CHAPTER 97

SUBSTANTIVE RULES OF THE NEW JERSEY COUNCIL ON AFFORDABLE HOUSING FOR THE PERIOD BEGINNING JUNE 2, 2008

Authority

N.J.S.A. 52:27D-301 et seq.

Source and Effective Date

R.2008 d.145, effective June 2, 2008.
See: 40 N.J.R. 237(a), 40 N.J.R. 2690(a).

Chapter Expiration Date

Chapter 97, Substantive Rules of the New Jersey Council on Affordable Housing for the Period Beginning June 2, 2008, expires on June 2, 2013.

Chapter Historical Note

Chapter 97, Substantive Rules of the New Jersey Council on Affordable Housing for the Period Beginning June 2, 2008, was adopted as new rules by R.2008 d.145, effective June 2, 2008. See: Source and Effective Date.

Administrative correction. See: 40 N.J.R. 3991(c).

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SUBCHAPTER 1. GENERAL PROVISIONS

5:97-1.1 Introduction

(a) The New Jersey Supreme Court stated in *Southern Burlington County NAACP v. Mt. Laurel*, 92 *N.J.* 158, 238 (1983) (*Mount Laurel II*): "There is nothing in our Constitution that says that we cannot satisfy our constitutional obligation to provide lower income housing and, at the same time, plan the future of the state intelligently." The Council's third round rules in this chapter implement a "growth share" approach to affordable housing by linking the actual production of affordable housing with municipal development and growth. The Council believes that this approach will hew more closely to the doctrinal underpinning of *Southern Burlington County NAACP v. Mt. Laurel*, 67 *N.J.* 151 (1975) (*Mount Laurel*) in that municipalities will provide a realistic opportunity for construction of a fair share of low- and moderate-income housing based on sound land use and long range planning.

(b) *In the Matter of the Adoption of N.J.A.C. 5:94 and 5:95*, 390 *N.J. Super.* 1, 56 (App. Div. 2007), *certif. denied* 192 N.J. 72 (2007), the New Jersey Appellate Division stated that, "If municipalities with substantial amounts of vacant land and access to infrastructure can decide for themselves whether and how much to grow, it is highly likely that housing opportunity will fall far short of identified housing need." Therefore, the revised growth share approach relies in part on independent household and employment growth projections, which each municipality will utilize in its long range planning for affordable housing.

(c) The Council's "growth share" methodology requires that each municipality's provision of affordable housing coincide with its obligation generated by actual residential and non-residential growth. Because each municipality must also develop a plan to address its growth share obligation based on the Council's established projections, the realistic opportunity for affordable housing will address the overall need estimated by the Council, through this combined approach.

(d) There are three components to the third round Methodology: the rehabilitation share, the prior round obligation, and the "growth share." Growth share is generated by Statewide residential and non-residential growth during the period January 1, 2004 to December 31, 2018 based on individuals projected to need affordable housing from 1999 through 2018. As a result, for every five residential units constructed, the municipality shall be obligated to include one unit that is affordable to households of low or moderate income (one affordable unit for every four market rate units). Job creation carries a responsibility to provide housing as well. For every 16 newly created jobs as measured by new or expanded non-residential construction within the municipality in accordance with chapter Appendix D, incorporated herein by reference, the municipality shall be obligated to provide one unit that is affordable to households of low- and moderate-income. This method requires that municipalities meet the actual growth share obligation with not merely a good faith attempt, but with the actual provision of housing for low- and moderate-income households, while continuing to provide a realistic opportunity for affordable housing to address the projected growth share obligation.

5:97-1.2 Short title; purpose; scope

(a) The provisions of this chapter shall be known as the "Substantive Rules of the New Jersey Council on Affordable Housing for the Period Beginning on June 2, 2008."

(b) The purpose of this chapter is to establish criteria to be used by municipalities in determining and addressing their 1987 through 2018 constitutional obligation to provide a fair share of affordable housing for low- and moderate-income households.

(c) All municipalities within the jurisdiction of the Council are subject to evaluation in accordance with the provisions of this chapter.

(d) A municipality's Fair Share Plan to address its 1987 through 2018 obligation shall be governed by the provisions of this chapter as follows:

1. A municipality's rehabilitation share shall be subject to the provisions of N.J.A.C. 5:97-6.2 and 6.3.

2. All built and/or created units shall be subject to the provisions of N.J.A.C. 5:97-4.

3. All proposed units shall be subject to the provisions of N.J.A.C. 5:97-6.

5:97-1.3 Severability

If any part of this chapter shall be held invalid, the holding shall not affect the validity of remaining parts of this chapter. If a part of this chapter is held invalid in one or more of its applications, the rules shall remain in effect in all valid applications that are severable from the invalid application.

5:97-1.4 Definitions

The following words and terms, when used in this chapter, shall have the following meanings unless the context clearly indicates otherwise:

"Accessory apartment" means a self-contained residential dwelling unit with a kitchen, sanitary facilities, sleeping quarters and a private entrance, which is created within an existing home, or through the conversion of an existing accessory structure on the same site, or by an addition to an existing home or accessory building, or by the construction of a new accessory structure on the same site.

"Act" means the Fair Housing Act of 1985, P.L. 1985, c. 222 (N.J.S.A. 52:27D-301 et seq.).

"Adjustment" means the application of the Council's rules which, based on other limitations and/or methodological corrections, may reduce or defer a municipality's prior round obligation or reduce a municipality's 2004 through 2018 household and employment projections, pursuant to N.J.A.C. 5:97-5.

"Affirmative marketing" means a regional marketing strategy designed to attract buyers and/or renters of affordable units pursuant to N.J.A.C. 5:80-26.15.

"Affordability assistance" means the use of funds to render housing units more affordable to low- and moderate-income households, pursuant to N.J.A.C. 5:97-8.8.

"Affordable" means a sales price or rent within the means of a low- or moderate-income household as defined in N.J.A.C. 5:97-9.

"Affordable housing development" means a development included in the Housing Element and Fair Share Plan, and includes, but is not limited to, an inclusionary development, a municipal construction project or a 100 percent affordable development.

"Affordable housing partnership program" means a voluntary agreement by which two or more municipalities cooperate to build low- and moderate-income housing units pursuant to N.J.A.C. 5:97-6.13.

"Affordable unit" means a housing unit proposed or created pursuant to the Act, credited pursuant to N.J.A.C. 5:97-4, and/or funded through an affordable housing trust fund.

"Agency" means the New Jersey Housing and Mortgage Finance Agency established by P.L. 1983, c. 530 (N.J.S.A. 55:14K-1 et seq.).

"Age-restricted housing" means a housing unit that is designed to meet the needs of, and is exclusively for, an age-restricted segment of the population such that:

1. All the residents of the development where the unit is situated are 62 years or older;

2. At least 80 percent of the units are occupied by one person that is 55 years or older; or

3. The development has been designated by the Secretary of HUD as "housing for older persons" as defined in Section 807(b)(2) of the Fair Housing Act, 42 U.S.C. §§3607.

"Assisted living residence" means a facility licensed by the New Jersey Department of Health and Senior Services to provide apartment-style housing and congregate dining and to assure that assisted living services are available when needed for four or more adult persons unrelated to the proprietor. Apartment units offer, at a minimum, one unfurnished room, a private bathroom, a kitchenette and a lockable door on the unit entrance.

"Assisted living services" means a coordinated array of supportive personal and health services, available 24 hours per day. Assisted living promotes resident self-direction and participation in decisions that emphasize independence, individuality, privacy and dignity in a homelike surrounding.

"Barrier free escrow" means the holding of funds collected to adapt affordable unit entrances to be accessible in accordance with P.L. 2005, c. 350 (N.J.S.A. 52:27D-311a et seq.). Such funds must be held in a municipal affordable housing trust fund pursuant to N.J.A.C. 5:97-8.

"Calculated need" means the remaining obligation resulting from the subtraction of any adjustments, credits, or bonuses that were included in a municipality's first round certified plan to address the 1987 through 1993 affordable housing obligation, from the prior round obligation.

"Conversion" means the conversion of existing commercial, industrial or residential structures for affordable housing purposes.

"Council" means the New Jersey Council on Affordable Housing established under the Act which has primary jurisdiction for the administration of housing obligations in accordance with sound regional planning considerations in the State.

"Credits" means built units, corresponding bonus credits for built units, units transferred to another municipality within

the housing region pursuant to the terms of a regional contribution agreement (RCA), and units that were rehabilitated subsequent to April 1, 2000, pursuant to N.J.A.C. 5:97-4.

"DCA" means the New Jersey Department of Community Affairs.

"Deficient housing unit" means a housing unit with health and safety code violations that require the repair or replacement of a major system. A major system includes weatherization, roofing, plumbing (including wells), heating, electricity, sanitary plumbing (including septic systems), lead paint abatement and/or load bearing structural systems.

"DEP" means the New Jersey Department of Environmental Protection.

"Designated center" means a center that has been officially recognized as such by the State Planning Commission.

"Developer" means any person, partnership, association, company or corporation that is the legal or beneficial owner or owners of a lot or any land proposed to be included in a proposed development including the holder of an option to contract or purchase, or other person having an enforceable proprietary interest in such land.

"Development" means the division of a parcel of land into two or more parcels, the construction, reconstruction, conversion, structural alteration, relocation, or enlargement of any use or change in the use of any building or other structure, or of any mining, excavation or landfill, and any use or change in the use of any building or other structure, or land or extension of use of land, for which permission may be required pursuant to N.J.S.A. 40:55D-1 et seq.

"Development fee" means money paid by a developer for the improvement of property as permitted in N.J.A.C. 5:97-8.3.

"Durational adjustment" means a deferral of the prior round affordable housing obligation based on lack of infrastructure pursuant to N.J.A.C. 5:97-5.4.

"Elder cottage housing opportunities (ECHO) units" means modular, self-contained units erected on sites containing an existing dwelling. ECHO units are restricted to individuals aged 55 years or older and/or people with disabilities.

"Endorsed plan" means a municipal, county or regional plan which has been approved by the State Planning Commission for plan endorsement as a result of finding it consistent with the State Development and Redevelopment Plan, pursuant to N.J.A.C. 5:85-7.

"Equalized assessed value (EAV)" means the assessed value of a property divided by the current equalization ratio for the municipality. Estimates at the time of building permit may be obtained by the tax assessor utilizing estimates for construction cost. Final equalized assessed value shall be determined at project completion by the municipal assessor.

"Fair share obligation" means the sum of each municipality's 1999 through 2018 rehabilitation share as assigned in chapter Appendix B, incorporated herein by reference; the 1987 through 1999 prior round obligation as assigned in chapter Appendix C, incorporated herein by reference; and the 1999 through 2018 growth share obligation as determined in accordance with N.J.A.C. 5:97-2.

"Fair share round" means any one of three periods in time during which the Council has established municipal obligations to provide a fair share of affordable housing. The first fair share round includes the period 1987 through 1993. The second fair share round includes the first fair share round and adds the period 1993 through 1999. The third fair share round includes the first and second fair share rounds and adds the period from 1999 through 2018 for which municipal affordable housing needs are estimated, projected, actualized and/or addressed.

"Fair Share Plan" means the plan that describes the mechanisms and the funding sources, if applicable, by which a municipality proposes to address its affordable housing obligation as established in the Housing Element, includes the draft ordinances necessary to implement that plan, and addresses the requirements of N.J.A.C. 5:97-3.

"Family unit" means a self-contained residential dwelling unit with a kitchen, sanitary facilities, sleeping quarters and a private entrance, which is available to the general public and not restricted to any specific segment of the population.

"Farm labor housing" means housing constructed on a commercial farm as defined by the Right to Farm Act, N.J.S.A. 4:1C-1 et seq., for any person (and the family of such person) who receives a substantial portion of his or her income from primary production of agricultural or aquacultural commodities or the handling of such commodities in the unprocessed stage.

"Final approval" means the official action of the planning board taken on a preliminary approved major subdivision or site plan after all conditions, engineering plans and other requirements have been completed or fulfilled and the required improvements have been installed or guarantees properly posted for their completion, or approval conditioned upon the posting of such guarantees.

"Growth share" means the affordable housing obligation generated in each municipality by both residential and non-residential development from 2004 through 2018 and represented by a ratio of one affordable housing unit among five housing units constructed plus one affordable housing unit for every 16 newly created jobs as measured by new or expanded non-residential construction within the municipality in accordance with chapter Appendix D pursuant to the methodology detailed in N.J.A.C. 5:97-2.

"Gut rehabilitation" means the same as "reconstruction."

"High poverty census tract" means a census tract with a census determined average household poverty rate equal or greater than 25 percent, as determined by the United States Census Bureau.

"Household" means the person or persons occupying a housing unit.

"Household and employment growth projection" means an estimate of the housing unit and job growth anticipated in each municipality between 2004 and 2018 provided by the Council in chapter Appendix F, incorporated herein by reference.

"Household and employment growth projection adjustment" means an adjustment to the household and employment growth projections due to available land capacity, pursuant to N.J.A.C. 5:97-5.6.

"Housing Element" means the portion of a municipality's master plan, required by the Municipal Land Use Law (MLUL), N.J.S.A. 40:55D-28b(3) and the Act, that includes all information required by N.J.A.C. 5:97-2 and establishes the municipality's fair share obligation.

"Housing region" means a geographic area, determined by the Council, of no less than two and no more than four contiguous, whole counties, which exhibits significant social, economic and income similarities and which constitutes, to the greatest extent practicable, a Primary Metropolitan Statistical Area (PMSA) as last defined by the United States Census Bureau.

"Inclusionary development" means a development containing both affordable units and market-rate units. This term includes, but is not necessarily limited to: new construction, the conversion of a non-residential structure to residential and the creation of new affordable units through the reconstruction of a vacant residential structure.

"Individuals with special needs" means individuals with mental illness, individuals with physical or developmental disabilities and individuals in other emerging special needs groups identified by State agencies, that are at least 18 years of age if not part of a household. Special needs populations also include victims of domestic violence; ex-offenders; youth aging out of foster care; individuals and households who are homeless; and individuals with AIDS/HIV.

