*  
John LaMura, *Vice Chairman*  
Richard Blowes, *Member*  
Ray E. Cowen, *Member*  
James R. Stark, *Member*

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WHEREAS, the W. Averell Harriman School for Management and Policy ("Harriman School") has prepared an economic impact analysis dated May 23, 1995 of the April 1995 recommended Central Pine Barrens Comprehensive Land Use Plan.

WHEREAS, the Central Pine Barrens Joint Planning and Policy Commission ("Commission") has received on this day the May 23, 1995 report from the Harriman School.

WHEREAS, the Commission wishes to comment on the report it has received from the Harriman School.

RESOLVED, that receipt of the Economic Impact Analysis prepared by the Harriman School and passage of this resolution should not be interpreted as agreement by this Commission with the recommendations and conclusions set forth in the Economic Impact Analysis. The Commission will seek to refine and correct certain factually incorrect portions of the Economic Analysis pursuant to SEQRA.

May 24, 1995

5/24/95

**\*\*\* FINAL REPORT \*\*\***

**ECONOMIC IMPACT ANALYSIS OF THE  
CENTRAL PINE BARRENS  
COMPREHENSIVE LAND USE PLAN**

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Submitted to the Central Pine Barrens  
Joint Planning and Policy Commission

May 23, 1995

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## CONTEXT

In July, 1993, with the enactment of The Long Island Pine Barrens Protection Act, New York State officially recognized the area known as the "Central Pine Barrens" as requiring "... the preparation and implementation of a State supported regional comprehensive land use plan."<sup>1</sup> The purpose of this comprehensive plan is to "... provide for the preservation of the core preservation area, protection of the central pine barrens area and for the designation of compatible growth areas to accommodate appropriate patterns of development and regional growth."<sup>2</sup>

In taking this action, the New York State Legislature expressed the clear concern that, while the broad public interest may require the preservation of certain areas within the central pine barrens, the comprehensive plan must include "... recognition of the rights of private land owners" and must be restricted to the "... purpose of preservation of the core area."<sup>3</sup> To accomplish the former, the Legislature intended for the comprehensive plan to ensure that "... landowners whose property is located in the central pine barrens area are afforded an opportunity to receive benefits from the plan such as transferrable development rights, conservation easements, rights and values transfers, purchase of development rights and/or fee acquisition with monetary compensation."<sup>4</sup>

In addition to ensuring that private landowner rights remain protected, the Legislature also expressed the concern that the comprehensive land use plan not create significant fiscal pressures on school and other special districts in the region. Accordingly, the Act requires that the economic impacts of development and preservation on these districts and other pertinent aspects or demographic sectors.<sup>5</sup>

To effect these objectives, the Legislature created the Central Pine Barrens Joint Planning and

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<sup>1</sup>S 57-0105.

<sup>2</sup>Ibid.

<sup>3</sup>Ibid.

<sup>4</sup>Ibid. In addition, S 57-0121.1. of the Act states "The land use plan shall be designed to preserve the pine barrens ecology and to ensure the high quality of groundwater within the central pine barrens area and to *balance the public and private interests in development and in protection of the pine barrens ecology.*" (emphasis added)

<sup>5</sup>S 57-0121.6.(p).

Policy Commission to, among other activities, "... prepare, adopt, enforce and ensure implementation of the comprehensive land use plan."<sup>6</sup> A final draft land use plan was issued by the Commission in April, 1995. Chapter 6 of this plan sets forth the Pine Barrens Credit Program, a transferrable development rights program which is designed to achieve the balance sought by the Legislature between development and preservation as well as to ensure the protection of property rights for owners of property within the core areas.

The purpose of this report is to evaluate the economic impact that would reasonably be expected to result from implementation of the Pine Barrens Credit Program.

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<sup>6</sup>S 57-0119.6.(a).

## OVERVIEW

The economic impact analysis is being performed under the terms of a contract between the Central Pine Barrens Joint Planning and Policy Committee and the Research Foundation of the State University of New York at Stony Brook. This contract anticipated the performance of a number of specific tasks, including the production of a summary document which would provide a narrative accompanied by statistical tables describing the existing socio-economic conditions in the various regions of the study area and draft and final economic impact analysis reports. The summary document was incorporated into the Commission's July 14, 1994 Draft Plan and issued under separate cover on August 1, 1994.<sup>7</sup>

The analysis presented in this report is based on information from the April 1995 Land Use Plan. Previous reports have been provided to the Commission in November 1994 and January 1995, based on earlier versions of the Land Use Plan including proposals for establishing the Pine Barrens Credit Program. The analysis and evaluations contained in those reports are superseded by this report, since significant revisions have been made in the proposed Pine Barrens Credit Program, as well as other aspects of the Land Use Plan. Similarly, should subsequent changes be made to the Plan as currently presented or in the programs analyzed herein, it would be necessary to alter the analyses presented in this report to reflect those changes..

This report focusses on two primary economic impact concerns -- (1) the economic feasibility of the Pine Barrens Credit (PBC) Program and (2) the economic impact the land use plan, and the PBC Program in particular, will have on school districts in the three towns of Brookhaven, Riverhead and Southampton.

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<sup>7</sup>Economic Impact Analysis of The Pine Barrens Land Use Plan: Background and Existing Conditions, W. Averell Harriman School for Management and Policy, SUNY at Stony Brook, August 1, 1994.

## SECTION I

### ECONOMIC FEASIBILITY OF THE PBC PROGRAM

Central to whether or not the PBC Program is economically feasible is whether the rights of property owners within the core preservation areas are reasonably protected through the PBC Program. This is probably the most important question which must be answered prior to implementation of the land use plan, since it concerns the area of legal challenge to which land use plans such as this one are most vulnerable.

#### A. Pine Barrens Credit Allocation

The Land Use Plan specifies how Pine Barrens Credits will be allocated to property owners in the core preservation areas.<sup>8</sup> In general, the allocation mechanism is a reasonable one that is designed to assure the owners of each parcel of land within the core the opportunity to realize the development potential of that parcel through a transfer of existing development rights to properties within the receiving districts in each town. The allocation mechanism, however, is incomplete, since it fails to specifically allocate PBC credits to core area properties which are zoned other than residential. Rather, Section 6.3.2 leaves the question of non-residential properties to the discretion of the Pine Barrens Credit Bank and Clearinghouse and the individual towns.

There are two concerns raised by this omission. First, owners of non-residential properties in the core are provided no direct assurances that their economic interests are incorporated into the Land Use Plan. This does not mean that the owners will be denied an opportunity to receive a fair return on their properties. It only means that the mechanism for establishing how that return will be earned is not specified. Among the possible alternatives include a subsequent allocation of PBC credits by the towns or by the Pine Barrens Credit Bank and Clearinghouse (see discussion below) or the acquisition of the properties or the development rights attached to the properties. With respect to the second option, it should be noted, however, that acquisition priorities specified in the Plan do not always include such non-residential properties. The Town of Brookhaven, for example, identifies "... residential parcels within the Core Preservation Area in

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<sup>8</sup>Central Pine Barrens Comprehensive Land Use Plan, Central Pine Barrens Joint Planning and Policy Commission, April 1995, Section 6.3 et. seq.



those school districts which are most adversely impacted by the Plan." (Section 6.4.2.4.2) In contrast, acquisition priorities in the Town of Southampton include industrially zoned land, as well as a recognition that it may be necessary to extend the allocation of PBC credits to these property owners. (Section 6.4.4.1)

The second concern relates to the possible extending of PBC credits to industrial and commercial land in the Core Preservation Areas and what this might do to the balance in the Plan between sending and receiving areas. As will be discussed later in this report, the existing relationship between sending and receiving areas identified in the Plan is already marginal and in places inadequate. If additional PBC credits are allocated by the towns or by the Credit Bank and Clearinghouse, it may be necessary to identify additional receiving areas in the appropriate school districts within the towns.

