White Paper on
Timed-Growth Options for the Pinelands

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I. Background

The pace of a community's growth can have significant implications for its character and functioning. Very slow or no growth can indicate a mature community or one that is in decline, while rapid growth can overwhelm a community's ability to provide services for its residents and others. The challenge facing all communities is finding ways to encourage a healthy rate of growth while avoiding the explosive "booms" that can severely stress local facilities. This challenge is complicated by the fact that many key factors affecting a community's growth rate - most notably, its location with respect to major employment centers - are outside of its direct control. Pinelands communities must also work within the framework of the Pinelands Comprehensive Management Plan (CMP), which protects the region's unique natural resources by diverting growth from the most environmentally sensitive areas to more appropriate locations. The CMP anticipates that regional housing and development needs can largely be met in these Regional Growth Areas (RGAs) without incursions into the most pristine parts of the Pinelands.

The 24 RGAs designated by the Pinelands Commission comprise less than 10% of the overall Pinelands Area, but were zoned to accommodate approximately 60% of the new homes to be built in the Pinelands over the coming decades. Since the CMP went into effect in 1981, more than 40,000 homes and businesses have been approved for development in the Pinelands, the vast majority of which are located in designated development areas. While the CMP has been quite successful in protecting the sensitive interior portions of the Pinelands from development, the pace of development in certain RGAs (a few of which have grown by as much as 300% over the past 20 years and are among the fastest growing in New Jersey), coupled with the lack of financial resources to provide needed services have made it extremely difficult for some communities to accommodate these housing demands. The result in these locations is often overburdened school districts, congested roads, and stresses on other infrastructure systems and local services.

To the extent that a community can anticipate impending growth, standard and innovative land use planning practices offer a variety of tools to address certain impacts, such as zoning provisions to specify where and what type of development should occur, and design standards to foster development with desired attributes and amenities. The ability of a community to more directly control its growth rate, however, remains problematic. The Pinelands CMP allows for municipalities to designate reserve areas as a mechanism to phase growth. These "municipal reserves" are portions of an RGA that are downzoned until other appropriately zoned districts that already have access to infrastructure are developed. For various reasons as discussed in more detail below, only one municipality to date has actively employed this approach. In light of the significant development pressures facing some RGAs, the Pinelands Commission identified the need to explore alternative approaches as part of its comprehensive review of the CMP, completed in 2003. This paper presents an overview of mechanisms in use nationwide, along with an analysis of the Pinelands RGAs that would most benefit from such approaches and resulting implications for how any new programs could be structured.

A. Current CMP Provisions

N.J.A.C. 7:50 Subchapter 5 Part VI contains minimum standards for the designation of municipal reserve areas to "plan for the orderly rate and pattern of growth". A municipality can designate a municipal reserve area within its RGA if enough vacant developable land exists in the remainder of the RGA to meet the projected growth needs of the county and the municipality for the next 5 years. In addition, the designated reserve area must:

? Not currently have sewer service and other essential public services, nor are such services planned in the next 5 years

? Have a relatively uniform boundary that conforms to physical or environmental features

? Be next to areas designated for less intense development or not near currently developing areas

? Be designated as a Rural Development Area (RDA)[1] and zoned accordingly.

Within 5 years of designating such a reserve, the CMP requires that ensuing development take place at higher RGA densities unless the municipality demonstrates that a delay is warranted because:

? Adjacent developable land in the RGA has not yet been substantially developed; or

? All sewer service and other essential public services are not yet reasonably available; or

? The amount of vacant developable land in all other RGAs in the municipality is sufficient to meet the projected growth needs of the county and the municipality for the next 5 years.

As an alternative to reserving a portion of its RGA, a municipality can designate a reserve within its RDA if the area is next to an RGA or developed areas located outside of the Pinelands. In addition, the designated reserve area must:

? Not have significant amounts of wetlands, somewhat excessively and excessively drained soils, active agricultural lands, aquifer recharge areas, extreme fire hazard areas, and flood-prone areas

? Have a relatively uniform boundary that conforms to physical or environmental features

? Be geographically balanced around existing or planned community centers

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[1] Rural Development Areas are less intensively developed areas of the Pinelands that provide a transition from RGAs and other designated development areas to the more protected portions of the Pinelands. The CMP permits residential and some other types of development in RDAs, but does not allow for centralized wastewater treatment, effectively limiting the intensity of permitted uses.

? Be accessible to employment centers, and commercial and recreational areas

? Not be contiguous with the more protected portions of the Pinelands (i.e., the Preservation Area District, Special Agricultural Production Area, Forest Area and Agricultural Production Area), and preserve an adequate buffer between the reserve and these areas

? Have available or have plans for full public services, including sewer, water, roads, police and fire protection, and schools and libraries

The CMP permits development of reserves designated within RDAs at higher RGA intensities only when all of the following conditions are met:

? Adjacent developable land in the RGA has been substantially developed; and

? All essential public services are available; and

? The amount of vacant developable land in all RGAs in the municipality is insufficient to meet the projected growth needs of the county and the municipality for the next 5 years.

Municipal reserves designated in RDAs essentially provide municipalities with a means of expanding their RGAs in the future. Only municipal reserves designated in RGAs, however, help to address where and when development is accommodated in existing growth areas. Consequently, the remainder of this paper focuses on RGA-designated reserves (along with other mechanisms for timing growth).[2]

To date only one Pinelands municipality, Hamilton Township in Atlantic County, has implemented a municipal reserve program[3]. Hamilton Township's reserve comprises approximately 2,500 acres in the municipality's RGA and was designated when the Township's Master Plan and land use ordinance were originally certified by the Pinelands Commission in 1985. The Township has since submitted demonstrations to delay imposition of higher densities several times, most recently in January 2004. The Commission agreed that a delay was justified because the RGA was not shown to be substantially developed and sufficient developable land remains to meet the projected growth needs of Atlantic County and Hamilton Township for the next 5 years. In addition to Hamilton Township, Commission staff analyzed and suggested reserve opportunities in neighboring Egg Harbor Township's RGA several years ago, but the municipality did not pursue implementation.

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[2] It would be possible, however, to downzone RGAs and transfer the lost units to an RDA-designated municipal reserve that has yet to be activated.

[3] Two other municipalities, Waterford Township in Camden County and Ocean Township in Ocean County, designated municipal reserves in their *RDAs* at the time their Master Plans and ordinances were originally certified by the Pinelands Commission. In both cases, however, no further action was taken and the reserves have, in effect, been discontinued.

While no formal survey has been done to ascertain why so few municipalities have availed themselves of the CMP's municipal reserve provisions, possible reasons include:

? Requirements for designating reserves are difficult to fully satisfy - In particular, the requirement for reserves within RGAs to be next to areas designated for less intense development or not near currently developing areas, is difficult to achieve in many RGAs given the scattered development patterns that have emerged in recent years.

? When confronted with a rapid increase in development, a community's attention is focused on surviving the onslaught of applications and the need to provide infrastructure and services, leaving few resources for undertaking proactive measures to reduce growth rates. Some of these municipalities are now nearing build-out (e.g., Barnegat and Stafford Townships), essentially eliminating the need for any such measures.

? The RGA is too small to allow for a municipal reserve to be designated (e.g., 5 of the 24 RGAs are estimated to have less than 20 upland acres).

Even if the reserve provision were used more frequently, the experience of Hamilton Township has shown certain limitations to this approach. Because the existence of the municipal reserve does not affect the pace of development in the remainder of the RGA, a community can still experience rapid growth. Over 350 building permits were issued in Hamilton Township in 2003. While not as high as in other Pinelands communities, this amount of growth is still sufficient to stress the school system and other infrastructure, most notably, an already overburdened road network. Furthermore, the delay in converting Hamilton Township's municipal reserve to higher densities has allowed some low-density development[4] to proceed in the reserve for the past 20 years. If the pace of this development quickens, the ability of the reserve to accommodate much additional growth at the time when it is needed could be compromised.

B. Need for Relief Mechanism

Prior to the late 1990s, the need for municipal reserves or other mechanisms to control the pace of growth was not so evident. The development of the casino industry in Atlantic City following legalization of gambling in 1977, however, initiated a strong, steady increase in employment opportunities and corresponding housing demand (today, almost half of Atlantic County's employment base is classified as being in the Accommodations and Food Services sector, much of which is presumably related to the casinos[5]). The nationwide economic boom of the mid-1980s subsequently added to development pressures throughout the region. The national recession of the early 1990s led to a decline in development activity that lasted until the mid-1990s. While growth in many sectors of the economy again slowed in the late 1990s, the housing industry has continued to perform strongly.

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[4] Current zoning permits residential development at a density of 1 unit per 5 acres.

[5] From *New Jersey Pinelands Commission Long-Term Economic Monitoring Program 2004 Annual Report*

As shown in Table 1, the result is that several Pinelands municipalities with RGAs experienced substantial population gains from 1990-2000, including five that grew by more than 6,000 individuals (Egg Harbor, Evesham, Galloway, Jackson and Stafford Townships). Furthermore, population estimates for 2001 and 2002 as shown in Table 2 indicate that overall growth trends will continue.[6] Several municipalities with RGAs, however, are not wholly located within the Pinelands boundary, and in certain instances, more population growth occurred in the portion of the municipality outside of the Pinelands boundary than in the portion inside of the Pinelands boundary (including Evesham, Galloway and Jackson Townships). Consequently, while "hotspots" of population growth exist on a regional level, the location of this growth with respect to the Pinelands boundary has important implications for the effectiveness of any measures to manage growth rates as discussed later in this paper. In some instances, however, past trends may not reflect changes in local conditions that can influence where growth will occur in the future (e.g., as areas outside the Pinelands near build-out, development pressures will be directed inside the Pinelands).

Table 1. Population Change in Municipalities with RGAs, 1990-2000*

Municipality	% Land in Pinelands	Total Population Inside 1990	Change in Pop In Pines 1990-2000	Percent Change 1990-2000	Total Population Outside 1990	Change in Pop Out Pines 1990-2000	Percent Change 1990-2000
Stafford	39%	5739	7651	133%	7568	1574	21%
Egg Harbor Twp	38%	11687	4522	39%	12905	1612	12%
Hamilton	97%	14988	4148	28%	1024	339	33%
Galloway	38%	8497	2161	25%	14824	5727	39%
Berkeley	30%	865	1602	185%	36424	1100	3%
Manchester	72%	10589	1596	15%	25387	1356	5%
Evesham	55%	10121	1432	14%	25188	5534	22%
Shamong	100%	5765	697	12%	N/A	N/A	N/A
Barnegat	56%	2701	525	19%	9552	2492	26%
Southampton	73%	6792	401	6%	3410	-215	-6%
Winslow	81%	15426	173	1%	14661	4351	30%
Berlin Twp	16%	344	59	17%	5122	-235	-5%
Medford Twp	75%	18206	33	0%	2320	1694	73%
Berlin Boro	10%	133	8	6%	5539	469	8%
Chesilhurst	100%	1526	-6	0%	N/A	N/A	N/A
Jackson	47%	4124	-18	0%	29108	9602	33%
Beachwood	28%	65	-61	-94%	9259	1112	12%
Tabernacle	100%	7360	-190	-3%	N/A	N/A	N/A
South Toms River	48%	2689	-194	-7%	1210	-71	-6%
Medford Lakes	100%	4462	-289	-6%	N/A	N/A	N/A
Waterford	100%	10940	-446	-4%	N/A	N/A	N/A
Monroe	69%	15122	-716	-5%	11581	2980	26%
Pemberton Twp	90%	30740	-2613	-9%	602	-38	-6%

*** From *New Jersey Pinelands Commission Long-Term Economic Monitoring Program 2004 Annual Report*; excludes Dover Township which has less than ½ of one percent of its land inside of the Pinelands.**

[6] Since the population census occurs only every 10 years, estimates are used to project growth during the intervening years.

Table 2. Population Estimates for Municipalities with RGAs*

Municipality	County	2000	2001	2002	Change '00-'02	%Change '00-'02
Jackson	Ocean	42,816	45,635	47,580	4,764	11.1%
Egg Harbor Township	Atlantic	30,726	31,984	33,382	2,656	8.6%
Manchester	Ocean	38,928	40,519	41,431	2,503	6.4%
Galloway	Atlantic	31,209	32,640	33,593	2,384	7.6%
Evesham	Burlington	42,275	43,533	44,555	2,280	5.4%
Berkeley	Ocean	39,991	41,191	41,946	1,955	4.9%
Little Egg Harbor	Ocean	15,945	16,628	17,695	1,750	11.0%
Hamilton	Atlantic	20,499	21,071	21,968	1,469	7.2%
Stafford	Ocean	22,532	23,135	23,785	1,253	5.6%
Barnegat	Ocean	15,270	15,805	16,405	1,135	7.4%
Medford	Burlington	22,253	22,655	23,047	794	3.6%
Berlin Boro	Camden	6,149	6,526	6,759	610	9.9%
Monroe	Gloucester	28,967	29,227	29,522	555	1.9%
Winslow	Camden	34,611	34,740	34,954	343	1.0%
Southampton	Burlington	10,388	10,540	10,730	342	3.3%
Beachwood	Ocean	10,375	10,438	10,628	253	2.4%
Shamong	Burlington	6,462	6,499	6,634	172	2.7%
Chesilhurst	Camden	1,520	1,523	1,665	145	9.5%
Waterford	Camden	10,494	10,528	10,627	133	1.3%
Tabernacle	Burlington	7,170	7,179	7,270	100	1.4%
Pemberton Township	Burlington	28,691	28,513	28,772	81	0.3%
South Toms River	Ocean	3,634	3,627	3,678	44	1.2%
Berlin Township	Camden	5,290	5,296	5,331	41	0.8%

*** From *New Jersey Pinelands Commission Long-Term Economic Monitoring Program 2004 Annual Report*; excludes Dover Township which has less than ½ of one percent of its land inside of the Pinelands.**

The large population gains of the preceding decade were brought about by corresponding increases in the supply of housing stock. Table 3 shows that the residential development boom has continued into this decade, with several Pinelands municipalities among the fastest growing in southern New Jersey. Table 3 also shows, however, that many non-Pinelands communities in southern New Jersey experienced explosive development. Furthermore, it follows from the population data as well as recent development patterns, that, in some Pinelands municipalities, the vast majority of residential development has taken place outside of the Pinelands boundary. Again, these findings have implications for the effectiveness of any relief measures that may be considered to address high growth rates. Similar to population growth, however, past trends may not be an accurate predictor of where future development will occur. Additional population and building permit data for all Pinelands municipalities are provided in Appendix A.

Regardless of their location, rapidly developing communities like those noted above experience problems when growth occurs out-of-synch with the provision of public facilities and services. In some cases, the pace alone is sufficient to be problematic, such as when the number of building permits issued each year is greater than the number of households served by a typical

Table 3. Number of Building Permits Issued in Fastest-Growing Southern NJ Towns

Municipality	Pinelands Municipality ?	County	Total # Permits, '00-'03	Rank
Jackson Township	Yes	Ocean	2,784*	1
Egg Harbor Township	Yes	Atlantic	2,437	2
Lakewood Township	No	Ocean	2,053	3
Dover Township	No	Ocean	1,881	4
Ocean City	No	Cape May	1,689	5
Manchester Township	Yes	Ocean	1,640*	6
Little Egg Harbor Township	Yes	Ocean	1,619*	7
Evesham Township	Yes	Burlington	1,571*	8
Galloway Township	Yes	Atlantic	1,501*	9
Barnegat Township	Yes	Ocean	1,497*	10
Washington Township	No	Gloucester	1,272	11
Hamilton Township	Yes	Atlantic	1,237	12
Berkeley Township	Yes	Ocean	1,198	13
Stafford Township	Yes	Ocean	1,105	14
Mansfield Township	No	Burlington	1,062	15
Woolwich Township	No	Gloucester	1,026	16
Cherry Hill	No	Camden	944	17
Deptford	No	Gloucester	887	18
Brick	No	Ocean	866	19
Gloucester Township	No	Camden	850	20
Sea Isle City	No	Cape May	812	21
Monroe Township	Yes	Gloucester	795*	22
Harrison	No	Gloucester	731	23
Hainesport	No	Burlington	715	24
Middle Township	No	Cape May	713	25
Lumberton Township	No	Burlington	668	26
Delran	No	Burlington	644	27
Winslow Township	Yes	Camden	602*	28

*** Part of municipality is inside Pinelands, but most population growth and corresponding residential development from 1990-2000 occurred outside the Pinelands boundary.**

elementary school.[7] Since each new school requires several years to evaluate sites, prepare plans, secure funding, obtain approvals, and construct, fast-growing municipalities often have to resort to trailers, scheduling changes, and other temporary measures to allow them to catch up.

