SECTION 2

—

SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT

PART I

—

IMPACTS ON LAND CAPACITY

SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT: PART I — IMPACTS ON LAND CAPACITY

ORIGINAL ASSESSMENT FINDINGS

LAND CAPACITY:

TREND requires nearly 130,000 more acres for development. TREND consumes 292,000 acres and IPLAN 165,000 acres to provide for the same number of households and jobs.

SUPPLEMENTAL ASSESSMENT FINDINGS

LAND CAPACITY:

TREND requires nearly 174,500 more acres for development purposes than does AIPLAN. TREND consumes 292,000 acres; AIPLAN consumes 117,000 acres to provide for the same number of households and jobs.

— LAND CAPACITY —
COMPARATIVE IMPACT ASSESSMENT DIFFERENCES
(STATEWIDE — 1990–2010)

LAND CONSUMED	TREND CONDITIONS	IPLAN ORIGINAL ASSESSMENT	AIPLAN SUPPLEMENTAL ASSESSMENT
Overall Land Consumption [1]	292,079	164,441	117,607
Difference from TREND *Overall Land Consumption* [1]	—	127,638	174,472

[1] in acres

The difference in consumption in land under AIPLAN relates to somewhat more vacant land being included in the growth-oriented (and thus higher density) Planning Areas than was the case for IPLAN. AIPLAN also has 10 percent more Centers, 25 percent more Regional Centers, and the holding capacity of Villages has been more than doubled under

AIPLAN. The physical size of Hamlets has been decreased under AIPLAN somewhat although this has no effect on holding capacity.

GENERAL QUESTIONS ASKED/ANSWERS PROVIDED

The predominant question asked in this component of the analysis relates to the origin of the "standards" established for densities, FARs, open space ratios, and so on, in Centers. In addition, how were the densities of the environs determined? The answer to the first question is that Center characteristics were derived by a State Planning Commission advisory committee consisting of land-use lawyers, developers, and practicing planners (State Planning Advisory Committee. *Regional Design: A Report of the Regional Design System.* Trenton, New Jersey, November 1990). This report is currently the best available statement of likely Center development characteristics. The report was prepared by market-knowledgeable professionals who met regularly to develop these guidelines. The midpoint density of Centers used from this this report is almost identical to the midpoint of the density range (after the open space ratio is applied) of existing Centers. To answer the second question on the density of environs, assumptions for gross development densities in environs were jointly agreed upon by planning staff of the Office of State Planning and the study team.

Another question that has arisen concerning the analyses of this section relates to the scale of the population, household, and job projections. Projections were derived using the most current data available, made consistent with 1990 U.S. Census results and checked with the New Jersey Department of Labor (State Data Center), and other purveyors of population and employment projections. They were further controlled, as were other data, by the outputs of the CUPR Econometric Model. The study team believes that until more data are forthcoming from the U.S. Census and the New Jersey Department of Labor begins its new series of projections, these are the best and most accurate projections available. They have been included as part of the Amended Interim Plan.

MONITORING/EVALUATION RECOMMENDATIONS

The designation of Centers is critical to the implementation of the New Jersey State Development and Redevelopment Plan. And while there appears at the present time a more than adequate willingness to designate Centers, their sustained designation and implementation must be assured. A simple estimate of desirable Center designations per three-year growth period should be established. With this simple rule of thumb, ongoing progress on Center designation can be simply measured by the Office of State Planning.

DESIRABLE CHANGES TO BE INCORPORATED INTO THE STATE PLAN

The goal of land conservation should be accompanied by an aggressive funding mechanism to allow either the preservation or more limited use of conserved lands. This might take place through augmented Green Acre Acquisition Programs or through open space set-asides. More efficient development patterns provide an opportunity for land saving—once saved, some mechanism for permanent retention should be provided.

PART II

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IMPACTS ON FRAIL ENVIRONMENTAL LANDS

SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT: PART II — IMPACTS ON FRAIL ENVIRONMENTAL LANDS

ORIGINAL ASSESSMENT FINDINGS

FRAIL LANDS:

IPLAN consumes 80 percent less acres of frail environmental lands for development. The development objectives of the State Development and Redevelopment Plan can be met without spoiling almost 30,000 acres of frail environmental lands.