The allocation plan is computationally very straightforward and, as the examples presented in Figure 6-2 of the Plan demonstrate, should be understood by property owners in the Core Preservation Area. One technical point, however, does require clarification. Section 6.3.1.1.9 provides that any fractional allocation of PBC credits shall be rounded to the nearest one hundredth. However, the example provided in Figure 6-2 (Example 3) suggests that the rounding algorithm should be rounded **up** to the nearest one hundredth. This is a small point, but may create some confusion if not modified.

A somewhat more likely concern of property owners is the relationship between allocated credits and the "market value" of property. Because the plan allocates PBC credits based on "development yield" and not market value, there will invariably be situations in which the development values of properties within the Core Preservation Areas exceed the potential value of credits allocated to those parcels. Similarly, the reverse will occur as well, where the number of credits allocated to certain parcels exceeds the development values of those parcels. This is an unavoidable problem, which may be best addressed through the establishment of a grievance or appeal procedure through which landowners could challenge the PBC credit allocation system. It may be useful to include such a procedure explicitly, including the criteria for review and evaluation, as a component of the Pine Barrens Credit Program.

## **B. Pine Barrens Credit Redemption**

The allocation mechanism, however, does not determine the value of the credits. This is

determined primarily through the redemption system; that is, how PBC credits may be used to enhance the value of properties within the receiving districts. Thus, it is necessary to examine the receiving districts to determine whether and to what extent the PBC credits will be valued.

### 1. The Receiving Districts

The Plan establishes general definitions with respect to receiving districts and identifies certain such districts which have already been designated by the towns. In addition, in Section 6.5, the Plan establishes target ratios of receiving districts to sending districts:

- a. The total number of receiving districts must be of sufficient quantity and quality to accommodate at least 2.5 times the number of PBC credits available for allocation within each town. (Section 6.5.2)
- b. Each town must designate a minimum number of "as of right" receiving areas equal to the total number of PBC credits allocated within the town. (Section 6.5.2.1)

The first of these target levels is a very reasonable one and, if achieved, will result in an economically feasible transferrable development program. In contrast, the second target level regarding the ratio of as of right receiving districts to the total PBC credit allocations in each town provides little margin for the market to function. This can become troublesome if the towns delay in identifying non as of right receiving districts or if those which are identified are inconsistent with real estate market conditions in the region. This cannot be determined ex ante, but rather will depend on the nature of the rules and regulations governing development in these non as of right districts.<sup>9</sup>

The towns have sought to meet these targets in the Plan through the identification of residential overlay districts (RODs) as well as through innovative planning techniques such as Planned Development Districts (PDDs), Planned Retirement Communities (PRCs) and other zoning incentives. Because the towns have taken different approaches to the identification of receiving districts, it is useful to examine separately the programs of each town.

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<sup>9</sup>For example, simply because a town may have identified a receiving district as a Planned Development District (PDD) does not guarantee that there will be any market created for PBC credits. Such a market will only form if the potential uses of the credits are economically valuable.

a. Brookhaven

The Town of Brookhaven has identified a number of currently zoned A1 and A2 parcels (1 acre and 2 acre residential) as as of right receiving districts. Development intensity in these receiving districts is permitted under the Plan to increase through the elimination of the yield factor when accompanied by the utilization of PBC credits. Given the current yield factors, this translates into a maximum density bonus of 25%. It should be noted, however, that the full bonus may not be receivable on certain properties, since the Plan requires that such development must "... allow for the construction of necessary roads and recharge basins, and the possible dedication of open space." (Section 6.4.2.2.2) Since this allowance is generally included in the yield factor, the elimination of the yield factor may not be complete and thus the maximum 25% density bonus may not be achieved.<sup>10</sup>

The Plan does permit further density bonuses if these are necessary to comply with the target ratio levels required in each town. However, such bonuses are limited by the minimum lot size requirements of Section 6.4.2.2.2 of 30,000 sq.ft. in A1 and 60,000 sq.ft. in A2. The effect of this additional density bonus is to provide a maximum additional bonus of 33%, again depending upon the nature of the parcel and the proposed development.

As shown in Exhibit 1, the total number of sending credits exceeds the total number of receiving districts in Brookhaven by a considerable margin, when it is assumed that the yield factors are eliminated through the use of PBC credits and the maximum 25% density bonus applies in both A1 and A2 parcels in the receiving districts. If it is possible to reduce lot sizes to 30,000 and 60,000 sq.ft. for zones A1 and A2, respectively, and thus capture an additional 33% density bonus, the total available receiving credits increases by 427 to 1,720. This results in an overall ratio in Brookhaven of 1.04 to 1. Since these receiving parcels are all as of right parcels, the ratio is just above the target ratio established in the Plan.

The Plan indicates that transfers of development rights must be performed "... in a manner which will allow for the preservation of the Core Preservation Area without a significant negative environmental or economic impact on the rest of the Town." (Section 6.4.2.4.3) No explicit prohibition has been included in the Plan which would prohibit the transfer of development rights

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<sup>10</sup>Our economic analysis does not factor in these allowances as they will vary on a parcel by parcel basis and on the nature of the development undertaken. Thus, the economic analysis errs to some limited extent in a way which is favorable to the economics of the Plan.

across school district boundaries within the town. However, it is our understanding that the intent of the above section is to avoid such transfers and that the Town Planning Board will act accordingly in its review of development proposals.<sup>11</sup>

Based upon this understanding, the townwide ratios of receiving areas to PBC credits allocated is less meaningful than similar ratios within each of the school districts. Referring to Exhibit 1, it is evident that the opportunity to utilize PBC credits on an as of right basis in identified receiving districts varies substantially from school district to school district. Certain school districts, such as Mount Sinai and Three Village, have receiving districts but are allocated no PBC credits, while others such as Eastport and Rocky Point are allocated far more credits than identified receiving districts. The inability to transfer PBC credits across school district boundaries will make the Plan economically unfeasible, unless substantial additions to the receiving areas in Brookhaven are made or alternatively an acquisition strategy is implemented to absorb excess PBC credits in selected school districts.

Interestingly, there does not appear to be any serious problems with the Plan with respect to the economic value of PBC credits. Again, referring to Exhibit 1, based on the economic model described in the Technical Appendix, the estimated value of PBC credits ranges from a low of about \$3,500 per credit in the Longwood School District to almost \$25,000 per credit in the Three Village School District, assuming that the credits could be transferred across school district boundaries. (For a more detailed discussion of the economic value of PBC credits, see that specific section later in this report.) Since recent properties in the Core Preservation Area have been purchased through government acquisition programs for approximately \$8,000 to \$10,000 per acre, the PBC Credit Program, with the possible exceptions of certain school districts such as Longwood and South Country, would provide core area property landowners with a clear opportunity to realize the full economic value of their property. It is important to restate, however, that this could only occur if PBC credits could be transferred across school district boundaries and/or the number of receiving districts were increased substantially in certain school districts.

#### b. Riverhead

The Town of Riverhead has proposed a Plan which is very different from those proposed by

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<sup>11</sup>This understanding is based upon conversations with the Commission's legal counsel.

Brookhaven and Southampton. Unlike the other two towns which have focused attention on residential development, Riverhead has structured its plan to encourage additional commercial development by restricting the use of PBC credits to commercial and industrial development only. Under the Riverhead plan, use of a PBC credit permits an increase in commercial or industrial development intensity equal to 300 gallons per day per acre. This effectively doubles the potential commercial and industrial development intensity in the receiving districts, and thus represents a 100% bonus, assuming all other aspects of the town zoning code can be satisfied.

The total PBC credit allocations and receiving areas for Riverhead are presented in Exhibit 2. Because Riverhead is a single school district, no further breakdowns within the town are required. As indicated, the ratio of PBC credits allocated to receiving districts is 3.11 to 1, well above the target level of 2.5 to 1 established in the Plan. Further, since all of the receiving districts in Riverhead are as of right districts, the 1 to 1 requirement is also exceeded by a substantial margin.