Problems arising from rapid growth can be further complicated by the location of growth. Just because a parcel is located in an RGA does not mean that all facilities and services exist to support the resulting development. "Leapfrog" patterns result when vacant parcels are developed outside of areas with infrastructure and other public services in place. In these cases, all supporting infrastructure, including water and wastewater lines, stormwater facilities, and roads, as well as services such as fire/EMT stations, recreation facilities, and libraries, must be provided. While developers in New Jersey typically provide key infrastructure (e.g., water, wastewater, stormwater, roads, and sidewalks) within their development, municipalities are limited in obtaining assistance from developers for necessary off-site improvements. New Jersey law currently does not allow for the imposition of "impact fees" on developers to pay for most off-site expenses, leaving municipalities to negotiate off-site improvements (e.g., road widening) on an *ad hoc* basis and potentially with little legal grounds. And because each development contributes to off-site impacts incrementally, the need for additional facilities or services may not be apparent for some time after construction is completed.

Many (but not all) of the problems caused by rapidly growing RGAs could be solved if sufficient funds were available to provide the needed facilities and services. The "lumpiness" of many capital improvements such as sewers and schools, however, requires sizable expenditures over relatively short periods of times. Financing these improvements is increasingly difficult, given local resistance to property tax increases, and cutbacks in many federal and state funding programs. In the Pinelands, this resistance to property tax hikes is despite the fact some of the fastest-growing RGAs have relatively low residential property tax bills and effective tax rates in comparison to the remainder of southern New Jersey, as shown in Appendix B. Because New Jersey law limits the amount a municipality may raise their taxes in a given year, however, local revenue cannot be raised quickly even if substantial tax increases were politically feasible. School funding has been particularly problematic in recent years since the level of State aid has been frozen and not kept pace with RGA growth rates.

Implicit in any discussion of measures to better manage growth rates in Pinelands RGAs, therefore, is the understanding that developing new major funding sources could reduce the need for such actions. For example, bills to authorize impact fees (including a recent proposal specific to school funding) are routinely considered by the Legislature but have yet to be approved. Similarly, the recently initiated Constitutional Convention on Property Taxes could also result in actions that offset some of the need for measures to better manage growth rates.

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[7] The model elementary school developed by the New Jersey Department of Education serves 460 students. In the fastest-growing Pinelands communities, nearly 800 building permits were issued in 2003. While not all new households will have elementary school age children, the local school systems in these communities will clearly need increased capacity to absorb such large increases in the student population.

C. Previous Initiatives to Provide Relief

The limited use of the municipal reserve provision to date is not indicative of an overall disinterest in mechanisms to control the pace of growth. On the contrary, several communities have been very vocal in their concerns over the amount of growth allocated to them by the CMP and the pace with which it is occurring. In response, legislators from the region and other areas of the State have sponsored legislation over the past several years to authorize municipalities to adopt "timed-growth" ordinances. Also known as "adequate public facilities ordinances" (APFOs) in other parts of the country, this authority would allow municipalities to tie the timing and location of development to an orderly plan for infrastructure development, typically via a capital improvements program (CIP). Some of the bills have been specific to Pinelands communities while others are Statewide in scope (further discussion of the legal authority for such programs is discussed below).

In 2001, the Pinelands Commission amended the CMP to permit RGAs with the highest densities to reduce those densities by roughly 30 percent if certain conditions were met. Egg Harbor and Hamilton Townships have since implemented the density reduction, and the Commission is working with Manchester and Jackson Townships on implementing reductions in their RGAs.[8]

Concern over the impacts of high growth rates on the region's water supply led the Governor to place a hold on the issuance of water allocation permits and water use registrations in Egg Harbor, Galloway and Hamilton Townships in September 2002. These controls on new development were lifted in January 2003 when significant precipitation (coupled with legal challenges) brought an end to the water emergency that had been declared the preceding March.

In response to these initiatives and continued requests for assistance from fast-growing Pinelands communities, in 2002, the Pinelands Commission selected Regional Growth Areas as one of two focus areas to guide the periodic review of the CMP required by N.J.A.C. 7:50-7.11. The Commission released its recommendations in 2003, and called for revising the CMP's municipal reserve criteria to improve their utility followed by assistance to municipalities with RGAs to take advantage of the revised program (the Commission previously considered revisions to the municipal reserve criteria in 2001 but deferred action). The Commission also acknowledged the potential need to adopt implementing regulations should the State enact timed-growth legislation. In recognition of the ongoing development pressures facing certain communities, the Commission assigned a relatively high priority for beginning work on these initiatives. This paper is intended to facilitate Commission decisionmaking and lay the groundwork for the development of more detailed recommendations.

D. Related Initiatives

Two other initiatives are currently underway with potential implications for any efforts to manage growth rates in RGAs. First is the Pinelands Commission's Housing Task Force, which was created in 2004 in response to recommendations from the Commission's recently completed

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[8] As Jackson Township had a lower original housing obligation prescribed by the CMP, only a 16% reduction in density is anticipated for its RGA.

review of the CMP. The Housing Task Force is charged with updating the housing demand estimates that were used by the Pinelands Commission to assign housing obligations to the RGAs at the time the CMP was originally adopted in 1980. These obligations were then translated into prescribed densities for the RGAs to accommodate the anticipated housing demand. Depending on the final allocations recommended by the Housing Task Force, the need for measures to address high growth rates could be lessened if housing obligations are ultimately reduced in some of the fastest-growing communities.

The second initiative is the statewide Transferrable Development Rights (TDR) program that is being established pursuant to legislation passed in March 2004. While the details of this program have yet to be worked out, it may provide an alternative mechanism to reduce development pressures in Pinelands RGAs by transferring density to areas outside of the Pinelands (or even inside to other high density areas such as Pinelands Towns). Before any such transactions take place, however, the Commission would need to determine how the statewide program relates to the Pinelands internal density transfer program, the Pinelands Development Credit program. PDCs are used to transfer density from the most protected portions of the Pinelands to the RGAs, and are an integral component of the overall plan to protect the Pinelands. Implementation of the statewide TDR program in the Pinelands must be designed in such a way as to not adversely affect opportunities to use PDCs in the RGAs.

II. Overview of Timed-Growth Approaches

Approaches to allow for better timing of growth can be designed to address many of the problems described above. Such programs have been evolving since the 1950s when new road systems made outlying areas more accessible to major employment centers and set off corresponding development booms. While variations abound and shared features may blur distinctions, for the purposes of this paper, three categories of programs will be considered:

A. Geographic Area Designations

Encompassing both "phased-growth" and "urban growth boundary" programs[9], these programs work by delineating geographic areas for more intensive development. Phased-growth programs specify when development can take place in a particular location, often relying on the capacity of public facilities or other limiting factors (e.g., environmental constraints) to control the phasing of growth in a particular location. One of the better known examples of this type of program was developed by Ramapo, New York, which employed a point system based on the adequacy of public facilities to establish tiers of growth radiating outward. Urban growth boundaries control the extent of intensive development by limiting development beyond the designated boundaries. These types of programs are typically focused on reducing sprawl and/or protecting open lands. Portland Oregon is a well-known example of this type of program. Because the CMP's municipal reserve program relies on designating a specific geographic area to accommodate future growth, it is considered part of this category.

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[9] These terms, their definitions and examples are taken from Kelly, Eric Damian, *Planning, Growth and Public Facilities, A Primer for Local Officials*, American Planning Association, Planning Advisory Service Report Number 447, Chicago, IL, 1993.

B. Adequate Public Facilities Ordinances (APFOs)

Also referred to as "concurrency" standards, APFOs establish criteria that prohibit development except where adequate public facilities are available (i.e., public facilities must be available concurrently with development)[10]. Adequacy is typically defined in terms of level-of-service (LOS) standards that are set for each type of public facility. APFOs are grounded in a comprehensive planning process that integrates the elements of local master plans with Capital Improvement Programs (CIPs), and consequently require input from a mix of local participants. APFOs are in use across the nation. The States of Florida and Washington require concurrency at the local level for selected public facilities, while other programs (e.g., Montgomery County Maryland) are State-enabled but locally initiated. The New Jersey Legislature has considered several bills in recent years to authorize the use of APFOs throughout the State and within the Pinelands, but none have passed. Assembly Bill 2125 and Senate Bill 1529 are currently pending before the Legislature and would authorize such programs on a Statewide basis.

C. Rate-of-Growth Programs

These programs set limits on a community's overall growth rate, either as a percentage or as a number of units.[11] Design of these programs is not necessarily directly linked to the availability of public facilities. Two well-known examples are Petaluma, California, which set a limit of 500 new dwelling units per year, and Boulder, Colorado, which established a two percent annual growth rate that has since been reduced.

A more detailed discussion of the potential applicability of each of these approaches to the Pinelands follows the analysis of RGAs in most need of such programs, presented below.

III. Characteristics of Target Pinelands RGAs

In order to fully assess which timed-growth approach(es) is best suited for the Pinelands, it is first necessary to understand the extent to which local conditions warrant intervention and the associated implications for implementation. In addition to population and development trends, key factors to consider include how much vacant land remains and how it is configured (i.e., contiguous vs. scattered parcels).

As noted previously, several Pinelands RGAs do not have sufficient vacant upland acreage to gain much benefit from timed-growth measures, either because they are too small in terms of total acreage or because they have too little vacant upland acreage available for development. Based on low development potential (as determined by multiplying estimated vacant acreage by the maximum residential densities prescribed by the CMP), Commission staff determined that RGAs in the following municipalities probably do not warrant further consideration: Barnegat Township, Beachwood Borough, Berkeley Township, Berlin Borough, Berlin Township, Chesilhurst Borough, Dover Township, Evesham Township, Manchester Township, Medford Lakes Borough, Shamong Township, Southampton Township, South Toms River Borough, Stafford

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[10] From Kelly (1993).

[11] From Kelly (1993).

Township, Tabernacle Township, and Waterford Township. Of these, Barnegat and Stafford Townships have approached buildout as a result of recent development booms, while Manchester Township is participating in a settlement under New Jersey's affordable housing law that will limit its available land. All of the remaining RGAs in this group are estimated to be able to accommodate less than 1,500 new housing units (and in most cases, substantially less).

Commission staff then took a closer (yet still somewhat cursory) look at the eight remaining RGAs, which are located in Egg Harbor Township, Galloway Township, Hamilton Township, Jackson Township, Medford Township, Monroe Township, Pemberton Township, and Winslow Township. First, population and residential building permit data were examined to get a better understanding of development pressures in these municipalities. These data are shown in Tables 4 and 5. Next, aerial photographs from 2002 were examined in conjunction with wetlands coverages using geographic information systems (GIS) to determine if large amounts of vacant developable (i.e., upland) land remain, and if so, how they are distributed throughout the RGA,. Where possible, this analysis was supplemented with more recent information on development activity in order to account for growth that has occurred from 2002 until the present, including identification of private development applications far along in the Commission's review process and analyses completed for other Commission projects. Also, State and federal public lands were excluded based on existing GIS coverages, and local public lands were excluded where known. The results were mapped and are summarized in Table 6 below, along with other data that reflect recent development pressures. The actual maps that were developed are provided in Appendix C. In reviewing the information presented in Table 6 and Appendix C, it is important to note the fairly simple nature of the GIS analyses that were used to characterize vacant developable land. While this information is useful for broadly evaluating different approaches for timing growth, more detailed analyses may be required if and when the Commission selects a particular option(s) for further development. (Note: each RGA is being examined in much more detail as part of two large studies that are underway concerning the Kirkwood-Cohansey aquifer and the Commission's Housing Task Force described previously. Results will not be available, however, for several more months.)

General conclusions that can be drawn from these analyses with implications for timed-growth options include:

? Many of the municipalities experienced large gains in population from 1990-2000, although one (Pemberton Township) actually lost population. In five (Galloway, Jackson, Medford, Monroe, and Winslow Townships) of the eight municipalities, however, population growth was greater in the portion of the municipality that is outside of the Pinelands boundary than inside of the Pinelands boundary.

? Some municipalities are clearly in the midst of a development boom. While the two-year timeframe for building permits shown in Table 5 is not long enough to establish a trend (or may miss booms that have already occurred), certain locations still experienced significant jumps. In Galloway, Medford, Monroe, and Winslow Townships, however, municipal officials reported more recent development occurring inside of the Pinelands boundary than would be expected given the inside/outside population proportions shown in Table 4.

Table 4. Population Trends in Target RGAs

Municipality	Inside Pop., 1990	Inside Pop. Change, '90-'00	Percent Change '90-'00	Outside Pop., 1990	Outside Pop. Change, '90-'00	Percent Change, '90-'00	Total Pop., 2000*	Est. Pop., 2002*	Percent Change, '00-'02*
Egg Harbor Twp.	11,687	4,522	39%	12,905	1,612	12%	30,726	33,382	8.6%
Galloway Twp.	8,497	2,161	25%	14,824	5,727	39%	31,209	33,593	7.6%
Hamilton Twp.	14,988	4,148	28%	1,024	339	33%	20,499	21,968	7.2%
Jackson Twp.	4,124	-18	0%	29,108	9,602	33%	42,816	47,580	11.1%
Medford Twp.	18,206	33	0%	2,320	1,694	73%	22,253	23,047	3.6%
Monroe Twp.	15,122	-716	-5%	11,581	2,980	26%	28,967	29,522	1.9%
Pemberton Twp.	30,740	-2,613	-9%	602	-38	-6%	28,691	28,722	0.3%
Winslow Twp.	15,426	173	1%	14,661	4,351	30%	34,611	34,954	1.0%

* Data shown are for entire municipality.

Table 5. Development Trends in Target RGAs

Municipality	'02 Bldg. Permits*	'03 Bldg. Permits*	% Change*	Estimated Backlog**	Comments
Egg Harbor Twp.	676	781	16%	4,000 units	Most new development inside of Pinelands boundary
Galloway Twp.	305	297	-3%	150 units	Municipality estimates that 50% of new development inside of Pinelands boundary
Hamilton Twp.	294	357	21%	1,960 units	Most new development inside of Pinelands boundary
Jackson Twp.	640	786	23%	30 units	Virtually all new development outside of Pinelands boundary; subsequent downzoning of non-Pinelands part of Township, however, may increase development pressure inside
Medford Twp.	104	52	-50%	400 units	Despite prior population gain outside, municipality reports most new development occurring inside of Pinelands boundary; development potential inside of boundary currently constrained by limited sewer permits
Monroe Twp.	333	241	-28%	300	Virtually all new development outside of Pinelands boundary during preceding decade, but municipality reports increasing development inside boundary in last five years
Pemberton Twp.	29	25	-14%	Negligible	Little new development inside or outside of the Pinelands boundary
Winslow Twp.	90	382	324%	850 units	Most new development previously outside of Pinelands boundary, but recent development also occurring inside RGA

* Data shown are for entire municipality.