"Judgment of compliance" means a determination issued by the Superior Court approving a municipality's plan to satisfy its fair share obligation.

"Low income" means 50 percent or less of the median gross household income for households of the same size within the housing region in which the household is located, based upon the U.S. Department of Housing and Urban Development's (HUD) Section 8 Income Limits (uncapped) averaged across counties for the housing region.

"Low income housing" means housing affordable according to Federal Department of Housing and Urban Development or other recognized standards for home ownership and rental costs and occupied or reserved for occupancy by households with a gross household income equal to 50 percent or less of the median gross household income for households of the same size within the housing region in which the housing is located.

"Major system" means the primary structural, mechanical, plumbing, electrical, fire protection, or occupant service components of a building which include, but are not limited to, weatherization, roofing, plumbing (including wells), heating, electricity, sanitary plumbing (including septic systems), lead paint abatement or load bearing structural systems.

"Market-rate units" means housing not restricted to low- and moderate-income households that may sell or rent at any price.

"Market to affordable program" means a program to pay down the cost of market-rate units and offer them in sound condition, for sale or rent, at affordable prices to low- and moderate-income households to address all or a portion of the fair share obligation.

"Medicaid waiver" means a term used to designate a form of insurance payment for certain assisted living care, health and medical services paid through the Enhanced Community Options (ECO) waiver program implemented in response to the Omnibus Budget Reconciliation Act (OBRA) of 1981, Section 2176, Public Law 97-35. The New Jersey Department of Health and Senior Services licenses Medicaid providers of assisted living services and allocates Medicaid waivers to specific licensed assisted living residences.

"Mixed use zone" means a zone that permits a combination of uses within a single development.

"Moderate income" means more than 50 percent but less than 80 percent of the median gross household income for households of the same size within the housing region in which the household is located, based upon the U.S. Department of Housing and Urban Development's (HUD's) Section 8 Income Limits (uncapped) averaged across counties for the housing region.

"Moderate income housing" means housing affordable according to Federal Department of Housing and Urban Development or other recognized standards for home ownership and rental costs and occupied or reserved for occupancy by households with a gross household income equal to more than 50 percent but less than 80 percent of the median gross household income for households of the same size within the housing region in which the housing is located.

"Office of Smart Growth (OSG)" means the Office in the Department of Community Affairs that staffs the State Planning Commission and provides planning and technical assistance as requested.

"1,000-unit limitation" means a cap of the prior round affordable housing obligation, pursuant to the Act, where no municipality shall be required to address its fair share beyond 1,000 units within 10 years from the grant of substantive certification.

"Order for repose" means the protection a municipality has from builder's remedy lawsuits for a period of time from the entry of a judgment of compliance from the Superior Court. A judgment of compliance often results in an order for repose.

"Payment in lieu of constructing affordable units" means the payment of funds to the municipality by a developer when affordable units are not produced on a site zoned for inclusionary development.

"Permanent supportive housing" means permanent housing that provide access to supportive services for individuals and households with special needs who can benefit from housing with services.

"Petition for substantive certification" means a request made by municipal resolution which a municipality files, or is deemed to have filed in accordance with N.J.A.C. 5:96, which engages the Council's review process seeking a determination as to whether the Housing Element and Fair Share Plan of the municipality are consistent with the Act and compliant with rules promulgated by the Council.

"Plan endorsement," "plan endorsement process" or "endorsement" means the process undertaken by a municipality, county or regional agency, counties and municipalities or any grouping thereof, to petition the State Planning Commission for a determination of consistency of the submitted planning documents with the State Development and Redevelopment Plan.

"Planning area" means an area defined by a set of common criteria that focus on the degree and type of development or natural resources. Planning areas serve as organizing mechanisms for growth and development planning throughout the State. This definition is in accord with and derived from the State Development and Redevelopment Plan.

"Post-1986 Credit" means a credit granted by the Council for eligible low and moderate income units, except for rehabilitated units, constructed on or after December 15, 1986.

"Preliminary approval" means the conferral of certain rights pursuant to N.J.S.A. 40:55D-46, 40:55D-48 and 40:55D-49 prior to final approval after specific elements of a development have been agreed upon by the planning board and the applicant.

"Prior-cycle credit" means a credit granted by the Council for eligible low and moderate income units, except for rehabilitated units, constructed on or after April 1, 1980 and before December 15, 1986.

"Prior round obligation" means the cumulative 1987-1999 fair share obligation, which is displayed for each municipality in chapter Appendix C.

"Qualified non-profit" means an organization granted non-profit status in accordance with Section 501(c)(3) of the Internal Revenue Service code.

"RCA Project Plan" means a completed application, submitted by the receiving municipality in an RCA, delineating the manner in which the receiving municipality shall create or rehabilitate low- and moderate-income housing.

"Realistic opportunity" means a reasonable likelihood that the affordable housing in a municipality's Housing Element and Fair Share Plan will actually be constructed or provided during the 10-year period of certification based upon a careful analysis of the elements in the municipality's plan, including the financial feasibility of each proposed mechanism and the suitability of specific sites as set forth in N.J.A.C. 5:97-3.13.

"Realistic development potential (RDP)" means the portion of the prior round affordable housing obligation that can realistically be addressed with inclusionary development, as determined by the Council through a vacant land adjustment pursuant to N.J.A.C. 5:97-5.2.

"Recapture funds" means funds collected by the municipality upon the first non-exempt sale of an affordable unit after the expiration of the control period pursuant to the terms of a lien or mortgage note.

"Receiving municipality" means, for the purposes of an RCA, a municipality that contractually agrees to assume a portion of another municipality's fair share obligation.

"Reconstruction" means any project where the extent and nature of the work is such that the work area cannot be occupied while the work is in progress and where a new certificate of occupancy is required before the work area can be reoccupied, pursuant to the Rehabilitation Subcode, N.J.A.C. 5:23-6. Reconstruction shall not include projects comprised only of floor finish replacement, painting or wallpapering, or the replacement of equipment or furnishings. Asbestos hazard abatement and lead hazard abatement projects shall not be classified as reconstruction solely because occupancy of the work area is not permitted.

"Redevelopment" means planning and construction activities designed to build, conserve or rehabilitate structures, sites and improvements in accordance with a redevelopment plan pursuant to N.J.S.A. 40A:12A-3 of the Local Redevelopment and Housing Law.

"Redevelopment agency" means a municipal redevelopment agency created pursuant to N.J.S.A. 40A:12A-11 of the Local Redevelopment and Housing Law or pursuant to N.J.S.A. 40:55c-1 et seq. (repealed).

"Redevelopment area" or "area in need of redevelopment" means an area determined to be an area in need of redevelopment pursuant to N.J.S.A. 40A:12A-5 and 6 of the Local Redevelopment and Housing Law.

"Redevelopment plan" means a plan adopted by the governing body of a municipality for the redevelopment or rehabilitation of all or any part of a redevelopment area or rehabilitation area pursuant to N.J.S.A. 40A:12A-7 of the Local Redevelopment and Housing Law.

"Regional asset limit" means the maximum housing value, in each housing region, affordable to a four-person household with an income at 80 percent of the regional median as defined by the Council's adopted Regional Income Limits as published annually by the Council.

"Regional Contribution Agreement (RCA)" means a contractual agreement, pursuant to the Act, into which two municipalities voluntarily enter to transfer a portion of a municipality's fair share obligation to another municipality within its housing region.

"Rehabilitation" means the repair, renovation, alteration or reconstruction of any building or structure, pursuant to the Rehabilitation Subcode, N.J.A.C. 5:23-6.

"Rehabilitation area" or "area in need of rehabilitation" means an area determined to be in need of rehabilitation pursuant to N.J.S.A. 40A:12A-14 of the Local Redevelopment and Housing Law.

"Rehabilitation share" means the number of deficient housing units occupied by low- and moderate-income households within a municipality, established in chapter Appendix B that must be addressed in a Fair Share Plan.

"Residential health care facility" means a facility, attached to another long term care facility licensed by the New Jersey Department of Health and Senior Services, that provides food, shelter, supervised health care and related services, in a homelike setting, to four or more persons 18 years of age or older who are unrelated to the owner or administrator.

"Section 8 income limits" means a schedule of income limits according to Federal Department of Housing and Urban Development standards that define 50 percent and 80 percent of median income by household size. When used in this chapter, Section 8 income limits shall refer to the "uncapped" schedule as published by the Council, in accordance with its rules.

"Sending municipality" means, for purposes of an RCA, a municipality that contractually agrees to transfer a portion of its fair share obligation to another willing municipality.

"Set-aside" means the percentage of housing units devoted to low- and moderate-income households within an inclusionary development.

"State Development and Redevelopment Plan" means the plan prepared and adopted by the State Planning Commission pursuant to the State Planning Act, P.L. 1985, c. 398 (N.J.S.A. 52:18A-196 et seq.).

"Substantive certification" means a determination by the Council approving a municipality's Housing Element and Fair Share Plan in accordance with the provisions of the Act, this chapter and N.J.A.C. 5:96. A grant of substantive certification may run for a period of 10 years beginning on the date that a municipality files its Housing Element and Fair Share Plan with the Council in accordance with N.J.S.A. 52:27D-313, but shall not extend beyond December 31, 2019.

"Suitable site" means a site that has clear title and is free of encumbrances which preclude development of affordable housing; is adjacent to compatible land uses; has access to appropriate streets, water and sewer infrastructure; can be developed consistent with the Residential Site Improvement Standards and the rules or regulations of all agencies with jurisdiction over the site; and is consistent with the site suitability criteria delineated in N.J.A.C. 5:97-3.13. A site may be deemed suitable although not currently zoned for affordable housing.

"Supportive and special needs housing" means a structure or structures in which individuals and households reside, as delineated in N.J.A.C. 5:97-6.10, previously referred to as alternative living arrangements.

"Supportive shared living housing" means a type of permanent supportive housing in which individuals or households maintain separate leases for bedrooms and share common living space.

"Transitional housing" means housing with on-site or off-site supportive services that facilitate the movement of individuals and families, who are homeless or lack stable housing to permanent housing, within a reasonable amount of time, generally up to 24 months.

"20 percent cap" means a cap of the prior round affordable housing obligation, due to limited housing stock, pursuant to N.J.A.C. 5:97-5.5.

"UHAC" means the Uniform Housing Affordability Controls set forth in N.J.A.C. 5:80-26.

"Unmet need" means the difference between the prior round affordable housing obligation and the realistic development potential (RDP) as determined pursuant to N.J.A.C. 5:97-5.2.

"Vacant land adjustment" means an adjustment to the prior round affordable housing obligation due to available land capacity, pursuant to N.J.A.C. 5:97-5.1 and 5.2.

"Very low income" means 30 percent or less of the median gross household income for households of the same size within the housing region in which the household is located,

based upon the U.S. Department of Housing and Urban Development's (HUD) Section 8 Income Limits (uncapped) averaged across counties for the housing region.

"Very low income housing" means housing affordable according to Federal Department of Housing and Urban Development or other recognized standards for home ownership and rental costs and occupied or reserved for occupancy by households with a gross household income equal to 30 percent or less of the median gross household income for households of the same size within the housing region in which the housing is located.

"Weatherization" means building insulation (for attic, exterior walls and crawl space), siding to improve energy efficiency, replacement storm windows, replacement storm doors, replacement windows and replacement doors, and is considered a major system for rehabilitation.

SUBCHAPTER 2. PREPARING A HOUSING ELEMENT AND DETERMINING MUNICIPAL FAIR SHARE OBLIGATION

5:97-2.1 General

(a) The Municipal Land Use Law, N.J.S.A. 40:55D-1 et seq., requires a municipal master plan to include a Housing Element. A municipality's Housing Element shall be designed to achieve the goal of providing affordable housing to meet the fair share obligation, by demonstrating that existing zoning or planned changes in zoning provide adequate capacity to accommodate household and employment growth projections. The Housing Element shall be adopted by the planning board and endorsed by the governing body prior to the municipal filing pursuant to N.J.A.C. 5:96-2 or the municipal petition for substantive certification pursuant to N.J.A.C. 5:96-3.

(b) The Housing Element sets forth the municipal fair share obligation. All components of a Housing Element shall be in accordance with the standards established by this subchapter and the Municipal Land Use Law, N.J.S.A. 40:55D-1 et seq. The contents of a Fair Share Plan describing how the municipality intends to address the obligation determined in its Housing Element are described in N.J.A.C. 5:97-3.

5:97-2.2 Determining the fair share obligation

(a) The need for affordable housing in the State, and in each of the State's six housing regions, is determined on a municipal basis as explained in chapter Appendix A, incorporated herein by reference, and is the sum of:

1. The rehabilitation share;
2. The prior round obligation; and
3. The growth share.

(b) The rehabilitation share for affordable housing is the number of existing housing units as of April 1, 2000 that are both deficient and occupied by households of low or moderate income as determined through the methodology provided in chapter Appendix B. Each municipality's rehabilitation share is displayed in Appendix B.

(c) The prior round obligation is the cumulative 1987 through 1999 fair share obligation, which is displayed for each municipality in chapter Appendix C.

(d) The growth share for the period January 1, 2004 through December 31, 2018 shall initially be calculated based on projections. Projections of household and employment growth shall be converted into projected growth share affordable housing obligations by applying a ratio of one affordable unit among five residential units projected, plus one affordable unit for every 16 newly created jobs projected. The household and employment projections provided for each municipality in chapter Appendix F are based on New Jersey Department of Labor and Workforce Development county projections, which are allocated to the municipal level based on historical trends for each municipality and the extent to which each municipality approaches its physical growth capacity. Alternatively, a municipality may utilize its own growth projections to calculate the growth share pursuant to N.J.A.C. 5:97-2.2(d), provided the municipal projections exceed the projections in Appendix F. A municipality with insufficient vacant land may request an adjustment to the projections in Appendix F, pursuant to N.J.A.C. 5:97-5.6.