As discussed further in a later section of this report, the economic value of PBC credits in Riverhead is estimated to be approximately \$12,500, or a little in excess of the current market value of Core Preservation Area property as measured by recent sales prices. Of course, this value is very much dependent upon the economic strength of the commercial and industrial sectors in the region. Barring a major economic recession, since the ratio of receiving districts to allocated credits is so favorable, normal growth in these sectors should be able to absorb the PBC credits allocated in Riverhead in a timely fashion and in a manner which preserves economic values. To the extent that Riverhead is successful in accelerating the development of Calverton and the retail activity in the town, the economic value of PBC credits may increase.

### c. Southampton

The Town of Southampton has defined two types of receiving districts, (a) as of right districts established through residential overlays and (b) other innovative planning areas such as Planned Development Districts and approaches which favor developments such as tourism, senior housing, medical centers and commercial and retail projects.

In the residential overlay districts, a PBC credit permits an increase in density equal to 1 dwelling unit, at an average of 1 unit per acre. (Section 6.4.4.2) Based upon this density, the total number of PBC credits allocated in Southampton exceeds by a considerable amount the number of receiving districts, as shown in Exhibit 3. However, Section 6.4.4.2 also indicates that allowable densities can fall to 1 unit per half acre where this would be necessary to meet the target ratio

levels established in the Plan. While this helps in terms of increasing the number of receiving districts, the town still falls well short of the 2.5 to 1 ratio overall and the 1 to 1 ratio with respect to as of right districts.

Unlike Brookhaven, Southampton is much clearer with respect to its intention of permitting inter school district transfers of PBC credits. As stated in Section 6.4.4.2, "... The as of right receiving areas are designed to accommodate those Pine Barrens Credits from the Core Preservation Area within the same school district. In no case will it be necessary to cross school district boundaries on an as of right basis." While this may be the intent of the Plan, the receiving districts as identified by the town are inadequate to achieve this objective. As shown in Exhibit 3, two of the school districts, Hampton Bays and Riverhead<sup>12</sup>, have no receiving areas even though they have been allocated PBC credits, while two of the other school districts lack sufficient receiving district capacities to accommodate the credits within their borders. The overall inadequacy of the identified as of right receiving districts and the mismatch of PBC credits and receiving districts within each school district will render the plan economically unfeasible, unless these surplus PBC credits are removed through acquisition or alternatively the town moves rapidly to identify alternative uses for the PBC credits as described in Section 6.4.4.3.

As with Brookhaven, the economic value of the PBC credits, absent any constraint on inter school district transfers, is far more than adequate to compensate property owners for the economic value of their properties. As shown in Exhibit 3, the average value of the almost 300 PBC credits absorbed by the identified receiving areas is over \$42,000 each.

## **2. The Value of Pine Barrens Credits**

Estimating the market value of PBC credits is a difficult task, as it will depend upon the underlying value of real estate in the three towns. Because the PBC credits permit more intensive use of land, they will be more valuable in those instances in which the land itself is more valuable and where the permitted increase in intensity is greatest, all other things being equal.

The model used to estimate the value of PBC credits incorporates this basic relationship. (A detailed description of the model and estimation procedure can be found in the Technical

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<sup>12</sup>At one point there was discussion about permitting those PBC credits allocated to core property owners in the Riverhead school district in Southampton to utilize them within the Town of Riverhead. This would have minimal effect on the Riverhead plan and would address one aspect of the weakness of the Southampton plan. No mention of this provision exists in the Plan, however, and thus has not been considered in this report.

Appendix.) For residential uses, a PBC credit effectively equates to a rezoning of a parcel to permit a higher development yield, e.g., from 2 acre to 1 acre zoning.<sup>13</sup> Thus, if it is possible to estimate the difference in value among properties with different zonings (controlling for other factors which might affect property values such as school district location and shore-front location), these differences will serve as a good approximation of the value of a PBC credit.

Fortunately, it is possible to perform such an estimation utilizing recent market sales of vacant land in the three towns. The resulting relationship between the value of vacant land and the location and development potential of that land can be used to estimate the value of a PBC credit. Further, since this relationship will depend upon the location of the parcel, the quality of the parcel, its size and current zoning, it is possible to generate estimates of the value of a PBC credit when utilized to enhance the development potential of each of the parcels in the receiving districts.<sup>14</sup> If these different values are then rank-ordered from lowest to highest and displayed graphically, the result will be what economists refer to as a "demand curve" for PBC credits, showing how many of the credits will be purchased if the market price is established at any specific level.

Exhibit 4 presents such a demand curve for industrial and commercial PBC credits in Riverhead. (Only industrial PBC credits are included as only industrial receiving districts are identified in the draft plan.) What this graph indicates is the number of receiving district parcels for which the value of a PBC credit exceeds a specific level. Thus, for example, if the value of a PBC credit is equal to \$20,000, the demand for such credits would be approximately 200. As the number of parcels transferred increases, the value of the credit decreases, simply because the parcels have been rank-ordered so that the value of an additional residential unit falls as each successive parcel is considered. Ultimately, the value of each credit will depend upon the strength of the residential housing market. If that market is strong (and thus the value of the underlying property in the

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<sup>13</sup>The situation is similar for commercial and industrial uses where a PBC credit provides for more intensive use of property by increasing the permissible level of sewerage flows.

<sup>14</sup>It should not be surprising that the value of a PBC credit will depend upon the nature of the parcel in which it is used. To see this clearly, consider two parcels -- the first is a ten acre parcel zoned for 10 acre residential development in a high quality school district and close to the shorefront, and the second is a one acre parcel zoned for 1 acre residential development in a below average school district and close to a shopping plaza. Obviously, the underlying value of the first parcel will be substantially greater than the second parcel. Equally obviously, the ability to create a second residential unit on the first parcel will be worth much more than a similar ability to create a second residential unit on the second parcel. Yet, this is precisely what a single PBC credit would permit -- the creation of a second unit on either parcel. Accordingly, its value will be greater if it is used in the first instance.

receiving districts is high), developers will be willing to pay more for a PBC credit, assuming that those who hold the credits are willing to sell them at prices developers are willing to pay.<sup>15</sup>

This last point is very important. If those to whom PBC credits are allocated choose not to sell them because they believe the offering price is too low, then they will not be utilized for that purpose at that time. This might occur because the holders of credits believe they can obtain higher prices in the future and thus elect to hold onto the credits as a form of speculation.

Since 393.22 PBC credits have been allocated to owners of residential properties within the Core Preservation Area in Riverhead, the market clearing price is estimated from the exhibit as approximately \$12,500. (Note -- the scale of the horizontal axis in this exhibit is linear and thus each tick mark represents \$2,000 of value.) This number also appears in Exhibit 2, as noted in an earlier section of this report.

This same estimation procedure has been performed for the towns of Brookhaven and Southampton to estimate relationships between the value of property and the zoning classification or intensity of permitted residential development. In addition, because each of these towns includes more than one school district, a school district variable was included in the model to capture the effects of school district location on property values. Thus, the estimation process generates "demand curves" for PBC credits in each of the school districts in the two towns. From these demand curves, it is possible to then estimate the economic values of the credits when used in developing those properties identified by the towns in their respective receiving districts.

The results of this estimation are shown in Exhibits 1 and 3 as the average value of PBC credits in each of the school districts.<sup>16</sup> For example, in Exhibit 1, the \$24,380 for the Three Village School District represents the market clearing price for PBC credits assuming that 27 of them were used in the district. Similarly, were all 538 credits used in Longwood, the market clearing price for these credits would be \$3,499. The reasons why this is so far below the Three Village price are two. First, far fewer credits need to be absorbed into the Three Village real estate market than into the Longwood market, and thus prices do not have to fall so far to accommodate this higher

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<sup>15</sup>This would be reflected in Exhibit 4 as a shift upward in the demand curve so that at each price level, developers will demand a larger number of credits because of the stronger housing market in the region.

<sup>16</sup>Note that no value is computed where there are no receiving parcels. This is because the value of a PBC credit can only be determined at a specific location -- it has no value in the abstract, except speculative value, which itself is tied to location. Where no locations exist where they can be used, PBC credits can have no value.



level of demand. Second, the residential real estate market in the Three Village area is far stronger and much more valuable than in Longwood. Thus, the ability to increase density is worth considerably more in the Three Village area than in Longwood.