** Refers to the number of approved, but unbuilt units in RGAs. Sources are as follows: Egg Harbor, Galloway, Jackson, Medford, Monroe and Winslow Townships - municipal officials; Hamilton Township - 1/04 report on status of municipal reserve; Pemberton Township - Commission staff.

Table 6. Summary Analysis of Large Vacant Land Areas in RGAs

Municipality	Total RGA Acreage	Vacant Tracts Exceeding 30 Acres in Size
Egg Harbor Twp.	14,230	8 areas identified, ranging in size from 100 to more than 330 acres; some wetlands.
Galloway Twp.	3,260	4 areas identified, ranging in size from 30 to 340 acres (3 areas < 60 acres); some wetlands.
Hamilton Twp.	9,090	1 area identified totaling 320 acres; some wetlands.
Jackson Twp.	2,660	3 areas identified, ranging in size from 120 to 440 acres; some wetlands.
Medford Twp.	8,410	6 areas identified, ranging in size from 60 to 175 acres; some wetlands.
Monroe Twp.	5,920	8 areas identified, ranging in size from 45 to 270 acres (4 areas < 60 acres); some wetlands.
Pemberton Twp.	6,780	2 areas identified, both > 330 acres; some wetlands, and threatened and endangered species in at least one area.
Winslow Twp.	6,530	7 areas identified, ranging in size from 50 to 315 acres; some wetlands.

? The actual number of building permits issued is perhaps the clearest indicator of where timed-growth measures could have the greatest impact. Both Egg Harbor and Jackson Townships issued nearly 800 building permits in 2003, followed by Winslow and Hamilton Townships with more than 350 each (unlike Egg Harbor and Hamilton Townships, most new development in Jackson Township occurred outside of the Pinelands boundary; new development in Winslow Township, however, is occurring on both sides of the Pinelands boundary). While housing type and location also have implications for certain infrastructure and public service needs (e.g., age-restricted housing reduces the number of new school-age children and need for educational facilities), the sheer number of permits being issued in these municipalities can compromise the ability to provide infrastructure and services efficiently.

? Numerous, mostly vacant areas were identified in the target RGAs, ranging in size from 30 to 440 acres. None of the areas identified comes close to approaching the size of the only existing municipal reserve in Hamilton Township, which comprises roughly 2,500 acres, although the proportion of the total acreage involved is similar in Jackson Township. Not surprisingly, additional opportunities for designating a reserve in Hamilton Township are limited, with only one other potential area identified. Furthermore, the development potential of some of these areas is constrained by the presence of wetlands, threatened and endangered species and pre-existing development. Many other areas have development applications in the early processing stages.

Tables 4, 5 and 6 further indicate that an understanding of local conditions is essential in order to properly characterize current development pressures and the corresponding need for timed-growth measures. While the eight target RGAs differ markedly in some respects, they can generally be grouped into the following three categories based on their need and ability to benefit from Commission action:

Demonstrated Need

? Egg Harbor Township - Given the large number of permits being issued annually, the sizable backlog of approved but unbuilt projects, and the location of most new development within the Pinelands boundary, Egg Harbor Township clearly has both the need for timed-growth measures and the ability to benefit from Commission action. While the current high rate of development cannot be sustained indefinitely, the rate is not anticipated to drop in the near future, especially given the backlog of unbuilt projects.

Possible Need

? Galloway Township - While roughly 70% of population growth occurred outside of the Pinelands boundary from 1990-2000, local officials estimate that 50% of more recent development is occurring inside of the Pinelands boundary as the outside areas near build-out. Furthermore, unlike current development in the Pinelands portion of the municipality, much of the outside development is age-restricted, and consequently has less impact on the local school system. It is

noteworthy, however, that the Township has added one large age-restricted zone in the Pinelands portion of its RGA and is considering another.

? Hamilton Township - Despite the fact that Hamilton Township's RGA has a municipal reserve, the rate of development is still fairly high and a sizeable backlog of unbuilt units exists. Given that most new development is occurring within the Pinelands boundary and opportunities to designate additional reserves are limited, the Township could benefit from any additional timed-growth approaches adopted by the Commission.

? Winslow Township - While most of Winslow's development previously occurred outside of the Pinelands boundary, the extension of sewer service in the RGA a few years ago has led to increasing development inside of the Pinelands boundary. Given the significant jump in building permits issued last year, timed-growth measures may be of benefit.

Current Need Uncertain

? Jackson Township - While Jackson Township is clearly in the midst of a development boom, the fact that most new development is located outside of the Pinelands boundary greatly limits the effectiveness of any Commission actions to better manage growth. Because the Township has downzoned much of the remaining undeveloped portion of the municipality outside of the Pinelands boundary, however, development pressures may begin to shift toward the RGA.

? Medford Township - Although most population growth occurred outside of the Pinelands boundary during the preceding decade, Township officials report that most recent development is occurring inside of the Pinelands boundary (the discrepancy between population growth and the location of new development may be exacerbated by an aging population inside of the Pinelands boundary). Development within the RGA is currently constrained by a lack of sewer capacity. While some infrastructure exists, permits accounting for a significant proportion of the total allocation have been purchased by a single developer, but remain unused. Should sewer capacity become available, development pressure could increase within the RGA.

? Monroe Township - While all population growth occurred outside of the Pinelands boundary from 1990-2000, Township officials report that residential development inside of the Pinelands boundary has increased during the past five years, much of it due to projects that were approved the previous decade but never built.

? Pemberton - As the only target RGA to lose population both inside and outside of the Pinelands boundary from 1990-2003, Pemberton Township is not under pressure to develop. Timed-growth measures would be of no benefit in the near future.

While measures to time growth are typically considered during times of rapid development (i.e., when the need is immediate), it is worth noting, however, that a municipality should not wait for a crisis to occur before taking proactive measures. So, while the need for timed-growth measures may not be pressing in some of the target RGAs, it does not necessarily follow that they or the Commission should ignore such programs. Indeed, they may be better positioned than some of the faster-growing locations to receive the maximum benefits from planning timed-growth approaches now.

IV. Applying Timed Growth in the Pinelands: Critical Considerations

The application of timed growth approaches in any location requires consideration of certain issues to select and ultimately structure a program. These issues are discussed below, with implications for application in the Pinelands given development trends and patterns in the RGAs.

A. Geographic Area Designations

The results of the vacant land GIS analysis summarized above suggest that current CMP provisions for the designation of municipal reserves would need to be revised in order to better accommodate multiple, smaller reserves in the target RGAs. Multiple, smaller sites are difficult to designate under current provisions, most notably the requirement that reserves "be next to areas designated for less intense development or...not near currently developing areas." Continuation of the reserves would also still be subject to periodic demonstrations of need, which requires an evaluation of the non-reserved portion of the RGA to accommodate "projected growth needs of the county and the municipality for the next 5 years."

The CMP's criteria can be slightly revised to provide for greater flexibility in designating reserves within RGAs while also addressing other limitations of the current provisions (e.g., accounting for development opportunities on a regional level, ensuring that the development potential of reserve lands is sufficiently safeguarded to accommodate future growth, and linking future development to infrastructure planning). One potential alternative is as follows[12] (underlining indicates new language; strikethrough indicates language to be deleted):

7:50-5.62 Designation of Municipal Reserve Areas

(b) A municipality may, in its master plan and land use ordinance, designate lands in a Regional Growth Area as Municipal Reserve Areas, provided that sufficient vacant developable land remains in the municipality's Regional Growth Area, other portions of the municipality outside the Pinelands Area, or adjacent municipalities to meet the growth needs of this area of the county and the municipality projected for the next five years as determined or approved by the county in which the municipality is located, as well as by the Pinelands Commission, and each such area designated:

1. Does not have readily available schools, sewer infrastructure, and other essential infrastructure in the short term, and is not planned ~~for sewer~~

[12] Because sections (a) under N.J.A.C. 7:50-5.62 and 5.63 address the designation of reserves within RDAs, they are not considered here.

~~service and other essential public services~~ to have such facilities and infrastructure in the next five years;

2. Has a relatively uniform boundary which conforms to physical or environmental features; and
3. ~~Is contiguous to areas designated for less intense development or is not in close proximity to currently developing areas; and~~
4. Is designated as, and zoned ~~in accordance with the requirements for, Rural Development Areas~~ for residential development at a density of no greater than one unit per 10 acres, or for an equivalent non-residential intensity at a floor area ratio of no greater than 0.007.

7:50-5.63 Development in Municipal Reserve Areas

(b) A municipal master plan and land use ordinance that designate areas in a Regional Growth Area as ~~a~~ Municipal Reserve Areas shall include provisions ensuring that development of the reserve areas at Regional Growth Area densities will automatically be permitted within a period of five years. To this end, the municipality shall prepare and submit to the Commission during said five-year period circulation, utility service, and community facilities plans that address the Municipal Reserve Areas and their implementation as Regional Growth Area. A municipality may demonstrate that such development should be further delayed based on a reasonable schedule to implement the needs outlined in the circulation, utility service, and community facilities plans or because one of the following conditions is met:

1. ~~Adjacent developable land in the Regional Growth Area has not yet been substantially developed in accordance with the land use and management programs provided in this plan~~;
2. All schools, sewer infrastructure, and other essential infrastructure, ~~sewer service and other essential public services~~ are not yet reasonably available; or
3. The amount of vacant developable land in all ~~other~~ Regional Growth Areas in the municipality, other portions of the municipality outside the Pinelands Area or adjacent municipalities is sufficient to meet the growth needs of the county and the municipality projected for the next five years as determined or approved by the county in which the reserve area is located, as well as by the Pinelands Commission.

The CMP would need to be formally amended to incorporate these changes. Following amendment, Commission staff would work closely with interested municipalities to designate reserves. To the extent that fewer areas would likely be easier for a municipality to manage, RGAs with the largest vacant areas may be better suited for taking advantage of revised reserve provisions. A big unknown in identifying these areas through the use of GIS, however, concerns existing infrastructure and plans for extension. If infrastructure is immediately available or coming on-line in the near-term, the suitability of a particular area for designation as a reserve is compromised. Similarly, care must be taken to avoid creating reserves in areas that jeopardize the ability to efficiently expand or connect infrastructure from already developed locations just outside the reserves. Because local sewer is mostly provided by developers, this level of planning detail may not even exist for wastewater treatment and water supply.

B. Adequate Public Facilities Ordinances (APFOs)

By their nature, APFOs are the most complex of the approaches examined in this paper, but it is this complexity that enables them to address issues of particular concern to fast-growing communities. Key issues are summarized below, but many details would require further analysis before a program could be implemented.[13]

i. *Which facilities must be adequate* - APFOs link development approvals with the provision of public facilities and services. Which facilities and services are included differs greatly among locations with APFOs in place, with some limited to roads and others spanning a much broader range - roads, wastewater and water supply facilities, schools, stormwater facilities, police and fire protection, parks and recreation, and libraries. For each type of facility that is selected, levels-of-service (LOS) must be assigned to evaluate specific development proposals. While LOS standards can be readily borrowed from programs already in place (e.g., many APFOs base LOS for transportation on methodologies established by the Federal government and other national transportation organizations), choosing a level that is appropriate for a particular location is a policy decision and requires an understanding of existing service levels. Municipalities must counterbalance the inherent desire for higher levels of service with the costs required to achieve them.[14] Actually evaluating the impacts of proposed development on a given LOS requires detailed information on the existing capacity of the facility(ies), taking into account planned improvements and the effects of other development applications in process. Consequently, APFOs rely on detailed Capital Improvements Programs (CIPs) to determine available capacity and must establish procedures for reserving (and releasing) capacity for approved development. The CIP must include priorities for funding and a schedule, and be updated with sufficient frequency to ensure that subsequent capacity evaluations are grounded in reality.

Another consideration in determining which facilities to include is the municipality's jurisdiction over the facility in question. This is particularly a concern for roads, given that many congested locations in the Pinelands are under county or even State control. In such cases, intergovernmental agreements must be developed in order to enforce adequacy requirements. Similarly, while schools are local institutions, independent municipal or multi-municipal districts would need to be directly involved in the APFO program if educational facilities are to be included.

Given the potential complexity of APFOs, one way to simplify a program is to limit the facilities that are covered to those of most concern. While no formal

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[13] Information for much of this discussion was taken from Kelly (1993) and White, S. Mark, 1996, *Adequate Public Facilities Ordinances and Transportation Management*, American Planning Association, Planning Advisory Service, Report Number 465, Chicago, IL.

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[14] Kelly (1993) notes that the trend of requiring more generous service levels in developing areas has reversed in more recent APFOs, with some areas now requiring that existing development be brought up to the same levels as new development.

survey of the RGAs has been done, known problems include overcrowded schools and congested roadways, both of which would require special agreements to address as noted above. Parks and recreation could also be another facility of interest, since many local governments allow developers to pay into a central fund that can then be applied to off-site improvements rather than building recreational facilities on-site. Because many developers opt for payment, residents are forced to drive to centralized facilities, adding to local traffic congestion. While not all recreational needs can be met on-site, an APFO could be designed to provide for more opportunities within walking distance.

ii. *What type of development must be evaluated* - Many of the problems experienced by fast-growing municipalities in the Pinelands are attributed to residential development, most notably the need for new school facilities. New Jersey's reliance on property taxes for school funding also promotes a local bias in favor of non-residential development (and/or age-restricted residential development). Non-residential development, however, can also have large impacts on local facilities and services, such as an increase in traffic congestion and public safety calls generated by major commercial development, and similar effects on traffic, wastewater and water supply resulting from office development. APFOs that apply to non-residential development may also be less vulnerable to legal challenges.[15] Municipalities, however, will likely be hesitant to apply APFOs to non-residential development due to the perceived tax benefits that may be lost if the APFO results in a competitive disadvantage with respect to nearby locations without such programs. APFOs can also be designed to address a broader concept of development that includes rezonings, plan approvals and subdivision approvals.[16]

The extent of non-residential development in the larger RGAs, coupled with the goal of designing a program to best withstand legal challenges, suggests that APFOs in the Pinelands should apply to both residential and non-residential development. Thresholds can be set to exclude smaller developments from the process (e.g., residential developments above a certain number of homes or generating a certain number of automobile trips; non-residential development beyond a certain floor area or employing a certain number of people).

iii. *Delineation of impact area* - While the Pinelands RGAs boundaries provide a logical choice for designating the area within which development will be subject to an APFO, these boundaries may not correspond to the area relevant for evaluating facility capacity. The volume of wastewater, for example, may be constrained by the size of sewers, pumping stations and interceptors located outside of the RGA or even in another municipality. In such cases, the APFO will need to clearly specify what portion of the regional system must be evaluated. Roads may be

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[15] From White (1996).

[16] From Kelly (1993).

more problematic since many of them serve traffic that originates outside of the RGA. This is especially true for the major east-west arterials that cross the Pinelands, carrying workers and vacationers to shore destinations. Methodologies exist to try to account for such through trips. In addition, LOS can be established that vary by location in recognition of the fact that some degree of traffic congestion will result from higher density development (especially in the absence of effective mass transportation systems). This removes the incentive for developers to build further away, beyond the impact area, thus adding to congestion problems.

iv. *Point at which adequacy is determined* - The point at which a development application is reviewed to determine whether adequate facilities exist has important implications for administering the program and how much capacity remains for other projects. Projected demand can be reviewed or "tested" against available capacity at multiple points in the application process, and findings may change as capacity is increased or decreased by competing projects and capital improvements. At some point in the process, however, in order for a project to receive approval, APFO requirements must be enforced through a determination that facilities are adequate to serve the development (like testing, this determination can be made at multiple points in the application process, with each successive step conditioned on a prior finding of adequacy).[17] Central to this issue is the concept of "lag time"; i.e., how much time will be permitted to elapse between construction/occupancy of the development and actual availability of the facilities/services. While some facilities must be supplied before occupancy (e.g., wastewater), others are not so constrained (e.g., roads). A related issue concerns whether capacity is "reserved" for a project upon approval, and if so, for how long.