SUPPLEMENTAL ASSESSMENT FINDINGS

FRAIL LANDS:

AIPLAN also consumes 80 percent less acres of frail environmental lands for development. The development objectives of the State Development and Redevelopment Plan can be met without spoiling 30,400 acres of frail environmental lands.

— FRAIL LANDS —
COMPARATIVE IMPACT ASSESSMENT DIFFERENCES
(STATEWIDE — 1990–2010)

LAND CONSUMED	TREND CONDITIONS	IPLAN ORIGINAL ASSESSMENT	AIPLAN SUPPLEMENTAL ASSESSMENT
Frail Lands Consumption [1]	36,482	7,150	6,139
Difference from TREND *Frail Lands Consumption* [1]	—	29,332	30,343

[1] in acres

GENERAL QUESTIONS ASKED/ANSWERS PROVIDED

The major question asked with regard to frail lands concerns the degree of overlap between the categories of forests, steep slopes, and critical sensitive watersheds. The degree of overlap is high and has been accounted for in the procedure used to select the dominant acreage in a particular region. The dominant acreage is the one that is counted. This allows for the differing influence of frail lands in various parts of the State; it further allows for a calculable non-overlapping acreage associated with these lands.

Another question raised during the assessment presentations concerns the degree to which frail lands are found in lands under the agricultural classification. Frail lands are found as part of agricultural classified lands but not to the degree that they are found in otherwise vacant land. This is more true of steep slopes and less true of forests and critical sensitive watersheds. Both the original and supplemental analyses looked at frail lands in the "otherwise vacant" category and compared TREND and IPLAN/AIPLAN losses there.

MONITORING/EVALUATION RECOMMENDATIONS

The most accurate way to approach frail lands analysis is to have the scale and location of these lands digitized. This enables the direct tallying of acres taken as development approaches and also accounts for overlap in categories. The three categories of frail lands should be digitized by the Office of State Planning and changes in their incidence rate monitored as development progresses in the various Planning Areas and Centers.

DESIRABLE CHANGES TO BE INCORPORATED INTO THE STATE PLAN

A system of priorities ought to be established for the desired retention of frail lands relative to their ecological and natural resource value, their relationship to other environmental features, and alternative development opportunities. This is particularly true when these lands occupy significant portions of municipalities. In addition, there should be a series of recommended strategies promulgated for holding these lands once they are able to be saved from development.

PART III

IMPACTS ON AGRICULTURAL LANDS

SUPPLEMENTAL ECONOMIC ASSESSMENT: PART III — IMPACTS ON AGRICULTURAL LANDS

ORIGINAL ASSESSMENT FINDINGS

AGRICULTURAL LAND CONSUMPTION
(total acreage):

Development consumes 108,000 acres of agricultural land under TREND. Under IPLAN, the agricultural land loss is three-quarters of this level or 78,000 acres.

AGRICULTURAL LAND CONSUMPTION
(by land category):

Under TREND, the vast majority of the agricultural land loss (more than 80 percent) consists of better quality (prime or marginal) farmland. Under IPLAN, all of the better farmland is preserved and only poor quality farmland is offered for development.

AGRICULTURAL PRESERVATION COST:

IPLAN's preservation benefit (i.e., fewer acres offered for development) may result in a loss of $353 million in land sales. Public policy will decide the combination of parties that must shoulder this loss—private landowners, state government, local governments, and so on.

SUPPLEMENTAL ASSESSMENT FINDINGS

AGRICULTURAL LAND CONSUMPTION
(total acreage):

Development consumes 66,000 acres of agricultural land under AIPLAN—12,000 fewer acres than is the case for IPLAN (78,000 acres). This relates to a somewhat higher percentage of land being located in Regional Centers under AIPLAN than was the case for IPLAN.

AGRICULTURAL LAND CONSUMPTION
(by land category):

All agricultural land consumed under AIPLAN is poor-quality farmland. No better quality (prime or marginal) farmland is offered for development.

AGRICULTURAL PRESERVATION COST:

The cost of agricultural land preservation increases because it is possible to save more land under AIPLAN. The agricultural land preservation cost is $467 million for AIPLAN compared to $353 million for IPLAN.

