

For Discussion Purposes



TAC CHARRETTE WORKBOOK

Regional Development and Design

NEW JERSEY HIGHLANDS COUNCIL

March 28, 2006



Overview of RMP Goals and Structure

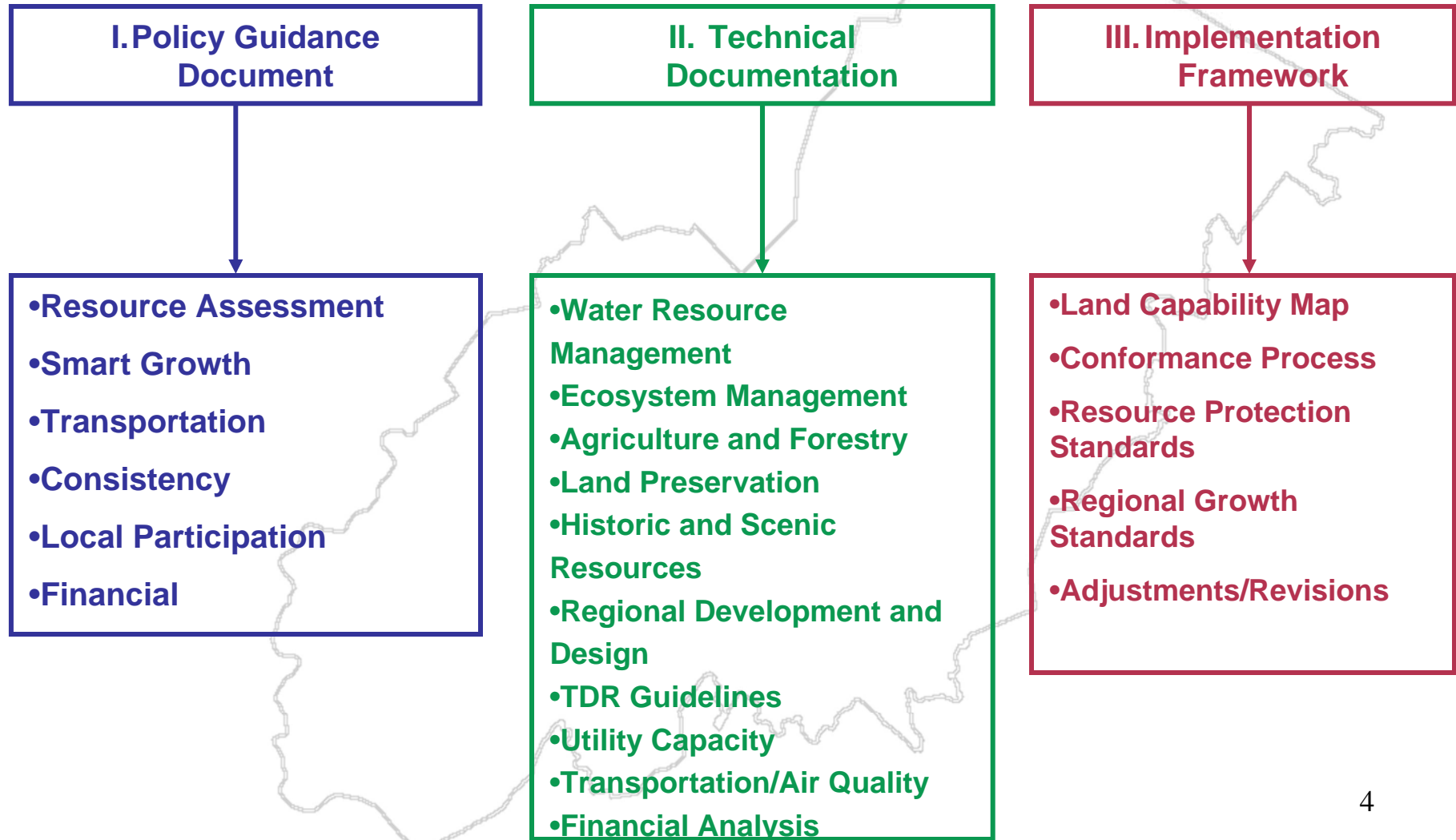
NEW JERSEY HIGHLANDS COUNCIL

New Jersey Highlands

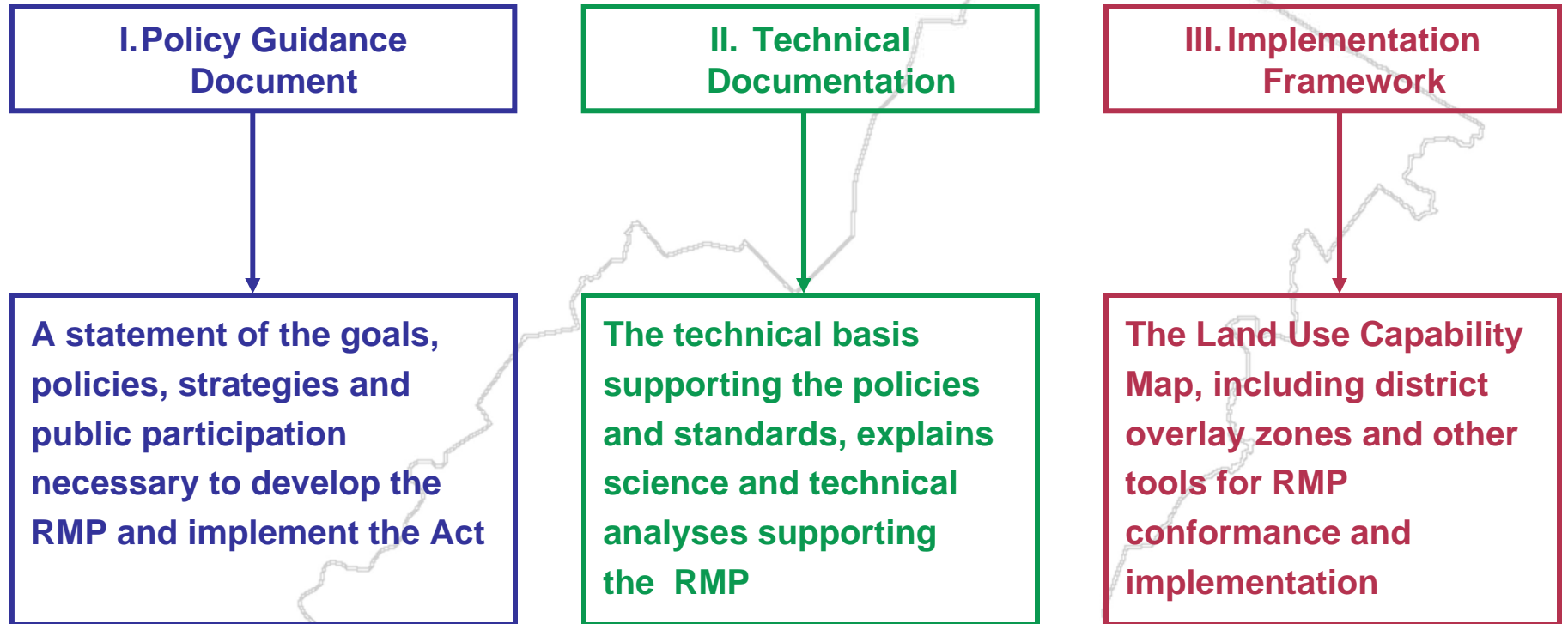
Goals of the Act

- **Protect and conserve the quality and quantity of drinking water**
- **Protect natural, scenic, recreational, cultural and historic resources**
- **Preserve contiguous lands in their natural state**
- **Preserve farmland and farming**
- **Promote appropriate patterns of development, redevelopment and economic growth**
- **Promote a sound and balanced transportation system**