Determining adequacy early in the review process raises the possibility of allocating capacity to projects that do not get built and/or crediting planned capital improvements that are not undertaken. Determining adequacy later in the process exposes developers to greater risks and less certainty in the outcome of the application review. APFOs can be designed to address these concerns in a number of ways. First, by requiring a determination of adequacy at a single point in the application process, the possibility that a project will be approved at one stage but denied at a later one is eliminated. Second, in order for the APFO to have the most immediate impact on growth rates, the determination of adequacy should be made at the building permit stage, since the requirements will apply not only to applications for new development, but also to the backlog of approved but unbuilt projects. This backlog can be quite sizable in fast-growing areas and, if not subject to the APFO, could affect growth rates for several years. Determining adequacy at the building permit stage also reduces the potential for capacity hoarding and provides for a closer relationship between facility construction and the onset of

[17] From White (1996).

development impacts[18]. Even so, because facilities may not be available at the time the building permit is issued, APFOs must establish facility-specific timeframes that detail the permissable lag for providing new capacity. In Florida, for example, transportation facilities must be in place within three years of permit issuance. Furthermore, APFOs should specify the means by which assurances must be provided to guarantee that facilities are built as promised. Again, in Florida, this assurance can be provided by demonstrating that the facility is included in the first three years of an adopted CIP, and that an amendment to the CIP is required to eliminate, defer or delay needed improvements (it follows that restrictions on development would be lifted if such an amendment occurred).[19] Alternatively, a binding executed agreement or enforceable development agreement can be submitted as a guarantee that the facility will be provided.

To provide developers with greater predictability when adequacy is determined late in the application process, data on available capacity, planned improvements, and pending projects should be made readily available on an ongoing basis. Developers will then be able to test their projects throughout the application process in order to have more certainty regarding the final adequacy determination. Once this determination is made, additional assurance should be provided by allowing capacity to be reserved for a set period of time (limiting the duration of reservations ensures that capacity will be re-allocated if projects are not built in a timely manner). In the event that inadequate capacity is found, the use of abatement/mitigation measures as described below can provide developers with another alternative to proceed with the project.

v. *Abatement/mitigation measures* - APFOs can include provisions to allow development to proceed in the absence of adequate facilities by allowing developers to build the facilities themselves or mitigate the impacts of concern. This approach allows the developer to avoid protracted delays while the municipality gains the needed facility. It also makes the APFO less vulnerable to legal challenges on the grounds of a taking; however provisions for mitigation must be crafted to pass other legal tests in order to avoid being interpreted as "extortion"[20]. If permitted, municipalities must ensure that mitigation measures do not compromise their ability to implement other improvements enumerated in the CIP, or otherwise conflict with local objectives and plans for growth. The municipality must also decide whether developers who opt to build needed facilities themselves will be permitted to seek reimbursement from the appropriate agency or other developers. While reimbursement may not seem warranted because mitigation is voluntary on the part of the developer, it is more understandable when new facilities must be designed to accommodate other

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[18] From White (1996).

[19] Under New Jersey's Municipal Land Use Law, the first year of an adopted CIP constitutes the capital budget of a municipality.

[20] From White (1996).

developments besides the applicant's. Establishing a reimbursement system requires decisions concerning when reimbursement is permitted, how amounts are determined, and other procedural issues.[21]

Provisions for abatement/mitigation should also take into account those instances when some measures may not be permitted by other requirements. For example, road widening to increase transportation capacity may be prohibited if wetlands or endangered and threatened species are located close by. In such cases, developers could propose alternative transportation demand management strategies that are not subject to the same limitations, such as additional bus routes, flexible working hours, and/or pedestrian/bicycle paths. Alternatively, municipalities could recognize such constraints by lowering the LOS for affected areas.

The additional flexibility and legal support afforded by mitigation measures suggests that they would be of value to APFOs in the Pinelands. Given its complexity, however, reimbursement should be limited to those situations where it is clearly warranted because impacts are shared among several developments (e.g., building of a sewage treatment plant).

vi. *Other issues* - Many other details would need to be worked out before an APFO could be implemented in the Pinelands, including issues relating to the CIP (how often it must be updated; the extent to which planned, but unbuilt, facilities are counted), how facility capacity is allocated/reserved (measurement protocols, how background growth[22] is accommodated, duration of reservation), and the actions that can be taken when inadequate capacity is found.

At a minimum, the CMP would require an amendment to authorize the use of APFOs. It is not clear whether authorizing State legislation is also needed. The Pinelands Protection Act calls for the development of policies as part of the CMP to "consider and detail the application of a variety of land and water protection techniques, including but not limited to...any other appropriate method of land and water protection and management which will help meet the goals and carry out the policies of the management plan." This broad directive coupled with certain goals enumerated in the Pinelands Protection Act for the Protection Area (which encompasses the RGAs) could be interpreted as providing the necessary authorization. The two goals for the Protection Area with particular relevance for this interpretation are to:

? Discourage piecemeal and scattered development

? Encourage appropriate patterns of compatible residential, commercial and industrial development, in or adjacent to areas already utilized for such purposes, in order to

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[21] From White (1996).

[22] White (1996) defines "background growth" as "the demand created by approved but unbuilt development as well as demand created by other sources, such as traffic generated outside of the jurisdiction and from natural increase".

accommodate regional growth influences in an orderly way while protecting the pinelands environment from the individual and cumulative adverse impacts thereof.

The New Jersey Legislature, however, has previously considered (but not approved) several bills to provide explicit authorization for the use of APFOs in the Pinelands, which suggests that some believe enabling legislation is required and/or desirable. It is definitely needed for areas outside the Pinelands as an APFO developed by West Windsor, NJ was struck down by the New Jersey Superior Court on the grounds that it was not authorized under New Jersey's Municipal Land Use Law. An important implication related to authorization is that any APFOs permitted by the Commission would not apply to areas outside of the Pinelands boundary, which is where many of the target RGAs noted above have experienced the fastest growth. Regardless of how the authority issue is resolved, Commission staff would need to work closely with interested RGAs on the development and implementation of APFOs.

C. Rate-of-Growth Programs

Rate-of-Growth programs can be applied in any location. The two basic approaches are to set an absolute limit on the number of new units that can be built (e.g., Petaluma, CA set a limit of 500 new dwelling units per year) or to apply a percentage to derive a limit (e.g., Boulder, CO originally permitted a two percent annual growth rate).[23] Specifying an absolute number may confer some administrative advantages since it avoids the need to re-calculate the limit each year. The limit or rate that is selected should be linked to the need for slowing growth. For example, limits could be based on the number of households with school-age children, the amount of wastewater treatment capacity needed to serve new development, or the number of additional car trips that must be accommodated. Once the basis for slowing growth is identified, local constraints and/or goals for growth can then applied in order to derive an appropriate limit. Using schools as an example, a municipality may decide that it can only afford to build a new school every five years (other factors also affect a municipality's ability to provide new educational facilities, most notably site selection, but financing is likely the greatest constraint). Data on average household size, the number of school-age children per household, and mix of housing stock (e.g., age-restricted units will not have children) can then be used to set the number of new units that could be permitted each year without exceeding the need to build only one school every five years.

Although design and implementation of a rate-of-growth program is not as complex as an APFO, certain details would need to be resolved before application in the Pinelands. Key issues include:

i. *What type of development must be evaluated* - While rate-of-growth programs commonly impose limits on new residential development, they could be structured to apply to non-residential development as well. This approach is best suited for locations where non-residential development can have significant impacts on the critical facilities/services that led to the need to slow growth in the first place, such as transportation networks or wastewater treatment capacity. Where the relationship is less direct (e.g., non-residential development may attract new

[23] From Kelly (1993).

residents with school-age children, but does not, itself increase the number of school-age children), setting appropriate rates may be more difficult. Like APFOs, it may be that including non-residential development may make the resulting program less vulnerable to legal challenges. It is also likely, however, that municipalities would be reluctant to undertake a program that would place them at a perceived competitive disadvantage in attracting the tax ratables needed to fund schools. Given the additional complexity required to develop and apply rates for different types of development, non-residential development should be included only when warranted by its impacts.

One potential unintended consequence of rate-of-growth programs is that they may cause developers to build larger, detached houses rather than attached units since they may not get permission to build the volume of attached housing necessary to attain a desired profit level.[24] Municipalities should incorporate provisions that encourage the construction of smaller, more dense housing in order to ensure affordability. This result can be achieved by zoning standards to promote a more diverse mix of housing stock and/or maximum lot sizes, as well as through specific rate-of-growth ordinance provisions such as exemptions for affordable housing and developments that promote mass transit utilization.

ii. *Point at which new units/impacts are counted* - Similar to APFOs, a decision must be made as to when an application will be evaluated against the selected limit. Selecting a point early in the application process risks "counting" units (or other impacts) that will not be built, thereby reducing the balance available for other applications. Choosing a point later in the process exposes developers to greater risks and less certainty in the outcome of the application review. This is the only way, however, to have an effect on the backlog of approved but unbuilt units, which is substantial in certain RGAs. Unlike APFOs, applications must only be evaluated once since there is no need for a follow-up enforcement check. Municipalities may want to consider, however, whether any capacity remaining at the end of the year can be rolled over to subsequent year(s).

Evaluating applications at the building permit stage provides the dual advantages of being able to address the backlog of approved but unbuilt units as well as reducing the likelihood of counting units that do not get built. To reduce risks for developers, municipalities would need to provide continually updated information on the number of available permits and applications in process. Also, priority should be given to backlogged units, although approvals should lapse after a specific period of time (e.g., two years) in order to ensure that permits are not hoarded indefinitely (charging fees to reserve permits would also help reduce the potential for hoarding). Actual allocation could be done on a straightforward first-come, first-served basis. A more complex but perhaps more equitable option is a

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[24] From Nelson, Arthur C., Rolf Pendall, Casey Dawkins, and Gerrit Knaap, *The Link Between Growth Management and Housing Affordability: The Academic Evidence*, The Brookings Institution Center on Urban and Metropolitan Policy, February 2002

pro rata system that allocates permits on a periodic basis (e.g., quarterly). In the event that demand exceeds supply in a given period, a pro rated reduction in the number of permits would be spread equally among all applicants (Boulder, CO currently uses a variation of this system)[25].

iii. *Abatement/mitigation measures* - Because the link to facility capacity is less direct than with an APFO, options for mitigation may be complex. Depending on the basis for setting the rate (e.g., school capacity), a municipality could conceivably permit more units than allowed if a developer provides the infrastructure necessary to support the additional units. As with APFOs, the issue of reimbursement would arise when facilities must be sized to accommodate other developments. The additional complexity introduced by allowing mitigation measures, however, affects one of the key advantages of rate-of-growth programs, namely their simplicity.

iv. *Other Issues* - Rate-of-growth programs can be designed in a number of ways, depending on the desires of the community. Examples of available options include limiting the transferability of permits, and limiting the number of permits issued by month, developer, or zone.

Allowing the use of rate-of-growth programs in the Pinelands would require that the CMP be amended. Like APFOs however, it is not clear whether authorizing State legislation is also needed. Again, the Pinelands Protection Act contains provisions that could be interpreted as providing the necessary authorization. Since the New Jersey Legislature has not specifically considered any bills to permit the use of rate-of-growth programs, no indication is available as to whether some legislators may view this the same as or differently than an APFO. Even if the Commission does not require enabling legislation, rate-of-growth programs would be limited to that portion of the municipality within the Pinelands boundary unless the Legislature specifically authorized the use of such programs throughout the State. Consequently, some of the fastest-growing areas in certain municipalities may not be subject to the rate that is set. Following amendment of the CMP, Commission staff would need to work closely with interested RGAs on setting appropriate rates and implementing resulting programs.

V. Comparative Evaluation of Timed-Growth Approaches

While the level of detail provided in this paper is not sufficient to allow for quantitative evaluations, some general conclusions can be drawn as to how the three timed-growth approaches compare with one another with respect to certain attributes. The following discussion compares and contrasts the approaches in terms of their objectives, ability to address issues of concern, ease of development, ease of implementation, potential to invite legal challenges, and effects on housing costs. Results are summarized in Table 7.

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[25] From Reynis, Lee A. and Tony Sylvester. *The Economic Impact of a Growth Rate Ordinance in the City of Santa Fe*, University of New Mexico, Bureau of Business and Economic Research, May 2002.

A. Objectives

Programs to decrease growth rates fall into three general categories: those that stop growth, those that shift growth to other locations, and those that slow growth. None of the programs considered above stop growth, which is characteristic of moratoria on building permits or infrastructure. While moratoria have the greatest impact on growth rates, they are extremely vulnerable to legal challenges unless carefully crafted. They also do not allow any increase in housing supply beyond the existing backlog of approved but unbuilt projects, which could have severe consequences for growing communities.

Table 7. Comparative Analysis of Timed-Growth Approaches

Approach	Objectives	Ease of Implementation	Legal Challenges*	Finance Growth	Effect on Housing Costs
Geographic	Shift growth	Easiest	Few	No	Minimal
APFO	Slow growth	Complex	Likely	Some	Some
Rate-of-growth	Slow growth	Moderate	Likely	Possibly	Some

* Refers to the potential to invite legal challenges on various grounds other than whether enabling legislation is required.

Shifting growth to other areas is the primary objective of geographic area designations. The creation of municipal reserves under current or revised CMP provisions directs growth to other portions of the RGA (or possibly outside of the RGA since the housing market may extend beyond municipal boundaries). While the reserve is effective in protecting land to accommodate future development needs, it may not have an appreciable effect on the overall growth rate. Hamilton Township, for example, experienced a 21 percent increase in the number of building permits issued between 2002 and 2003 (with more than 350 permits issued in 2003), despite having a large municipal reserve area. The impact of a reserve on growth rates is related to the availability of developable land elsewhere in the RGA. If a large amount of developable land remains in other portions of the RGA, growth rates may continue to increase to levels that are burdensome for the municipality. Conversely, if little developable land remains, growth rates will decline (at least until conversion of the reserve to RGA densities).

Both APFOs and rate-of-growth programs are designed to slow growth. The immediacy of their impact depends on whether applications are evaluated late enough in the process to affect the backlog of approved but unbuilt units in a given RGA. Their ability to slow the rate of new development is also affected by whether mitigation options are provided to allow developers to build additional units when they supply or fund necessary infrastructure/services. Generally, however, it is expected that these programs will cause growth rates to decline eventually.[26] They may also have the secondary impact of shifting growth to other locations without timed-growth measures, depending on the geographic extent and competitiveness of the housing market.

[26] It is interesting to note, however, that the number of development applications in the 1980s fell short of the growth rates established by both Petaluma, CA and Boulder, CO (from Kelly, 1993). Petaluma has since discontinued its program while Boulder reduced its rate.

B. Ease of Implementation

Ease of implementation refers to the effort required to both develop and administer the program. The three approaches basically fall along a continuum in terms of their ease of implementation, with municipal reserves being the easiest and APFOs being the most complex/difficult, and rate-of-growth programs somewhere in between. Because they are already permitted by the CMP, municipal reserves would be easier to implement than either APFOs or rate-of-growth programs. Revising existing CMP provisions will likely take less time than developing the new provisions that an APFO or rate-of-growth program would entail. Also, no enabling legislation is required to use municipal reserves, which may not be the case for either APFOs or rate-of-growth programs.