(e) The actual growth share obligation shall be based on permanent certificates of occupancy issued within the municipality for market-rate residential units and newly constructed, re-occupied and expanded non-residential developments in accordance with chapter Appendix D. Affordable housing shall be provided in direct proportion to the growth share obligation generated by the actual growth. However, if the actual growth share obligation is less than the projected growth share obligation, the municipality shall continue to provide a realistic opportunity for affordable housing to address the projected growth share through inclusionary zoning or any of the mechanisms permitted by N.J.A.C. 5:97-6. Although the overall Statewide and regional need calculations are figured from the last year of the prior round (1999) to the last year of the new round (2018), the municipality's portion of the statewide need is compressed into a delivery period that runs from January 1, 2004 to December 31, 2018.

5:97-2.3 Content of a Housing Element

(a) The Housing Element submitted to the Council shall include:

1. The minimum requirements prescribed by N.J.S.A 52:27D-310;

2. The household projection for the municipality as provided in chapter Appendix F;

3. The employment projection for the municipality as provided in Appendix F;

4. The municipality's prior round obligation (from chapter Appendix C);

5. The municipality's rehabilitation share (from chapter Appendix B);

6. The projected growth share in accordance with the procedures in N.J.A.C. 5:97-2.4; and

7. An inventory of all non-residential space by use group that was fully vacant as of the date of petition, to the extent feasible.

(b) Supporting information to be submitted with the Housing Element shall include:

1. A copy of the most recently adopted municipal zoning ordinance; and

2. A copy of the most up-to date tax maps of the municipality, electronic if available, with legible dimensions.

(c) The municipality shall submit any other documentation necessary to facilitate the review of the municipal Housing Element as requested by the Council.

(d) As an alternate to the household and employment projections required by (a)2 and 3 above, a municipality may rely upon its own household and employment growth projections, provided the total growth share resulting from the municipal household and employment growth projections exceeds the total growth share resulting from the household and employment growth projections provided in Appendix F.

1. The alternate projection of the municipality's probable future construction of housing for 15 years covering the period January 1, 2004 through December 31, 2018 shall consider the following minimum information for residential development:

i. Certificates of occupancy issued since January 1, 2004;

ii. Pending, approved and anticipated applications for development; and

iii. Historic trends of at least the past 10 years, which includes certificates of occupancy issued.

2. The alternate projection of the probable future jobs based on the use groups outlined in chapter Appendix D for 15 years covering the period January 1, 2004 through December 31, 2018 for the municipality shall consider the following minimum information for non-residential development:

i. Square footage of new or expanded non-residential development authorized by certificates of occupancy issued since January 1, 2004;

ii. Square footage of pending, approved and anticipated applications for development; and

iii. Historic trends, of, at least, the past 10 years, which shall include the square footage authorized by certificates of occupancy issued.

5:97-2.4 Projecting the growth share obligation

(a) A municipality shall determine the residential component of its growth share obligation for the period January 1, 2004 to December 31, 2018 based on the household projections provided in chapter Appendix F, unless municipal projections are utilized pursuant to N.J.A.C. 5:97-2.2(d). If municipal projections are utilized, the growth share obligation shall be determined pursuant to the procedures in N.J.A.C. 5:97-2.5(a) through (c).

1. In determining its residential growth share obligation, a municipality may subtract the following from its household projection:

i. Affordable housing units that received credit in a first or second round certified plan or a court judgment of compliance which have been or are projected to be constructed after January 1, 2004; and

ii. Market-rate units in an inclusionary or mixed-use development where these affordable housing units received credit in a first or second round certified plan or a court judgment of compliance or are eligible for credit pursuant to N.J.A.C. 5:97-4 toward a municipality's prior round obligation, which have been or are projected to be constructed after January 1, 2004, provided these sites are zoned to produce affordable housing units. The Council shall assume, for crediting purposes, that market-rate units are constructed at a rate of four times the number of affordable units (this is a 20 percent set-aside) constructed on that particular site, unless the municipality demonstrates to the Council that a lower set-aside percentage was used to produce the affordable units using the gross density and set-aside standards or the set-aside standards for constructing affordable rental units pursuant to N.J.A.C. 5:97-6.4(b)2iii. A municipality shall not receive an exclusion of market-rate units from residential growth at a rate above 5.67 times the number of affordable units (this is a 15 percent set-aside constructed on that particular site).

2. After subtracting any exclusions permitted in (a)1 above, the municipality shall have an obligation of one affordable housing unit among five residential units projected to be constructed. For the purpose of calculating the growth share obligation, the municipality shall divide the resulting total units by five. The residential growth share obligation shall not go below zero.

(b) A municipality shall determine the non-residential component of its growth share obligation for the period January 1, 2004 to December 31, 2018 based on the employment projections provided in Appendix F, unless municipal projections are utilized pursuant to N.J.A.C. 5:97-2.2(d). If municipal projections are utilized, the growth share obligation shall be determined pursuant to N.J.A.C. 5:97-2.5(a) through (c).

1. In determining its non-residential growth share obligation, a municipality may fully or partially subtract from its employment projection, non-residential development that, as a condition of preliminary or final site plan approval granted prior to January 1, 2004 or as a stipulation included in a developer's agreement executed prior to January 1, 2004, was required to specifically address a portion of a municipality's first or second round obligation or an obligation determined by the court. Such non-residential development may be excluded at a rate of 16 jobs for every one affordable unit addressed within the municipality as measured by new or expanded non-residential construction. Jobs shall be measured by use group pursuant to chapter Appendix D.

2. After subtracting any exclusions permitted in (b)1 above, the municipality shall have an obligation of one affordable housing unit for every 16 jobs projected. For the purpose of calculating the growth share obligation, the municipality shall divide the resulting total jobs by 16. The non-residential growth share obligation shall not go below zero.

(c) The residential growth share obligation calculated pursuant to (a) above shall be added to the non-residential growth share obligation calculated pursuant to (b) above to determine a total projected growth share obligation.

5:97-2.5 Measuring the actual growth share obligation

(a) A municipality's actual residential growth share obligation shall be measured based upon permanent market-rate residential certificates of occupancy issued within the municipality between January 1, 2004 and December 31, 2018.

1. In determining the actual residential growth share obligation, the following may be subtracted from the number of market rate certificates of occupancy issued:

i. Units included in the exclusions permitted by N.J.A.C. 5:97-2.4(a)1 that have been issued certificates of occupancy;

ii. Additional market-rate units resulting from an increase in density for an inclusionary or mixed-use development pursuant to N.J.A.C. 5:97-6.4(b)2i that are constructed after January 1, 2004, provided the required affordable units were constructed on-site;

iii. Certificates of occupancy issued for hotels and motels classified as R1 or R2 by the Uniform Construction Code (UCC). These certificates of occupancy shall be included in the non-residential growth share obligation calculated pursuant to (b) below; and

iv. Certificates of occupancy issued for farm labor housing constructed on a commercial farm as defined by the Right to Farm Act, N.J.S.A. 4:1C-1 et seq., and classified as R2, R3, or R5 by the Uniform Construction Code (UCC).

2. After subtracting any exclusions permitted in (a)1 above, the municipality shall have an obligation of one affordable housing unit for every four market-rate residential units constructed. For the purpose of calculating the growth share obligation, the municipality shall divide the resulting total units by four. The residential growth share obligation shall not go below zero.

(b) A municipality's actual non-residential growth share obligation shall be measured based upon the square footage of non-residential development converted to jobs based on the use group ratios provided in chapter Appendix D.

1. In determining the actual non-residential growth share obligation, the municipality shall measure:

i. Jobs gained based on the square footage authorized by permanent certificates of occupancy issued for new or expanded non-residential development for each use group in Appendix D, including hotels and motels classified as R1 or R2 within the municipality between January 1, 2004 and December 31, 2018; and

ii. Jobs gained based on the square footage of non-residential structures that were included on the inventory required by N.J.A.C. 5:97-2.3(a)7 and have subsequently been occupied, to the extent feasible.

2. In determining the actual non-residential growth share obligation, the following may be subtracted from the total jobs in (b)1 above:

i. Jobs based on the square footage authorized by certificates of occupancy issued for developments excluded by N.J.A.C. 5:97-2.4(b)1;

ii. Jobs resulting from an increase in floor area for a mixed-use development pursuant to N.J.A.C. 5:97-6.4(b)10 that occurs after January 1, 2004, provided the required affordable units were constructed on-site;

iii. Jobs resulting from an increase in floor area for a non-residential development pursuant to N.J.A.C. 5:97-6.4(b)9 that occurs after January 1, 2004; and

iv. Jobs lost based on the square footage of non-residential structures that were occupied as of the date of petition and have subsequently become vacant, to the extent feasible.

3. The municipality shall have an obligation of one affordable housing unit for every 16 newly created jobs. For the purpose of calculating the growth share obligation, the municipality shall divide the resulting total jobs by 16.

The non-residential growth share obligation shall not go below zero.

(c) The residential growth share obligation calculated pursuant to (a) above shall be added to the non-residential growth share obligation calculated pursuant to (b) above to determine a total growth share obligation.

(d) At such time and in such form as the Council requires, the municipality shall provide a comparison of its actual pro-rated growth share obligation and the actual number of affordable units that have been constructed or provided since January 1, 2004. At plan evaluation review pursuant to N.J.A.C. 5:96-10, the Council shall compare the actual growth share obligation with the actual number of affordable units constructed or provided for the purposes of enforcing remedies described in N.J.A.C. 5:96-10.4.

(e) If the actual growth share obligation determined in (c) above is less than the growth share obligation projected pursuant to N.J.A.C. 5:97-2.4, the municipality shall continue to provide a realistic opportunity for affordable housing to address the projected growth share, through inclusionary zoning or any of the mechanisms permitted by N.J.A.C. 5:97-6.

SUBCHAPTER 3. PREPARING A FAIR SHARE PLAN

5:97-3.1 General

(a) A municipality shall develop a Fair Share Plan that meets the requirements of this subchapter to address the municipality's total 1987 through 2018 fair share obligation, including implementing ordinances designed to ensure that the fair share of affordable housing for the 1987 through 2018 period is met.

(b) The Fair Share Plan shall be adopted by the Planning Board and endorsed by the governing body prior to the municipal petition for substantive certification.

5:97-3.2 Content of a Fair Share Plan

(a) A Fair Share Plan describes the completed or proposed mechanisms and funding sources, if applicable, that will be utilized to specifically address a municipality's rehabilitation share, prior round obligation, and growth share obligation. The Fair Share Plan shall be in a form provided by the Council and include at least the following:

1. Descriptions of any credits intended to address any portion of the fair share obligation, which shall include all information and documentation required by N.J.A.C. 5:97-4 for each type of credit;

2. Descriptions of any adjustments to any portion of the fair share obligation, which shall include all information and documentation required by N.J.A.C. 5:97-5 for each adjustment sought;

3. Descriptions of any mechanisms intended to address the prior round obligation, the rehabilitation share, and the growth share obligation;

4. An implementation schedule that sets forth a detailed timetable for units to be provided within the period of substantive certification and a timetable for the submittal of all information and documentation required by N.J.A.C. 5:97-6, based on the following:

i. Documentation for mechanisms to address the prior round obligation, the rehabilitation share, and the growth share obligation up to the first plan review pursuant to N.J.A.C. 5:96-10 shall be submitted at the time of petition;

ii. Documentation for zoning for inclusionary development, an accessory apartment program, or a market to affordable program shall be submitted at the time of petition and implemented within 45 days of substantive certification; and

iii. Documentation for all mechanisms not included in (a)4i and ii above shall be submitted according to an implementation schedule, but no later than two years prior to scheduled implementation of the mechanism;

5. Notwithstanding (a)4iii above, a municipality with insufficient vacant land that has been granted or is seeking a vacant land adjustment pursuant to N.J.A.C. 5:97-5.1 or a household and employment growth projection adjustment pursuant to N.J.A.C. 5:97-5.6 shall submit all information and documentation required by N.J.A.C. 5:97-6 at the time of petition, unless:

i. The municipality demonstrates that the mechanism(s) does not rely upon the availability of vacant land; or

ii. The municipality takes appropriate measures to reserve scarce resources that may be essential to implement the mechanisms that rely on the availability of vacant land to address the growth share obligation;

6. Draft and/or adopted ordinances necessary for the implementation of the mechanisms designed to satisfy the fair share obligation;

7. A demonstration that existing zoning or planned changes in zoning provide adequate capacity to accommodate any proposed inclusionary developments pursuant to N.J.A.C. 5:97-6.4;

8. A demonstration of existing or planned water and sewer capacity sufficient to accommodate all proposed mechanisms; and

9. A spending plan pursuant to N.J.A.C. 5:97-8.10, if the municipality maintains or intends to establish an affordable housing trust fund pursuant to N.J.A.C. 5:97-8.

(b) The Fair Share Plan shall also include any other documentation pertaining to the review of the municipal Fair

Share Plan as required by this chapter and N.J.A.C. 5:96 or requested by the Council.

5:97-3.3 Low/moderate income split of the fair share obligation

(a) At least 50 percent of the units addressing a municipality's fair share obligation shall be affordable to low income households.

(b) An odd number shall be split in favor of the low income unit.

5:97-3.4 Rental housing requirement

(a) In addressing the fair share obligation, every municipality shall create a realistic opportunity to construct rental units pursuant to the applicable formula set forth in this subchapter.

(b) At least 50 percent of the rental housing obligation addressed within a municipality shall be met with family housing in the Fair Share Plan.

(c) The plan for a rental housing component may include, but not necessarily be limited to, any combination of the following:

1. An affordable rental development;
2. Accessory apartments;
3. Rental units through a market to affordable program;
4. Assisted living residences;
5. Supportive and special needs housing;
6. Agreements with developers to construct and administer affordable rental units as part of an inclusionary development or redevelopment area; and/or
7. The transfer of the rental obligation via an RCA pursuant to N.J.A.C. 5:97-7, provided the RCA Project Plan provides for the creation or reconstruction of new rental units in the receiving municipality.