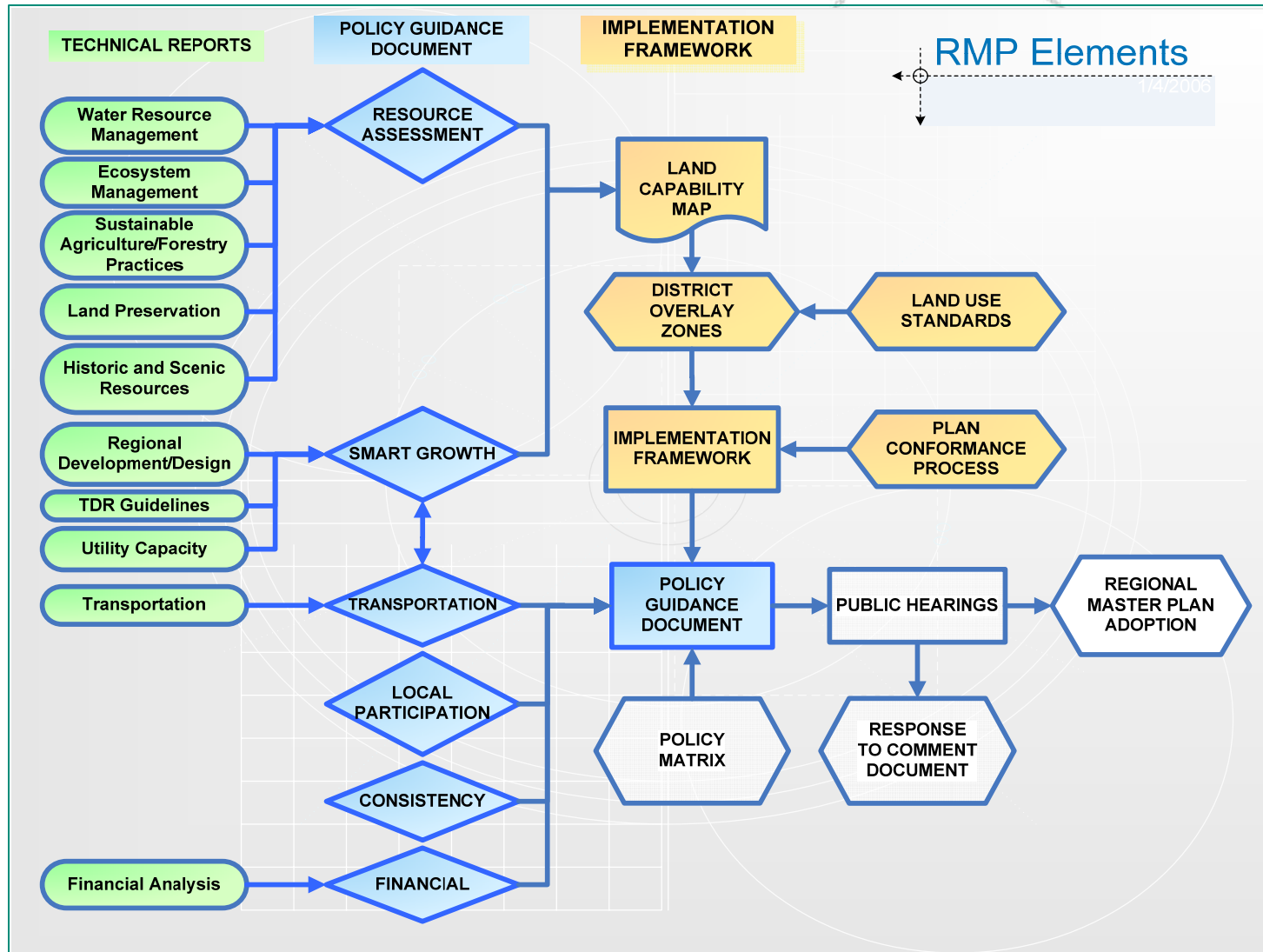
Highlands Regional Master Plan



Highlands Regional Master Plan



Highlands Regional Master Plan





**Regional Development and Design
Requirements of the Act**

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Requirements of the Act

- Explore “opportunities for appropriate development, redevelopment, and economic growth...which shall include consideration of public investment priorities, infrastructure investments, economic development, revitalization, housing, transportation, energy resources, waste management, recycling, brownfields, and design such as mixed-use, compact design, and transit villages. In preparing this component, the council shall identify:
 - (b) existing developed areas capable of sustaining redevelopment activities and investment;

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Requirements of the Act (continued)

- (c) undeveloped areas in the planning area, which are not significantly constrained by environmental limitations such as steep slopes, wetlands, or dense forests, are not prime agricultural areas, and are located near or adjacent to existing development and infrastructure, that could be developed;
- (d) transportation, water, wastewater, and power infrastructure that would support or limit development and redevelopment in the planning area. This analysis shall also provide proposed densities for development, redevelopment, or voluntary receiving zones for the transfer of development rights;

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Requirements of the Act (continued)

- (e) potential voluntary receiving zones in the planning area for the transfer of development rights through the appropriate expansion of infrastructure or the modified uses of existing infrastructure;
- (f) minimum standards for municipal and county master planning and development regulations outside of the preservation area, including density standards for center-based development to encourage, where appropriate, the adoption of such standards; and
- (h) identify areas appropriate for redevelopment and set appropriate density standards for redevelopment.

Highlands Act, N.J.S.A. 13:20-11.a(6)



Technical Approach and Methods Regional Development and Design

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Program Objectives

- **Manage future growth in order to protect natural resources**
- **Future growth should be consistent with smart growth strategies and principles - “in or adjacent to areas already utilized for such purposes”**
- **Discourages “piecemeal, scattered, and inappropriate development”**
- **Identify existing developed areas that have the capacity to sustain redevelopment in both the Preservation Area and the Planning Area**

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Program Objectives (continued)

- Encourage synergistic opportunities between development, redevelopment and utility and transportation infrastructure
- Encourage appropriate development patterns in support of economic growth. However, nothing in the Highlands Act mandates a particular amount or type of growth

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Data Sources – Technical Approaches

- **Build Out Analysis**
- **Housing Opportunities**
- **Brownfields and Redevelopment**
- **Regional Growth Areas**
- **Smart Design Standards**



Build Out Analysis

Data Sources

Build Out Model Scenarios

Trend Baseline

- Full build out of available unrestricted land under current zoning to provide understanding regarding land use and inform the utility capacity limitations at full build out based on existing municipal zoning.

State Plan Baseline

- Full build out of available unrestricted land under current zoning and State Planning Area densities to provide understanding regarding land use and utility capacity limitations at full build out based on State Planning Area land use and density patterns.

Build Out Analysis

Data Sources

Build Out Model Scenarios (continued)

Highlands Land Capacity Baseline

- Full build out of available land based on Highlands land capability map and current zoning to provide understanding regarding land use and utility capacity limitations at full build out based on existing municipal zoning and the Land Use Capability map.

Highlands Growth Capacity

- Full build out under Land Capability Map and current zoning including the adjustment for higher permitted residential densities in specific growth areas. To provide understanding regarding land use and wastewater capacity limitations of full build out based on existing municipal zoning, the Land Use Capability map, and identification of potential Regional Growth Areas.

Build Out Analysis

Data Sources

Build Out Model Data Input Sources

NJDEP 2002 Land Use/Land Cover Developed, Undeveloped-Lands by Anderson Land Use Type (see Attachment A).

Municipal Zoning existing as of October 2005, with look-up table listing each unique zone and identifying residential density, non-residential FAR, mixed-use, senior housing and government, institutional or public lands.

Modified Sewer Service Areas based upon NJDEP 2005 spatial coverage, excluding all groundwater discharges that are less than 20,000 gallons per day within a sewer service area.

Roads and Right of Way spatial coverage prepared from municipal parcel data and NJ Department of Transportation (NJDOT) spatial centerline files as of October 2005. These areas will be removed from the developable land area in the build out.

Build Out Analysis Data Sources

Build Out Model Data Input Sources (cont)

Open Space Layer will be prepared by the Highlands Council from a variety of source data and will represent permanently preserved lands as of October 2005. These lands will be considered as land not available for development in the build out analysis. The open space data layer will be derived from the following datasets:

- Preserved farmland. State Agriculture Development Committee (SADC)
- Green Acres statewide coverage of state owned, protected open space and recreation areas.
- Green Acres Local and Nonprofit statewide coverage of projects funded through Green Acres' Local Assistance program
- Open Space Data layer from Office of Smart Growth (OSG), through cross acceptance.
- Federal lands
- Various Non-profit Open Space Data

Build Out Analysis Data Sources

Build Out Model Data Input Sources (cont)

- **Constrained land data layers for Trend and State Plan Scenarios. Remove the following natural features from vacant land to determine “developable” vacant land:**
 - **Streams and open waters** derived from the 2002 Hydrography layer and 2002 LU/LC undeveloped waters (Codes 5100, 5200, 5300) with a 300’ buffer for C-1/Trout Production streams; a 150’ buffer for Non-C-1 streams that intersect with Landscape feature; 50’ buffer for Trout Maintenance/ Non-Trout Streams that do not intersect a Landscape feature. Buffer from stream bank or where shown on Hydrography layer. A Landscape feature includes levels 3, 4 and 5 for forested wetland, emergent wetland and wood turtle only.

Build Out Analysis Data Sources

Build Out Model Data Input Sources (cont)

- **Steep slopes** create a vector data layer representing 5 - <10%; 10 – <15%; 15 – <20%; 20% and greater. The Trend and Plan constrained steep slope layer is 15 % and greater.
- **Flood plain and flood prone areas** the constrained layer is the 100 year floodplain (digital FEMA 100 year) and DEP flood prone areas (DEP delineated FPA streams).

Build Out Analysis Data Sources

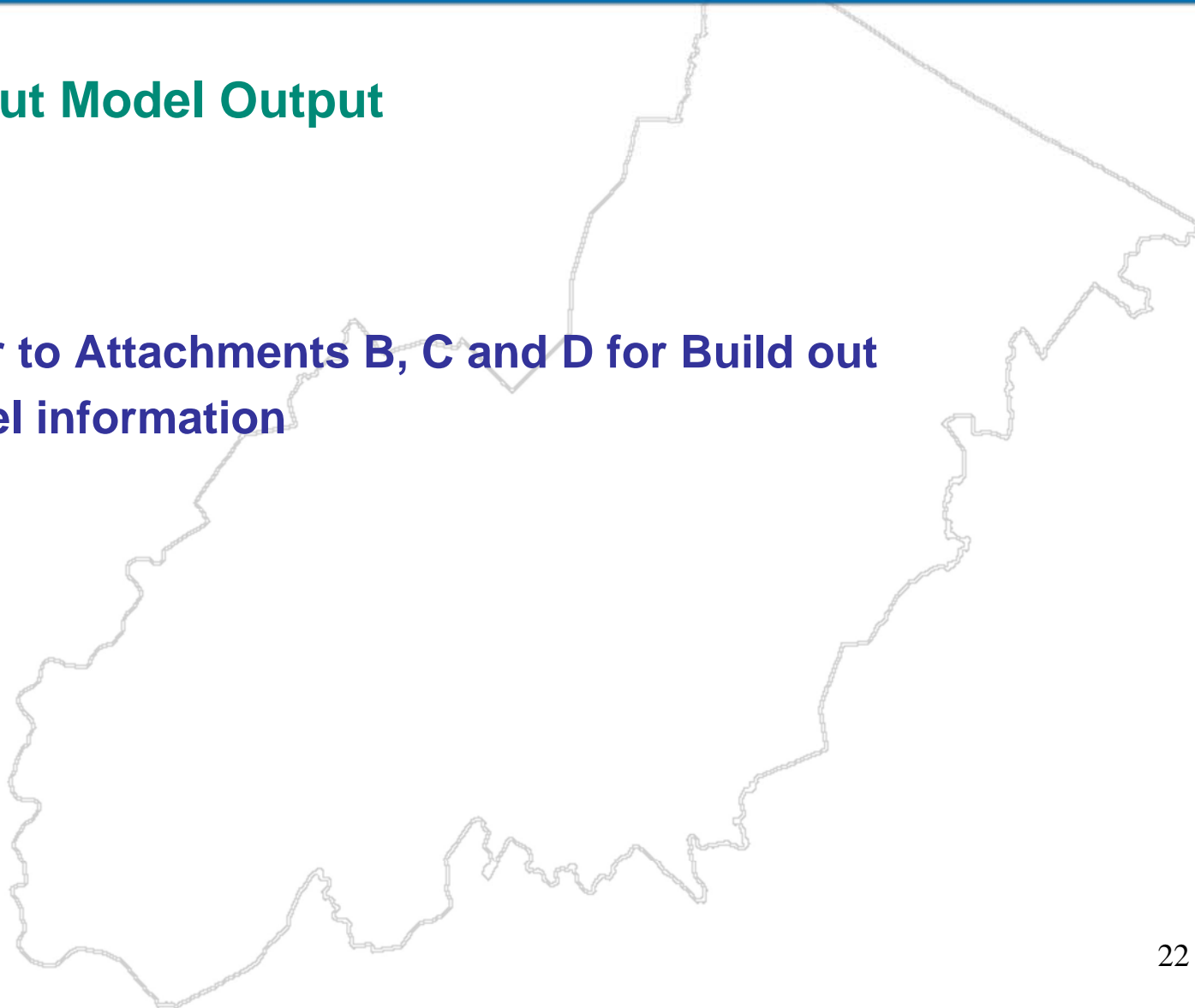
Build Out Model Data Input Sources (cont)