In addition to the regulatory/legislative groundwork required, the approaches vary in terms of the complexity of the effort required to develop programmatic details. Again, a revised municipal reserve approach would probably require the least effort to develop since a program already exists. Actually designating reserves in interested RGAs would require one-time, detailed land use analyses on the part of Commission and municipal staffs. Developing provisions for rate-of-growth programs is more complicated, since an overall programmatic framework must be developed. Commission staff would then also have to work closely with interested RGAs on selecting appropriate growth rates (unless a single growth rate is set in the CMP) and developing implementing ordinances. APFOs would also require development of a programmatic framework followed by implementing ordinances. As indicated in the discussion under Section IV, above, however, APFOs involve inherently complex issues that can be expected to require much more effort to resolve than would be the case for a rate-of-growth program. APFOs also require that municipalities have clear enforceable CIPs in place at the start, an expensive and time-consuming process.

In terms of ongoing administration, municipal reserves again require the least effort, since the only requirements are to prepare circulation, utility service and community facilities plans, and to complete a detailed analysis every five years to maintain the designation (no analysis is required if the municipality believes the reserve should revert to regular RGA densities). Rate-of-growth programs require ongoing review of applications for comparison against the established set rate. Depending on how the program is structured, this evaluation could be fairly straightforward (e.g., how many dwelling units are proposed) or more complex (e.g., determining the amount of wastewater generated by different non-residential uses). An end-of-year evaluation may also be needed if unused capacity is advanced to the following year. As would be expected given the complexity of the programmatic issues, APFOs also pose the greatest administrative burden. Development applications may need to be evaluated twice - once for determining adequacy and a second time for enforcement - and may involve evaluations of residential and non-residential development impacts on multiple types of facilities/services. The municipality must also ensure its annual CIP is updated and scheduled improvements are being implemented in order to ensure a realistic basis for the APFO.

C. Legal Challenges[27]

Aside from the question of whether APFOs or rate-of-growth programs can be implemented without additional legislative authority, programs to slow growth are vulnerable to legal challenges, primarily on the basis of "takings"; i.e., the United States Constitution prohibits the taking of private property for public use without just compensation. Of particular concern is the potential for regulatory/economic takings, which occur when an owner is deprived of a reasonable use of a property for more than a reasonable period of time. Moratoria on development represent one extreme of this regulatory continuum, although they can be upheld if they are shown to substantially advance a legitimate public purpose or do not deny economically viable use of the property.

While the three approaches considered in this paper are not intended to be similar to moratoria in stopping growth, they need to be carefully crafted and applied in order to reduce their vulnerability to legal challenges. The designation of municipal reserves is least likely to be problematic since the approach is already in use in the Pinelands and has not been the subject of legal challenges. If new reserves are designated under existing or revised criteria, however, care must be taken to ensure that the reserves are not designated capriciously and that sufficient development opportunities remain elsewhere in the RGA, the municipality or county.

APFOs and rate-of-growth programs have been challenged in other locations in the United States. Per White (1996), "the most important consideration in the preparation of an APFO is the presence of underlying studies establishing a strong public need for tying the rate of growth to infrastructure capacities." Presumably this consideration would extend to the development of rate-of-growth programs as well. It follows that timely provision of needed facilities and services is one of the strongest actions a municipality can take to ensure defensible programs. Allowing relief measures (e.g., variances or conditional uses) is another means of reducing vulnerability to takings challenges. Mitigation measures, while providing developers with economic use of a property, must be carefully designed to avoid being interpreted as "extortion" by shifting a disproportionate share of public facilities costs to a developer. Specifically, the mitigation measures or exactions must have an "essential nexus" to the types of impacts created by the proposed development and the public concerns underlying the timed-growth program. Secondly, the measures or exactions must be "roughly proportional" to the impact of the proposed development. Finally, regional general welfare standards require consideration of the effects of land-use controls on regional housing and environmental needs. Because APFOs that apply only to residential development may be viewed as exclusionary, most programs now apply to commercial as well as residential development (an exception could conceivably be tolerated if the underlying problem that led to the need for timing growth is primarily driven by residential development such as schools). Again, this approach may have relevance for the design of rate-of-growth programs.

Applying APFOs and rate-of-growth programs at the building permit stage may raise additional issues concerning vested rights. These programs do not deprive owners of the right to build, and without final infrastructure permits, property owners may not be considered to be vested in terms

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[27] This section is based on information from White (1996).

of their right to build immediately. Some courts have ruled that vested rights as to the use, density and configuration of development do not apply to timed-growth programs. Courts have also upheld the use of time limits for approved projects in order to avoid the indefinite consumption of capacity.

So while timed-growth approaches may be vulnerable to legal challenges (beyond the question of whether enabling legislation is required), establishing a clear need for the program, carefully crafting specific provisions, providing appropriate relief mechanisms, and ensuring CIPs are implemented (a requirement for APFOs and good practice for other measures), can greatly reduce the likelihood of subsequent invalidation by the courts.

D. Impacts on Housing Costs

The impact of timed-growth approaches on housing costs is an enormously complex issue that has been the subject of numerous studies, often with conflicting findings. According to the basic laws of supply and demand, any action that reduces the supply of housing will increase price. This effect has the potential to be exacerbated by the fact that in fast-growing areas such as RGAs, demand is already high. But these basic assumptions are complicated by many factors. To begin with, only APFOs and rate-of-growth programs can be structured to affect the backlog of approved, but unbuilt projects. In the larger RGAs, this backlog may be substantial in size and could conceivably accommodate several years worth of demand[28]. Consequently, this "hidden" supply could act to keep prices down, at least in the short-term, if municipal reserves (or APFOs or rate-of-growth programs that require evaluation early in the application process) are implemented. The extent to which various timed-growth approaches act as a more permanent constriction of supply will also affect price. For example, the reserve in Hamilton Township is arguably not affecting local housing prices because of ample supply in other portions of the RGA. Under an APFO, the municipality's CIP will set the schedule for providing needed services/facilities, with longer delays having the potential to deter developers from particular locations and possibly lead to a reduction in local housing supply (should the developer opt to pay for needed improvements to speed the development process, the additional costs may well be passed along to the consumer in the form of higher housing prices).

A recent review of the academic literature by the Brookings Institution found that market demand, not land constraints, is the primary determinant of housing prices.[29] This report also notes that traditional zoning and other planning techniques can limit supply and access to affordable housing, thereby raising prices. The report distinguishes between "growth controls" (which limit or ration development; examples include moratoria, permitting caps, and development quotas) and "growth management" (the deliberate and integrated use of the planning, regulatory, and fiscal authority of state and local governments to influence the pattern of growth and development in order to meet projected needs). While the Brookings study found

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[28] For example, as part of Hamilton Township's recent analysis to delay conversion of its municipal reserve area to higher densities, they reported that 1,960 units have been approved but not yet built.

[29] Nelson, Arthur C., Rolf Pendall, Casey Dawkins, and Gerrit Knapp. *The Link Between Growth Management and Housing Affordability: The Academic Evidence*. The Brookings Institution, Washington, DC, February 2002.

considerable consensus in the literature that traditional land use regulations and some forms of growth controls raise housing prices, it notes that there is little consensus as to whether growth management does the same. By increasing housing densities, mandating a mix of housing types, and promoting regional fair share housing, growth management programs can be designed to increase the supply of affordable housing. Other actions that may help curb increases in housing prices include providing incentives for infill housing, adoption of clear and objective approval standards, exempting affordable housing from program requirements, and obtaining revenue from other sources (e.g., commercial impact fees).

A more precise estimate of the impacts of timed-growth approaches on housing prices in the Pinelands consequently would require more information on programmatic details and the available supply of developable land in other portions of the RGA (and outside, if applicable). It is also worthwhile to note that the effects of timed-growth measures may be borne differently by different members of the community. For example, owners of existing homes may experience an increase in personal wealth since their tax dollars will no longer be used for the development of unscheduled facilities/services, and new homeowners may experience lower tax rates than would be expected in the absence of timed-growth measures.[30] The point at which a price increase becomes too burdensome for potential buyers is also not well understand, since home ownership is increasing across the nation despite increasing housing costs[31]. A related issue is the impact on those who cannot afford the higher-end homes that often characterize new construction. While the need to provide affordable housing for the lowest income earners is clear, the need to mitigate impacts on middle wage earners who find themselves priced out of the market is less obvious.

E. Financing Growth

One of the key issues faced by fast-growing communities is the need to finance needed infrastructure and services on an expedited basis. As noted above, financing presents several challenges given the lumpiness of many capital expenditures and limitations on funding sources. The time needed to secure funding from these sources also limits a municipality's ability to provide infrastructure quickly, as is the fact that some infrastructure is supplied by entities not under municipal jurisdiction.

Geographic approaches such as municipal reserves provide no direct financial benefit. Under mitigation options that may be available as part of APFOs and possibly rate-of-growth programs, developers can help in funding/providing infrastructure/services, but it is important to note that such improvements are eligible because they are not part of the municipality's current plans for undertaking capital improvements. Also, in the case of very costly facilities such as schools, it is unlikely that contributions on the part of developers can significantly reduce the overall costs to the municipality. Consequently, the chief financial benefit offered by APFOs and rate-of-growth programs is their ability to provide municipalities with more time to procure funding for needed improvements.

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[30] Cheshire, Paul, Rosalind Greenstein and Stephen Sheppard, "Planners and Economists Debate Land Market Policy", *Landlines*, Lincoln Institute, January 2003.

[31] Ruesga, Candida M., "The Great Wall of Phoenix?: Urban Growth Boundaries and Arizona's Affordable Housing Market," *Arizona State Law Journal*, Fall 2000

VI. Recommendations

In the past decade, certain Pinelands RGAs have experienced explosive growth. While some locations are approaching buildout, other areas continue to experience high growth rates or are just beginning a development boom. Rapid growth rates stress local infrastructure and services, most notably schools and roads. These problems are greatly exacerbated by a lack of funding to expand needed facilities.

Strategies for timing growth can help municipalities address growth-related problems. The three general approaches examined in this paper differ in some critical respects that affect their suitability for use in Pinelands RGAs. Some may argue that it is too late to implement municipal reserves, given existing patterns of development. While this development does limit the effectiveness of municipal reserves as a general planning tool for sub-regional areas, it does not diminish the need for better facility planning on a regional level. Furthermore, preliminary GIS analyses indicate several RGAs have areas suitable for further examination as potential reserves if the CMP's criteria are revised to provide more flexibility. A major limitation of municipal reserves, however, is that they may not have an appreciable effect on growth rates as is the case in Hamilton Township. They could also possibly hamper the efficient expansion of infrastructure from already developed locations. Consequently, municipal reserves are more useful as a tool for planning infrastructure in advance of development than for strictly timing growth (municipal reserves also provide the opportunity to address other planning needs besides infrastructure; e.g., community design). Therefore they should not be used alone as a panacea for rapid growth. Locations that are encouraged to consider the use of municipal reserves for planning purposes are: Egg Harbor, Jackson, Medford, Monroe and Winslow Townships.

APFOs and rate-of-growth programs provide more substantial relief, especially since they can apply to the backlog of approved but unbuilt projects, which may be a major factor in high growth rates. They cannot, however, address the rapid growth that is occurring outside of the Pinelands boundary in many RGAs. The effectiveness of APFOs, however, is compromised by their complexity, both in terms of program design and administration. Of particular concern are problems that arise when facilities are not under a local government's jurisdiction or expansion is otherwise constrained, delineating impact areas for regional facilities, and myriad logistical details (e.g., developing CIPs, setting LOS for all facilities of concern, and procedures for reserving capacity). In comparison, rate-of-growth programs are much less complex and therefore offer the most promise for addressing the problems experienced by fast-growing Pinelands RGAs. Therefore, it is recommended that the Commission consider an amendment to the CMP to permit the use of rate-of-growth ordinances in the Pinelands (the question of whether enabling legislation is required must also be addressed). Furthermore, development of these programs should incorporate the design elements discussed above to maximize their effectiveness while minimizing the potential for increasing housing prices. Egg Harbor Township is strongly encouraged to consider adopting a rate-of-growth ordinance; other municipalities could also consider this approach.

Alternatively, any number of measures to increase the funding available to RGAs, including impact fees and property tax reform, could reduce or possibly eliminate the need for timed-growth programs. Although the Pinelands Commission does not have the authority to take such measures, it should be an advocate for them.

VII. Next Steps

It is recommended that the Commission authorize the staff to begin work immediately on two approaches for timing growth in RGAs: revising the criteria for designating municipal reserves and developing the framework for rate-of-growth programs. Both of these actions will require amendments to the CMP. The revisions suggested above for the municipal reserve criteria could be readily adapted into a proposal for the Commission's consideration. Processing of this type of relatively simple amendment would require approximately 6-9 months. Once adopted, Commission staff would then reach out to the target RGAs where municipal reserves may prove helpful for planning purposes (i.e., Egg Harbor, Jackson, Medford, Monroe, and Winslow Townships).

To develop a CMP amendment to permit the use of rate-of-growth ordinances, detailed design and implementation standards need to be developed in order to prepare a proposal for Commission consideration. This would take some additional time and would benefit from assistance from the Attorney General's Office (particularly on the question regarding legislative authority), the Office of Smart Growth, and other government officials who have experience in this area. A relatively modest contract could be used to engage an experienced consultant to provide advice and assistance to the staff as it develops the program's framework. Once a CMP amendment is adopted, the Commission will also need to commit the necessary support to oversee its implementation in individual towns. This will not be an insubstantial task and could be addressed through additional staff resources or through a consulting contract.

Finally, the Commission committed to working with the Governor's Office and the Department of Community Affairs on proposed statewide impact fee bills as part of its third review of the CMP. Because impact fees may reduce some of the need for timed-growth measures and builders have indicated some willingness to support them (as evidenced by their endorsement of impact fees in Atlantic City, support for a statewide legislative proposal to supplement school funding via a $10,000 assessment on new residential units, and through informal discussions with Commission staff), the Commission should also encourage the State Planning Commission to hold a workshop devoted to this topic to outline possible approaches for consideration by the Legislature. At a minimum, representatives of local government, builders, and relevant state agencies (e.g., the Department of Community Affairs and the Council on Affordable Housing) should be invited to participate.