(d) The rental obligation for the growth share obligation shall be provided in proportion to the actual growth share obligation measured pursuant to N.J.A.C. 5:97-2.5 and monitored during plan evaluation review pursuant to N.J.A.C. 5:96-10.

5:97-3.5 Rental bonuses for the prior round obligation

(a) A municipality may receive two units of credit for each rental unit addressing its prior round rental obligation, provided the unit was created in the municipality and occupied on or after December 15, 1986, is not age-restricted and has controls on affordability for at least 30 years. No rental bonuses shall be granted for rental units in excess of the prior round rental obligation.

(b) A municipality may receive 1.33 units of credit for each age-restricted rental unit addressing its prior round rental obligation, provided the unit was created in the municipality and occupied on or after December 15, 1986, and has controls on affordability for at least 30 years. No rental bonuses shall be granted for age-restricted rental units in excess of 50 percent of the prior round rental obligation.

(c) In no event shall a municipality receive more than two units of credit for one unit.

5:97-3.6 Rental bonuses for the growth share obligation

(a) A municipality may receive bonuses for rental units in excess of its growth share rental obligation subject to the following:

1. A municipality may receive two units of credit for each rental family or permanent supportive housing unit provided pursuant to N.J.A.C. 5:97-6.4, 6.5, 6.6, 6.7, 6.9, 6.10, 6.13 or 6.15;
2. A municipality may receive 1.25 units of credit for each bedroom in supportive and special needs housing provided pursuant to N.J.A.C. 5:97-6.10, where the unit of credit is the bedroom;
3. The unit meets one of the following conditions:
   i. The unit was created in the municipality and occupied after June 6, 1999; or
   ii. The municipality has provided or received a firm commitment for the construction of the unit. A municipality may lose the rental bonus if the municipality has not constructed the rental unit within the time period established as a condition of substantive certification; has not granted preliminary or final approval for the construction of the rental unit within the time period established as a condition of substantive certification; if the preliminary or final approval is no longer valid; or if the developer has abandoned the development.
4. A minimum of 50 percent of the rental housing requirement has been addressed with family rental units provided pursuant to N.J.A.C. 5:97-6.4, 6.5, 6.6, 6.7, 6.9, 6.13 or 6.15.

(b) In no event shall a municipality receive more than two units of credit for one unit.

5:97-3.7 Very low income bonuses for the growth share obligation

(a) A municipality may receive two units of credit for each affordable unit addressing its growth share obligation that received a Certificate of Occupancy after June 6, 1999 and is deed restricted to be affordable and only available to a very low income household, provided the unit exceeds the number of units required by UHAC.

(b) Very low income bonuses may only be granted for family units provided pursuant to N.J.A.C. 5:97-6.4, 6.5, 6.6, 6.7, 6.9, 6.13 or 6.15.

(c) In no event shall a municipality receive more than two units of credit for one unit.

5:97-3.8 Age-restricted housing

In addressing the fair share obligation, each municipality may provide age-restricted housing pursuant to the applicable formula set forth in this subchapter.

5:97-3.9 Family housing

At least 50 percent of the units within the municipality addressing the growth share obligation shall be family housing units.

5:97-3.10 Formulas for municipalities that have not included a vacant land adjustment in any previous or pending Fair Share Plan

(a) This section sets forth formulas for rental units, age-restricted units, units transferred through RCAs, and age-restricted units transferred through RCAs, for municipalities that have not included a vacant land adjustment in any pervious or pending Fair Share Plan.

(b) Rental units shall be provided as follows:

1. The rental requirement for the prior round obligation shall be based on the following formula:

Rental Requirement = 25 percent (Prior Round Obligation – Prior Cycle Credits – Impact of 20 percent cap – Impact of the 1,000-unit limitation).

2. For municipalities that received first round substantive certification, the rental requirement for the prior round obligation may be based on the following formula:

Rental Requirement = 25 percent (Calculated Need – Impact of the 1,000-unit limitation).

3. The rental requirement for the growth share obligation shall be based on the following formula:

Rental Requirement = 25 percent (Growth Share Obligation).

(c) Age-restricted units may be provided as follows:

1. The age-restricted maximum for the prior round obligation shall be based on the following formula:

Age-Restricted Maximum = 25 percent (Prior Round Obligation + Rehabilitation Share – Prior Cycle Credits – Rehabilitation Credits – Impact of 20 percent cap – Impact of the 1,000-unit limitation – Transferred or Proposed RCA Units Addressing the Prior Round Obligation).

2. The age-restricted maximum for the growth share obligation shall be based on the following formula:

Age-Restricted Maximum = 25 percent (Growth Share Obligation - Transferred or Proposed RCA Units Addressing the Growth Share Obligation).

(d) Units may be transferred through RCAs as follows:

1. The RCA maximum for the prior round obligation shall be based on the following formula:

RCA Maximum = 50 percent (Prior Round Obligation + Rehabilitation Share – Prior Cycle Credits – Rehabilitation Credits – Impact of 20 percent cap – Impact of the 1,000-unit limitation).

2. The RCA maximum for the growth share obligation shall be based on the following formula:

RCA Maximum = 50 percent (Growth Share Obligation).

(e) Age-restricted units may be transferred through RCAs as follows:

1. The number of age-restricted units that may be transferred through one or more RCAs addressing a prior round obligation shall be based on the following formula:

Age-Restricted Maximum = 25 percent (Prior Round Obligation + Rehabilitation Share - Prior Cycle Credits – Rehabilitation Credits - Impact of 20 percent cap – Impact of the 1,000-unit limitation) – (Any Age-restricted Units Addressing the Prior Round Obligation within the Sending Municipality).

2. The number of age-restricted units that may be transferred through one or more RCAs addressing a growth share obligation shall be based on the following formula:

Age-Restricted Maximum = 25 percent (Growth Share Obligation) – (Any Age-restricted Units Addressing the Growth Share Obligation within the Sending Municipality).

5:97-3.11 Formulas for municipalities that have been granted a vacant land adjustment as part of a second round substantive certification or judgment of compliance

(a) This section sets forth formulas for rental units, age-restricted units, units transferred through RCAs, and age-restricted units transferred through RCAs, for municipalities that have been granted a vacant land adjustment as part of a second round substantive certification or judgment of compliance.

(b) Rental units shall be provided as follows:

1. The rental requirement for the prior round obligation shall be based on the following formula:

Rental Requirement = 25 percent (RDP).

2. The rental requirement for the growth share obligation shall be based on the following formula:

Rental Requirement = 25 percent (Growth Share Obligation).

(c) Age-restricted units may be provided as follows:

1. For a municipality not transferring units through an RCA, the age-restricted maximum for the prior round obligation shall be based on the following formulas:

i. Age-Restricted Maximum = 25 percent (RDP + Rehabilitation Share – Rehabilitation Credits); and

ii. Age-Restricted Maximum = 25 percent (Unmet Need), unless exempted pursuant to N.J.A.C. 5:97-5.3(b)6.

2. For a municipality transferring units through an RCA, the age-restricted maximum for the prior round obligation shall be based on the following formulas:

i. Age-Restricted Maximum = 25 percent (RDP – Transferred or Proposed RCA Units Addressing the RDP); and

ii. Age-Restricted Maximum = 25 percent (Unmet Need – Transferred or Proposed RCA Units Addressing Unmet Need), unless exempted pursuant to N.J.A.C. 5:97-5.3(b)6.

3. The age-restricted maximum for the growth share obligation shall be based on the following formula:

Age-Restricted Maximum = 25 percent (Growth Share Obligation – Transferred or Proposed RCA Units Addressing the Growth Share Obligation).

(d) Units may be transferred through RCAs as follows:

1. The RCA maximum for the prior round obligation shall be based on the following formula:

i. RCA Maximum = 50 percent (RDP + Rehabilitation Share – Rehabilitation Credits); and

ii. RCA Maximum = 50 percent (Unmet Need).

2. The RCA maximum for the growth share obligation shall be based on the following formula:

RCA Maximum = 50 percent (Growth Share Obligation).

(e) Age-restricted units may be transferred through RCAs as follows:

1. The number of age-restricted units that may be transferred through one or more RCAs addressing a prior round obligation shall be based on the following formula:

i. Age-Restricted Maximum = 25 percent (RDP + Rehabilitation Share – Rehabilitation Credits) – (Any Age-restricted Units Addressing the RDP within the Sending Municipality); and

ii. Age-Restricted Maximum = 25 percent (Unmet Need) – (Any Age-restricted Units Addressing the Unmet Need within the Sending Municipality).

2. The number of age-restricted units that may be transferred through one or more RCAs addressing a growth share obligation shall be based on the following formula:

Age-Restricted Maximum = 25 percent (Growth Share Obligation)-(Any Age-restricted Units Addressing the Growth Share Obligation within the Sending Municipality).

5:97-3.12 Formulas for municipalities seeking a vacant land adjustment that was not granted as part of a second round substantive certification or judgment of compliance

(a) This section sets forth formulas for rental units, age-restricted units, units transferred through RCAs, and age-restricted units transferred through RCAs, for municipalities seeking a vacant land adjustment that was not granted as part of a second round substantive certification or judgment of compliance.

(b) Rental units shall be provided as follows:

1. The rental requirement for the prior round obligation shall be based on the following formula:

Rental Requirement = 25 percent (RDP) – Rental Credits Applied at the Time of Petition.

2. The rental requirement for the growth share obligation shall be based on the following formula:

Rental Requirement = 25 percent (Growth Share Obligation).

(c) Age-restricted units may be provided as follows:

1. For a municipality not transferring units through an RCA, the age-restricted maximum for the prior round obligation shall be based on the following formulas:

i. Age-Restricted Maximum = 25 percent (RDP + Rehabilitation Share – Rehabilitation Credits); and

ii. Age-Restricted Maximum = 25 percent (Unmet Need) – Age-restricted credits pursuant to N.J.A.C. 5:97-5.3(b)6.

2. For a municipality transferring units through an RCA, the age-restricted maximum for the prior round obligation shall be based on the following formulas:

i. Age-Restricted Maximum = 25 percent (RDP – Transferred or Proposed RCA Units Addressing the RDP); and

ii. Age-Restricted Maximum = 25 percent (Unmet Need – Transferred or Proposed RCA Units Addressing Unmet Need) – Age-restricted Credits pursuant to N.J.A.C. 5:97-5.3(b)6.

3. The age-restricted maximum for the growth share obligation shall be based on the following formula:

Age-Restricted Maximum = 25 percent (Growth Share Obligation - Transferred or Proposed RCA Units Addressing the Growth Share Obligation).

(d) Units may be transferred through RCAs as follows:

1. The RCA maximum for the prior round obligation shall be based on the following formula:

i. RCA Maximum = 50 percent (RDP + Rehabilitation Share – Rehabilitation Credits); and

ii. RCA Maximum = 50 percent (Unmet Need).

2. The RCA maximum for the growth share obligation shall be based on the following formula:

RCA Maximum = 50 percent (Growth Share Obligation).

(e) Age-restricted units may be transferred through RCAs as follows:

1. The number of age-restricted units that may be transferred through one or more RCAs addressing a prior round obligation shall be based on the following formula:

i. Age-Restricted Maximum = 25 percent (RDP + Rehabilitation Share - Rehabilitation Credits) – (Any Age-restricted Units Addressing the RDP within the Sending Municipality); and

ii. Age-Restricted Maximum = 25 percent (Unmet Need) – (Any Age-restricted Units Addressing the Unmet Need within the Sending Municipality).

2. The number of age-restricted units that may be transferred through one or more RCAs addressing a growth share obligation shall be based on the following formula:

Age-Restricted Maximum = 25 percent (Growth Share Obligation)-(Any Age-restricted Units Addressing the Growth Share Obligation within the Sending Municipality).

5:97-3.13 Site suitability criteria and conformance with the State Development and Redevelopment Plan

(a) Sites designated to produce affordable housing shall be available, approvable, developable and suitable, according to the following criteria:

1. The site has a clear title and is free of encumbrances which preclude development of affordable housing;

2. The site is adjacent to compatible land uses and has access to appropriate streets;

3. The site has access to water and sewer infrastructure with sufficient capacity, and is consistent with the applicable area wide water quality management plan (including the wastewater management plan) or is included in an amendment to the area wide water quality management plan submitted to and under review by DEP; and

4. The site can be developed consistent with the Residential Site Improvement Standards, N.J.A.C. 5:21, where applicable.

(b) Sites designated to produce affordable housing shall conform to the State Development and Redevelopment Plan and shall be in compliance with the rules and regulations of all agencies with jurisdiction over the site, including, but not limited to:

1. Sites that are located in Planning Areas 1 or 2 or located within a designated center or located in an existing sewer service area are the preferred location for municipalities to address their fair share obligation.

2. Municipalities or developers proposing sites located in Planning Areas 3, 4, 4B, 5 or 5B that are not within a designated center or an existing sewer service area shall have the burden of demonstrating to the Council that the site is consistent with sound planning principles and the goals, policies and objectives of the State Development and Redevelopment Plan. The Council may seek a recommendation from the Executive Director of the Office of Smart Growth on the consistency of the site with sound planning principles and the goals, policies and objectives of the State Development and Redevelopment Plan.

3. Sites within the areas of the State regulated by the Pinelands Commission, Highlands Water Protection and Planning Council, Land Use Regulation Division of DEP and the New Jersey Meadowlands Commission, shall adhere to the land use policies delineated in The Pinelands Comprehensive Management Plan, N.J.A.C. 7:50; The Highlands Water Protection and Planning Act rules, N.J.A.C. 7:38; the Coastal Permit Program Rules, N.J.A.C. 7:7; the Coastal Zone Management Rules, N.J.A.C. 7:7E; and the Zoning Regulations of the New Jersey Meadowlands Commission, N.J.A.C. 19:3, where applicable.