- **Wetlands** Exceptional Wetlands defined as requiring a 150' buffer where the wetland polygon intersects with landscape 3, 4 and 5 for forest wetland, emergent wetland and wood turtle; or intersects within 300' of a FW1/Trout Production stream and open water buffer. 50' buffer for all other wetlands that do not intersect a designated landscape polygon or FW1/Trout Production stream. The source for the wetland classes is the 2002 LU/LC codes (see category 9 undeveloped forested wetlands and 10 undeveloped wetlands – other of the Highlands Council Developed and Undeveloped LU/LC codes).

Build Out Analysis Data Sources

Build Out Model Output

- Refer to Attachments B, C and D for Build out model information



Build Out Analysis Technical Approach

Build Out Analysis

- **Compile information on existing zoning, environmentally sensitive lands, open space and preserved lands, to inform an understanding of available buildable land**
- **Scenarios include Trend, State Plan, Highlands Plan with and without growth receiving areas**
- **Determine affect of various scenarios on population, school children, employment, residential/commercial development, traffic, water and wastewater capacity projections**
- **Utilize build out to inform Financial RMP component**
- **Utilize build out to inform land capability map development and identification of regional growth areas**
- **Utilize build out as a tool for Plan Conformance and migrate to a parcel build out model**

Housing Opportunities Data Sources

- Encourage housing that allows for a variety and choice of housing types and meets affordable housing needs
- *Refer to Attachment E for US Census 2000 housing data for each Highlands Region municipality*
- Identify extent of housing for each Highlands Municipality to evaluate number and type of units and owner and rental percentages in support of developing a housing strategy that permits variety and choice of housing within the Highlands Region.

Housing Opportunities Data Sources

2000 STATE OF NEW JERSEY DATA

New Jersey 2000 Population: 8,414,350
Total Housing Units: 3,310,275
Occupied Housing Units: 3,064,645
Average Vacancy Rate: 7.4%
Average Household Size: 2.68
Owner-occupied housing: 2,011,473 (65.6%)
Renter-occupied housing: 1,053,172 (34.4%)

2000 HIGHLANDS DATA

Highlands 2000 Population: 783,709
Total Housing Units: 296,543
Occupied Housing Units: 284,208
Average Vacancy Rate: 4%
Average Household Size: 2.75
Owner-occupied housing: 223,500 (79%)
Renter-occupied housing: 60,708 (21%)

Housing Opportunities Technical Approach

- **Utilize build out and fiscal analysis to evaluate housing extent based on Trend, State Plan and the Highlands RMP scenarios. Include analysis of housing units, utility capacity limitations and limited supply of land appropriate for development.**
- **Document smart growth design standards and land use management approaches and incentives that may serve as local planning tools in implementing the RMP.**
- **Develop green building standards and incentive programs for meeting affordable housing and Regional Growth Areas/TDR.**

Housing Opportunities Technical Approach

- **Determine affordable housing approaches and obligations of Highlands municipalities. Highlands 100% Preservation Area towns; Bloomsbury, Califon Borough, Glen Gardner, West Milford and Ringwood will require greater support from the Highlands Council and the Council on Affordable Housing in order to assist those communities.**
- **Define criteria and incentives for Regional Growth Areas/TDR that is based on the Land Use Capability map.**

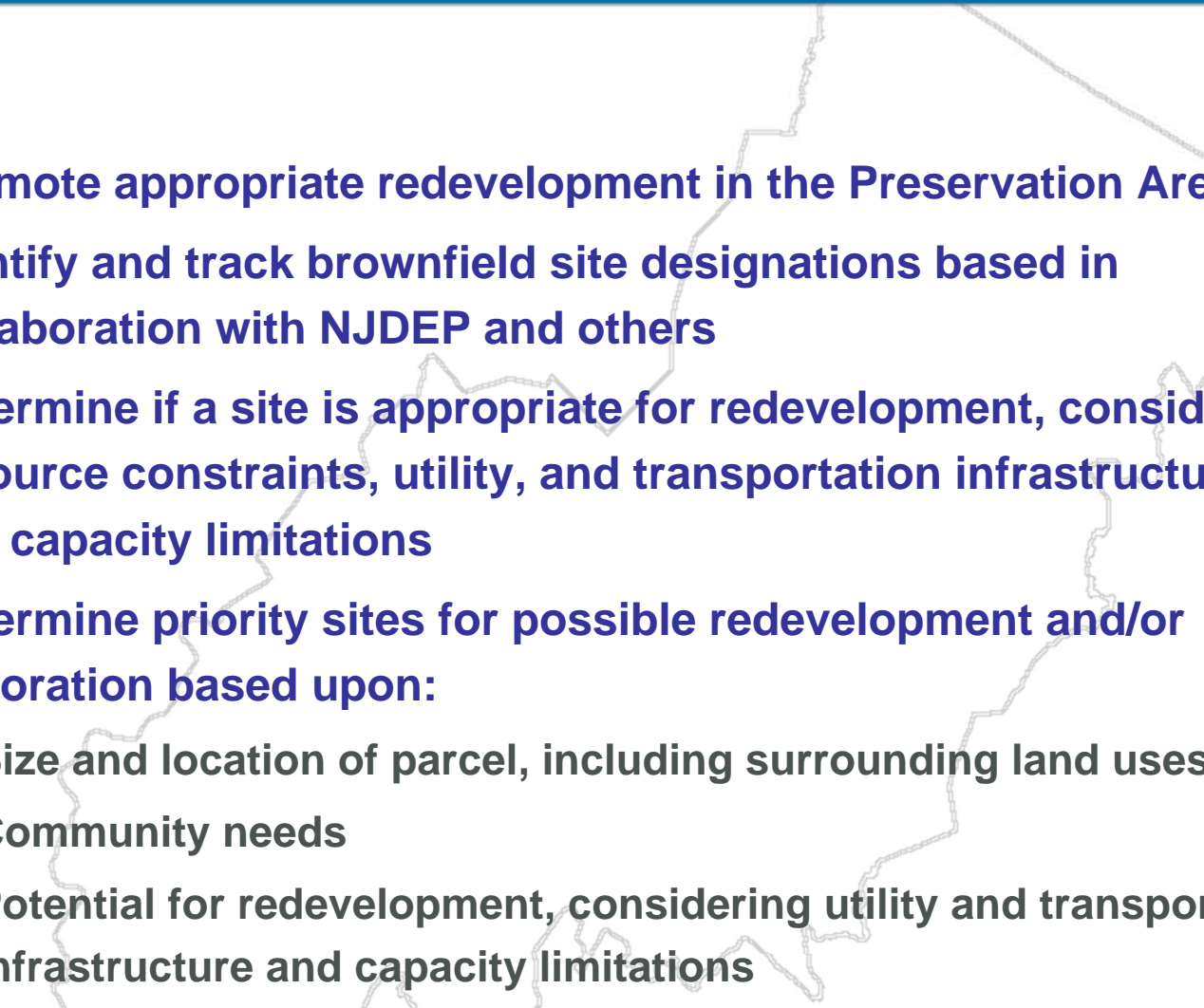
Brownfields and Redevelopment Data Sources

- **Potential brownfield and redevelopment sites will be determined by the Highlands Council. These sites will be considered in order to help balance resource protection needs, infrastructure constraints and opportunities for growth in the Highlands region.**
- **The following data sets will be considered:**
 - **New Jersey's Known Contaminated Sites (2005)**
 - **The Environmental Protection Agency's Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) or Superfund Database**

Brownfields and Redevelopment Data Sources

- **Additional NJ DEP Datasets including:**
 - Chromate Waste Sites
 - Deed Notice Extent Points and Polygons
 - Groundwater Contamination Areas (CEA) Points and Polygons
 - Groundwater Contamination Areas (CKE)
- **NJDEP 2002 Land Use Land Cover**
- **Municipal Zoning**
- **Parcel and MODIV Data**
- **US Census Data**
- **NJ Sitemart**
- **National Research Bureau Data**

Brownfields and Redevelopment Technical Approach

- 
- **Promote appropriate redevelopment in the Preservation Area**
 - **Identify and track brownfield site designations based in collaboration with NJDEP and others**
 - **Determine if a site is appropriate for redevelopment, considering resource constraints, utility, and transportation infrastructure and capacity limitations**
 - **Determine priority sites for possible redevelopment and/or restoration based upon:**
 - **Size and location of parcel, including surrounding land uses**
 - **Community needs**
 - **Potential for redevelopment, considering utility and transportation infrastructure and capacity limitations**
 - **Inform Growth Area identification process with brownfield identification process**

Identification of Regional Growth Areas

Data Sources

Inform the Identification of Regional Growth Areas for Highlands Regional Master Plan

- **Resource Assessment**
- **Build Out Model Analysis**
- **Utility Capacity Analysis**
- **Transportation Network and Transportation Capacity Map**
- **2002 Land Use Land Cover Data**
- **Municipal Zoning/MOD4/Parcel Data**
- **Existing Brownfield and Designated Rehabilitation/
Redevelopment Areas**
- **NJ State Plan – Planning Areas and Centers**
- **US Census Data**