Appendices

A. List of References

B. Population and Building Permit Data for All Pinelands Municipalities

C. Tax Data for All Pinelands Municipalities

D. Maps of Potential Municipal Reserve Opportunities

Appendix A. List of References

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Appendix B. Population and Building Permit Data for All Pinelands Municipalities

B-1. Population by Pinelands Municipality
B-2. Residential Building Permits Issued in Pinelands Municipalities

Appendix B-1. Population by Pinelands Municipality*

Municipality	County	2000	1990	1980	Change 1990-00	Change 1980-90
Stafford Twp.	Ocean	22,532	13,325	10,385	69%	28%
Galloway Twp.	Atlantic	31,209	23,330	12,176	34%	92%
Jackson Twp.	Ocean	42,816	33,233	25,644	29%	30%
Hamilton Twp.	Atlantic	20,499	16,012	9,499	28%	69%
Egg Harbor Twp.	Atlantic	30,726	24,544	19,381	25%	27%
Barnegat Twp.	Ocean	15,270	12,235	8,702	25%	41%
Plumsted Twp.	Ocean	7,275	6,005	4,674	21%	28%
Evesham Twp.	Burlington	42,275	35,309	21,508	20%	64%
Little Egg Harbor Twp.	Ocean	15,945	13,333	8,483	20%	57%
Ocean Twp.	Ocean	6,450	5,416	3,731	19%	45%
Dennis Twp.	Cape May	6,492	5,574	3,989	16%	40%
Weymouth Twp.	Atlantic	2,257	1,957	1,260	15%	55%
Winslow Twp.	Camden	34,611	30,087	20,034	15%	50%
Lacey Twp.	Ocean	25,346	22,141	14,161	14%	56%
Estell Manor City	Atlantic	1,585	1,404	848	13%	66%
Upper Twp.	Cape May	12,115	10,681	6,713	13%	59%
Shamong Twp.	Burlington	6,462	5,765	4,537	12%	27%
Beachwood Boro	Ocean	10,375	9,324	7,687	11%	21%
Medford Twp.	Burlington	22,253	20,526	17,622	8%	16%
Monroe Twp.	Gloucester	28,967	26,703	21,639	8%	23%
Manchester Twp.	Ocean	38,928	35,976	27,987	8%	29%
Franklin Twp.	Gloucester	15,466	14,482	12,396	7%	17%
Berkeley Twp.	Ocean	39,991	37,319	23,151	7%	61%
Port Republic City	Atlantic	1,037	992	837	5%	19%
Maurice River Twp.	Cumberland	6,928	6,648	4,577	4%	45%
Hammonton town	Atlantic	12,604	12,208	12,298	3%	-1%
New Hanover Twp.	Burlington	9,744	9,546	14,258	2%	-33%
Southampton Twp.	Burlington	10,388	10,202	8,808	2%	16%
Woodbine Boro	Cape May	2,716	2,678	2,809	1%	-5%
Mullica Twp.	Atlantic	5,912	5,896	5,243	0%	12%
Chesilhurst Boro	Camden	1,520	1,526	1,590	0%	-4%
Egg Harbor City	Atlantic	4,545	4,583	4,618	-1%	-1%
Eagleswood Twp.	Ocean	1,441	1,476	1,009	-2%	46%
Buena Vista Twp.	Atlantic	7,436	7,655	6,959	-3%	10%
Tabernacle Twp.	Burlington	7,170	7,360	6,236	-3%	18%
Berlin Twp.	Camden	5,290	5,466	5,348	-3%	2%
Bass River Twp.	Burlington	1,510	1,580	1,344	-4%	18%
Waterford Twp.	Camden	10,494	10,940	8,126	-4%	35%
Medford Lakes Boro	Burlington	4,173	4,462	4,958	-6%	-10%
South Toms River Boro	Ocean	3,634	3,869	3,954	-6%	-2%
Pemberton Twp.	Burlington	28,691	31,342	29,720	-8%	5%
Folsom Boro	Atlantic	1,972	2,181	1,892	-10%	15%
Buena Boro	Atlantic	3,873	4,441	3,642	-13%	22%
Lakehurst Boro	Ocean	2,522	3,078	2,908	-18%	6%
Washington Twp.	Burlington	621	805	808	-23%	0%
Woodland Twp.	Burlington	1,170	2,063	2,285	-43%	-10%
Wrightstown Boro	Burlington	748	3,843	3,031	-81%	27%
*"Outside" Municipalities***						
Corbin City	Atlantic	468	412	254	14%	62%
Berlin Boro	Camden	6,149	5,672	5,786	8%	-2%
Springfield Twp.	Burlington	3,227	3,028	2,691	7%	13%
Vineland City	Cumberland	56,271	54,780	53,753	3%	2%
North Hanover Twp.	Burlington	7,347	9,994	9,050	-26%	10%

* From *New Jersey Pinelands Commission Long-Term Economic Monitoring Program 2004 Annual Report*

**These five municipalities have land in the Pinelands but are counted as Non-Pinelands municipalities because less than ten percent of their land areais in the Pinelands.

Appendix B-2. Residential Building Permits Issued in Pinelands Municipalities*

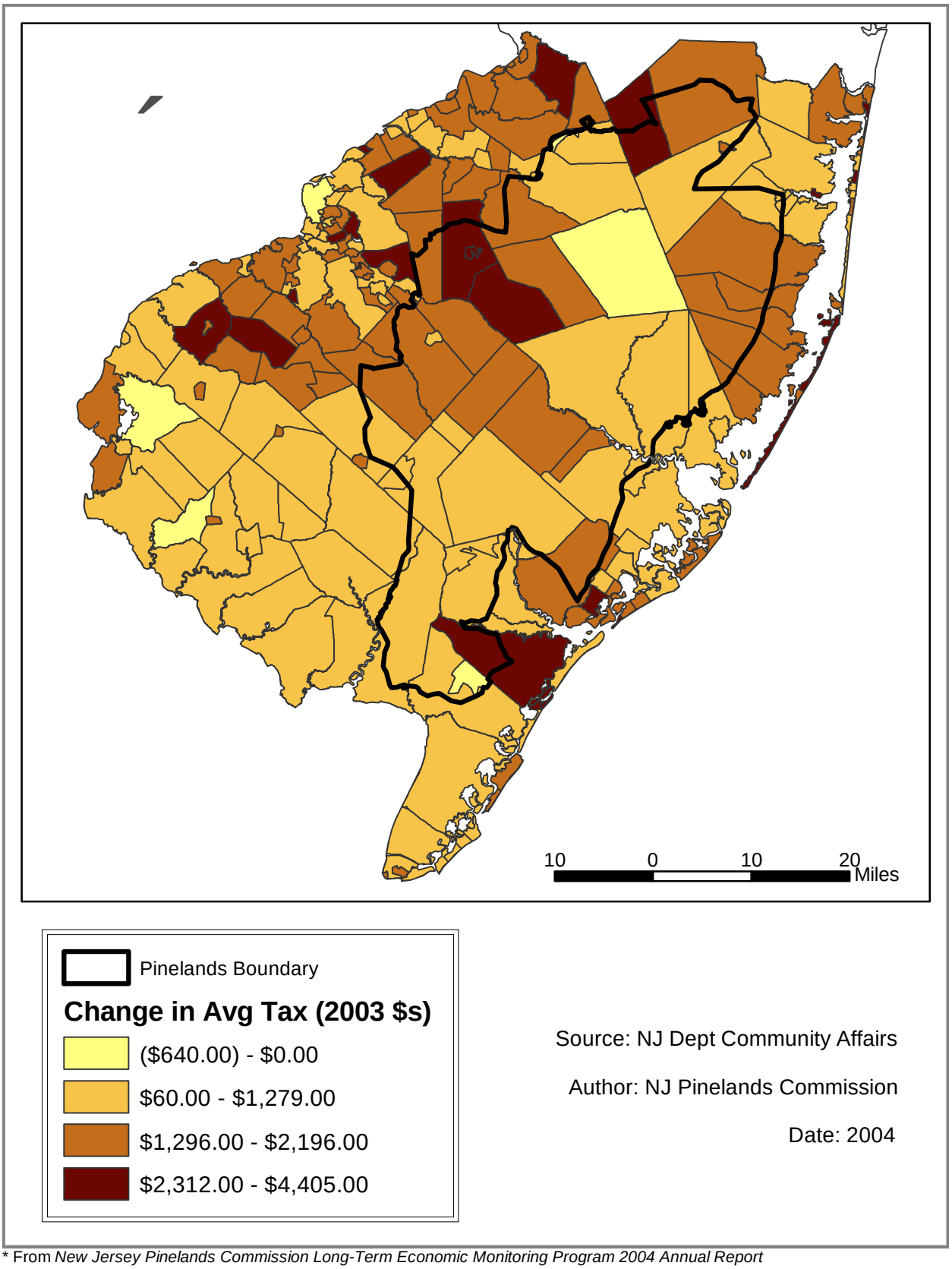
		Permits Issued					
Municipality	**County**	**2003**	**2002**	**Change**	**% Change**	**4 Year Avg**	**Permits 2000-2003**
Winslow	Camden	382	90	292	324%	151	602
Barnegat	Ocean	662	470	192	41%	374	1,497
Upper	Cape May	196	36	160	444%	83	333
Jackson	Ocean	786	640	146	23%	696	2,784
Egg Harbor Township	Atlantic	781	676	105	16%	609	2,437
Franklin	Gloucester	139	69	70	101%	86	345
Berkeley	Ocean	188	123	65	53%	300	1,198
Stafford	Ocean	315	251	64	25%	276	1,105
Hamilton	Atlantic	357	294	63	21%	309	1,237
Hammonton	Atlantic	121	79	42	53%	82	327
Port Republic	Atlantic	27	6	21	350%	11	44
Buena	Atlantic	14	1	13	1300%	4	16
Waterford	Camden	26	13	13	100%	23	91
Dennis	Cape May	24	13	11	85%	19	74
Egg Harbor City	Atlantic	8	2	6	300%	3	10
Buena Vista	Atlantic	22	16	6	38%	17	68
New Hanover	Burlington	8	3	5	167%	3	13
Estell Manor	Atlantic	16	11	5	45%	12	46
Woodbine	Cape May	11	8	3	38%	6	23
Lacey	Ocean	11	8	3	38%	73	293
Tabernacle	Burlington	11	9	2	22%	11	45
Washington	Burlington	2	1	1	100%	2	7
Maurice River	Cumberland	5	4	1	25%	4	15
South Toms River	Ocean	5	4	1	25%	4	14
Wrightstown	Burlington	0	0	0	0%	0	0
Lakehurst	Ocean	2	2	0	0%	2	9
Berlin Township	Camden	14	15	-1	-7%	12	48
Medford Lakes	Burlington	2	3	-1	-33%	2	9
Beachwood	Ocean	18	20	-2	-10%	24	97
Weymouth	Atlantic	7	9	-2	-22%	8	32
Woodland	Burlington	4	6	-2	-33%	6	24
Folsom	Atlantic	1	3	-2	-67%	3	10
Shamong	Burlington	28	31	-3	-10%	26	103
Bass River	Burlington	4	7	-3	-43%	5	18
Pemberton Township	Burlington	25	29	-4	-14%	23	91
Chesilhurst	Camden	28	34	-6	-18%	29	116
Plumsted	Ocean	25	31	-6	-19%	61	244
Eagleswood	Ocean	7	13	-6	-46%	10	41
Galloway	Atlantic	297	305	-8	-3%	375	1,501
Mullica	Atlantic	17	27	-10	-37%	19	77
Southampton	Burlington	21	68	-47	-69%	53	211
Medford	Burlington	52	104	-52	-50%	104	414
Little Egg Harbor	Ocean	379	451	-72	-16%	405	1,619
Ocean	Ocean	141	224	-83	-37%	118	472
Monroe	Gloucester	241	333	-92	-28%	199	795
Manchester	Ocean	109	380	-271	-71%	410	1,640
Evesham	Burlington	217	576	-359	-62%	393	1,571
"Outside" Munis							
Berlin Borough	Camden	308	28	280	1000%	136	545
Vineland	Cumberland	179	151	28	19%	141	562
North Hanover	Burlington	26	11	15	136%	16	63
Corbin City	Atlantic	4	6	-2	-33%	6	25
Springfield	Burlington	12	28	-16	-57%	25	101

* From *New Jersey Pinelands Commission Long-Term Economic Monitoring Program 2004 Annual Report*

Appendix C. Tax Data for All Pinelands Municipalities

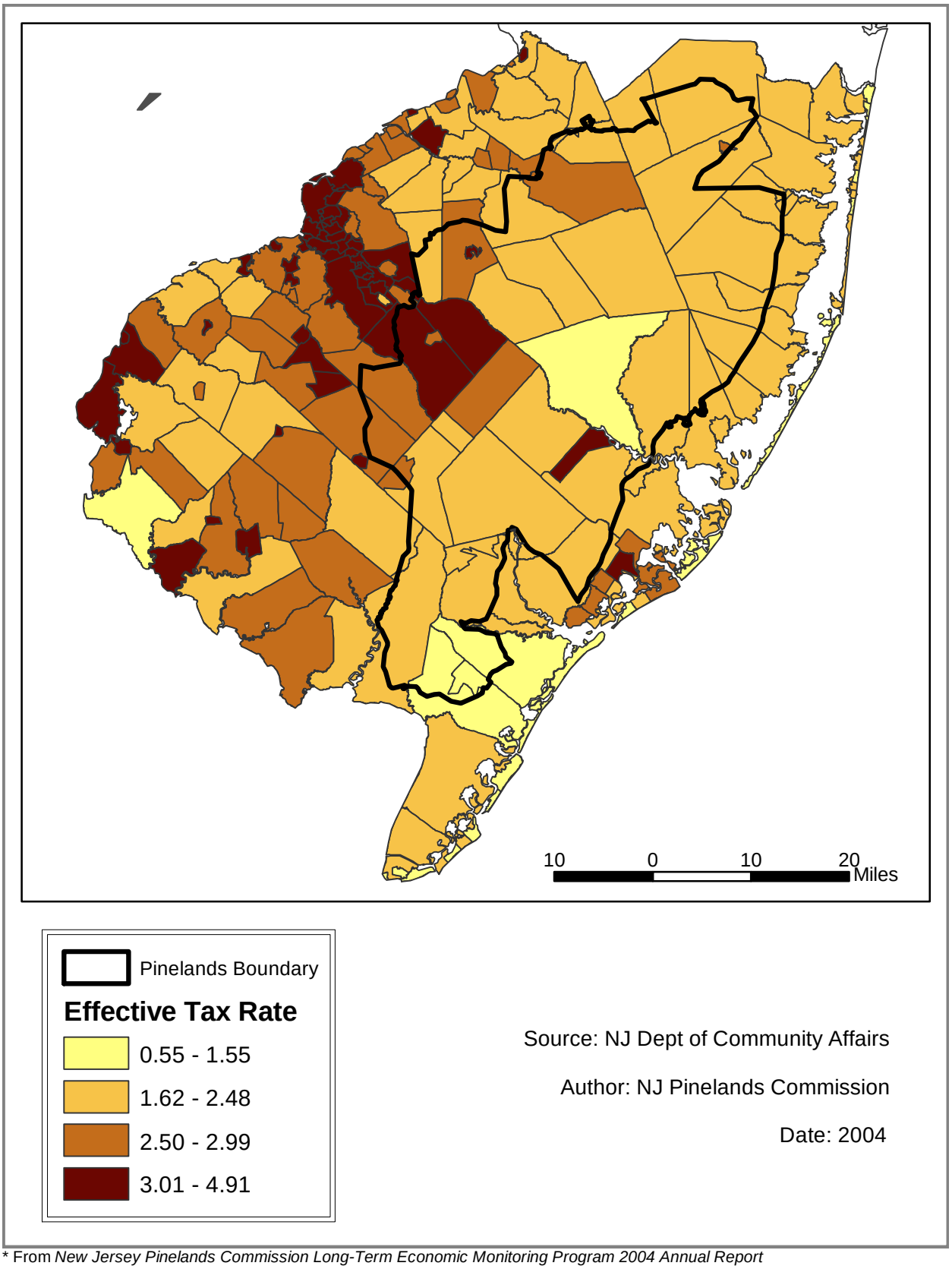
C-1. Change in Average Residential Property Tax Bill 1983 to 2003
C-2. Effective Tax Rates 2003

Appendix C-1. Change in Average Residential Property Tax Bill 1983 to 2003*



* From *New Jersey Pinelands Commission Long-Term Economic Monitoring Program 2004 Annual Report*