### C. Impact on Overall Development in the Region

To the extent that the land use plan is successful in meeting one of the objectives of the legislation to "... accommodate a portion of development redirected from the preservation area", there should be minimal if any impact on the overall development in the three towns of Brookhaven, Riverhead and Southampton. What development that would have occurred in the Core Preservation Areas will have been transferred through the Pine Barrens Credit Program to receiving districts. For this to occur, however, the Land Use Plan must identify receiving districts which are of sufficient capacity to accommodate the full amount of PBC credits allocated to parcels in the sending districts and all parcels in the sending districts must be allocated PBC credits.<sup>17</sup>

As noted above, the Plan relies to a considerable extent upon land acquisition and upon the towns subsequently identifying adequate receiving district capacities, much of which is not as of right but rather incorporates innovative land use concepts, e.g., PDDs, PRCs, etc., or relies upon incentive zoning. With respect to the former, property is removed from potential development and thus by definition, maximum buildout potential will diminish. This is unlikely to have any serious short-term impacts with respect to overall levels of residential development, since a considerable amount of property is still available to be developed and, in fact, the opportunity to develop at greater intensities might actually serve to accelerate development which would otherwise have taken longer to occur. The impact of acquisition on commercial and industrial properties will likely be small in the short-term as well, but for different reasons. There is relatively little commercial and industrial property in the Core Preservation Areas as compared to what is

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<sup>17</sup>S 57-0119.8.(a) of the Act requires the Commission to "Identify receiving districts within and without the Central Pine Barrens sufficient to receive transfer of rights and values of the core preservation areas and for the continuation of an adequate program of development rights or development values." The perceptive reader will recognize this issue to be the inverse of the one discussed immediately above. If the Pine Barrens Credit Program is successful in protecting the development values of properties within the core preservation areas, the credits will be sold and utilized to support development in the receiving districts in the same way that the underlying property would have been sold and developed, but for the legislation. Thus, the PBC Program would have no impact on the overall level of development, only the location of that development will be affected.

currently available throughout the three towns. In light of the generally slow real estate market for this type of property, the removal of the core acreage should have only minimal impact on overall development. Over the longer-term, however, as the real estate market recovers, the loss of this property may have a somewhat greater impact.

The impact of the latter concern on the overall economic development in the region will depend upon the nature of the rules and regulations governing the development of the types of land use activities identified by the Towns of Brookhaven and Southampton to absorb the excess PBC credits. If the towns are slow to identify additional opportunities to use the credits or if the opportunities are severely limited because the identified uses are uneconomic or otherwise not consistent with the real estate market, PBC credits will not be usable and there will be increased pressure to acquire them to protect the property values of Core Preservation Area landowners. Whether or not the PBC credits are actually acquired, their underlying property will have been effectively removed from the development market and not replaced by higher density potential elsewhere. As above, this could impede overall development in the region, but probably only at the margin and only in certain specific cases.

## SECTION II

### ECONOMIC IMPACT OF THE LAND USE PLAN

In establishing the Central Pine Barrens Joint Policy and Planning Commission, the Legislature recognized that the strategies and actions it would undertake to preserve and protect the core preservation areas would result in the redirection of development to other areas of the region. As a result, the legislation requires that the comprehensive land use plan developed by the Commission include "Provisions for cumulative impact analyses, both environmental and economic, for the effects of development, preservation, financial policies and related factors upon the Central Pine Barrens area, its private and public open space, its residents and constituents, school and special districts, and other pertinent aspects or demographic sectors."<sup>18</sup> The purpose of this section of the report is to evaluate the probable economic impacts the draft land use plan will have in the three town region.

While the Land Use Plan will certainly have many economic impacts in the towns of Brookhaven, Riverhead and Southampton, there are three areas in which these impacts are potentially significant. These are:

- a. The impact on property tax collections in those areas designated by the Plan as "sending" districts.
- b. The impact on local school districts as a result of the redirection of economic activity created by the Plan, and in particular residential housing.
- c. The impact on other special districts, e.g., fire, sewer and water, sanitation, as a result of the redirection of economic activity created by the Plan.

This section of the report focuses on these areas.

#### A. Property Tax Impacts

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<sup>18</sup>S 57-0121.6.(p)

The Land Use Plan directly impacts property tax collections throughout the region primarily through the Pine Barrens Credit Program.<sup>19</sup> In particular, the development values of properties in the Core Preservation Area will be transferred into values as PBC credits. Further, as these credits are used in the designated receiving districts, property values in these districts will increase as a result of their more intensive development. The net effect will be to shift property valuation from the Core Preservation Areas to the receiving districts in each of the towns. However, to the extent that the Plan and its subsequent implementation by the towns prohibits the transfer of PBC credits across school district boundaries, the net effect of the shift of property values will be negligible.

The issue, however, is not this simple due to the creation of a new financial instrument called a Pine Barrens Credit. As noted above, this instrument is defined to absorb the full development value of properties lying within the Core Preservation Area. The instrument itself, however, is not real property, at least as that term is commonly defined, and thus it is unclear whether or not the act of creating credits in and of itself diminishes the amount of taxable property in the Core Preservation Areas. Certainly, this is what would occur if these development rights or the land itself were purchased by the government for preservation. Similarly, were the government to enact more stringent zoning ordinances limiting development on these properties and these ordinances resulted in a reduction of market value, the property tax base would be reduced.

Earlier versions of the plan sought to address this issue by stating that

"A PBC issued under the Plan shall be evidence of an interest in real property, as the term is defined in the Real Property Law of the State of New York and shall be subject to taxes under the provisions of the Real Property Tax Law and the Suffolk County Tax Act."<sup>20</sup>

The impact of this assertion is very important for a number of school districts and other special

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<sup>19</sup>It is possible that there may be secondary property tax impacts as well. For example, the permanent open space created by the land use plan might serve to enhance the values of residential properties immediately adjacent to or nearby this open space, thereby increasing property tax yields. Alternatively, the more intensive development fostered by the PBC Program in the identified receiving districts may negatively impact property values and tax yields on those properties adjacent to these districts. In both instances, it is likely that these impacts will be small and certainly very speculative. Thus, they have not been included in this report.

<sup>20</sup>Draft Plan: Central Pine Barrens Comprehensive Land Use Plan, Central Pine Barrens Joint Planning and Policy Commission, July 14, 1994, p. 213.

districts which lie wholly or in part within the Core Preservation Areas. If the courts will recognize PBC credits as real property, then the property tax impact of the land use plan in these districts is far less serious, since property tax collections will be impacted only as the PBC credits are utilized in receiving districts.<sup>21</sup> If, on the other hand, the courts do not recognize PBC credits as an interest in the underlying real property, then the property tax impacts will be immediate and far more serious as a significant amount of property tax base would be instantly removed from the tax rolls. Of course, over time, as the PBC credits are used to permit increased residential development and thus "converted" back to real property, the lost property tax base will be restored. This restoration will not occur, however, for those Core Preservation Area properties which are acquired. In these instances, the property tax revenue stream will be lost forever, unless government agrees to some form of payment in lieu of property taxes.

This report offers no opinion as to how courts might rule on this issue. It does, however, provide an estimate of the property tax impacts by school district under the worst case in which the courts refuse to recognize PBC credits as "evidence of an interest in real property."<sup>22</sup> Exhibit 5 depicts these impacts by school district, both in terms of the absolute reduction in property tax base and as a percent of total valuation. (Note that these impacts are calculated based on the assumption that the development values of properties in the Core Preservation Areas represent 100% of the properties' unencumbered market values.) This exhibit indicates that, even under the worst case scenario, most school districts face only marginal impacts as a result of the loss of property tax base due to the development prohibition on properties in the Core Preservation Areas. This result is not surprising, since much of the property valuation in each of these school districts derives less from vacant land and considerably more from the value of improvements on developed land.