Identification of Regional Growth Areas

Technical Approach

- 
- **Lands with Limited Water Protection/ Biodiversity Conservation Value**
 - **Access to Available Water/ Wastewater Capacity and Infrastructure**
 - **Access to Multi-Modal Transportation**
 - **Existing Areas of Concentrated Development Patterns**
 - **Existing Population Centers**
 - **Underutilized Previously Developed Lands**
 - **Zoning Consistent with Sustainable Population Densities**

Smart Design Standards

Data Sources

- **US Green Building Council LEED standards**
- **National Association of Home Builders Green Building Guidelines**
- **Department of Community Affairs New Jersey Affordable Green Program (NJAG)– sustainable affordable housing projects**
- **Department of Community Affairs High Performance Homes standards (under development)**
- **New Jersey Residential Site Improvement Standards**
- **New Jersey’s Clean Energy Program (BPU)**
- **Local Building Codes**
- **Sustainable Community initiatives (ex. Highland Park, Cranford, Montclair)**
- **Municipal Checklists**
- **Transportation Access Management Code**

Smart Design Standards

Technical Approach

- **Develop standards and guidelines that support smart growth design concepts, including water and energy conservation mechanisms**
- **Develop an understanding of how these standards and guidelines can be incorporated into local decision-making, ex. model ordinances, municipal checklists, modifications to existing standards (RSIS, Access Mgmt code, building codes)**
- **Develop a program of incentives and technical assistance to advance municipal action**
- **Explore how local zoning and development ordinances either support or preclude the municipal “vision” for the town, provide conceptual designs to illustrate implementation at the local level**



Problem Statements Regional Development and Design

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Problem Statement #1

- **What makes a community viable and what elements of a master plan are necessary in order to make it successful?**

Problem Statement #2

- **How do we determine redevelopment areas within the Highlands that allow for: protection of natural resources, provide opportunities for a variety and choice of housing, economic viability and quality of life?**

Regional Development and Design

Problem Statements #3

- How do you correlate regional planning, infrastructure and green construction so that it empowers a municipality's ability to make the best use of existing systems and allow for innovative or alternative technologies to be employed?

Problem Statements #4

- How do we empower municipal entities to implement the Regional Master Plan locally, while maintaining a sustainable vision for their community. What technical resources, incentive programs or existing opportunities would best serve this purpose.

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Problem Statement #5

- How do we establish a framework that enables communities to encourage stakeholder participation in implementing a regional plan at a local level?

Problem Statement #6

- How do you make regional planning in New Jersey predictable and streamlined?

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Further Thoughts:

- How do we best share knowledge with professionals and officials at the local level?
- How do we best identify sound planning projects and practices in the Highlands region?
- What are examples of best planning practices?

| ATTACHMENT A | | | | | |
|--|--------------------------------|------------------|-------------|--|----------|
| Regional Development and Design - TAC Charrette | | | | | |
| DATA DICTIONARY | | | | | |
| Highlands Build Out - Developed and Undeveloped Land Evaluation | | | | | |
| Land Use Code | | | | | |
| 1 | Residential | | | | |
| 2 | Non-Residential | | | | |
| 3 | Other - Military | | | | |
| 4 | Other - Plat | | | | |
| 5 | Other - Transitional Land | | | | |
| 6 | Undeveloped - Other | | | | |
| 7 | Undeveloped - Agriculture | | | | |
| 8 | Undeveloped - Forest | | | | |
| 9 | Undeveloped -Forested Wetlands | | | | |
| 10 | Undeveloped - Wetlands other | | | | |
| 11 | Undeveloped - Water | | | | |
| 12 | Undeveloped - Open | | | | |
| 13 | Undeveloped - Unavailable | | | | |
| Developed Land | | | | | |
| ID # | | Series Name/# | 2002_Code | 2002 Label | Comments |
| 1 | Residential | Series Name/# | LU2002_Code | Label_2002 | Comments |
| | | Urban/1000 | 1110 | RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING | |
| | | Urban/1000 | 1120 | RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY | |
| | | Urban/1000 | 1130 | RESIDENTIAL, SINGLE UNIT, LOW DENSITY | |
| | | Urban/1000 | 1140 | Residential, Rural, Single Unit | |
| | | Urban/1000 | 1150 | Mixed Residential | |
| 2 | Non-Residential | Series Name/# | LU2002_Code | Label_2002 | Comments |
| | | Urban/1000 | 1200 | COMMERCIAL/SERVICES | |
| | | Urban/1000 | 1300 | INDUSTRIAL | |
| | | Urban/1000 | 1500 | INDUSTRIAL/COMMERCIAL COMPLEXES | |
| | | Urban/1000 | 1600 | MIXED URBAN OR BUILT-UP LAND | |
| | | Barren Land/7000 | 7300 | EXTRACTIVE MINING | |

| Developed Land, cont. | | Series Name/# | 2002_Code | 2002 Label | Comments |
|------------------------------|--------------------------------|----------------------|--------------------|--|-----------------|
| 3 | Other - Military | Series Name/# | LU2002_Code | Label_2002 | Comments |
| | | Urban/1000 | 1211 | MILITARY RESERVATIONS | |
| 4 | Other - Plat | Series Name/# | LU2002_Code | Label_2002 | Comments |
| | | Urban/1000 | 1400 | TRANSPORTATION/COMMUNICATIONS/UTILITIES | |
| | | Urban/1000 | 1410 | MAJOR ROADWAY | |
| | | Urban/1000 | 1419 | BRIDGE OVER WATER | |
| | | Urban/1000 | 1440 | AIRPORT FACILITIES | |
| | | Urban/1000 | 1462 | UPLAND RIGHTS-OF-WAY, DEVELOPED | |
| | | Urban/1000 | 1463 | UPLAND ROW, UNDEVELOPED | |
| | | Urban/1000 | 1499 | STORMWATER BASIN | |
| | | Urban/1000 | 1710 | CEMETERY | |
| | | Urban/1000 | 1800 | RECREATIONAL LAND | |
| | | Urban/1000 | 1804 | ATHLETIC FIELDS (SCHOOLS) STADIUM, THEATERS, CULTURAL CENTERS AND ZOOS | |
| | | Urban/1000 | 1810 | | |
| Undeveloped Land | | Series Name/# | 2002_Code | 2002 Label | Comments |
| 5 | Other - Transitional | Series Name/# | LU2002_Code | Label_2002 | Comments |
| | | Barren Land/7000 | 7500 | TRANSITIONAL AREAS | |
| | | Barren Land/7000 | 7400 | ALTERED LANDS | |
| 6 | Undeveloped-Other | | LU2002_Code | Label_2002 | Comments |
| | | Urban/1000 | 1214 | Former Military; Indeterminate Use | |
| | | Urban/1000 | 1700 | OTHER URBAN OR BUILT-UP LAND | |
| | | Urban/1000 | 1741 | PHRAGMITES DOMINATE URBAN AREA | |
| | | Barren Land/7000 | 7600 | UNDIFFERENTIATED BARREN LANDS | |
| Undeveloped Land | | Series Name/# | 2002_Code | 2002 Label | Comments |
| 7 | Undeveloped-Agriculture | Series Name/# | LU2002_Code | Label_2002 | Comments |
| | | Agriculture/2000 | 2100 | CROPLAND AND PASTURELAND | |
| | | Agriculture/2000 | 2200 | ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREAS | |
| | | Agriculture/2000 | 2300 | CONFINED FEEDING OPERATIONS | |
| | | Agriculture/2000 | 2400 | OTHER AGRICULTURE | |

| 8 | Undeveloped-Forest | Series Name/# | LU2002_Code | Label_2002 | Comments |
|---|--------------------|---------------|-------------|---|----------|
| | | Forest/ 4100 | 4110 | DECIDUOUS FOREST (10-50% CROWN CLOSURE) | |
| | | Forest/ 4100 | 4120 | DECIDUOUS FOREST (>50% CROWN CLOSURE) | |
| | | Forest/ 4100 | 4210 | CONIFEROUS FOREST (10-50% CROWN CLOSURE) | |
| | | Forest/ 4100 | 4220 | CONIFEROUS FOREST (>50% CROWN CLOSURE) | |
| | | Forest/ 4100 | 4230 | PLANTATION | |
| | | Forest/ 4100 | 4311 | MIXED FOREST (>50% CONIFEROUS WITH 10%-50% CROWN CLOSURE) | |
| | | Forest/ 4100 | 4312 | MIXED FOREST (>50% CONIFEROUS WITH >50% CROWN CLOSURE) | |
| | | Forest/ 4100 | 4321 | MIXED FOREST (>50% DECIDUOUS WITH 10-50% CROWN CLOSURE) | |
| | | Forest/ 4100 | 4322 | MIXED FOREST (>50% DECIDUOUS WITH >50% CROWN CLOSURE) | |
| | | Forest/ 4100 | 4500 | Severe Burned Upland Forest | |

| Undeveloped Land | | Series Name/# | 2002_Code | 2002 Label | Comments |
|-------------------------|--------------------------------------|-------------------------------|--------------------|---|-----------------|
| 9 | Undeveloped-Forested Wetlands | | | | |
| | | Wetlands/ 6000 | 6210 | DECIDUOUS WOODED WETLANDS | |
| | | Wetlands/ 6000 | 6220 | CONIFEROUS WOODED WETLANDS | |
| | | Wetlands/ 6000 | 6251 | MIXED FORESTED WETLANDS (DECIDUOUS DOM.) | |
| | | Wetlands/ 6000 | 6252 | MIXED FORESTED WETLANDS (CONIFEROUS DOM.) | |
| | | Wetlands/ 6000 | 6221 | Atlantic White Cedar Wetlands | |
| 10 | Undeveloped-Wetlands other | Series Name/# | LU2002_Code | Label_2002 | Comments |
| | | Urban/1000 | 1750 | MANAGED WETLAND IN MAINTAINED LAWN GREENSPACE | |
| | | Agriculture/2000 | 2140 | AGRICULTURAL WETLANDS (MODIFIED) | |
| | | Agriculture/2000 | 2150 | FORMER AGRICULTURAL WETLAND-BECOMING SHRUBBY, NOT BUILT-UP) | |
| | | Wetlands/ 6000 | 6231 | DECIDUOUS SCRUB/SHRUB WETLANDS | |
| | | Wetlands/ 6000 | 6232 | CONIFEROUS SCRUB/SHRUB WETLANDS | |
| | | Barren Land/7000 | 7430 | DISTURBED WETLANDS (MODIFIED) | |
| | | Wetlands/ 6000 | 6233 | MIXED SCRUB/SHRUB WETLANDS (DECIDUOUS DOM.) | |
| Undeveloped Land | | Anderson Series Name/# | 2002_Code | 2002 Label | Comments |
| 10, cont. | Undeveloped-Wetlands other | Series Name/# | LU2002_Code | Label_2002 | Comments |
| | | Wetlands/ 6000 | 6234 | MIXED BRUSH AND BOG WETLANDS, CONIFEROUS DOMINATE | |
| | | Wetlands/ 6000 | 6240 | HERBACEOUS WETLANDS | |
| | | Wetlands/ 6000 | 6241 | PHRAGMITES DOMINATE INTERIOR WETLANDS | |
| | | Urban/1000 | 1461 | WETLAND RIGHTS-OF-WAY (MODIFIED) | |
| | | Urban/1000 | 1711 | CEMETERY ON WETLAND | |
| | | Urban/1000 | 1850 | MANAGED WETLAND IN BUILT-UP MAINTAINED REC AREA | |