Appendix C-2. Effective Tax Rates 2003*

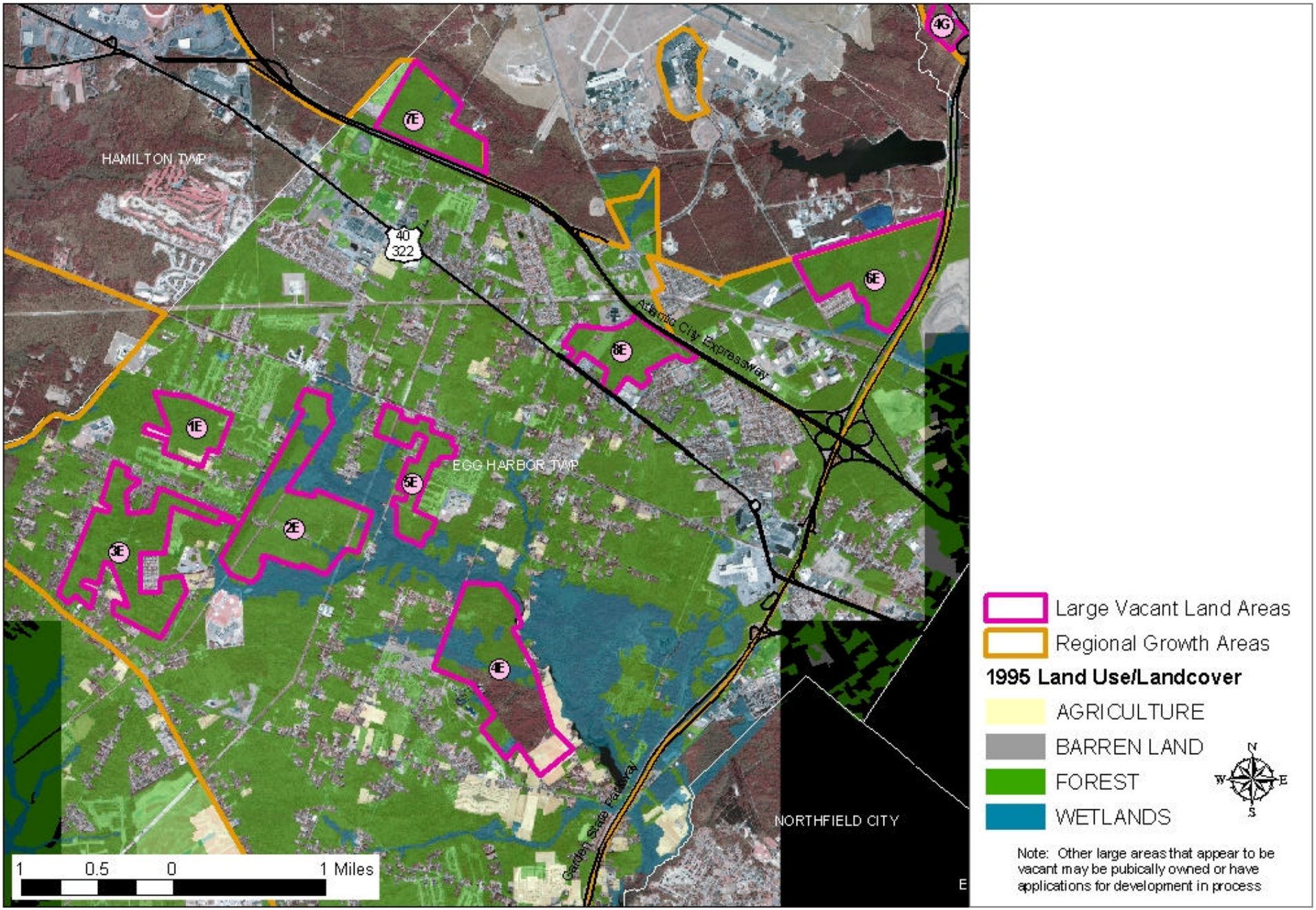


* From *New Jersey Pinelands Commission Long-Term Economic Monitoring Program 2004 Annual Report*

Appendix D. Maps of Potential Municipal Reserve Opportunit ies

Egg Harbor Township
Galloway Township
Hamilton Township
Jackson Township
Medford Township
Monroe Township
Pemberton Township
Winslow Township

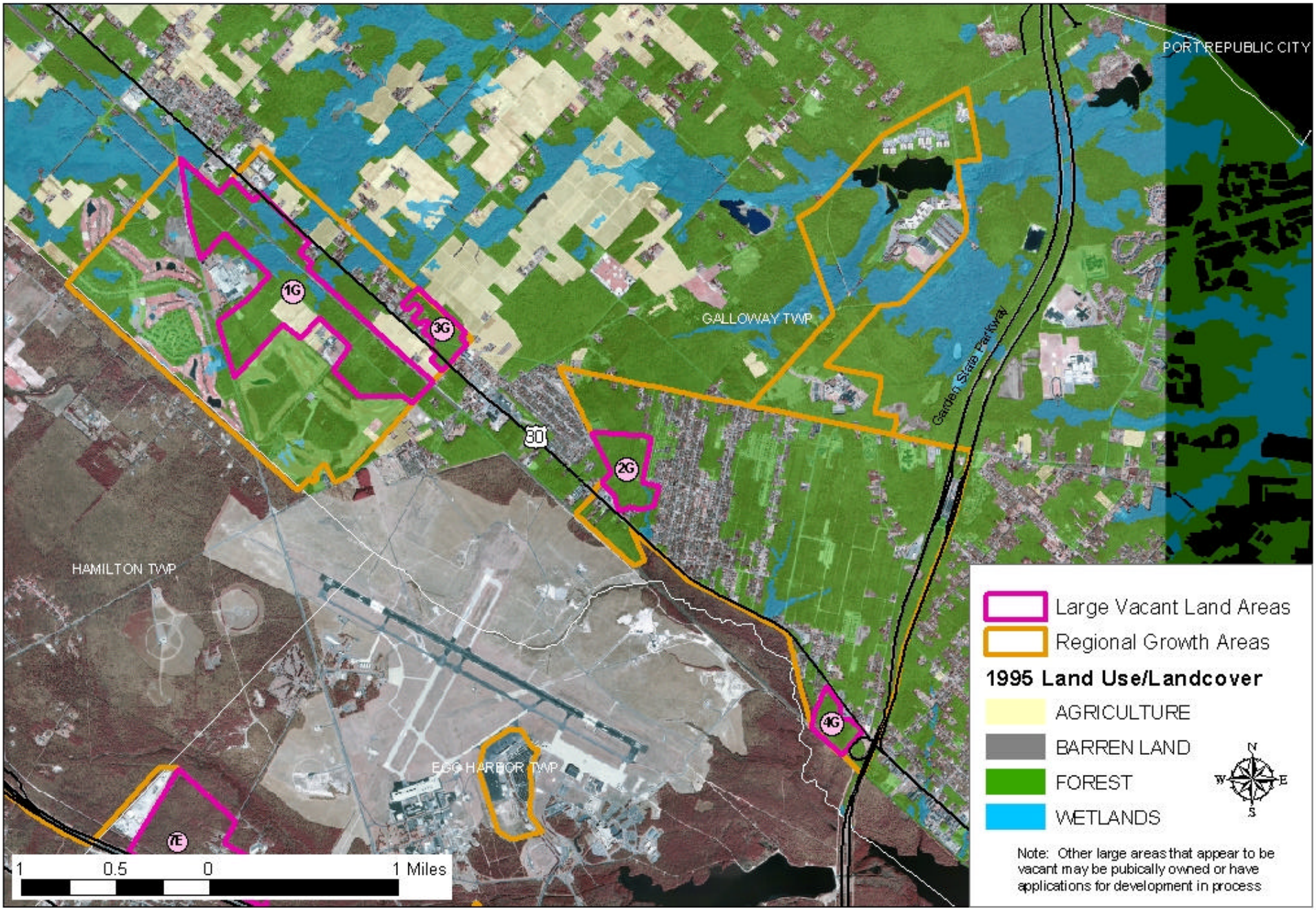
Egg Harbor Township Regional Growth Area