Nevertheless, there are a handful of local school districts which face potential impacts in excess of 3% and thus of a magnitude which could cause concern at the local level. Eastport is the most

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<sup>21</sup>In fact, there may be more risk to property tax collections than stated here. For example, the establishment of PBC credits and their definition as real property will require that they be assessed by the Towns. It follows, then, that the underlying properties will also require reassessment to ensure that no residual development value is reflected in the assessed values of properties in the Core Preservation Areas. There is, of course, no guarantee that the sum of these two processes will recreate the original assessed values. Once the development values and residual values of properties have been separated, there may be no way in which they can be put back together. This is especially true when they are held in separate ownership, as when the PBC credits are sold for speculative purposes.

<sup>22</sup>This case, interestingly, is similar to a situation in which the State of New York (or some other government agency or qualifying not-for-profit organization) purchased the development rights of these properties and refused to make any payments in lieu of taxes on this acquired property or interest in this property.

seriously impacted by the Land Use Plan, since a relatively large portion of the school district lies within the Core Preservation Area. Were the courts not to accept the PBC credits as evidence of an interest in real property, or were the PBC credits allocated to property owners in Eastport utilized in the very near future to develop properties in the receiving districts, the immediate impact would be a 10% increase in property tax rates. A lesser, but still significant property tax increase of slightly over 6% could occur in South Manor, while increases of almost 4% and slightly over 3% could follow the implementation of the PBC Program in Westhampton Beach and East Quogue, respectively.<sup>23</sup> It bears repeating, however, that over the longer-term the potential loss of property valuation from the tax rolls may be mitigated by increasing the number of receiving districts and thereby stimulating development in those school districts facing the largest potential impacts.

### B. School District Impacts

Of more concern than the loss of property tax base has been the fiscal impact on local school districts as a result of the redirection of residential development into designated receiving districts. Local school districts have long recognized that residential development "does not pay for itself", given the tax and spending structures for education in New York State. What this means is that each additional residential unit, on average, creates more spending obligations on local school districts than it generates in local property tax revenues and state financial assistance combined. To the extent, then, that the Pine Barrens Credit Program redirects residential development from the sending to the receiving districts, the school districts which encompass those receiving districts may be negatively impacted. This will be especially true for those districts which are at or near the capacity of their existing physical plants and which might have to construct new schools or expand existing ones to accommodate additional student enrollment.

The potential school district impacts are mitigated to a large degree by the prohibition against permitting PBC credits to cross school district boundaries. The effect of this prohibition is to ensure that no more development can occur within any given school district than is currently possible under maximum buildout assumptions. While it is possible that the PBC Credit Program

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<sup>23</sup>To a varying degree, these property tax impacts would be somewhat offset by increases in State aid for local education, since the distribution formula incorporates relative assessed valuations in the local school districts. The magnitudes of these offsets are, however, likely to be small, and would be delayed up to two years in accordance with the operation of the school funding formula.

may accelerate or retard residential development under certain situations, this would occur on a case by case basis and not systematically by school district or by town.<sup>24</sup>

### C. The Impacts on Other Special Districts

The ability to estimate the impact of the Land Use Plan on other special districts within the region is hampered considerably by the absence of good quality GIS coded computer maps for these districts. This makes it very difficult to determine which parcels in the sending and receiving districts lie within which special districts. Nevertheless, it is possible to draw general conclusions about the probable impacts in certain situations.

#### 1. Transportation Networks

Because the Pine Barrens Credit Program redirects development, the overall level of development in the three town region is changed very little by the program. Further, because of the inter school district transfer prohibition, the inter school district distribution of development will change very little if at all and certainly well within the tolerances of existing highway capacities.

This general finding notwithstanding, it is possible that there may be certain instances where additional residential, commercial or industrial development creates very localized traffic impacts.<sup>25</sup> These are best addressed in conjunction with the local permitting decisions and may involve requirements placed on developers to upgrade intersections, install traffic lights or turning lanes or otherwise accommodate increased traffic flow in and around a specific development.

As a general conclusion, however, it is certainly the case that the Pine Barrens Credit Program will create no additional needs to upgrade or expand major arteries within the region and highly

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<sup>24</sup>One way development may be accelerated within a school district is if the use of PBC credits increases density in an area which is under development and the PBC credits used originate from areas which are unlikely to be developed over the near term. Alternatively, the opposite could occur wherein no readily available options exist to use the PBC credits, which originate from properties in the Core Preservation Areas which otherwise would have been developed very rapidly

<sup>25</sup>These localized traffic impacts are more likely to accompany development associated with PDDs or other situations in which development is clustered. For those situations in which PBC credits are used in residential overlay districts, the increase in the number of units will be small and should create no additional traffic impacts.

unlikely that the Program's impacts will necessitate any additional capacity enhancements or improvements in local service roads, except as noted above.

## 2. Fire Districts

The geographic identification of local fire districts within the region is especially difficult because of the lack of computerized maps. With this caveat, there are two concerns with respect to fire districts which should be noted as they could create economic hardships for certain local fire districts.

The first concern may affect local fire districts with substantial areas included in the Core Preservation Area. As shown in Exhibit 5, depending upon whether the courts determine that the PBC credits are real property and subject to the local property tax, these fire districts could face property tax base losses of sufficient magnitude to threaten their economic viability. This would be especially true for any such districts which lie wholly or in large measure within the Core Preservation Area.

The second concern is a more general one relating to the ongoing management activities of land in the Core Preservation Area, and in particular the need to periodically burn regions within the pine barrens. While the Plan is clear that volunteer fire departments are not expected to be the lead agencies or to provide crews or equipment, the Plan does not set forth a fire management program and thus it is unclear what responsibilities or obligations will fall on local fire districts and whether or not there will be resources provided to permit these districts to carry out these responsibilities.

## 3. Sewer Districts

As with the transportation system, the impacts of the Pine Barrens Credit Program on sewer districts in the region are likely to be negligible in general, though possibly significant in certain localized situations.<sup>26</sup> In most situations, these requirements will be handled locally between the developer and the town according to established building codes and zoning requirements, and as with specialized transportation improvements, will likely involve requirements imposed on the

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<sup>26</sup>One situation which is explicitly recognized in the Plan is with respect to residential densities as low as 1 unit per half acre in Southampton necessitated by the need to meet target ratio levels. "For those sites, incorporation of a sewerage treatment plant would be required by the Suffolk County Sanitation Code." (Section 6.4.4.2)



developers to adequately address sewerage issues.

## SECTION III

### ADDITIONAL QUESTIONS AND CONCERNS

This section of the report examines specific issues related to the Comprehensive Land Use Plan. Because they are specific issues, they may or may be related.

#### A. Land Acquisition Strategy

The Land Use Plan identifies a number of ongoing programs as well as other potential programs designed to acquire or otherwise protect land within the Core Preservation Areas. Among the land acquisition programs are the New York State DEC Open Space Priority Projects (\$10 million budgeted in 1995 for Central Pine Barrens core acquisitions) and the Suffolk County Drinking Water Protection Program (in which the County has committed \$10 million of its original \$13 million for Pine Barrens acquisitions.) These represent substantial amounts of money which could be used most effectively if coordinated with the Pine Barrens Credit Program and the overall activities of the Commission.

For example, consider three potential uses of the funds which would support the activities and programs laid out in the Plan. First, to the extent that the funds are to be used for fee-simple acquisition, they can be most effectively spent to acquire commercial and industrial properties in the Core Preservation Areas, since these properties have not been allocated PBC credits.

Alternatively or in addition to the above acquisition strategy, the funds could be "stretched" through the acquisition and subsequent retirement of PBC credits. This would be roughly comparable to the simple purchase of development rights, and because development rights are generally slightly less valuable than fee-simple acquisition, more land can be preserved for a given level of funding. One advantage, however, to purchasing PBC credits as opposed to development rights is to provide additional legitimacy for the PBC Program. In addition, this activity would complement any actions taken by the Clearinghouse to stimulate the creation of secondary markets for PBC credits.