| | | | | | |
|-------------------------|--------------------------------|----------------------|------------------|---|-----------------|
| | | Wetlands/ 6000 | 6113 | Phragmites Dominated Interior Wetlands | |
| | | Wetlands/ 6000 | 6120 | Freshwater Tidal Marshes | |
| Undeveloped Land | | Series Name/# | 2002_Code | 2002 Label | Comments |
| 11 | Undeveloped - water | Water/ 5000 | 5100 | STREAMS AND CANALS | |
| | | Water/ 5000 | 5200 | NATURAL LAKES | |
| | | Water/ 5000 | 5300 | ARTIFICIAL LAKES | |
| 12 | Undeveloped - open | | | | |
| | | Forest/ 4100 | 4410 | OLD FIELD (< 25% BRUSH COVERED) | |
| | | Forest/ 4100 | 4411 | PHRAGMITES DOMINATE OLD FIELD | |
| | | Forest/ 4100 | 4420 | DECIDUOUS BRUSH/SHRUBLAND | |
| | | Forest/ 4100 | 4430 | CONIFEROUS BRUSH/SHRUBLAND | |
| | | Forest/ 4100 | 4440 | MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND | |
| 13 | Undeveloped-unavailable | Barren Land/7000 | 7100 | Beaches | |
| | | Barren Land/7000 | 7200 | Bare Exposed Rock, Rock slides, etc. | |
| | | | | | |
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Attachment B

Regional Development and Design – TAC Charrette

Land Use Buildout and Impact Analysis – Technical Approach

| Scenario | Description | Data Input | Data Output |
|---|---|---|---|
| TREND BASELINE | Impact of a full buildout of available unrestricted land under current municipal zoned land usage (i.e., residential, senior/age restricted, commercial and industrial) and densities, without consideration of NJ Highlands Act implications. | 2002 DEP Land Use/Land Cover, Municipal Zoning, environmental constraints, open space/preserved land constraints, road and right of way constraints, Sewer Service Areas including provider and capacity, and Composite Zones and associated Impact Factors. | Buildout results (dwelling units and square feet non-residential space), and related impacts (population, children, water consumption, etc.), by municipality, county and region. Analysis of sewer demand versus capacity for each sewer service area, and required density adjustment. |
| STATE PLAN BASELINE | Impact of a full buildout of available unrestricted land under current municipal zoned land usage for age-restricted zones, mixed use zones and non-residential floor area ratios (FAR), and State Planning Area average residential densities, without consideration of legislated formation of the NJ Highlands Region. | 2002 DEP Land Use/Land Cover, Municipal Zoning, environmental constraints, open space/preserved land constraints, road and right of way constraints, Sewer Service Areas including provider and capacity , and State Planning Map designations with appropriate residential densities, existing zoning densities for age restricted zones, mixed use zones, non-residential zones and composite zones with associated Impact Factors. | Buildout results (dwelling units and square feet non-residential space), and related impacts (population, children, water consumption, etc.), by municipality, county and region. Analysis of sewer demand versus capacity for each sewer service area, and required density adjustment. |
| HIGHLANDS LAND CAPACITY BASELINE | Impact of a full buildout of available unrestricted land under current municipal zoned land usage and densities with consideration of Highlands land capacity constraints. | 2002 DEP Land Use/Land Cover, Municipal Zoning, environmental constraints, open space/preserved land constraints, road and right of way constraints, and Highlands Land Capability Map designations including sewer service capacity analysis with existing zoning densities and associated Impact Factors. | Buildout results (dwelling units and square feet non-residential space), and related impacts (population, children, water consumption, etc.), by municipality, county and region. Analysis of sewer demand versus capacity for each sewer service area, and required density adjustments. |
| HIGHLANDS GROWTH CAPACITY | Impact of full buildout under Highlands Land Capacity scenario assumptions, after adjustment for higher permitted residential densities in specific growth centers. | 2002 DEP Land Use/Land Cover, Municipal Zoning, environmental constraints, open space/preserved land constraints, road and right of way constraints, and Highlands Land Capability Map designations including sewer service capacity analysis, and State Planning Center designations and potential Growth Centers, with appropriate densities and associated Impact Factors. | Buildout results (dwelling units and square feet non-residential space), and related impacts (population, children, water consumption, etc.), by municipality, county and region. Analysis of sewer demand versus capacity for each sewer service area, and required density adjustments. |

Attachment C
Regional Development and Design TAC Charrette
Land Use Buildout and Impact Analysis – Model Composite Factors

Table 1 – Highlands Build Out Model Residential Composite Zone Impact Factors

| Type | Density du/acre * | Efficiency Factor % (1) | Average Household Size (2) | Average School Children in Household (2) | Trip Generation (3) | Percent Impervious (4) | Water Consumption equals Indoor gallons per person per day plus outdoor demand as gallons per unit (5) | Wastewater Generation Equals Indoor water consumption value (5) | Open Space Acres per Household (6) |
|--|--|-------------------------|--|--|---|------------------------|--|---|------------------------------------|
| SF Estate Residential or (PA-5) | 0.05 to 0.20 (0.17 maximum) | 95 | 2.87 | 0.64 | 2.55 person trips/day/unit | 2.18 | 75 Indoor 50 Outdoor | 75 gallons per person per day | 2.05 |
| SF Rural Residential or (PA-4B) | 0.21 to 0.5 du/acre (0.17 maximum) | 95 | 2.89 | 0.66 | 2.55 person trips/day/unit | 3.07 | 75 Indoor 50 Outdoor | 75 gallons per person per day | 3.01 |
| SF Low Density or (PA-4) | 0.51 to 1.0 du/acre (1.16 maximum) | 80 | 2.98 | 0.72 | 2.55 person trips/day/unit | 8.17 | 75 Indoor 50 Outdoor | 75 gallons per person per day | 0.92 |
| SF Medium Density or (PA-3) | 1.01 to 3.0 du/acre (3.81 minimum) | 75 | 2.81 | 0.60 | 2.55 person trips/day/unit | 15.90 | 75 Indoor 30 Outdoor | 75 gallons per person per day | 0.56 |
| SF High Density or (PA-2) | 3.01 to 8.0 du/acre (7.04 minimum) | 75 | 2.72 | 0.56 | 2.55 person trips/day/unit | 19.14 | 75 Indoor 5 Outdoor | 75 gallons per person per day | 0.55 |
| Attached/Townhouse or (PA-1) | 8.01 to 16.0 du/acre (9.78 minimum) | 75 | 2.59 | 0.46 | 2.50 person/trips/day/unit | 29.68 | 75 Indoor 5 Outdoor | 75 gallons per person per day | 0.55 |
| Garden Apartment or (PA-1) | 16.01+ du/acre (9.78 minimum) | 70 | 2.59 | 0.51 | 3.35 person/trips/day/unit | 38.82 | 75 Indoor 5 Outdoor | 75 gallons per person per day | 0.01 |
| Mixed use/Age Restricted Housing (percent mix based on 40% residential and 60% non-residential as Office/Commercial) | Apply zone density and FAR value Note: Use Office/Commercial Impact factors for non-res % | 70 | Varies Based on zoning Du/Acre description | 0.00 | 2.96 vehicle/trips/day/unit for Res Du/Acre value and 9.20 trips/1,000 sf as Office /Commercial | 36.24 | 75 Indoor 5 Outdoor | 75 gallons per person per day | 3.12 |

| | | | | | | | | | |
|---|--|----|--|--|---|-------|------------------------------|-------------------------------|------|
| Mixed use (percent mix based on 40% residential and 60% non-residential as Office/Commercial) | Apply zone density and FAR value Note: Use Office/Commercial Impact factors for non-res % | 70 | Varies Based on zoning Du/Acre description | Varies Based on zoning Du/Acre description | Apply 15 % Trip Reduction factors for appropriate Res Du/Acre value and 9.20 trips/1,000 sf as Office /Commercial | 36.24 | 75 Indoor 5 Outdoor | 75 gallons per person per day | 3.12 |
| Senior or Age restricted Housing | Varies Based on zoning Du/Acre description | 70 | 2.43 | 0.00 | 3.48 Vehicle/ trips/day/unit | 6.78 | 75 Indoor 5 Outdoor | 75 gallons per person per day | 2.00 |

Table 1 Sources

* Residential dwelling units generated by the build out model will include both market rate and affordable units. The affordable units will be determined using COAH’s Third Round Procedural Rules (# of net residential units divided by 9).

(1) Source: Efficiencies are given as a percentage, between 0 and 100, where a 100 value means complete efficiency (no land lost to development), and a 0 value means no buildings will be estimated for that land use. For example an efficiency of 70% may be representative of developable land that has a 10% set aside for parks and 20% for roads (100% - 10% - 20% = 70%). Project determined values.