— AGRICULTURAL LANDS — COMPARATIVE IMPACT ASSESSMENT DIFFERENCES (STATEWIDE — 1990–2010)

AGRICULTURAL LANDS AND COSTS	TREND CONDITIONS	IPLAN ORIGINAL ASSESSMENT	AIPLAN SUPPLEMENTAL ASSESSMENT
Agricultural Lands Consumed [1]	108	78	66
Agricultural Preservation Cost [2]	—	$353	$468
Difference from TREND			
Agricultural Lands Consumed [1]	—	–30	–42
Agricultural Preservation Cost [2]	—	$353	$467

[1] in thousands of acres

[2] in millions of dollars

GENERAL QUESTIONS ASKED/ANSWERS PROVIDED

The primary question involving the agricultural analysis centered around the distinction between traditional classifications of farmland and the classifications utilized by the Rutgers University, Center for Urban Policy Research (CUPR). Traditional classifications are based on soil characteristics alone, such as the Soil Conservation Service's Groups I, II, and III. In New Jersey, more than half of the State's agricultural revenues comes from nursery and greenhouse products, Christmas trees, and other production where productivity is not closely related to soil quality. Consequently, CUPR incorporated a farmland classification approach that mirrors actual New Jersey critical crop and production characteristics. The unique aspect about this classification is that it is sensitive to the land needs of each subcomponent of the agriculture industry.

Another question that was raised concerned the differences between the "in-perpetuity" land preservation costs of $2.3 billion versus the 20-year $353 million agricultural land preservation costs. Which is the result of the Impact Assessment? The latter, or $353 million, reflects the results of the Impact Assessment; the $2.3 billion figure is an end-state buildout figure for lands, the majority of which, over a future foreseeable development period, theoretically will have no demand and thus essentially no lost value. (Value cannot be lost until land is converted to another use via sale.)

MONITORING/EVALUATION RECOMMENDATIONS

The agricultural land information should be digitized by category of agricultural land so that its depletion over time can be calculated. The SCS soil classifications might also be introduced to view impacts on findings.

DESIRABLE CHANGES TO BE INCORPORATED INTO THE STATE PLAN

It should be made explicit in the State Development and Redevelopment Plan that if agricultural preservation is desired, the cost should be considered to be shared among all citizens of the State as opposed to a single group of landowners.

PART IVA

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IMPACTS ON AIR POLLUTION

SUPPLEMENTAL ENVIRONMENTAL IMPACT ASSESSMENT: PART IVA — IMPACTS ON AIR POLLUTION

ORIGINAL ASSESSMENT FINDINGS

AIR POLLUTION: ***Air pollutant emissions will be substantially reduced in the future under both TREND and IPLAN. Most of the reduction is due to more stringent emission controls that will affect the entire motor vehicle fleet of the State as opposed to its growth increment.***

SUPPLEMENTAL ASSESSMENT FINDINGS

AIR POLLUTION: ***Air pollutant emissions will continue to be substantially reduced under AIPLAN. Again, this is mostly due to the effects of more stringent emission controls affecting the motor vehicle fleet.***

— AIR POLLUTION —
COMPARATIVE IMPACT ASSESSMENT DIFFERENCES
(STATEWIDE — 1990–2010)

TYPES OF POLLUTANTS	TREND CONDITIONS	IPLAN ORIGINAL ASSESSMENT	AIPLAN SUPPLEMENTAL ASSESSMENT
REDUCTION OF:			
Non-Methane Hydrocarbons (NMHC) [1]	– 77,210	– 77,339	– 77,360
Carbon Monoxide (CO) [1]	– 702,745	– 703,581	– 703,718
Nitrogen Oxide (NOx) [1]	– 51,736	– 51,843	– 51,860
Difference from TREND			
REDUCTION OF:			
Non-Methane Hydrocarbons (NMHC) [1]	—	– 129	– 150
Carbon Monoxide (CO) [1]	—	– 835	– 972
Nitrogen Oxide (NOx) [1]	—	– 107	– 124

[1] in metric tons

GENERAL QUESTIONS ASKED/ANSWERS PROVIDED

The most frequent question asked about this portion of the analysis concerned the Impact Assessment's concentration on mobile sources of air pollution (automobile or truck) as opposed to stationary sources (residential and nonresidential structures). The answer is that mobile sources of air pollution contribute 50–90 percent of the pollutant level depending upon type of pollutant and are those most influenced by land-use policy.