Third, the funds could be used in direct support of the Pine Barrens Credit Program as "seed"

money to stimulate the market for PBC credits.<sup>27</sup> Early intervention in this market by the land acquisition programs in acquiring PBC credits, even if those credits are subsequently resold at a later date, would provide additional validity to the PBC Program and help ensure that the Program works to preserve the rights of landowners in the Core Preservation Areas. This is important, because the PBC Program can achieve the same result as land acquisition but at considerably less public expense, thus freeing the land acquisition resources to pursue properties which would otherwise have no sources of protection.

Finally, the co-existence of acquisition programs and the Pine Barrens Credit Program could potentially create separate and different values for essentially the same commodity -- the development rights of Core Preservation Area properties. Gresham's Law would apply in such a situation, and the program which yields the higher value will drive the other out of the market, during which time both markets will become destabilized due to speculation and gaming behavior. The potential for this to occur is reduced if coordination among the programs is achieved, so that government does not compete against itself to accomplish the goals set forth in the Pine Barrens legislation.

As these three examples illustrate, there is a potential synergy between the efforts of the Commission and those of other agencies seeking to protect the central pine barrens. These opportunities should be more explored fully and incorporated into the Land Use Plan.

## **B. Pine Barrens Credit Bank and Clearinghouse**

The Land Use Plan proposes the establishment of an entity called the Pine Barrens Credit Bank and Clearinghouse "... that will purchase, sell and track Pine Barrens Credits" (Section 6.6) Included among its defined tasks are the issuing of PBC credits, the recording and tracking of the sales and uses of PBC credits through the establishment and maintenance of the Pine Barrens Credit Registry, and as a purchaser and/or seller of these credits. A single Clearinghouse is proposed to serve all three of the towns in the central pine barrens. Funding to support the operations of the Bank and to capitalize the Clearinghouse is discussed elsewhere in the Plan, and an amount equal to \$5 million has been identified for this purpose.

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<sup>27</sup> The use of funds for this purpose would be similar to one of the functions identified for the Pine Barrens Credit Clearinghouse.

There are two issues which should be clarified further regarding the operation and funding of the Clearinghouse. First, because the PBC credits represent interest in real property, there must be a mechanism established to ensure that this interest is recorded on the deeds of each parcel in the core preservation areas. This must be accomplished in close cooperation with the Register of Deeds in each of the towns.

Once the allocation of PBC credits, and thus the separation of development and residual values, is performed and recorded, it will be necessary to track the sale and use of PBC credits on parcels in the receiving districts. This must be accomplished in cooperation with the town zoning boards or other municipal authorities with jurisdiction over land use issues and permitting, since the use of PBC credits effectively alters the zoning for those parcels.

The second issue concerns the funding requirements necessary to capitalize the Clearinghouse to permit it to function as a purchaser in the PBC credit marketplace to stimulate this market. The analysis performed to estimate the value of PBC credits indicates that the market clearing price for the credits will vary by town and within town by school district, but generally will likely be above the current market value of much of the land in the Core Preservation Area. Accordingly, it is unlikely that the market for PBC credits will not develop. On the contrary, assuming that a final plan is adopted and determined to be economically feasible, it is more likely that the market will witness an initial flurry of activity, much of it speculative, as developers seek to acquire PBC credits to increase the density and reduce the cost of targeted development projects in the most attractive geographic locations development. As a result, the initial capitalization requirements of the Clearinghouse for this purpose are not as significant as might otherwise have been the case.

In contrast, deficiencies in terms of allocations of PBC credits to non-residential properties and in terms of sufficient receiving districts in certain school districts to absorb PBC credits which have been allocated in these areas places a substantial burden on the Credit Bank and Clearinghouse to acquire either properties or PBC credits. Based upon an earlier report prepared for the Commission, were PBC credits allocated to non-residential properties in the Core Preservation Area, there would be a total of 391.1 allocated to commercial properties and 824.4 to industrial properties. Since this allocation was based on one PBC credit per acre, it may be assumed that there are approximately 1,215.5 acres of Core Preservation Area to which no PBC credits have been allocated under the Plan. At an estimated average purchase price of \$8,000 per acre, it would cost approximately \$9.7 million to acquire all of this property.

In addition, should the Credit Bank and Clearinghouse assume the responsibility of absorbing PBC credits which cannot be used in certain school districts because of a shortage of receiving

districts, it may have to acquire as many as 1,900 PBC credits as computed in Exhibit 6. Assuming that the economic value of PBC credit is comparable to fee-simple interest in the property, i.e., there is very little residual economic value for properties in the Core Preservation Area once their development rights have been severed, the total cost to acquire these PBC credits could run as high as \$15.2 million. Clearly, this latter cost would be significantly reduced through an expansion of receiving areas to absorb more completely the PBC credits allocated in each of the school districts.

The above discussion notwithstanding, it would seem prudent to consider restrictions on the use of Clearinghouse funds to purchase PBC credits in order to prevent either real or strategic "runs" on the Clearinghouse. One such restriction which has some promise is to limit the Clearinghouse's requirements to purchase PBC credits to those instances in which the credit holders have sought and been denied development approvals under the hardship provisions established by the Commission. Under this restriction, the Clearinghouse would be obligated to purchase the PBC credits of only those Core Preservation Area landowners who have a legitimate development opportunity for their properties, but cannot secure required Commission approvals. This safety valve would provide additional assurances to landowners (and the courts) that property values are not being confiscated by the Land Use Plan, while protecting the capitalization of the Clearinghouse from inappropriate demands that it act to acquire PBC credits.

One source of funding to capitalize the Clearinghouse which should not be overlooked, in addition to the \$5 million identified in the Plan, is the set of current land acquisition programs. As noted in an earlier part of this section, closer coordination between these land acquisition programs and the Commission could be very useful to both efforts. For example, if a portion of these land acquisition monies were used to acquire PBC credits through the Clearinghouse, the effect would be to stimulate the development of a private market for the credits. Over time the acquired credits could be sold and the proceeds used to underwrite the acquisition of other important properties in the region.<sup>28</sup>

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<sup>28</sup>There is a practical reason as well for suggesting closer coordination between these two efforts. Since both land acquisition and the PBC Program establish value for properties within the core preservation areas, it is important that they work together and not at cross-purposes. If the acquisition efforts pay too much for core properties, the value of the PBC credits will be undermined. Similarly, at high credit values (\$20,000, for example), it is unlikely that the land acquisition efforts will be successful.

## LIST OF EXHIBITS

- |           |  |
|-----------|--|
| Exhibit 1 | PBC Credits Allocated, Receiving Districts and Economic Values for the Town of Brookhaven  |
| Exhibit 2 | PBC Credits Allocated, Receiving Districts and Economic Values for the Town of Riverhead   |
| Exhibit 3 | PBC Credits Allocated, Receiving Districts and Economic Values for the Town of Southampton |
| Exhibit 4 | Demand for Industrial PBCs in Riverhead  |
| Exhibit 5 | Potential Property Tax Base Loss   |
| Exhibit 6 | Potential Cost of Acquiring PBC Credits Allocated But Which Are Not Absorbed By The Market |

**EXHIBIT 1      PBC CREDITS ALLOCATED, RECEIVING DISTRICTS AND ECONOMIC  
VALUES FOR THE TOWN OF BROOKHAVEN**

SCHOOL DISTRICT	SENDING CREDITS	RECEIVING DISTRICTS	RATIO OF SENDING CREDITS		AVG. VALUE OF PBC CREDITS
			TO RECEIVING DISTRICTS	(2)/(1)	
	(1)	(2)		(4)	
THREE VILLAGE	0	27	-	-	\$24,380
BROOKHAVEN-COMSEWOGUE	0	17	-	-	\$8,650
SOUTH COUNTRY	0	1	-	-	\$5,476
SACHEM	0	40	-	-	\$14,069
MOUNT SINAI	0	101	-	-	\$10,138
MILLER PLACE	0	105	-	-	\$7,456
ROCKY POINT	33	2	0.06		\$10,087
SHOREHAM-WADING RIVER	0	188	-	-	\$18,956
MIDDLE COUNTRY	0	25	-	-	\$18,343
LONGWOOD	476	538	1.13		\$3,499
SOUTH MANOR	105	96	0.91		\$13,740
PATCHOGUE-MEDFORD	0	53	-	-	\$12,275
EASTPORT	756	89	0.12		\$17,092
EAST MORICHES	0	9	-	-	\$9,364
CENTER MORICHES	0	2	-	-	\$9,651
RIVERHEAD	281	0	0.00		-
TOTAL	1650	1283	0.78		

**NOTE:** RECEIVING DISTRICTS ARE BASED ON AS OF RIGHT RESIDENTIAL OVERLAY DISTRICTS WITH BASE LEVEL DENSITY BONUS. ADDITIONAL DISTRICTS MAY BE CREATED BY INCREASING THE DENSITY BONUS OR BY IDENTIFYING ADDITION RECEIVING DISTRICTS THROUGH PDDs AND OTHER FORMS OF INCENTIVE ZONING.