(2) Source: NCNBR, Rutgers University, December 15, 2005. The average household size and average school children in household data represent averages of 2000 U.S. Census Block Group data weighted for the number of residential developed acres in each composite zone. The raw data was obtained by overlaying NJ Highlands Zoning, 2002 DEP LU/LC and 2000 U.S. Census Block Group spatial data files, and extracting Census data for each intersecting polygon made up of a municipal zone with developed residential land. This produced a total of 4,056 unique polygons. All polygons representing non-residential zones or having less than one-acre of developed residential land were removed from this data set, reducing it to 1,943 unique polygons or records.

(3) Source: ITE Trip Generation Report, 7th Edition. Rates are for a typical weekday. Person trips/day/unit are determined based on average household size value.

ITE does not classify single family detached by type or density and rates are generally seen as applicable to “suburban lifestyle.” The “Multi-apts.” rate is based on what ITE calls “High Rise.” Senior Housing comes in two forms attached and detached—the rate of 3.48 is for attached (high zoning density). The detached rate is 3.71-vehicle trips/day per unit. The attached value is the project determined value.

In regard to percentage reduction for mixed use developments, no adjustments are made for mixed use from ITE. A project determined Trip Reduction Factor of 15% was applied to mixed use. As further and more reliable data becomes available such rates may be modified in the future.

Codes Used:

210- SFD – for all Single family detached housing

220 Apartment for Garden Apts.

222 Multi-use apts.

230 Residential condominium/Townhouse

(4) Source: NCNBR, Rutgers University, December 20, 2005. The data represent averages of NJ Highlands Percent Impervious Surface weighted for the acres of residential or non-residential developed land in each composite zone. The raw data was obtained by overlaying NJ Highlands Zoning and DEP 2002 LU/LC spatial data files, and extracting the calculated percent impervious surface area attached to each LU/LC developed land polygon and the acres of associated developed land in each intersecting municipal zone polygon. This produced a total of 6,767 unique residential polygons and 4,428 non-residential polygons. The total impervious surface area in each composite zone was divided by the total developed land area, to produce a weighted IS average for each composite zone.

(5) Source: “The Costs and Benefits of Alternative Growth Patterns: The Impact Assessment of the New Jersey State Plan”, Center for Urban Policy Research, Edward J. Bloustein School of Planning and Public Policy, Rutgers The State University, September 2000. Page 210. Note: Data are considered average summertime use rate.

(6) Source: NCNBR, Rutgers University, December 15, 2005. The data represent averages of NJ Highlands Open Space per Household data weighted for the number of open space acres in each composite zone. The raw data was obtained by overlaying NJ Highlands Zoning, NJ Highlands Open Space project data layer and 2000 U.S. Census Block Group spatial data files, and extracting Census data for each intersecting polygon made up of a municipal zone with open space land. This produced a total of 1,205 unique polygons of at least one-acre in size. All polygons representing non-residential zones were then removed from this data set, reducing it to 814 unique polygons or records.

Table 2 – Highlands Build Out Model Non-Residential Composite Zone Impact Factors

| Type | Floor Area Ratio | Build Out Efficiency Factor % (1) | Jobs per 1,000 sf (2)* | Trip Generation (3) | Percent Impervious (4) | Water Consumption (5) | Wastewater Generation (5) |
|-------------------|------------------|-----------------------------------|------------------------|---------------------|------------------------|-------------------------------|-------------------------------|
| Office/Commercial | Based on zoning | 80 | 3.5 | 15.12/1000 sf | 85 | 0.125 gallons/day/sf | 0.125 gallons/day/sf |
| Retail | Based on zoning | 80 | 2.5 | 95.03/1,000 sf | 85 | 0.125 gallons/day/sf | 0.125 gallons/day/sf |
| Industrial | Based on zoning | 80 | 1.5 | 7.92/1,000 sf | 72 | 25 gallons per person per day | 25 gallons per person per day |

* Employment opportunities generated by the build out model will be used to calculate the number of affordable units. The affordable units will be determined using COAH’s Third Round Procedural Rules (# of net jobs divided by 25).

(1) Source: Efficiencies are given as a percentage, between 0 and 100, where a 100 value means complete efficiency (no land lost to development), and a 0 value means no buildings will be estimated for that land use. For example an efficiency of 70% may be representative of developable land that has a 10% set aside for parks and 20% for roads (100% - 10% - 20% = 70%). Project determined values.

(2) Source: Adapted from “Impact Assessment of the New Jersey Interim State Development and Redevelopment Plan, Report I: Research and Strategies”, page 127, prepared for the New Jersey Office of State Planning, by Center for Urban Policy Research, Edward J. Bloustein School of Planning and Public Policy, Rutgers The State University, 1992.

(3) Source: ITE Trip Generation Report, 7th Edition. 1,000 sf Gross Floor Area, Weekday
 Nonresidential land use types include Codes: 710, 714, 720, 733, 750 and 770 for Office/Commercial; 813, 814, 820, 850, 931, and 912 for Retail; and 760, 770, 110 and 140 for Industrial.

(4) Source: NCNBR, Rutgers University, December 20, 2005. The data represent averages of NJ Highlands Percent Impervious Surface weighted for the acres of residential or non-residential developed land in each composite zone. The raw data was obtained

by overlaying NJ Highlands Zoning and DEP 2002 LU/LC spatial data files, and extracting the calculated percent impervious surface area attached to each LU/LC developed land polygon and the acres of associated developed land in each intersecting municipal zone polygon. This produced a total of 6,767 unique residential polygons and 4,428 non-residential polygons. The total impervious surface area in each composite zone was divided by the total developed land area, to produce a weighted IS average for each composite zone.

(5) Source: NJDEP N.J.A.C. 7:10 Safe Drinking Water Act Regulations Adopted November 4, 2004, 7:10-12.6 Water Volume Requirements

Attachment D

Regional Development and Design – TAC Charrette

Land Use Buildout and Impact Analysis – State Plan Residential Density Factors

State Plan Scenario Approach

The State Plan build out scenario will utilize the same build out data layers as the Trend scenario and will include an evaluation of Estimated Residential Density Factors (ERDF) based on 2000 US Census data correlated to State Planning Areas at the municipal zone level. The State Plan map used for this analysis was the current preliminary Cross Acceptance State Development and Redevelopment Plan map. The State Plan area wastewater demand will be evaluated against the existing permitted wastewater capacity limitations within existing sewer service areas.

Planning Area (PA) Density Analysis

The 2000 US Census Tract household data was utilized with overlays of the State Plan Planning Areas (PAs) and residential developed land from the newer 2002 DEP Land Use/Land Cover (LU/LC) data. All tracts showing less than an acre of residential developed land were deleted, as well as those that were indicating densities of more than 100 dwelling units (du)/acre. The density for each PA/Tract was multiplied by the amount of developed residential land in the PA/Tract. The data were totaled and divided by total developed residential land in the PA to derive these weighted averages:

| Planning Area | Developed Acres | Average Density |
|----------------------|------------------------|------------------------|
| PA1 | 33,948 | 9.802 |
| PA2 | 13,368 | 6.934 |
| PA3 | 3,083 | 3.961 |
| PA4 | 11,773 | 4.815 |
| PA4B | 19,817 | 3.238 |
| PA5 | 67,577 | 4.079 |
| Totals | 149,565 | 5.959 |

The PA1 thru PA3 densities decreased in a very linear fashion. However PA4 through 5 showed an increase. To address this discrepancy a linear regression was used to estimate a value of 1.058 for PA4 with an R squared valued of almost a perfect 1.0. Unfortunately, a further linear estimate for PA4B and PA5 yielded a negative number.

A cubic regression was used to refine density estimates for PA4 through 5. Using the actual PA1-3 values derived from census, the above estimated PA4 value derived from linear regression and an estimate of 0.2 du/acre for PA5 (5 acre minimum zoning) creates a curve with the following predicted values (PA4B and PA5 are assumed equal):

| Planning Area | Estimated Residential Density Factor (ERDF) |
|----------------------|--|
| PA1 | 9.78 |
| PA2 | 7.04 |
| PA3 | 3.81 |
| PA4 | 1.16 |
| PA4B | 0.17 |
| PA5 | 0.17 |

Using the above census tract analysis, PA4-5 estimated densities have limited accuracy because of the way in which the 2002 LU/LC estimates developed and undeveloped land area. Therefore, the above estimated residential density factors represent the best estimates using the cubic regression analysis to identify realistic density averages for each of the PA's that can be used in the buildout analysis.

Criteria for Applying Density Factors to Buildout Model

The ERDF for State Plan Planning Areas PA-1 will be a minimum of 9.78 du/acre, PA-2 will be a minimum of 7.04 du/acre, and PA-3 will be a minimum of 3.81 du/acre. If the existing residential zoning density is greater than the PA-1, PA-2 and PA-3 ERDF then the existing residential zoning density shall be used for the build out du/acre value. If the existing residential zoning density is less than the PA-1, PA-2 and PA-3 ERDF then the ERDF shall be used for the build out du/acre value. The PA-1 and PA-2 maximum achievable density will be determined based on existing wastewater capacity within the appropriate sewer service area.

Within designated State Plan Planning Areas PA-4 the maximum residential zoning density will be the ERDF or 1.16 du/acre, for PA-4B and PA-5 the maximum residential zoning density shall be the ERDF or 0.17 du/acre. If the existing residential zoning density is lesser than the PA-1, PA-2 and PA-3 ERDF then the existing residential zoning density shall be used for the build out du/acre value.