4. The portions of sites designated for construction shall adhere to regulations concerning wetland constraints as delineated on the New Jersey Freshwater Wetlands Maps, or when unavailable, the U.S. Fish and Wildlife Service National Wetlands Inventory; or as delineated on-site by the U.S. Army Corps of Engineers or DEP, whichever agency has jurisdiction; Category One waterway constraints pursuant to N.J.A.C. 7:15; flood hazard constraints as defined in N.J.A.C. 7:13; and steep slope constraints in excess of 15 percent if the municipality has an ordinance in place that uniformly regulates steep slope development throughout the municipality.

5. Historic and architecturally important sites and districts listed on the State or National Register of Historic Places shall be reviewed by the New Jersey State Historic Preservation Office for a recommendation pertaining to the appropriateness and size of buffer areas that will protect the integrity of the site. The review and written recommendation by the New Jersey Historic Preservation Office shall be included in the Housing Element and Fair Share Plan that is the subject of any petition before the Council. Within historic districts, a municipality may regulate low- and moderate-income housing to the same extent it regulates all other development.

(c) The Council may seek a recommendation from the appropriate regulating agency on the suitability of a proposed site. In taking such action, the Council may require the municipality to submit all necessary documentation to the agency so that a review and decision regarding the suitability of any site may be completed.

5:97-3.14 Accessible and adaptable affordable units

(a) The first floor of all new townhouse dwelling units and of all other new multistory dwelling units that are attached to at least one other dwelling unit for which an application for a construction permit has not been declared complete by the enforcing agency before October 1, 2006, shall be subject to this section and the technical design standards of the Barrier Free Subcode at N.J.A.C. 5:23-7.

(b) The municipality shall demonstrate the following features regarding townhouses or other multistory dwelling units that are attached to at least one other dwelling unit:

1. An adaptable toilet and bathing facility on the first floor;

2. An adaptable kitchen on the first floor;

3. An accessible route of travel; however, an interior accessible route of travel shall not be required between stories;

4. An adaptable room that can be used as a bedroom, with a door or the casing for the installation of a door, on the first floor; and

5. An accessible entranceway or evidence that the municipality has collected funds pursuant to (d) below.

(c) In the case of a unit constructed with an adaptable entrance pursuant to (b)5 above, upon the request of a disabled person who is purchasing or will reside in the dwelling unit, an accessible entrance shall be installed.

(d) The builder of the development shall deposit funds, sufficient to adapt 10 percent of the affordable units that have not been constructed with accessible entrances, with the municipality in which the units are located.

1. The developer of the affordable units shall submit the design for conversion of the adaptable entrances with a cost estimate to the local enforcing agency.

2. Once the local enforcing agency has determined that the plans to adapt the entrances meet the requirements of the Uniform Construction Code, N.J.A.C. 5:23, the municipality shall deposit the funds in an affordable housing trust fund pursuant to N.J.A.C. 5:97-8.5.

3. These funds shall be available for the purpose of making the adaptable entrance of any affordable unit accessible when requested to do so by a person with a disability who occupies or intends to occupy the unit and requires an accessible entrance.

(e) Full compliance with this section shall not be required where an entity can demonstrate that it is impracticable for the site to meet the requirements. Determinations of site impracticability shall be in compliance with the Barrier Free Subcode, N.J.A.C. 5:23-7.

5:97-3.15 Affordable housing and State-funded smart growth initiatives

Municipalities that have petitioned the Council for substantive certification and are seeking a transit village designation from the Department of Transportation (DOT) or are participating in other State-funded smart growth initiatives shall ensure, to the extent economically feasible, that the plan for development includes a minimum 20 percent affordable housing set-aside for residential development in addition to complying with criteria that DOT may consider necessary for a transit village, as evidenced by a municipal resolution, developer's agreement(s), or zoning ordinance.

5:97-3.16 Coordination with other State agencies

(a) Municipalities that have petitioned the Council for substantive certification are encouraged to seek plan endorsement from the State Planning Commission and shall include a status of the application with their petitions.

(b) To determine whether a municipal Fair Share Plan creates a realistic opportunity for the provision of affordable housing, where applicable, the Council may consult with the State Planning Commission, the New Jersey Meadowlands Commission, the Highlands Water Protection and Planning Council, the Pinelands Commission or other relevant State agencies.

SUBCHAPTER 4. CREDITS

5:97-4.1 General

(a) At the time of petition, credits and corresponding bonuses for previous housing activity shall be applied toward the prior round obligation before the credits may be applied toward the growth share obligation, provided such activity

complies with the applicable criteria in this subchapter and the applicable formulas set forth in N.J.A.C. 5:97-3. If the municipality's second round substantive certification included a vacant land adjustment, the credits shall be applied toward the realistic development potential (RDP) before the credits may be applied toward unmet need or the growth share obligation.

(b) A municipality shall document new construction activity with certificates of occupancy, rehabilitation with final inspections, and RCA units with evidence of the required transfer of funds to the receiving municipality, according to the payment schedule in the approved RCA contract. A municipality shall submit information regarding the units on forms provided by the Council.

(c) All credits shall be subject to the applicable formulas set forth in N.J.A.C. 5:97-3, unless, at the time of third round petition, the municipality effected the construction of all affordable housing or transferred all RCA funds in accordance with its second round substantive certification or judgment of compliance, in which case the Council shall honor the number of age-restricted units, the units addressing the rental requirement and RCAs included in the previously certified plan or judgment of compliance.

(d) All credits shall be subject to verification and validation when a municipality petitions for substantive certification, or during monitoring subsequent to substantive certification pursuant to N.J.A.C. 5:96-11.

5:97-4.2 Prior cycle credits

(a) A housing unit created and occupied between April 1, 1980 and December 15, 1986 is eligible for one credit when it has been developed specifically for households whose income does not exceed 80 percent of median income and the unit was governed by controls on affordability that are not less than 20 years. The units shall be administered and affirmatively marketed in accordance with N.J.A.C. 5:97-9 and UHAC.

(b) A municipality may receive one credit against its prior round obligation for each unit that does not have the controls on affordability described in (a) above provided the unit satisfies the following criteria:

1. The unit shall have been constructed between April 1, 1980 and December 15, 1986. The municipality shall document the date of construction with a certificate of occupancy date;

2. The unit shall have been certified to be in sound condition as a result of an exterior inspection;

3. The unit is currently occupied by a low- or moderate-income household. The municipality shall document household income eligibility with a certification of household income in a form adopted by the Council. Such certification shall be signed by a head of household. It shall be reviewable only by the Council or its staff and shall not be a public record;

4. If the unit is a for-sale unit, at the time the municipality files its petition for substantive certification, the unit shall have a market value that is affordable to a moderate income household, as follows:

i. The affordable sales price shall be determined pursuant to N.J.A.C. 5:97-9 and UHAC and shall utilize the homeowner or condominium fees chargeable to the unit on the date of the petition for substantive certification; and

ii. The market value of the unit shall be determined by averaging the reported actual sale prices of three comparable housing units from the municipality that can be documented as being arms length, closed sales transactions and which occurred within one year of the date of filing of the petition. Documentation sources for such sales may include county tax records, TRW REDI Property Data or other such sources, or multi-list records;

5. If the unit is a rental unit, at the time the municipality files its petition for substantive certification, the unit shall have a monthly rent that is affordable to a moderate income household pursuant to the requirements of N.J.A.C. 5:97-9 and UHAC and the rental must be an arms length transaction; and

6. The application shall be in such a form and contain such information as the Council may require. Such information may include a questionnaire on household composition and unit type, a worksheet to calculate household income, a certification, an exterior survey and a sheet for listing comparables for each eligible unit.

(c) If the credit is to be applied toward the growth share obligation, the controls on affordability shall be in place through December 31, 2018 or, if expiring during the third round period, shall be renewed in conformance with N.J.A.C. 5:97-9 and UHAC.

5:97-4.3 Post-1986 credits

(a) A municipality may receive one credit for each affordable housing unit within an inclusionary development, a municipally sponsored development or a 100 percent affordable development, subject to the applicable provisions of this subsection.

1. Affordable units created and occupied on or after December 15, 1986 and before June 6, 1994 shall meet the following criteria:

i. The units were subject to controls on affordability of not less than 20 years; 10 years for municipalities that received State Aid during that period pursuant to P.L. 1978, c. 14 (N.J.S.A. 52:27D-178 et seq.);

ii. The development demonstrated the appropriate low/moderate income split, bedroom distribution, and sales/rental prices in accordance with chapter Appendix E, incorporated herein by reference; and

iii. The units are administered and affirmatively marketed in accordance with N.J.A.C. 5:97-9 and UHAC.

2. Affordable units created and occupied on or after June 6, 1994 and before October 1, 2001 shall meet the following criteria:

i. The units were subject to controls on affordability of not less than 30 years; 10 years for municipalities that received State Aid during that period pursuant to P.L. 1978, c. 14 (N.J.S.A. 52:27D-178 et seq.);

ii. The development demonstrated the appropriate low/moderate income split, bedroom distribution, and sales/rental prices in accordance with Appendix E; and

iii. The units are administered and affirmatively marketed in accordance with N.J.A.C. 5:97-9 and UHAC.

3. Affordable units created and occupied on or after October 1, 2001 and before December 20, 2004 shall meet the following criteria:

i. The units were subject to controls on affordability of not less than 30 years; 10 years for municipalities that received State Aid during that period pursuant to P.L. 1978, c. 14 (N.J.S.A. 52:27D-178 et seq.);

ii. The development demonstrated the appropriate low/moderate income split, bedroom distribution, and sales/rental prices in accordance with N.J.A.C. 5:97-9 and UHAC; and

iii. The units are administered and affirmatively marketed in accordance with N.J.A.C. 5:97-9 and UHAC.

4. Affordable units created and occupied on or after December 20, 2004 shall meet the criteria in N.J.A.C. 5:97-6.4, 6.5, 6.6 or 6.7, as applicable.

(b) A municipality may receive one credit for each affordable unit created through an accessory apartment program, subject to the applicable provisions of this subsection.

1. An accessory apartment created and occupied on or after June 6, 1994 and before June 2, 2008 shall meet the following criteria:

i. The apartment was subject to controls on affordability of not less than 10 years, 30 years if the unit is receiving a bonus credit toward the prior round obligation pursuant to N.J.A.C. 5:97-3.5;

ii. The program demonstrated the appropriate low/moderate income split in accordance with Appendix E;

iii. The average initial rent of all apartments in the program, including utilities and based on the number of bedrooms, was affordable to a household earning no more than 57.5 percent of median income;

iv. The apartment is administered and affirmatively marketed in accordance with N.J.A.C. 5:97-9 and UHAC; and

v. At least $10,000 was provided to subsidize the creation of the accessory apartment, unless the accessory apartment was created prior to the municipal adoption of an accessory apartment ordinance or was otherwise illegal.

2. Accessory apartments created and occupied on or after June 2, 2008 shall meet the criteria in N.J.A.C. 5:97-6.8.

(c) A municipality may receive one credit for each bedroom in supportive and/or special needs housing (formerly known as alternative living arrangements), subject to the applicable provisions of this subsection.

1. Supportive and special needs housing created and occupied on or after December 15, 1986 and before December 20, 2004 shall meet the following criteria:

i. Supportive and special needs housing may include: transitional housing, Class A, B, C, D, and E boarding homes as licensed and/or regulated by the New Jersey Department of Community Affairs and/or the New Jersey Department of Health and Senior Services; residential health care facilities as licensed and/or regulated by the New Jersey Department of Health and Senior Services; group homes for people with developmental disabilities and/or mental illness as licensed and/or regulated by the New Jersey Department of Human Services; and congregate living arrangements; and

ii. The facility was subject to controls on affordability of not less than 10 years, 30 years if the unit is receiving a bonus credit toward the prior round obligation pursuant to N.J.A.C. 5:97-3.5.

2. Supportive and special needs housing established after December 20, 2004 and before June 2, 2008 shall meet the criteria in N.J.A.C. 5:97-6.10, with the following exception:

i. Units with capital funding through a 20-year operating contract with the Department of Human Services, Division of Developmental Disabilities, provided said contract is in effect through the period of third round certification, are exempt from the requirement for affordability controls of not less than 30 years.

3. Supportive and special needs housing created and occupied on or after June 2, 2008 shall meet the criteria in N.J.A.C. 5:97-6.10.

(d) A municipality may receive one credit for each apartment in an assisted living residence created and occupied on or after December 15, 1986, subject to the provisions of N.J.A.C. 5:97-6.11.

(e) A municipality may receive one credit for each affordable unit created through a market to affordable program (formerly known as a write-down/buy-down program), subject to the applicable provisions of this subsection.

1. A unit created and occupied on or after June 6, 1994 and before December 20, 2004 shall meet the following criteria:

i. The unit was subject to controls on affordability of not less than 30 years, 10 years for municipalities that received State Aid during that period pursuant to P.L. 1978, c. 14 (N.J.S.A. 52:27D-178 et seq.);

ii. The program demonstrated the appropriate low /moderate income split in accordance with Appendix E;

iii. The average initial sales price of all units in the program, based on the number of bedrooms, was affordable to a household earning no more than 57.5 percent of median income, unless the range of affordability was accommodated elsewhere in the Fair Share Plan;

iv. The unit is administered and affirmatively marketed in accordance with N.J.A.C. 5:97-9 and UHAC; and

v. A minimum of $20,000 was provided to subsidize the creation of the unit.

2. Market to affordable units created and occupied on or after December 20, 2004 shall meet the criteria in N.J.A.C. 5:97-9.

(f) A municipality may receive one credit for each affordable unit created and occupied on or after December 20, 2004 through an affordable housing partnership program, subject to the provisions of N.J.A.C. 5:97-6.13.

(g) If the credit is to be applied toward the growth share obligation, the controls on affordability shall be in place through December 31, 2018 or, if expiring during the third round period, shall be renewed in conformance with N.J.A.C. 5:97-9 and UHAC.

5:97-4.4 RCA credits

(a) A municipality may receive credit for units transferred through an RCA when the RCA contract has been approved by the Council, subject to the provisions of this section.

(b) RCA credits shall be subject to the applicable formulas set forth in N.J.A.C. 5:97-3.

(c) The sending municipality shall submit verification that all payments have been transferred to the receiving municipality in accordance with the payment schedule outlined in the RCA contract.