**EXHIBIT 2      PBC CREDITS ALLOCATED, RECEIVING DISTRICTS AND ECONOMIC  
VALUES FOR THE TOWN OF RIVERHEAD**

SCHOOL DISTRICT	SENDING CREDITS  (1)	RATIO OF SENDING CREDITS TO RECEIVING DISTRICTS		AVG. VALUE OF PBC CREDITS  (4)
		RECEIVING DISTRICTS  (2)	(2)/(1)	
RIVERHEAD	495.6	1543.74	3.11	\$12,500
TOTAL	495.6	1543.74	3.11	



**EXHIBIT 3      PBC CREDITS ALLOCATED, RECEIVING DISTRICTS AND ECONOMIC  
VALUES FOR THE TOWN OF SOUTHAMPTON**

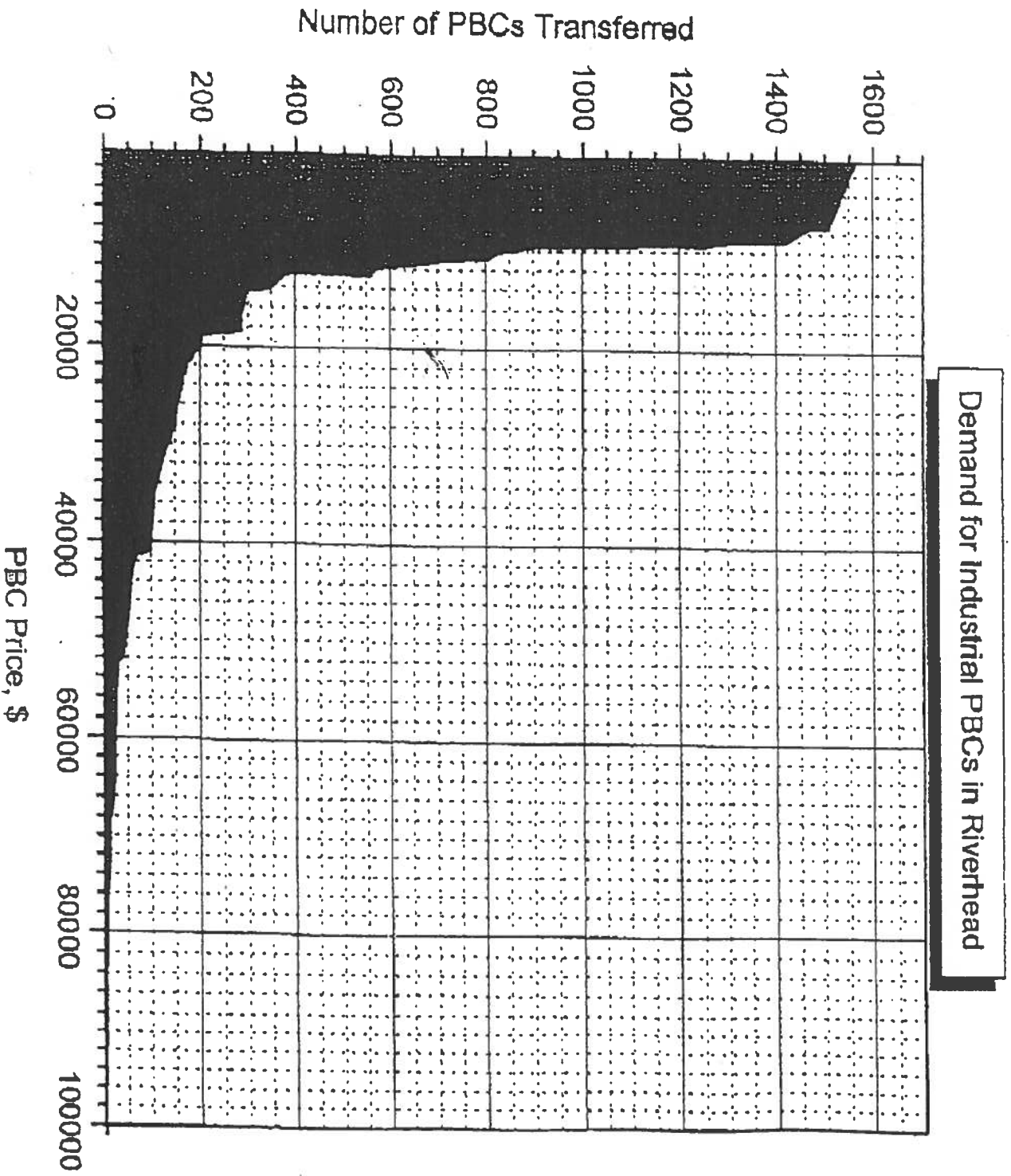
SCHOOL DISTRICT	SENDING CREDITS	RECEIVING " DISTRICTS	RATIO OF SENDING CREDITS TO RECEIVING DISTRICTS		AVG. VALUE OF PBC CREDITS
			(1)	(2)	
EASTPORT	21.29	48		2.25	\$36,347
REMSENBURG-SPEONK	189.93	159		0.84	\$48,628
WESTHAMPTON BEACH	198.54	86		0.43	\$33,985
HAMPTON BAYS	118.7	0		0.00	--
RIVERHEAD	127.87	0		0.00	--
TOTAL	656.33	293		0.45	

**NOTE:** RECEIVING DISTRICTS ARE BASED ON AS OF RIGHT RESIDENTIAL OVERLAY DISTRICTS WITH BASE LEVEL  
DENSITY BONUS. ADDITIONAL DISTRICTS MAY BE CREATED BY INCREASING THE DENSITY BONUS  
OR BY IDENTIFYING ADDITION RECEIVING DISTRICTS THROUGH PDDs AND OTHER FORMS OF INCENTIVE ZONING.

EXHIBIT 4

DEMAND FOR INDUSTRIAL PBCs IN RIVERHEAD

4/2/01



# **EXHIBIT 5** **POTENTIAL PROPERTY TAX BASE LOSS**

SCHOOL DISTRICT	TOTAL ASSESSED VALUE	ASSESSED VALUE		PCT. OF TOTAL ASSESSED	
		IN SENDING DISTRICTS	VALUE IN SENDING DISTRICTS	VALUE IN SENDING DISTRICTS	DISTRICTS
SHOREHAM / WADING RIVER	\$235,796,145	\$44,680		0.02%	
RIVERHEAD	\$575,542,108	\$15,295,330		2.66%	
EASTPORT	\$7,324,041	\$739,884		10.10%	
SOUTH COUNTRY	\$23,888,318	\$0		0.00%	
SACHEM	\$396,405,828	\$0		0.00%	
MILLER PLACE	\$15,145,733	\$0		0.00%	
MIDDLE COUNTRY	\$51,694,976	\$0		0.00%	
LONGWOOD	\$52,417,017	\$1,278,101		2.44%	
SOUTH MANOR	\$6,180,436	\$382,708		6.18%	
PATCHOGUE-MEDFORD	\$48,634,151	\$0		0.00%	
WILLIAM FLOYD	\$32,293,145	\$0		0.00%	
CENTER MORICHES	\$6,482,573	\$0		0.00%	
EAST MORICHES	\$5,906,178	\$0		0.00%	
ROCKY POINT	\$15,281,079	\$29,625		0.19%	
REMSENBERG-SPEONK	\$17,698,712	\$65,240		0.37%	
WESTHAMPTON BEACH	\$44,084,600	\$1,665,088		3.78%	
HAMPTON BAYS	\$36,075,336	\$143,740		0.40%	
EAST QUOGUE	\$17,073,885	\$529,030		3.10%	
QUOGUE	\$28,368,244	\$284,056		1.00%	