Attachment E
Regional Development and Design - TAC Charrette
2000 US Census Housing Data for NJ Highlands

| 2000 Geography | Total population: Total | Housing units: Total | Occupied housing units: Owner occupied; 1; detached | Housing units: Occupied | Housing units: Vacant | Occupied housing units: Owner occupied | Occupied housing units: Renter occupied | Housing units: Median year structure built | Housing units: Complete plumbing facilities | Housing units: No bedroom | Housing units: 1 bedroom | Housing units: 2 bedrooms | Housing units: 3 bedrooms | Housing units: 4 bedrooms | Housing units: 5 or more bedrooms |
|--|-------------------------|----------------------|---|-------------------------|-----------------------|--|---|--|---|---------------------------|--------------------------|---------------------------|---------------------------|---------------------------|-----------------------------------|
| Mahwah township, Bergen County, New Jersey | 24062 | 9577 | 3960 | 9340 | 237 | 7851 | 1489 | 1984 | 9558 | 137 | 1306 | 3007 | 2606 | 2032 | 489 |
| Oakland borough, Bergen County, New Jersey | 12466 | 4345 | 3814 | 4255 | 90 | 3967 | 288 | 1958 | 4334 | 19 | 146 | 533 | 2177 | 1245 | 225 |
| Alexandria township, Hunterdon County, New | 4698 | 1598 | 1381 | 1535 | 63 | 1416 | 119 | 1973 | 1583 | 0 | 10 | 246 | 630 | 631 | 81 |
| Bethlehem township, Hunterdon County, New | 3820 | 1303 | 1200 | 1266 | 37 | 1214 | 52 | 1978 | 1296 | 5 | 38 | 105 | 442 | 659 | 54 |
| Bloomsbury borough, Hunterdon County, New | 886 | 342 | 244 | 322 | 20 | 265 | 57 | 1939 | 342 | 2 | 29 | 62 | 143 | 102 | 4 |
| Califon borough, Hunterdon County, New Jersey | 1055 | 410 | 347 | 401 | 9 | 349 | 52 | 1957 | 408 | 2 | 18 | 64 | 205 | 118 | 3 |
| Clinton town, Hunterdon County, New Jersey | 2632 | 1095 | 589 | 1068 | 27 | 797 | 271 | 1970 | 1095 | 13 | 156 | 205 | 443 | 245 | 33 |
| Clinton township, Hunterdon County, New Jersey | 12957 | 4234 | 3132 | 4129 | 105 | 3752 | 377 | 1981 | 4218 | 0 | 354 | 613 | 1171 | 1783 | 313 |
| Glen Gardner borough, Hunterdon County, New | 1902 | 829 | 348 | 805 | 24 | 554 | 251 | 1983 | 829 | 6 | 241 | 269 | 170 | 125 | 18 |
| Hampton borough, Hunterdon County, New | 1546 | 574 | 330 | 559 | 15 | 370 | 189 | 1961 | 574 | 4 | 92 | 139 | 233 | 94 | 12 |
| High Bridge borough, Hunterdon County, New | 3776 | 1478 | 1057 | 1428 | 50 | 1186 | 242 | 1964 | 1478 | 0 | 91 | 357 | 679 | 316 | 35 |
| Holland township, Hunterdon County, New Jersey | 5124 | 1942 | 1626 | 1881 | 61 | 1740 | 141 | 1966 | 1917 | 4 | 60 | 407 | 856 | 493 | 122 |
| Lebanon borough, Hunterdon County, New | 1065 | 477 | 192 | 458 | 19 | 360 | 98 | 1965 | 474 | 5 | 74 | 154 | 163 | 68 | 13 |
| Lebanon township, Hunterdon County, New | 5816 | 2020 | 1681 | 1963 | 57 | 1714 | 249 | 1967 | 2010 | 20 | 41 | 356 | 907 | 587 | 109 |
| Milford borough, Hunterdon County, New Jersey | 1195 | 484 | 289 | 469 | 15 | 322 | 147 | 1955 | 484 | 2 | 60 | 122 | 219 | 68 | 13 |
| Tewksbury township, Hunterdon County, New | 5541 | 2052 | 1759 | 1986 | 66 | 1817 | 169 | 1972 | 2052 | 30 | 44 | 146 | 640 | 841 | 351 |
| Union township, Hunterdon County, New Jersey | 6160 | 1725 | 1061 | 1666 | 59 | 1418 | 248 | 1979 | 1725 | 0 | 396 | 304 | 346 | 543 | 136 |
| Boonton town, Morris County, New Jersey | 8496 | 3352 | 1690 | 3272 | 80 | 1960 | 1312 | 1942 | 3352 | 45 | 462 | 786 | 1279 | 573 | 207 |
| Boonton township, Morris County, New Jersey | 4287 | 1510 | 1226 | 1476 | 34 | 1368 | 108 | 1963 | 1510 | 0 | 37 | 219 | 616 | 496 | 142 |
| Butler borough, Morris County, New Jersey | 7420 | 2923 | 1811 | 2868 | 55 | 1905 | 963 | 1953 | 2915 | 49 | 491 | 645 | 1256 | 444 | 38 |
| Chester borough, Morris County, New Jersey | 1635 | 627 | 400 | 609 | 18 | 469 | 140 | 1971 | 627 | 0 | 85 | 119 | 157 | 228 | 38 |
| Chester township, Morris County, New Jersey | 7282 | 2377 | 2156 | 2323 | 54 | 2156 | 167 | 1972 | 2377 | 0 | 44 | 134 | 535 | 1064 | 600 |
| Denville township, Morris County, New Jersey | 15824 | 6178 | 4550 | 5990 | 188 | 5148 | 842 | 1963 | 6170 | 58 | 518 | 1202 | 2422 | 1579 | 399 |
| Dover town, Morris County, New Jersey | 18188 | 5568 | 2297 | 5436 | 132 | 2869 | 2567 | 1953 | 5499 | 156 | 1230 | 1425 | 1876 | 603 | 278 |
| Hanover township, Morris County, New Jersey | 12898 | 4818 | 3597 | 4745 | 73 | 4367 | 378 | 1964 | 4818 | 24 | 169 | 992 | 1770 | 1540 | 323 |
| Harding township, Morris County, New Jersey | 3180 | 1243 | 945 | 1180 | 63 | 1093 | 87 | 1965 | 1243 | 0 | 23 | 203 | 311 | 328 | 378 |
| Jefferson township, Morris County, New Jersey | 19717 | 7527 | 5792 | 7131 | 396 | 6308 | 823 | 1964 | 7442 | 33 | 532 | 2103 | 3066 | 1596 | 197 |
| Kinnelon borough, Morris County, New Jersey | 9365 | 3123 | 2948 | 3062 | 61 | 2988 | 74 | 1965 | 3111 | 4 | 51 | 189 | 1053 | 1287 | 539 |
| Mendham borough, Morris County, New Jersey | 5097 | 1828 | 3233 | 1781 | 47 | 1524 | 257 | 1971 | 1821 | 0 | 118 | 277 | 455 | 678 | 300 |
| Mendham township, Morris County, New Jersey | 5400 | 1849 | 1238 | 1788 | 61 | 1711 | 77 | 1973 | 1849 | 0 | 6 | 154 | 402 | 835 | 452 |
| Mine Hill township, Morris County, New Jersey | 3679 | 1388 | 1663 | 1365 | 23 | 1227 | 138 | 1958 | 1367 | 0 | 40 | 324 | 696 | 284 | 44 |
| Montville township, Morris County, New Jersey | 20839 | 7541 | 1035 | 7380 | 161 | 6340 | 1040 | 1979 | 7532 | 14 | 593 | 1448 | 2203 | 2268 | 1015 |
| Morris township, Morris County, New Jersey | 21796 | 8298 | 4840 | 8116 | 182 | 6887 | 1229 | 1967 | 8287 | 30 | 735 | 1199 | 2531 | 2876 | 927 |
| Morris Plains borough, Morris County, New Jersey | 5236 | 1994 | 5617 | 1955 | 39 | 1793 | 162 | 1957 | 1994 | 7 | 133 | 262 | 682 | 773 | 137 |
| Morristown town, Morris County, New Jersey | 18544 | 7615 | 1630 | 7252 | 363 | 2859 | 4393 | 1954 | 7550 | 463 | 2328 | 1773 | 1881 | 789 | 381 |
| Mountain Lakes borough, Morris County, New | 4256 | 1357 | 1726 | 1330 | 27 | 1288 | 42 | 1947 | 1357 | 0 | 8 | 83 | 321 | 508 | 437 |
| Mount Arlington borough, Morris County, New | 4663 | 2039 | 1179 | 1918 | 121 | 1535 | 383 | 1971 | 2039 | 22 | 355 | 570 | 762 | 286 | 44 |
| Mount Olive township, Morris County, New Jersey | 24193 | 9311 | 983 | 9068 | 243 | 5080 | 3988 | 1973 | 9253 | 107 | 2711 | 1715 | 1961 | 2566 | 251 |
| Netcong borough, Morris County, New Jersey | 2580 | 1043 | 4890 | 1008 | 35 | 646 | 362 | 1947 | 1043 | 11 | 172 | 224 | 506 | 99 | 31 |