(d) In order to maintain credit for the RCA, any remaining payments shall be made to the receiving municipality in accordance with the payment schedule outlined in the RCA contract.

5:97-4.5 Rehabilitation credits

(a) A municipality may receive credit for rehabilitation of deficient housing units occupied by low- and moderate-income households performed subsequent to April 1, 2000, subject to the applicable provisions of this section. In order to receive a rehabilitation credit, the municipality shall submit information regarding the rehabilitated units on forms provided by the Council.

(b) Units rehabilitated or subject to an executed contract for rehabilitation on or after April 1, 2000 and before December 20, 2004 shall meet the following criteria:

1. The unit was rehabilitated up to the applicable code standard and the average capital cost expended on rehabilitating the unit was at least $8,000;

2. The unit is currently occupied by the occupants who resided within the unit at the time of rehabilitation or by other eligible low- or moderate-income households;

3. Owner-occupied units were subject to controls on affordability of not less than six years and rental units were subject to controls on affordability of not less than 10 years. The controls on affordability may be in the form of a lien filed with the county;

4. The rehabilitation program is administered by an experienced administrator, pursuant to N.J.A.C. 5:97-9 and UHAC;

5. Rental units must be included in the rehabilitation program; and

6. The municipality shall submit its adopted rehabilitation manual which includes a description of the program procedures and administration in accordance with this section.

(c) Units rehabilitated or subject to an executed contract for rehabilitation on or after December 20, 2004 shall meet the criteria in N.J.A.C. 5:97-6.2.

(d) A municipality may receive one credit against its rehabilitation share for each ECHO unit completed subsequent to April 1, 2000, in which a low- or moderate-income occupant is residing, provided the municipality purchased or leased the ECHO unit for a minimum of 10 years.

(e) Credits for rehabilitation shall only be credited against the rehabilitation share.

(f) If a municipality received a rehabilitation credit for the rehabilitation of a unit prior to April 1, 2000, as part of a previous round Fair Share Plan, and the controls on affordability have expired, the municipality may receive a rehabilitation credit if the unit is rehabilitated pursuant to the criteria set forth in this section.

(g) If a municipality received a new construction credit for a deed restricted affordable unit that was built between 1987 and 1993, as part of a first round Fair Share Plan, the municipality may receive a rehabilitation credit if the unit is rehabilitated pursuant to the criteria set forth in this section.

SUBCHAPTER 5. ADJUSTMENTS

5:97-5.1 Vacant land adjustment applicability

(a) A municipality may request a vacant land adjustment of its prior round obligation for the first time in accordance with N.J.A.C. 5:97-5.2.

(b) A municipality that is requesting a vacant land adjustment for the first time or whose vacant land adjustment was not granted as part of a second round substantive certification shall apply its eligible credits pursuant to N.J.A.C. 5:97-4 toward its unmet need at the time of petition prior to applying credits toward its realistic development potential.

(c) A vacant land adjustment that was granted as part of a second round certification or judgment of compliance shall continue to be valid provided the municipality has implemented all of the terms of the substantive certification or judgment of compliance. If the municipality failed to implement the terms of the substantive certification or judgment of compliance, the Council may reevaluate the vacant land adjustment.

(d) A vacant land adjustment that was granted as part of a first round certification or judgment of compliance shall continue to be valid provided the municipality has implemented all of the terms of the substantive certification or judgment of compliance, and received or petitioned to the Council for second round substantive certification or was under the Court's jurisdiction for second round. If the municipality failed to implement the terms of the substantive certification or judgment of compliance, the Council may reevaluate the vacant land adjustment.

(e) A municipality that was granted or is seeking a vacant land adjustment shall be subject to the applicable formulas set forth in N.J.A.C. 5:97-3.

5:97-5.2 Vacant land adjustment procedures

(a) The standards and procedures in this section shall be used to determine the RDP for a municipality requesting a vacant land adjustment of its prior round obligation.

(b) The municipality shall be responsible for demonstrating that the municipal response to its housing obligation is limited by the lack of land capacity. The municipality shall identify sites that are realistic for inclusionary development in order for the Council to calculate the municipality's RDP. The vacant land adjustment, or unmet need, is the difference between the prior round affordable housing obligation and the RDP. Municipalities shall provide a response to the unmet need in accordance with N.J.A.C. 5:97-5.3.

(c) The municipality shall submit the following:

1. An existing land use map displaying the land uses of each parcel within the municipality, and a tax map of the entire municipality with legible dimensions at appropriate scales. The land use map shall display the following land uses: single family, two-to-four family, other multi-family, commercial, industrial, agricultural, parkland, other public uses, semipublic uses and vacant land;

2. A copy of the most recently adopted municipal master plan and, when less than three years old, the immediately preceding, adopted master plan;

3. An inventory of all privately and municipally-owned vacant parcels from the tax assessor's office pursuant to (d) below;

4. An inventory of sites that are devoted to a specific use which involves relatively low-density development and could create an opportunity for affordable housing if inclusionary zoning was in place. Such sites include, but are not limited to: a golf course not owned by its members; a farm in Planning Areas 1 or 2; a driving range; nursery; and a nonconforming use;

5. Transparent overlays drawn to the same scale as the existing land use map depicting those sites which the municipality maintains are unsuitable for development pursuant to (d) below; and

6. An inventory of any areas in the municipality that may develop or redevelop. Examples of such areas include, but are not limited to: a private club owned by its members; publicly owned land; downtown mixed use areas; high density residential areas surrounding the downtown; areas with a large aging housing stock appropriate for accessory apartments; properties that may be subdivided and support additional development; and any parcel(s) ripe for redevelopment.

(d) The inventory of vacant parcels shall be listed by lot and block and include the address, acreage, current zoning, and owner of each lot. The municipality shall list contiguous parcels next to each other. The inventory shall also list the amount of acreage that is suitable for development and the amount of acreage that is unsuitable for development and the reasons why the acreage is unsuitable based on the following criteria:

1. The land is owned by a local government entity that adopted a resolution authorizing the execution of an agreement that such land shall be utilized for a public purpose other than housing, prior to January 1, 1997 and the filing of a petition for substantive certification;

2. The individual parcel and/or a combination of contiguous parcels, is of a size which would accommodate less than five dwelling units pursuant to the standard in (h) below.

3. Agricultural lands when the development rights to these lands have been purchased or restricted by covenant;

4. Environmentally sensitive lands as follows:

i. Within the areas of the State regulated by the Pinelands Commission, the Highlands Water Protection and Planning Council, the Land Use Regulation Division of DEP and the New Jersey Meadowlands Commission, municipalities may exclude sites based on: The Pinelands Comprehensive Management Plan, N.J.A.C. 7:50; The Highlands Water Protection and Planning Act rules, N.J.A.C. 7:38; the Coastal Permit Program Rules, N.J.A.C. 7:7; the Coastal Zone Management Rules, N.J.A.C. 7:7E; and the Zoning Regulations of the New Jersey Meadowlands Commission, N.J.A.C. 19:3. Where rules of the above agencies permit development within an area, the parcel(s) shall not be excluded from the vacant land inventory.

ii. In areas of the State not regulated by the Pinelands Commission, the Highlands Water Protection and Planning Council, the Land Use Regulation Division of DEP and the New Jersey Meadowlands Commission, municipalities may exclude sites based on: rules concerning wetland constraints as delineated on the New Jersey Freshwater Wetlands Maps, or when unavailable, the U.S. Fish and Wildlife Service National Wetlands Inventory; or as delineated on-site by the U.S. Army Corps of Engineers or DEP, whichever agency has jurisdiction; Category One waterway constraints pursuant to N.J.A.C. 7:15; flood hazard constraints as defined in N.J.A.C. 7:13; and sites with slopes in excess of 15 percent, as determined from the U.S.G.S. Topographic Quadrangles, which render a site unsuitable for low- and moderate-income housing. In the case of slopes in excess of 15 percent, a municipality may regulate inclusionary development through a steep slope ordinance, provided the ordinance also regulates non-inclusionary developments in a consistent manner.

iii. Where the Legislature adopts legislation that requires the mapping of other natural resources that would restrict development capacity and provides a mechanism for the regulation of such resources, municipalities may exclude sites accordingly;

5. Historic and architecturally important sites as follows:

i. Historic and architecturally important sites listed on the State Register of Historic Places in accordance with N.J.A.C. 7:4 or National Register of Historic Places in accordance with 36 CFR 60 prior to the submission of the petition of substantive certification.

ii. Municipalities may apply to exempt a buffer area to protect sites listed on the State or National Register of Historic Places. The municipality shall include with its petition for substantive certification the review and written recommendation from the New Jersey Historic Preservation Office pertaining to the appropriateness and size of buffer areas that will protect the integrity of the site. Upon review of New Jersey Historic Preservation Office's recommendation, the Council shall determine if any part of a site should be eliminated from the inventory;

6. Active recreational lands as follows:

i. Sites designated for active recreation that are designated for recreational purposes in the municipal master plan. Municipalities shall submit appropriate documentation demonstrating that such active recreational lands are precluded from development.

ii. Additional sites proposed for designation as active municipal recreation, provided that the total active recreational lands do not exceed three percent of the municipality's total developed and developable acreage, calculated pursuant to (d)6iii below. Any sites listed in the municipal master plan as active recreation, including, but not limited to, parking areas and storage areas, shall be included in the three percent calculation.

iii. In determining developable acreage, municipalities shall calculate their total vacant and undeveloped lands and deduct from that total number the lands excluded by the Council's rules regarding historic and architecturally important sites, agricultural lands and environmentally sensitive lands. Municipalities shall also deduct those lands owned by nonprofit organizations, counties and the State or Federal government when such lands are precluded from development at the time of substantive certification; and

7. Conservation, parklands and open space (passive recreation) lands as follows:

i. Land designated by the municipal master plan or dedicated by easement or otherwise for the purposes of conservation, parklands or open space, provided the land is owned, leased, licensed or in any other manner operated by a county, municipality or tax-exempt, nonprofit organization including a local board of education or by more than one municipality, by joint agreement pursuant to P.L. 1964, c. 185 (N.J.S.A. 40:61-35.1 et seq.).

ii. Additional land reserved for conservation, parklands or open space, provided that the total lands

designated and/or reserved for conservation, parklands or open space do not exceed three percent of the municipality's total land area.

(e) The Council shall review the existing land use map, tax map, master plan(s) and land inventory to determine consistency with this section and reserves the right to include additional vacant and non vacant sites that were excluded by the municipality. In the case of non vacant sites pursuant to N.J.A.C. 5:97-5.2(c)4, the Council may request a letter from the owner of the site indicating the site's availability for inclusionary development.

(f) Partial elimination of a site shall not necessarily eliminate an entire site as unsuitable. The Council reserves the right to exclude sites in whole or in part when an environmental constraint(s) threatens the viability of an inclusionary development.

(g) Individual sites that the Council determines are not suitable for low and moderate income housing may also be eliminated from the inventory described in (d) above.

(h) The Council shall consider sites, or parts thereof, not specifically eliminated from the inventory, for inclusionary development. The Council shall consider the character of the area surrounding each site in establishing densities and set-asides for each site, or part thereof, remaining in the inventory. The Council shall also rely on the appropriate regulating agency's regulations regarding development capacity of the site, including the density, when determining RDP. The minimum presumptive density shall be six units per acre and the maximum presumptive set-aside shall be 20 percent. The density and set-aside of each site shall be summed to determine the RDP of each municipality.

Example: Johnsonville Borough has three suitable sites. The sites are 10 acres, five acres and one acre. The larger sites may accommodate eight units/acre. The one acre site may accommodate six units/acre. All sites are assigned a 20 percent set-aside. The RDP equals 25 low and moderate income units.

10 acres	X	8 units/acre	X	.2	=	16
5 acres	X	8 units/acre	X	.2	=	8
1 acre	X	6 units/acre	X	.2	=	1
		RDP			=	25

(i) In the assignment of an RDP, the Council recognizes that some sites are more realistic and/or appropriate than others for the location of inclusionary development. For example, some sites may lack infrastructure or be surrounded by incompatible land uses. However, these sites and others have the potential to develop or redevelop over time and, as such development takes place, the Council has determined that such sites shall contribute toward the housing obligation.

(j) The municipality may address its RDP through any activity approved by the Council, pursuant to N.J.A.C. 5:97-6. The municipality need not utilize any of the sites used to calculate the RDP if the municipality can devise alternate means of addressing its RDP. The RDP shall not vary with the mechanisms employed by the municipality. In addressing the RDP, a municipality may designate land in (d)2 above for affordable housing infill purposes, but is not required to do so.

(k) The Council may reevaluate a municipality's RDP subsequent to substantive certification if one or more of the following conditions occur:

1. Sites excluded pursuant to (d)6 above are not purchased and limited to active recreational purposes within one year of substantive certification;

2. Sites excluded pursuant to (d)7 above are not purchased and limited to conservation, parklands or open space within one year of substantive certification; or

3. Sites excluded pursuant to (d)7 above no longer serve the purposes of conservation, parklands or open space and subsequently become available for residential or nonresidential development.

5:97-5.3 Unmet need

(a) All components designed to address unmet need as part of a municipality's prior round certification or judgment of compliance shall continue in full force (for example, overlay zoning shall be retained). Any affordable housing units created thereunder shall be credited toward unmet need until such time as the municipality has provided for its entire unmet need. During the Council's review of the municipality's petition for substantive certification, the Council shall review the municipality's mechanisms to address unmet need and may require the municipality to amend or add additional mechanisms in accordance with (b) below.