NOTE: ALL ASSESSED VALUES AS OF 1991-92

**EXHIBIT 6      POTENTIAL COST OF ACQUIRING PBC CREDITS ALLOCATED BUT  
WHICH ARE NOT ABSORBED BY THE MARKET**

SCHOOL DISTRICT	SENDING CREDITS (1)	RECEIVING DISTRICTS (2)	RATIO OF		EXCESS CREDITS BASED ON TARGET RATIO OF 2.5 TO 1 (1) - (2)/2.5
			SENDING CREDITS TO RECEIVING DISTRICTS (2)/(1)		
THREE VILLAGE	0	27	-		-
BROOKHAVEN-COMSEWOGUE	0	17	-		-
SOUTH COUNTRY	0	1	-		-
SACHEM	0	40	-		-
MOUNT SINAI	0	101	-		-
MILLER PLACE	0	105	-		-
ROCKY POINT	33	2	0.06		32.20
SHOREHAM-WADING RIVER	0	188	-		-
MIDDLE COUNTRY	0	25	-		-
LONGWOOD	476	538	1.13		260.80
SOUTH MANOR	105	96	0.91		68.60
PATCHOGUE-MEDFORD	0	53	-		-
EASTPORT	755	89	0.12		719.40
EAST MORICHES	0	9	-		-
CENTER MORICHES	0	2	-		-
RIVERHEAD	281	0	0.00		281.00
RIVERHEAD	495.6	1543.74	3.11		0.00
EASTPORT	21.29	48	2.25		2.09
REMSENBURG-SPEONK	189.93	159	0.84		128.33
WESTHAMPTON BEACH	198.54	86	0.43		164.14
HAMPTON BAYS	118.7	0	0.00		118.70
RIVERHEAD	127.87	0	0.00		127.87
TOTAL					1899.13

## Technical Appendix

### Statistical Methodology

The economic impact of the Pine Barrens Plan will be determined primarily by the extent to which Pine Barrens Credits (PBCs) are exercised over time. The economic effects on property owners, school districts, water and sewer districts, and others can be assessed by estimating which receiving parcels are most likely to be developed more intensively through the Transferable Development Rights (TDR) process, and the prices their owners will be willing to pay for PBCs. By identifying the parcels that are most likely to be developed more intensively, one can forecast shifts in school enrollment, demand for water and sewer services, and tax collections across jurisdictions. By estimating the market price for a PBC, one can evaluate the net economic benefits and losses that are likely to accrue to property owners in both the sending and the receiving areas.

The extent to which PBCs are exercised will depend on the economic benefit that will accrue to those who utilize them. By allowing more intensive development of a parcel, a PBC increases the market value of the parcel, and thereby creates economic benefits to the degree to which this additional value exceeds the market price of a PBC. Thus the PBC-induced increase in market value serves as a upper limit on the price the parcel owner would be willing to pay for a PBC. This value will vary across parcels, and it is reasonable to assume that those parcels with greater PBC value will be more likely to develop more intensively than those parcels with lesser PBC value. Thus the key to forecasting PBC utilization is the estimation of market value increases attributable to a PBC.

#### Estimating the Value of a PBC in the Receiving Area

The basis for estimating the PBC value for parcels in the receiving area is a set of multivariate statistical models. In Brookhaven, three models (one for each land use category -- residential, commercial, and industrial) were estimated separately using three data bases of vacant land, both within the Pine Barrens and outside. The dependent variable in all models was the (natural logarithm of the) sales price of the land. In the residential model, the explanatory variables were (the natural logarithm of) the assessed

value of the land, (the natural logarithm of) the number of residential units that could be built on the parcel, and indicator variables for school districts. In the commercial model, (the natural logarithm of) the assessed value of the land was the only explanatory variable. In the industrial model, (the natural logarithm of) acreage was the only explanatory variable. The models allow one to estimate the market value of any given parcel in Brookhaven based on these factors. The model coefficients also permit the estimation of the key effects of PBCs on market value, as will be illustrated below.

Due to the presence of certain outlier observations in the residential model, it was determined that the usual method of fitting such models, known as the Ordinary Least Squares criterion, needed to be replaced by another, one which minimizes the sum of the absolute values (rather than the squares) of the residuals. This method is known as Median Regression, and is known to be resistant to outliers.

To illustrate the application of the models to a particular parcel in the receiving area, consider the following examples. Suppose that Parcel A is a vacant one-acre plot in a PDD receiving area in Brookhaven and is zoned for one-acre residential development, and suppose that the residential model for Brookhaven estimates the market value of Parcel A to be \$70,000. The Plan would allow the owner to build one additional residential unit on the parcel with the purchase of one PBC. The model coefficient of 0.26 on (the natural logarithm of) the number of units that can be built on the parcel indicates that the market value of the parcel will rise by 19.7%<sup>4</sup>. Thus the value of Parcel A would rise to \$83,790, and its owner would not be expected to pay more than \$13,790 to obtain a PBC.

Next, consider Parcel B, a 20-acre vacant parcel in an OR receiving area in Brookhaven zoned for two-acre residential development. Using a development yield factor of 80%, the owner of this parcel currently could subdivide it into 8 two-acre residential parcels. Suppose that the residential model for Brookhaven estimates the value of the 20-acre parcel at \$1.0 million. The Plan would allow the owner to build 10 residential units, since the development yield factor may be ignored. The model estimates that the ability to build two additional units raises the market value of the parcel by 6.0%<sup>5</sup>. Thus the total market value of Parcel B would be \$1.06 million, an

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<sup>4</sup>  $2^{0.26} = 1.197$ .

<sup>5</sup>  $(10/8)^{0.26} = 1.060$ .

increase of \$60,000. Since the owner would need to purchase 2 PBCs to obtain this benefit, he or she would not be willing to pay more than \$30,000 each.

If the market price of a PBC is over \$30,000, neither Parcel A nor Parcel B will utilize a PBC. If the price should drop below \$30,000, one can expect the owner of Parcel B to purchase 2 PBCs while the owner of Parcel A will continue to decline the option. Only if the price drops below \$13,790 will the owner of Parcel A utilize a PBC<sup>6</sup>.

In Riverhead, there are no residential or commercial receiving parcels. An ordinary linear regression through the origin using sale price as the dependent variable and the assessed value of the land as the independent variable provided a good fit to the industrial data base. The coefficient of the assessed value of the land equalled 2.79 with a standard error of 0.48, not significantly different from the proportionality constant of 3.16 implied by Riverhead's equalization rate for industrial property of 0.3166. This was taken as evidence that Riverhead's equalization rate for industrial property produces good estimates of sales price, and thus it was used for this purpose.

For Southampton residential, the ordinary linear regression used (the natural logarithm of) sale price as the dependent variable and (the natural logarithm of) the product of the number of residential units that could be built times the assessed value of the land as the independent variable. Adjustments for school district were not feasible because the sales data base included parcels in only two school districts. The lack of commercial sales data in Southampton was overcome by using the Brookhaven commercial model but first adjusting the assessed value of the land by multiplying it by the ratio of the commercial equalization rate in Southampton (3.75) to that in Brookhaven (2.16). Similar problems existed for industrial parcels in Southampton. Because there are only 2 such parcels in the receiving area, with a total receiving capacity only 10 PBCs, these parcels were treated as though they were commercial. This appears to be a reasonable assumption given the similarity between commercial and industrial sales prices in Brookhaven.

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<sup>6</sup> Of course, the presence of transaction costs and other investment opportunities may cause owners in the receiving areas to demand somewhat higher prices than the model estimates.