Another question concerned whether the scale of pollutant reduction overestimated what could be achieved in New Jersey as a northeastern manufacturing- and transportation-oriented state. The standards used were neither as stringent as those to which California vehicles must comply nor as stringent as those required by the federal Clean Air Act Amendments of 1990.

MONITORING/EVALUATION RECOMMENDATIONS

Pollutant levels per automobile by type of substance (CO, NMHC, NOx) should be determined for the current period and projected for the future. This would require some type of coordinated effort between the New Jersey Department of Environmental Protection and Energy (DEPE) and the EPA Motor Vehicle Emission Laboratory at Ann Arbor, Michigan. These should be checked using field monitoring information available from the Division of Air Quality Management and Surveillance of DEPE. This will allow the accuracy of the air pollution projections to be verified over time.

DESIRABLE CHANGES TO BE INCORPORATED INTO THE STATE PLAN

The State Development and Redevelopment Plan should support more stringent statewide mobile-source emission controls. This will have a major impact on statewide air quality—much more so than TREND versus IPLAN/AIPLAN differences in land-use patterns.

PART IVB

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IMPACTS ON WATER POLLUTION

SUPPLEMENTAL ENVIRONMENTAL IMPACT ASSESSMENT: PART IVB — IMPACTS ON WATER POLLUTION

ORIGINAL ASSESSMENT FINDINGS

WATER POLLUTION: ***IPLAN will generate about one-third less water pollutants than TREND, although heavy metals in urban stormwater runoff may be increased.***

SUPPLEMENTAL ASSESSMENT FINDINGS

WATER POLLUTION: ***AIPLAN will achieve about the same reduction in water pollutants as IPLAN. Heavy metal in urban stormwater runoff may continue to be increased.***

— WATER POLLUTION —
COMPARATIVE IMPACT ASSESSMENT DIFFERENCES
(STATEWIDE — 1990–2010)

TYPES OF POLLUTANTS	TREND CONDITIONS	IPLAN ORIGINAL ASSESSMENT	AIPLAN SUPPLEMENTAL ASSESSMENT
INCREASES IN:			
Biochemical Oxygen Demand (BOD) [1]	12,201	8,818	8,382
Total Phosphorus (TP) [1]	177	100	205
Total Nitrogen (TN) [1]	2,469	1,417	1,885
Zinc (Zn) [1]	132	103	87
Lead (Pb) [1]	184	165	115
Difference from TREND			
Biochemical Oxygen Demand (BOD) [1]	—	– 3,382	– 3,819
Total Phosphorus (TP) [1]	—	– 77	+ 28
Total Nitrogen (TN) [1]	—	– 1,052	– 584
Zinc (Zn) [1]	—	– 29	– 45
Lead (Pb) [1]	—	– 19	– 69

[1] tons

GENERAL QUESTIONS ASKED/ANSWERS PROVIDED

The most common question asked regarding the water pollution assessment was why it focused on non-point source pollutants only. The answer, much as it is the case for air pollution, is that non-point source water pollution is itself very significant and is most influenced by land-use patterns.

Another question regarding the water pollution analysis concerned whether or not the Water Pollution Model was sensitive enough to pick up additional pollutants occurring from preserved agricultural lands. The Model was adjusted to be sensitive to undeveloped land-based pollutants as well as those occurring from developed land runoff.

MONITORING/EVALUATION RECOMMENDATIONS

The CUPR Water Pollution Model should be integrated into the network of models currently on-hand at the Office of State Planning (OSP). OSP should undertake case studies in various parts of the State to ensure that the relationships expressed and the selection and weighting of data are appropriate to all regions of the State.

DESIRABLE CHANGES TO BE INCORPORATED INTO THE STATE PLAN

Overall increases in the generation of water pollutants throughout New Jersey are clearly a critical problem under both TREND and Plan scenarios. This is one area of environmental protection that should be emphasized in the State Development and Redevelopment Plan for both the health and economic vitality of New Jersey.