(b) If the municipality has an unmet need, the Council shall review the existing municipal land use map and inventory pursuant to N.J.A.C. 5:97-5.2(c)6 for areas that may develop or redevelop. After such an analysis, the Council may require one or any combination of the following in an effort to address the unmet need:

1. Zoning amendments that permit apartments or accessory apartments in accordance with N.J.A.C. 5:97-6.8;

2. A market to affordable program in accordance with N.J.A.C. 5:97-6.9;

3. Overlay zoning requiring inclusionary development in accordance with N.J.A.C. 5:97-6.4. In approving an overlay zone, the Council may allow the existing use to continue and expand as a conforming use, but provide that when the prior use on the site is changed, the site shall produce low and moderate income housing;

4. A redevelopment area that includes affordable housing pursuant N.J.A.C. 5:97-6.6, utilizing the standards in N.J.A.C. 5:97-6.4(b);

5. The adoption of a development fee ordinance pursuant to N.J.A.C. 5:97-8.3 and a plan for the use of development fees pursuant to N.J.A.C. 5:97-8.10; and/or

6. Age-restricted units and RCAs may be applied to unmet need subject to the formulas in N.J.A.C. 5:97-3, except that age-restricted units to address unmet need that were included in the municipality's prior round certification or judgment and are constructed or have municipal approvals at the time of the municipality's petition are not subject to the formulas in N.J.A.C. 5:97-3.

(c) No bonuses shall be provided for mechanisms used to address unmet need.

5:97-5.4 Durational adjustment

(a) A municipality may request a durational adjustment for a site addressing its prior round obligation for the first time in accordance with (e) through (h) below.

(b) A durational adjustment that was granted as part of second round certification or judgment of compliance for a site that remains un-built shall be reevaluated by the Council at the time the municipality petitions to determine if the site continues to present a realistic opportunity for the construction of affordable housing, which includes an analysis of the availability of infrastructure, pursuant to N.J.A.C. 5:97-6.5.

(c) If the Council approves the continued imposition of a durational adjustment, the municipality may continue to rely on the site that received the adjustment in addressing its prior round obligation provided it has implemented all the terms of the substantive certification or the judgment of compliance. All components of said certification or judgment that are designed to assure affordable housing development on the site(s) affected by the durational adjustment shall continue in full force and any affordable housing units created hereunder shall be credited toward the municipality's prior round obligation until such time as the municipality has provided for its entire prior round obligation associated with the affected site(s), prior to being used to address the growth share obligation.

(d) If the Council finds that the site no longer presents a realistic opportunity or that the site can realistically accommodate a lower number of units than proposed in the previous Fair Share Plan, the municipality may be required to repetition in accordance with N.J.A.C. 5:96-3.4 to replace the site or address the shortfall.

(e) When a municipality has sufficient land, but insufficient water and/or sewer to support inclusionary development, the municipality shall be responsible for demonstrating that the municipal response to its housing obligation is limited by the lack of water and/or sewer capacity.

(f) The Council shall review each site proposed for inclusionary development to determine if it is realistic for the site to receive the required water and/or sewer during the period of substantive certification. The Council shall require sufficient information to determine the site's prospects of receiving infrastructure, and the site's prospects of inclusion in an areawide water quality management plan amendment (including the wastewater management plan, developed in accordance with the rules of the DEP). If the site had been zoned for inclusionary development, the Council shall consider how long the site had been zoned and if the developer had filed a development application.

(g) The Council shall require the site(s) to be zoned for inclusionary development, or, if the site(s) had already been zoned for inclusionary development, the Council shall require the continuation of that zoning.

(h) The lack of adequate capacity, in and of itself, shall constitute a durational adjustment of the prior round obligation. The requirement to address the portion of the prior round obligation with such site(s) shall be deferred until adequate water and/or sewer are made available. In order to provide water and/or sewer on sites the Council determines are realistic for inclusionary development, municipalities shall adhere to the following:

1. Notwithstanding the lack of adequate water and/or sewer at the time a municipality petitions for substantive certification, the municipality shall reserve and set aside new water and/or sewer capacity, when it becomes available, for low- and moderate-income housing, on a priority basis;

2. Municipalities shall endorse all applications to the DEP or its agent to provide water and/or sewer capacity. Such endorsements shall be simultaneously submitted to the Council;

3. Where the DEP or its designated agent approves a proposal to provide infrastructure to a site for the development of low- and moderate-income housing identified in the Fair Share Plan, the municipality shall permit such development; and

4. Where a municipality has designated site(s) for low- and moderate-income housing that lack adequate water and/or sewer and where the DEP or its designated agent approves a proposal to provide water and/or sewer to a site other than those designated for the development of low- and moderate-income housing in the Fair Share Plan, the municipality shall amend its Housing Element and Fair Share Plan and applicable zoning ordinances to permit development of such site for low- and moderate-income housing. The amended Housing Element and Fair Share Plan and zoning ordinances shall be submitted to the Council within 90 days of the site's approval by the DEP or its agent. The Council may waive these requirements when it determines that the municipality has a plan that will provide water and/or sewer to sufficient sites to address the prior round obligation within the substantive certification period.

5:97-5.5 20 percent cap

(a) A cap of 20 percent of the occupied housing stock (community capacity at the time the municipality requests the 20 percent cap for the first time) cannot be exceeded by a municipality's prior round affordable housing obligation. This is based on the premise that if the affordable housing was provided as a 20-percent set-aside of inclusionary housing, and if the planned affordable housing was more than 20 percent of units then the new affordable housing and accompanying market units would exceed the number of existing housing units in the community.

(b) An adjustment based on the 20 percent cap which was granted as part of a second round certification or judgment of compliance shall continue to be valid.

(c) Community capacity is determined by multiplying the occupied housing in the municipality at the time the municipality requests the 20 percent cap for the first time by 0.20 and comparing this to the municipal prior round affordable housing obligation.

1. If the community capacity is larger than the municipal prior round affordable housing obligation, the 20 percent cap is zero.

2. If community capacity is smaller than the municipal prior round affordable housing obligation, the difference between community capacity and the municipal prior round affordable housing obligation is the adjustment based on the 20 percent cap.

Johnsonville's Occupied Housing Units	X	20 Percent	=	Community Capacity
80	X	0.20	=	16
Municipal Prior Round Affordable Housing Obligation	-	Community Capacity	=	Adjustment based on 20 Percent Cap
30	-	16	=	14

5:97-5.6 Adjustment of household and employment growth projections

(a) A municipality may request an adjustment to its household and employment projections provided in chapter Appendix F utilized to project the municipal growth share obligation, based on an analysis of existing land capacity. In reviewing the request, the Council shall consider both residential and non-residential land capacity regardless of the adjustment sought. The municipality may request the Council's review of its adjustment prior to submitting its petition for substantive certification.

(b) The municipality shall first measure its actual residential and non-residential growth from January 1, 2004 to the date of petition using the procedures in N.J.A.C. 5:97-2.5 and then subtract housing units created by actual residential growth from the household projection and jobs generated from actual non-residential growth (based on an application of the conversion factors in chapter Appendix D to certificates of occupancy issued) from the employment projection in Appendix F. An adjustment may only be sought against the remaining portion of the projections.

(c) The municipality shall submit the information required by N.J.A.C. 5:97-5.2(c) and (d), but may not exclude sites pursuant to N.J.A.C. 5:97-5.2(d)2. If the municipality was previously granted or is requesting a vacant land adjustment pursuant to N.J.A.C. 5:97-5.1, sites utilized to determine the RDP shall be excluded from the inventory.

(d) The Council shall review the adjustment request pursuant to the procedures in N.J.A.C. 5:97-5.2(e) through (g). The Council shall consider sites, or parts thereof, not specifically eliminated from the inventory, for development.

(e) Excluding sites pursuant to (c) above, all sites not considered suitable for residential development shall be considered suitable for non-residential development. The Council shall consider the character of the area surrounding each site in establishing densities for each site, or part thereof, remaining in the inventory. The Council shall also rely on the appropriate regulating agency's regulations regarding development capacity of the site, including the density. The minimum presumptive density shall be six units per acre for residential sites and 45 jobs per acre for non-residential sites.

(f) These adjusted housing and employment growth projections shall be added back to the actual growth for the period January 1, 2004 to the date of petition. If the result exceeds the growth projections shown in Appendix F, no change will be made to the projections utilized for the purpose of projecting the growth share obligation pursuant to N.J.A.C. 5:97-2.4. If the result is less than the growth projections shown in Appendix F by greater than 10 percent, the projections utilized for the purpose of projecting the growth share obligation pursuant to N.J.A.C. 5:97-2.4 may be adjusted downward. However, the municipality shall not apply the adjustment to its actual growth share obligation measured pursuant to N.J.A.C. 5:97-2.5. If the actual growth share obligation is less than the adjusted projected growth share obligation, the municipality shall continue to provide a realistic opportunity for affordable housing to address the adjusted projected growth share.

Example: Johnsonville Borough has five sites that are suitable for development, totaling 20 acres. Two of the sites are not suitable for residential development. Two of the residential sites may accommodate eight units per acre and one may accommodate six units per acre. Both non-residential sites may accommodate 45 jobs per acre. The resulting

household projection is 103 units and the employment projection is 315 jobs.

Household Adjustment				
8 acres	X	8 units/acre	=	64
4.5 acres	X	8 units/acre	=	36
0.5 acre	X	6 units/acre	=	3
		TOTAL	=	103
Employment Adjustment				
4 acres	X	45 jobs/acre	=	180
3 acres	X	45 jobs/acre	=	135
		TOTAL	=	315

When added to the Borough's actual growth of 31 units, the projected household growth through 2018 is 134 units. The total jobs resulting from the square footage of actual non-residential development to date is 65, resulting in projected employment growth through 2018 of 380 jobs.

(g) Municipalities that request an adjustment to household and employment growth projections shall evaluate the existing municipal land use map and inventory for areas that may develop or redevelop to identify additional opportunities to accommodate growth and corresponding affordable housing. In response to the municipal evaluation, the Council may require one or any combination of the following:

1. Zoning amendments that permit apartments or accessory apartments in accordance with N.J.A.C. 5:97-6.8;

2. A market to affordable program in accordance with N.J.A.C. 5:97-6.9;

3. Overlay zoning requiring inclusionary development in accordance with N.J.A.C. 5:97-6.4. In approving an overlay zone, the Council may allow the existing use to continue and expand as a conforming use, but provide that where the prior use on the site is changed, the site shall produce low and moderate income housing;

4. A redevelopment area that includes affordable housing pursuant N.J.A.C. 5:97-6.6, utilizing the standards in N.J.A.C. 5:97-6.4(b); and/or

5. The adoption of a development fee ordinance pursuant to N.J.A.C. 5:97-8.3 and a plan for the use of development fees pursuant to N.J.A.C. 5:97-8.10.

(h) If upon plan evaluation review pursuant to N.J.A.C. 5:96-10, the difference between the number of affordable units constructed or provided in a municipality and the number of units required pursuant to N.J.A.C. 5:97-2.5 results in a pro-rated production shortage of 10 percent or greater or the mechanisms addressing the projected growth share obligation no longer present a realistic opportunity for the creation of affordable housing, the Council may direct the municipality to amend its plan in conformance with N.J.A.C. 5:96-14 to address the affordable housing obligation set forth in N.J.A.C. 5:97-2.5.

SUBCHAPTER 6. MECHANISMS FOR ADDRESSING THE FAIR SHARE OBLIGATION

5:97-6.1 General

Subject to the formulas established in N.J.A.C. 5:97-3, a municipality may implement the mechanisms contained in this subchapter for the purpose of addressing any portion of its fair share obligation.

5:97-6.2 Rehabilitation

(a) The purpose of a rehabilitation program is to renovate deficient housing units that are occupied by low- and moderate-income households.

(b) The following provisions shall apply to a rehabilitation program:

1. Upon rehabilitation, housing deficiencies shall be corrected and the unit shall comply with the New Jersey State Housing Code, N.J.A.C. 5:28. For construction projects that require the issuance of a construction permit pursuant to the Uniform Construction Code, the unit must also comply with the requirements of the Rehabilitation Subcode, N.J.A.C. 5:23-6. In these instances, the more restrictive requirements of the New Jersey State Housing Code or the Rehabilitation Subcode shall apply. For projects that require construction permits, the rehabilitated unit shall be considered complete at the date of final approval pursuant to the Uniform Construction Code.

2. Municipal rehabilitation investment for hard costs shall average at least $10,000 per unit, and include the rehabilitation of a major system. If the rehabilitation program is funded by an affordable housing trust fund, administrative costs shall be limited by the provisions of N.J.A.C. 5:97-8.9.

3. Municipalities shall provide sufficient dollars to fund no less than half of the municipal rehabilitation component by the mid-point of substantive certification.

4. Financing of rehabilitation programs shall be structured to encourage rehabilitation and continued occupancy. Low interest rates and forgivable loans are encouraged. Leveraging of private financing is also encouraged if the result is low interest loans that encourage rehabilitation. If an owner-occupied housing unit is sold prior to the end of the controls on affordability, at least part of the loan shall be recaptured and used to rehabilitate another housing unit, unless the unit is sold to a low- or moderate-income household at an affordable price pursuant to N.J.A.C. 5:97-9.

5. If the municipality structures a loan program to recapture funds, recaptured funds shall be deposited into an affordable housing trust fund pursuant to N.J.A.C. 5:97-8.6 and subject to the provisions thereof.

6. A municipal rehabilitation program shall provide for the rehabilitation of rental units. If a municipality partici-

pates in a County rehabilitation program that is solely for owner occupied units, the municipality shall establish a rehabilitation program for rental units.

(c) Units in a rehabilitation program shall be exempt from N.J.A.C. 5:97-9 and UHAC, but shall be administered in accordance with the following:

1. For owner-occupied units, the controls on affordability shall be for a minimum of 10 years and may be in the form of a lien recorded with the county clerk.

2. For rental units, the controls on affordability shall be for a minimum of 10 years and in the form of a deed restriction and may also include a lien, each recorded with the county clerk.

i. If a unit is vacant, upon initial rental subsequent to rehabilitation, or if a renter-occupied unit is re-rented prior to the end of controls on affordability, the deed restriction shall require the unit to be rented to a low- or moderate-income household at an affordable rent and affirmatively marketed pursuant to N.J.A.C. 5:97-9 and UHAC.

ii. If a unit is renter-occupied, upon completion of the rehabilitation, the maximum rate of rent shall be the lesser of the current rent or the maximum permitted rent pursuant to N.J.A.C. 5:97-9 and UHAC.

iii. Rents in rehabilitated units may increase annually based on the standards in N.J.A.C. 5:97-9.