| 2000 Geography | Total population: Total | Housing units: Total | Occupied housing units: Owner occupied; 1; detached | Housing units: Occupied | Housing units: Vacant | Occupied housing units: Owner occupied | Occupied housing units: Renter occupied | Housing units: Median year structure built | Housing units: Complete plumbing facilities | Housing units: No bedroom | Housing units: 1 bedroom | Housing units: 2 bedrooms | Housing units: 3 bedrooms | Housing units: 4 bedrooms | Housing units: 5 or more bedrooms |
|--|-------------------------|----------------------|---|-------------------------|-----------------------|--|---|--|---|---------------------------|--------------------------|---------------------------|---------------------------|---------------------------|-----------------------------------|
| Parsippany-Troy Hills township, Morris County, New Jersey | 50649 | 20066 | 547 | 19624 | 442 | 11868 | 7756 | 1965 | 19983 | 356 | 5788 | 3478 | 5167 | 4345 | 932 |
| Pequannock township, Morris County, New Jersey | 13888 | 5097 | 3880 | 5026 | 71 | 4499 | 527 | 1960 | 5097 | 30 | 632 | 715 | 1917 | 1572 | 231 |
| Randolph township, Morris County, New Jersey | 24847 | 8903 | 6132 | 8679 | 224 | 6431 | 2248 | 1976 | 8874 | 197 | 1511 | 811 | 1898 | 3242 | 1244 |
| Riverdale borough, Morris County, New Jersey | 2498 | 940 | 638 | 919 | 21 | 756 | 163 | 1956 | 940 | 0 | 83 | 221 | 438 | 179 | 19 |
| Rockaway borough, Morris County, New Jersey | 6473 | 2491 | 1555 | 2445 | 46 | 1679 | 766 | 1955 | 2491 | 44 | 354 | 496 | 949 | 533 | 115 |
| Rockaway township, Morris County, New Jersey | 22930 | 8506 | 6187 | 8108 | 398 | 6870 | 1238 | 1965 | 8464 | 26 | 716 | 1434 | 3494 | 2442 | 394 |
| Roxbury township, Morris County, New Jersey | 23883 | 8550 | 6166 | 8364 | 186 | 7011 | 1353 | 1971 | 8537 | 31 | 709 | 1696 | 2790 | 2922 | 402 |
| Victory Gardens borough, Morris County, New Jersey | 1546 | 588 | 88 | 564 | 24 | 231 | 333 | 1964 | 579 | 62 | 207 | 213 | 88 | 18 | 0 |
| Washington township, Morris County, New Jersey | 17592 | 5890 | 4741 | 5755 | 135 | 5064 | 691 | 1978 | 5862 | 62 | 243 | 631 | 1672 | 2773 | 509 |
| Wharton borough, Morris County, New Jersey | 6298 | 2394 | 1098 | 2328 | 66 | 1452 | 876 | 1956 | 2387 | 28 | 352 | 725 | 740 | 424 | 125 |
| Bloomington borough, Passaic County, New Jersey | 7610 | 2940 | 2012 | 2847 | 93 | 2131 | 716 | 1960 | 2940 | 32 | 432 | 605 | 1360 | 462 | 49 |
| Pompton Lakes borough, Passaic County, New Jersey | 10640 | 4024 | 2559 | 3949 | 75 | 3047 | 902 | 1957 | 4004 | 8 | 627 | 813 | 1544 | 837 | 195 |
| Ringwood borough, Passaic County, New Jersey | 12396 | 4221 | 3847 | 4108 | 113 | 3880 | 228 | 1965 | 4221 | 18 | 66 | 586 | 1863 | 1512 | 176 |
| Wanaque borough, Passaic County, New Jersey | 10266 | 3500 | 2348 | 3444 | 56 | 2751 | 693 | 1959 | 3461 | 24 | 177 | 1041 | 1254 | 898 | 106 |
| West Milford township, Passaic County, New Jersey | 26410 | 9909 | 7514 | 9190 | 719 | 8230 | 960 | 1963 | 9812 | 42 | 718 | 2467 | 4209 | 2137 | 336 |
| Bedminster township, Somerset County, New Jersey | 8302 | 4467 | 875 | 4235 | 232 | 3398 | 837 | 1985 | 4467 | 36 | 559 | 2253 | 1143 | 274 | 202 |
| Bernards township, Somerset County, New Jersey | 24575 | 9485 | 5003 | 9242 | 243 | 7999 | 1243 | 1985 | 9479 | 70 | 849 | 2454 | 2285 | 2819 | 1008 |
| Bernardsville borough, Somerset County, New Jersey | 7345 | 2807 | 2073 | 2723 | 84 | 2271 | 452 | 1958 | 2796 | 28 | 167 | 372 | 873 | 921 | 446 |
| Far Hills borough, Somerset County, New Jersey | 856 | 384 | 167 | 366 | 18 | 281 | 85 | 1967 | 384 | 3 | 27 | 102 | 132 | 70 | 50 |
| Peapack and Gladstone borough, Somerset County, New Jersey | 2433 | 871 | 629 | 840 | 31 | 658 | 182 | 1955 | 867 | 2 | 53 | 131 | 267 | 231 | 187 |
| Byram township, Sussex County, New Jersey | 8235 | 3057 | 2567 | 2825 | 232 | 2608 | 217 | 1968 | 3030 | 14 | 72 | 555 | 1349 | 999 | 68 |
| Franklin borough, Sussex County, New Jersey | 5187 | 2002 | 1012 | 1906 | 96 | 1373 | 533 | 1954 | 1999 | 26 | 211 | 724 | 763 | 222 | 56 |
| Green township, Sussex County, New Jersey | 3212 | 1066 | 959 | 1042 | 24 | 976 | 66 | 1975 | 1062 | 9 | 16 | 121 | 395 | 426 | 99 |
| Hamburg borough, Sussex County, New Jersey | 3105 | 1233 | 508 | 1173 | 60 | 868 | 305 | 1980 | 1230 | 0 | 200 | 495 | 445 | 89 | 4 |
| Hardyston township, Sussex County, New Jersey | 6144 | 2685 | 1566 | 2311 | 374 | 1889 | 422 | 1972 | 2609 | 6 | 412 | 698 | 1104 | 408 | 57 |
| Hopatcong borough, Sussex County, New Jersey | 15951 | 6193 | 4839 | 5657 | 536 | 4958 | 699 | 1961 | 6161 | 39 | 356 | 1624 | 2822 | 1253 | 99 |
| Ogdensburg borough, Sussex County, New Jersey | 2638 | 903 | 726 | 881 | 22 | 740 | 141 | 1962 | 903 | 4 | 52 | 125 | 456 | 235 | 31 |
| Sparta township, Sussex County, New Jersey | 18107 | 6614 | 5371 | 6237 | 377 | 5620 | 617 | 1969 | 6587 | 103 | 273 | 931 | 2361 | 2464 | 482 |
| Stanhope borough, Sussex County, New Jersey | 3521 | 1416 | 732 | 1383 | 33 | 1115 | 268 | 1967 | 1410 | 8 | 252 | 314 | 512 | 280 | 50 |
| Vernon township, Sussex County, New Jersey | 24686 | 9994 | 6667 | 8368 | 1626 | 7187 | 1181 | 1975 | 9973 | 35 | 815 | 2588 | 4359 | 1851 | 346 |
| Allamuchy township, Warren County, New Jersey | 3877 | 1774 | 647 | 1692 | 82 | 1441 | 251 | 1981 | 1766 | 24 | 134 | 614 | 532 | 387 | 83 |
| Alpha borough, Warren County, New Jersey | 2482 | 1034 | 569 | 989 | 45 | 706 | 283 | 1950 | 1034 | 7 | 131 | 234 | 541 | 107 | 14 |
| Belvidere town, Warren County, New Jersey | 2771 | 1165 | 646 | 1088 | 77 | 729 | 359 | 1939 | 1162 | 44 | 172 | 261 | 462 | 199 | 27 |
| Franklin township, Warren County, New Jersey | 2768 | 1019 | 773 | 972 | 47 | 844 | 128 | 1969 | 1015 | 3 | 46 | 199 | 429 | 307 | 35 |
| Frelinghuysen township, Warren County, New Jersey | 2083 | 755 | 624 | 722 | 33 | 641 | 81 | 1976 | 749 | 4 | 18 | 72 | 349 | 265 | 47 |
| Greenwich township, Warren County, New Jersey | 4365 | 1477 | 1278 | 1421 | 56 | 1310 | 111 | 1992 | 1465 | 0 | 27 | 195 | 410 | 817 | 28 |
| Hackettstown town, Warren County, New Jersey | 10403 | 4347 | 1700 | 4134 | 213 | 1990 | 2144 | 1966 | 4337 | 108 | 1321 | 1071 | 1159 | 592 | 96 |
| Harmony township, Warren County, New Jersey | 2729 | 1076 | 872 | 1010 | 66 | 892 | 118 | 1957 | 1072 | 0 | 57 | 236 | 485 | 264 | 34 |

| 2000 Geography | Total population: Total | Housing units: Total | Occupied housing units: Owner occupied; 1; detached | Housing units: Occupied | Housing units: Vacant | Occupied housing units: Owner occupied | Occupied housing units: Renter occupied | Housing units: Median year structure built | Housing units: Complete plumbing facilities | Housing units: No bedroom | Housing units: 1 bedroom | Housing units: 2 bedrooms | Housing units: 3 bedrooms | Housing units: 4 bedrooms | Housing units: 5 or more bedrooms |
|---|-------------------------|----------------------|---|-------------------------|-----------------------|--|---|--|---|---------------------------|--------------------------|---------------------------|---------------------------|---------------------------|-----------------------------------|
| Hope township, Warren County, New Jersey | 1891 | 747 | 617 | 697 | 50 | 623 | 74 | 1969 | 735 | 4 | 39 | 134 | 326 | 203 | 41 |
| Independence township, Warren County, New | 5603 | 2210 | 1103 | 2146 | 64 | 1692 | 454 | 1984 | 2194 | 21 | 375 | 687 | 478 | 538 | 111 |
| Liberty township, Warren County, New Jersey | 2726 | 1085 | 799 | 975 | 110 | 875 | 100 | 1970 | 1081 | 14 | 84 | 242 | 392 | 308 | 45 |
| Lopatcong township, Warren County, New Jersey | 5765 | 2429 | 1616 | 2143 | 286 | 1636 | 507 | 1971 | 2420 | 22 | 331 | 532 | 862 | 641 | 41 |
| Mansfield township, Warren County, New Jersey | 6653 | 2415 | 1525 | 2334 | 81 | 1686 | 648 | 1973 | 2415 | 13 | 384 | 401 | 1002 | 532 | 83 |
| Oxford township, Warren County, New Jersey | 2307 | 938 | 583 | 886 | 52 | 746 | 140 | 1961 | 934 | 0 | 71 | 266 | 428 | 158 | 15 |
| Phillipsburg town, Warren County, New Jersey | 15166 | 6651 | 2489 | 6044 | 607 | 3451 | 2593 | 1939 | 6603 | 123 | 961 | 1812 | 2996 | 622 | 137 |
| Pohatcong township, Warren County, New Jersey | 3416 | 1411 | 1077 | 1341 | 70 | 1165 | 176 | 1948 | 1411 | 7 | 77 | 334 | 730 | 221 | 42 |
| Washington borough, Warren County, New | 6712 | 2876 | 1092 | 2724 | 152 | 1408 | 1316 | 1944 | 2876 | 35 | 660 | 806 | 990 | 343 | 42 |
| Washington township, Warren County, New | 6248 | 2174 | 1782 | 2099 | 75 | 1880 | 219 | 1970 | 2168 | 0 | 35 | 415 | 898 | 704 | 122 |
| White township, Warren County, New Jersey | 4245 | 1770 | 1223 | 1668 | 102 | 1331 | 337 | 1976 | 1766 | 0 | 201 | 484 | 725 | 322 | 38 |