Data Source: NJDEP, NJPC

Prepared By: NJ Pinelands Commission, October 2004

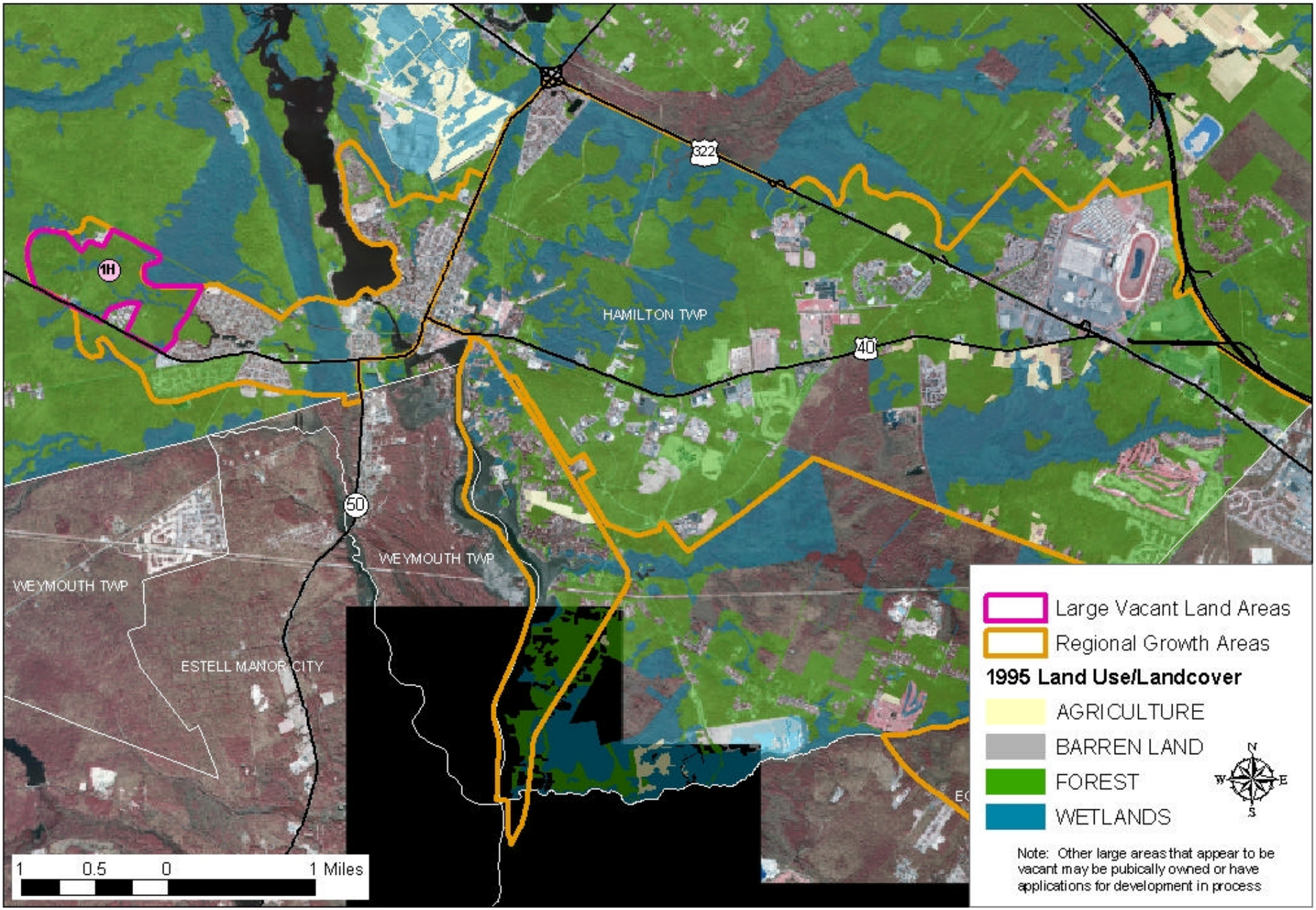
Galloway Township Regional Growth Area



Data Source: NJDEP, NJPC

Prepared By: NJ Pinelands Commission, October 2004

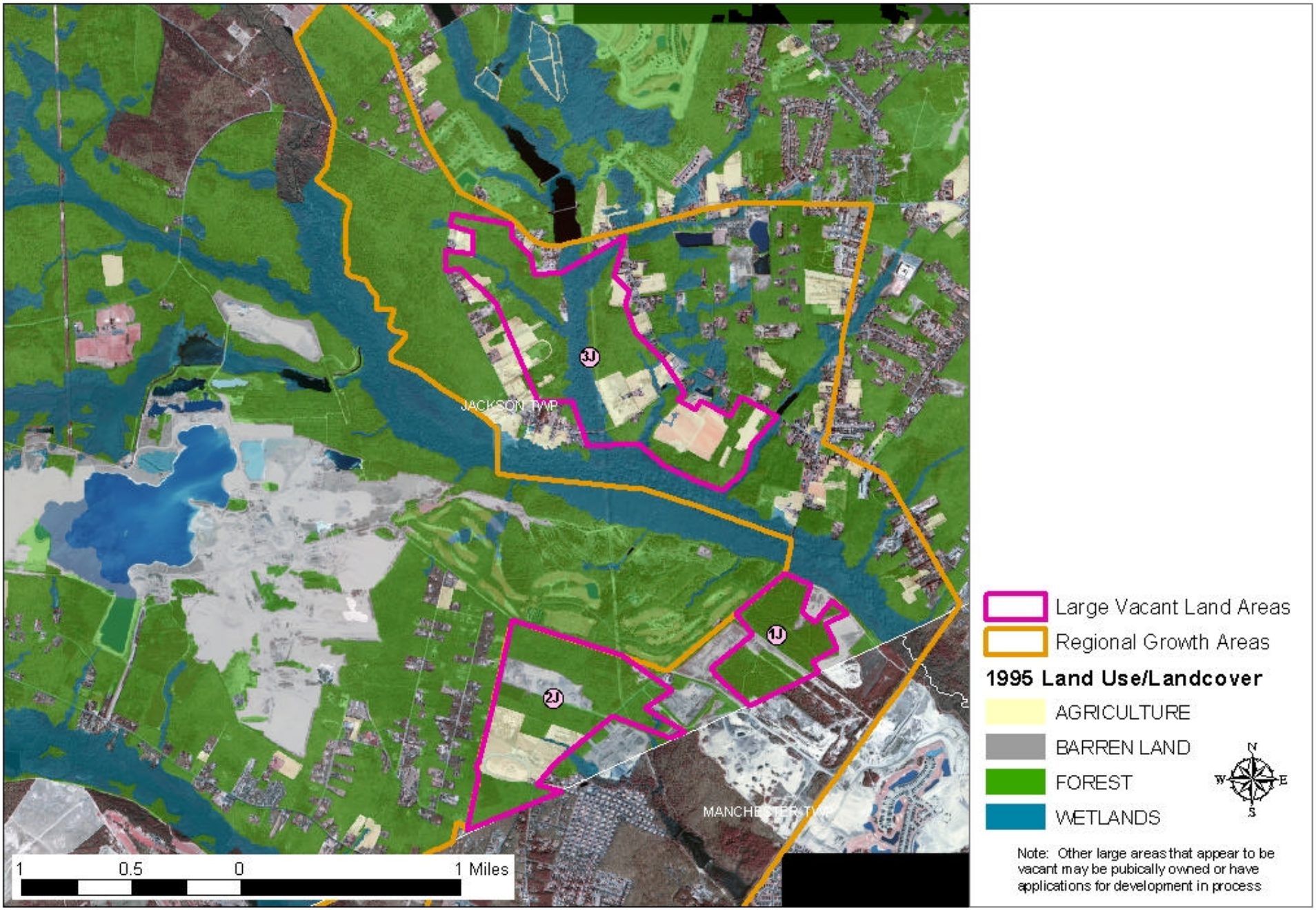
Hamilton Township Regional Growth Area



Data Source: NJDEP, NJPC

Prepared By: NJ Pinelands Commission, October 2004

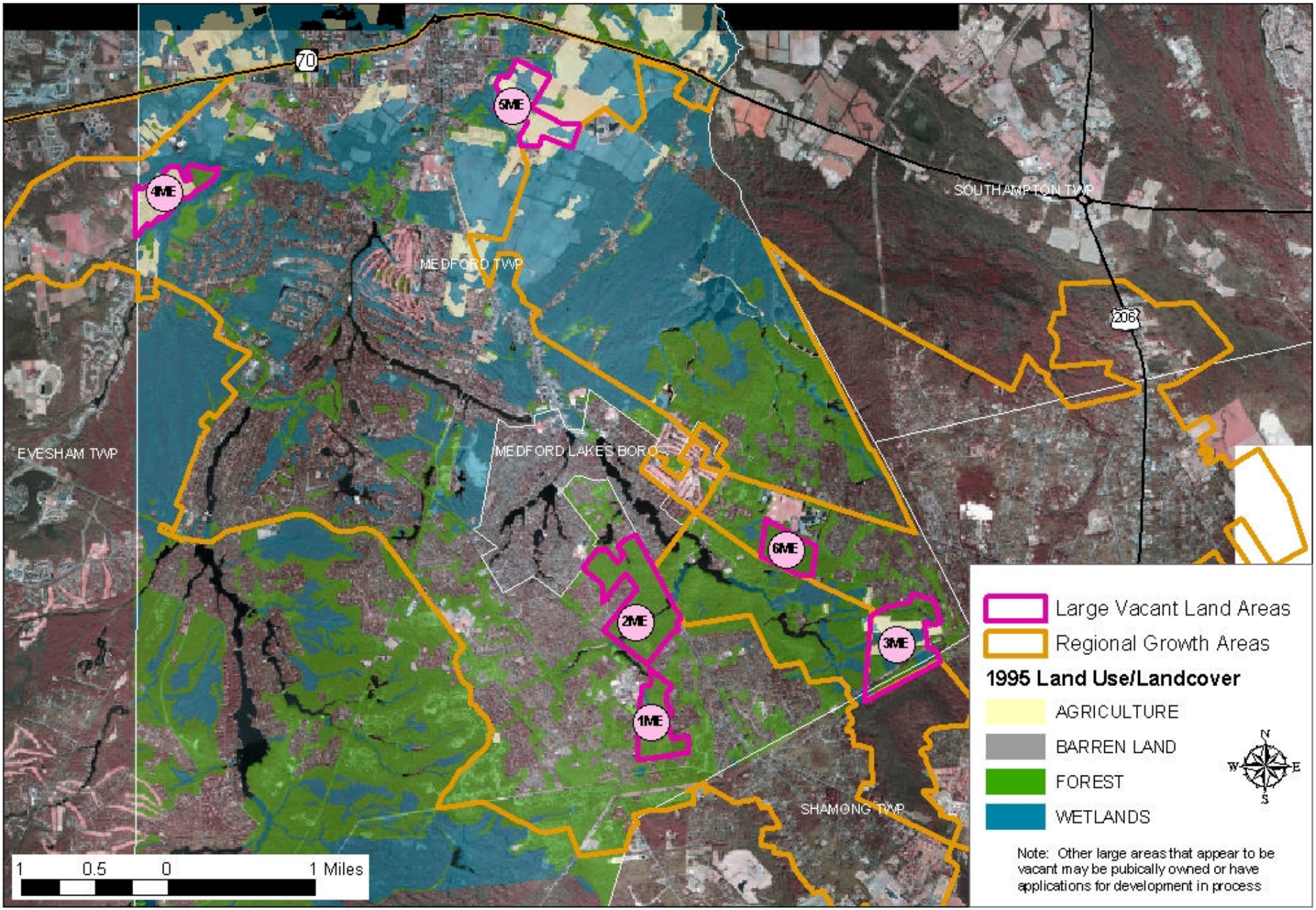
Jackson Township Regional Growth Area



Data Source: NJDEP, NJPC

Prepared By: NJ Pinelands Commission, October 2004

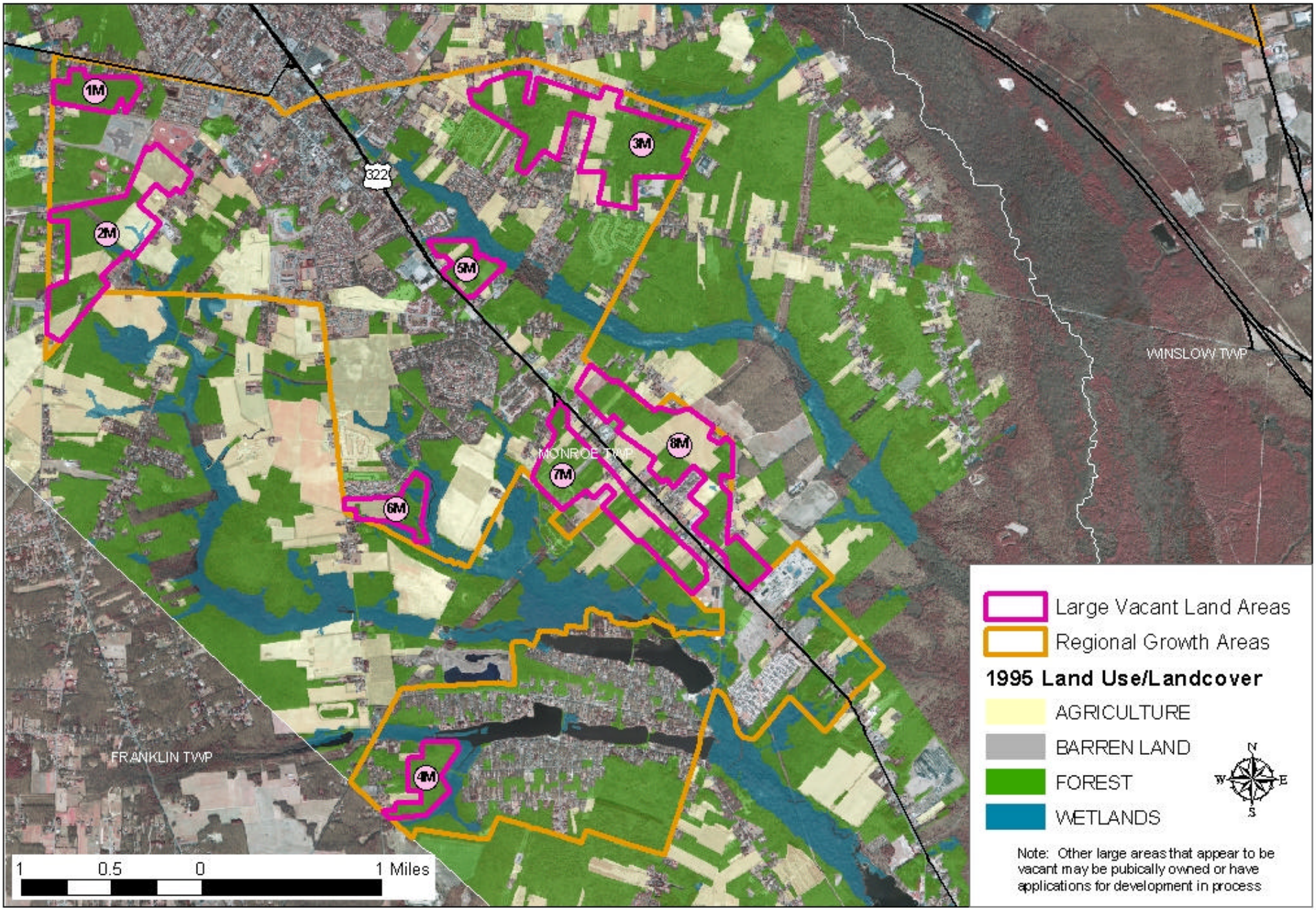
Medford Township Regional Growth Area



Data Source: NJDEP, NJPC

Prepared By: NJ Pinelands Commission, October 2004

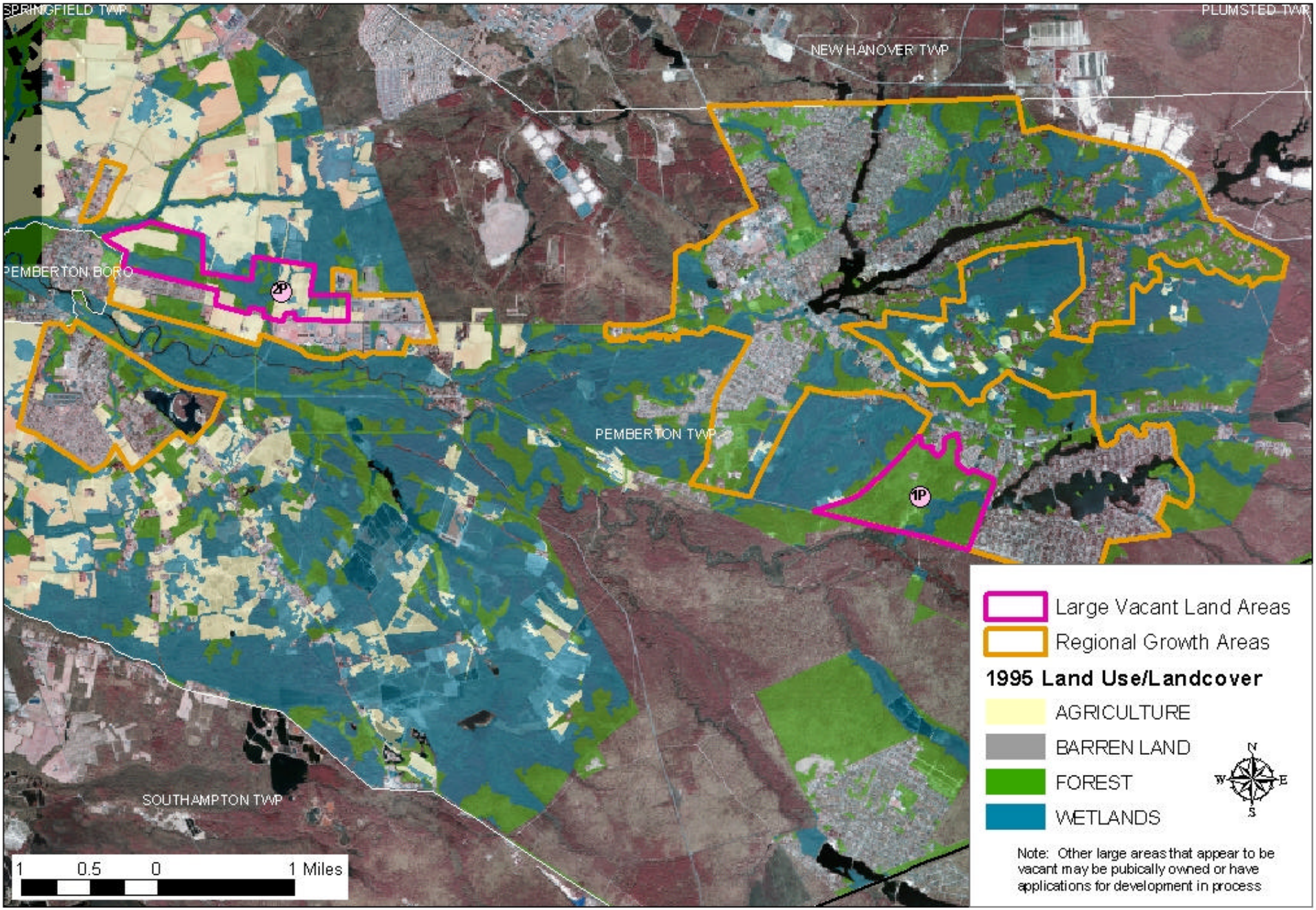
Monroe Township Regional Growth Area



Data Source: NJDEP, NJPC

Prepared By: NJ Pinelands Commission, October 2004

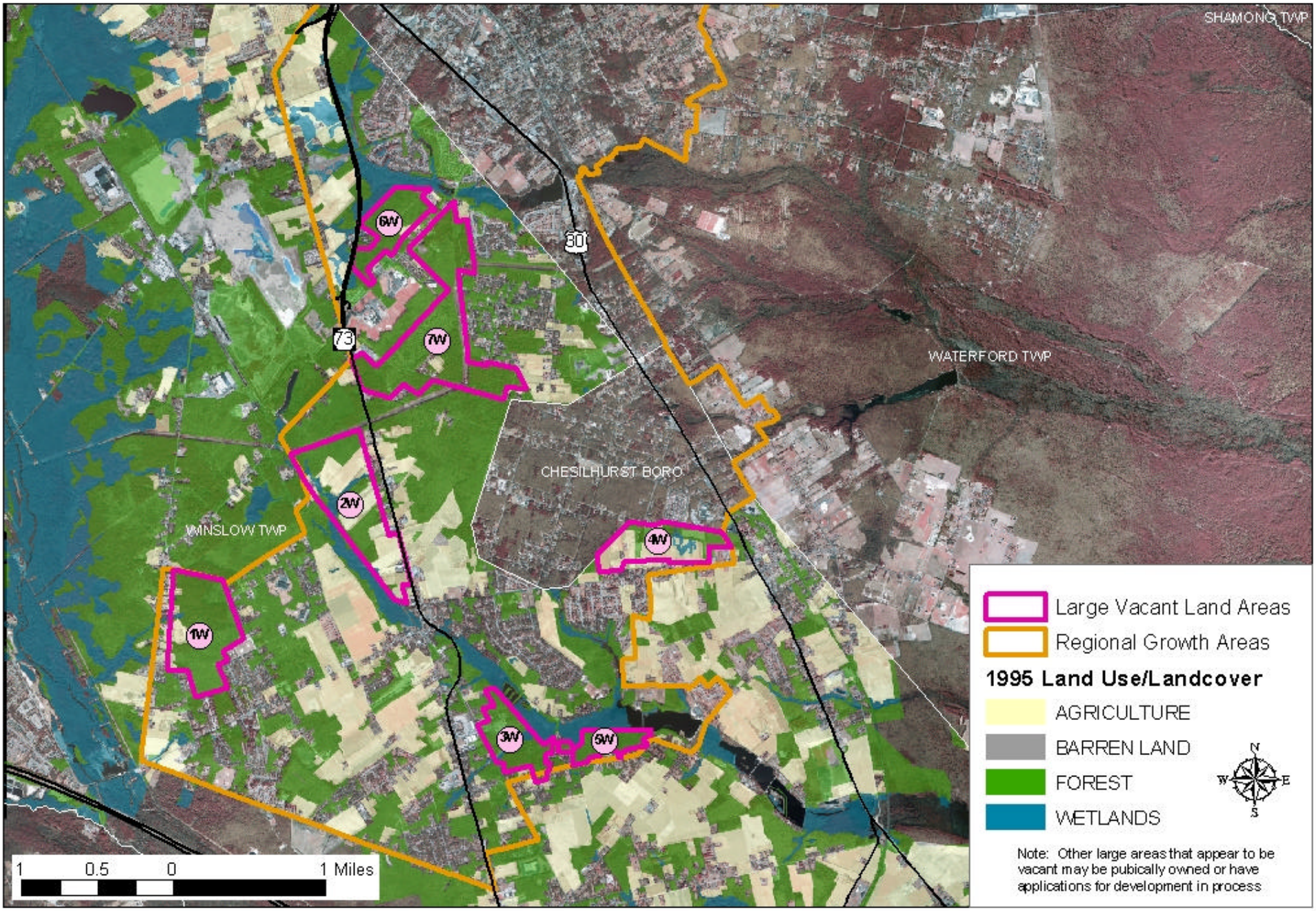
Pemberton Township Regional Growth Area



Data Source: NJDEP, NJPC

Prepared By: NJ Pinelands Commission, October 2004

Winslow Township Regional Growth Area



Data Source: NJDEP, NJPC

Prepared By: NJ Pinelands Commission, October 2004