3. Applicant and/or tenant households shall be certified as income-eligible in accordance with N.J.A.C. 5:97-9 and UHAC, except that households in owner-occupied units shall be exempt from the regional asset limit.

4. The municipality shall demonstrate the capability to administer the program by designating an experienced administrative agent in accordance with N.J.A.C. 5:96-18.

(d) The following minimum documentation, as detailed further in a checklist provided by the Council, shall be submitted by the municipality with its petition for substantive certification:

1. Information regarding the rehabilitation program on forms provided by the Council;

2. Documentation demonstrating the source(s) of funding;

3. A municipal resolution appropriating funds or a resolution of intent to bond in the event of a shortfall of funds; and

4. A schedule illustrating how the rehabilitation share shall be addressed within the period of substantive certification;

(e) The following minimum documentation, as detailed further in a checklist provided by the Council, shall be submitted by the municipality prior to the grant of substantive certification:

1. A draft or adopted rehabilitation manual that includes a description of the program procedures and administration in accordance with this section;

2. An affirmative marketing plan for the re-rental of rehabilitated rental units, in accordance with UHAC; and

3. Designation of an experienced administrative agent, including a statement of his or her qualifications, in accordance with N.J.A.C. 5:96-18.

(f) The administrator of the rehabilitation program shall maintain files on each program applicant. The files may be used in responding to monitoring requests and periodic programmatic and fiscal audits conducted by the Council, and to protect the municipality against charges of irregularity. The files shall include, at a minimum:

1. An application, including the name and address of each applicant;

2. If the applicant is not approved, the reasons for the disapproval; and

3. If the applicant is approved:

i. Proof of income eligibility;

ii. A copy of the deed of the property to be rehabilitated;

iii. Proof of homeowner insurance;

iv. Proof that the applicant's income is sufficient to meet the carrying costs of the unit;

v. Proof that the municipal lien plus the total of other liens does not exceed the market value of the unit;

vi. The initial inspection by the building inspector, demonstrating that the structure is a deficient unit;

vii. The work write-up and cost estimate;

viii. Bids by contractors, a minimum of three bids;

ix. The final contract to do the work;

x. The payment schedule;

xi. Progress inspections and reports;

xii. Change orders;

xiii. A copy of the final inspection;

xiv. The lien and/or deed on the property; and

xv. A copy of the mortgage note.

5:97-6.3 ECHO units

(a) ECHO units are modular, self-contained units erected on sites containing an existing dwelling, which may only address a municipality's rehabilitation share.

(b) The following provisions shall apply to ECHO units:

1. The municipality may purchase or lease the ECHO housing.

2. No more than 10 ECHO units may be used to address a municipality's rehabilitation share.

(c) ECHO units shall be exempt from N.J.A.C. 5:97-9 and UHAC, but shall be administered in accordance with the following:

1. The units shall remain affordable for a minimum of 10 years;

2. If a unit is vacated within the 10-year period, it shall be moved to another site for an eligible household;

3. Households occupying the ECHO units shall be certified as income-eligible in accordance with N.J.A.C. 5:97-9 and UHAC;

4. Rents shall be established and may increase annually based on the standards in N.J.A.C. 5:97-9 and UHAC; and

5. The municipality shall demonstrate the capability to administer the program by designating an experienced administrative agent in accordance with N.J.A.C. 5:96-18.

(d) The following minimum documentation, as detailed further in a checklist provided by the Council, shall be submitted by the municipality with its petition for substantive certification:

1. Documentation demonstrating the source(s) of funding; and

2. A municipal resolution appropriating funds or a resolution of intent to bond in the event of a shortfall of funds.

(e) The following minimum documentation, as detailed further in a checklist provided by the Council, shall be submitted by the municipality prior to the grant of substantive certification:

1. A draft or adopted operating manual that includes a description of the program procedures and administration in accordance with this section; and

2. Designation of an experienced administrative agent, including a statement of his/her qualifications, in accordance with N.J.A.C. 5:96-18.

5:97-6.4 Zoning for inclusionary development

(a) Affordable housing units proposed through inclusionary development shall be provided through zoning for development that includes a financial incentive to produce the affordable housing, including but not limited to increased densities and reduced costs to the developer. Inclusionary zoning may apply to all or some zones or sites within the municipality.

(b) The following provisions shall apply to each site or zone proposed for inclusionary development:

1. All sites shall meet the site suitability criteria set forth in N.J.A.C. 5:97-3.13;

2. Inclusionary zoning shall ensure sufficient incentives for the provision of affordable housing. The Council shall generally accept such zoning as providing a realistic opportunity for the creation of affordable housing when at least one of the following conditions are met:

i. The zoning provides one additional market rate unit for every affordable unit required on-site. The affordable requirement shall be calculated on the pre-existing zoning.

Example: Current zoning provides for half-acre zoning on a 50-acre tract. The municipality may require 20 percent, or 20 units, of the zone to be affordable provided that 20 additional market rate units are permitted. The site would then produce 120 units, 20 of which are affordable. Twenty of the market rate units are exempt from the municipality's growth share obligation pursuant to N.J.A.C. 5:97-2.5;

ii. The municipality has submitted a fully executed agreement between the municipality and the developer or redeveloper or a planning board resolution approving the development and setting forth mutually agreed to terms for the production of the required affordable housing; or

iii. The site or district was zoned on or before June 2, 2008 with an increase in density to produce affordable housing at a minimum gross density of six units per acre with a 20 percent set-aside, a gross density of five units per acre with a 17.5 percent set-aside, a gross density of four units per acre with a 15 percent set-aside for single family detached units, or a gross density of 10 units per acre with a 15 percent set-aside for rental housing;

3. If the zoning on a site has changed subsequent to December 17, 2007, the density for the purposes of calculating the additional number of units shall be the higher of the current density permitted or the density permitted on December 17, 2007;

4. The zoning shall include at least one or more additional incentives. Such incentives include, but are not limited to, allowing alternate structure types (for example, duplex), reductions in parking standards, relief from regulatory requirements that result in cost reductions, waived or reduced fees, tax abatements and/or direct financial aid in the form of a loan or grant to subsidize affordable housing production.

5. Municipalities shall also evaluate the zoning to determine whether reduced setbacks, height and/or stories requirements, lot widths and/or lot sizes are necessary to accommodate the additional number of units pursuant to N.J.A.C. 5:97-10;

6. Incentives to subsidize the creation of affordable housing available to very-low income households may be included in a developers or redevelopers agreement;

7. Inclusionary zoning may be established to encourage the production of affordable rental units by providing the option for the site to be developed as sale or rental housing with a density increase if the developer chooses to build rental housing on-site. The use of this provision shall not entitle any developer to construct fewer affordable units than required prior to the application of any such additional density increase. The Council shall generally accept such zoning as providing a realistic opportunity for the creation of affordable rental housing when at least one of the following conditions are met:

i. The zoning permits a minimum of ten units per acre and provides a density increase greater than the requirements in (b)2 above; or

ii. A fully executed agreement between the municipality and the developer or a planning board resolution approving the development and setting forth mutually agreed to terms for the production of a specified number of affordable rental units has been included with the fair share plan;

8. Inclusionary zoning ordinances shall contain a development size threshold below which affordable units shall not be required. Such a threshold shall be based on whether or not the density and set-aside required by the zoning ordinance could result in the provision of at least one affordable unit on-site, for example, the individual parcel would accommodate less than five dwelling units where the zoning requires a 20 percent set-aside. Sites falling below such threshold shall not be required to provide affordable housing or make a payment in lieu pursuant to (c) below. However, the ordinance may require the payment of a development fee pursuant to N.J.A.C. 5:97-8.3;

9. Zoning in non-residential districts shall provide an increase in permitted floor area with proportional increases in allowable height and/or impervious coverage to offset the cost of any affordable housing requirements;

10. Inclusionary zoning in mixed use districts shall incorporate residential density increases and affordable set asides based on the standards set forth in (b)3 through 5 above and/or shall provide an increase in permitted floor area with proportional increases in allowable height and/or impervious coverage to offset the cost of any on-site affordable housing requirements. Mixed use zoning ordinances shall permit both residential density increase and non-residential floor area increase options at the developer's discretion to be exercised at the beginning of the development approval process; and

11. Inclusionary zoning ordinances shall include a provision for developers to appeal the economic feasibility of such zoning to demonstrate that the increased densities and/or reduced costs do not provide an appropriate level of compensation commensurate with the amount of affordable housing required.

(c) Inclusionary zoning ordinances shall require developers to construct the required affordable units on site. Alternatively, the ordinance may allow the developer the option of providing the units elsewhere in the municipality or making a payment in lieu of providing the whole or fractional affordable units required by the zoning, subject to the following:

1. The zoning ordinance shall offer a reduced financial incentive if the payment in lieu option is exercised or the developer provides the affordable units elsewhere in the municipality, equal to an additional one-half market rate unit for every affordable unit required. The affordable requirement shall be calculated on the pre-existing zoning.

2. Payments in lieu of constructing affordable units may represent fractional affordable units provided a corresponding fractional compensatory benefit has also been provided. The affordable housing requirement shall not be rounded.

3. Municipalities may include specific criteria to be met for the development to be eligible to make a payment in lieu. Examples of such criteria include, but are not limited to, minimum development size thresholds or overriding environmental or site configuration concerns. Developments meeting the criteria established by ordinance shall, at the developer's option, be eligible to make payments in lieu of constructing affordable units.

4. If the zoning ordinance allows the developer exercising the option of a payment in lieu to retain the increased number of units permitted by replacing affordable units not constructed on site with market-rate units, all additional market-rate units shall generate a growth share obligation pursuant to N.J.A.C. 5:97-2.5.

5. The amount of payments in lieu of constructing affordable units on site shall be established by ordinance and based on the cost of constructing new residential units pursuant to this section. The cost of constructing new residential units includes the sum of development hard costs, related soft costs and developer's fees pursuant to the cost containment provisions of N.J.A.C. 5:43-2.4(a)1 through 6 and land costs equal to 25 percent of the first quartile of new construction costs as reported to the Homeowner Warranty Program. These costs are totaled by region to reflect average construction costs. Offsetting proceeds anticipated from the sale of the unit or the capitalization of rental income may be updated and published by the Council periodically. The initial determination of these costs is as follows:

COAH Region	1st Quartile	Land Costs	Construction Costs	Total Cost	Affordable Price	Subsidy Required/ Payment in Lieu Amount
1	$330,000	$82,500	$165,798	$267,332	$87,065	$180,267
2	$255,000	$63,750	$163,206	$244,491	$95,808	$148,683
3	$381,966	$95,492	$141,258	$256,824	$110,921	$145,903
4	$343,725	$85,931	$140,697	$245,937	$93,710	$152,227
5	$257,790	$64,448	$152,835	$237,471	$79,784	$156,089
6	$264,690	$66,173	$167,262	$251,163	$68,304	$182,859

6. Payments in lieu of constructing affordable units shall be deposited into an affordable housing trust fund pursuant to N.J.A.C. 5:97-8.4 and subject to the provisions thereof.

7. Payments in lieu of constructing affordable housing shall not be permitted where affordable housing is not required. Zoning that does not require an affordable housing set-aside or payment in lieu may be subject to a development fee ordinance pursuant to N.J.A.C. 5:97-8.3.

(d) Inclusionary zoning ordinances shall require affordable housing units to be built in accordance with the following schedule:

Percentage of Market-rate Units Completed	Minimum Percentage of Low- and Moderate-Income Units Completed
25	0
25 + 1 unit	10
50	50
75	75
90	100

(e) The Council encourages the design of inclusionary and mixed-use developments providing affordable housing to be in conformance with the general policies and implementation mechanisms regarding design in the State Development and Redevelopment Plan.

(f) Inclusionary zoning ordinances shall require, to the extent feasible, that developers fully integrate the low- and moderate-income units with the market units.

(g) Inclusionary zoning ordinances shall require that affordable units have access to all community amenities available to market-rate units that are subsidized in whole by association fees and utilize the same heating source as market units within the inclusionary development.

(h) Inclusionary zoning ordinances shall require that the first floor of all townhouse dwelling units and all other multistory dwelling units comply with N.J.A.C. 5:97-3.14.

(i) The affordable units shall comply with N.J.A.C. 5:97-9 and UHAC.

(j) The following minimum documentation, as detailed further in a checklist provided by the Council, shall be submitted with the municipality's petition for substantive certification:

1. Information regarding the development on forms provided by the Council;

2. The draft or adopted inclusionary zoning ordinance(s);

3. For site specific inclusionary zoning, a description of the site(s), including the street location, block and lot, and acreage;

4. For site specific inclusionary zoning, demonstration of the suitability of the site(s); and

5. Any agreements with developers or approvals for the development of specific property. The agreement or approval shall include specific language, addressing the following:

i. The number, tenure and type of units;

ii. Compliance with N.J.A.C. 5:97-9 and UHAC;

iii. Compliance with this subchapter; and

iv. The progress points at which the developer shall coordinate with the municipal housing liaison.

(k) The following documentation shall be submitted prior to marketing the completed units:

1. A draft or adopted operating manual that includes a description of the program procedures and administration in accordance with UHAC;

2. An affirmative marketing plan in accordance with UHAC; and

3. Designation of an experienced administrative agent, including a statement of his or her qualifications, in accordance with N.J.A.C. 5:96-18.

5:97-6.5 Status of sites addressing the 1987 through 1999 obligation

(a) A municipality that zoned one or more sites for inclusionary development to address the 1987 through 1999 housing obligation and included the site(s) in a previously certified fair share plan or judgment of compliance shall retain such zoning in the third round fair share plan if:

1. The Council determines that the site continues to present a realistic opportunity pursuant to (c) below; and

2. The site meets one of the following conditions:

i. The site was subject to an agreement pursuant to the Council's mediation process or part of a negotiated settlement in court; or

ii. The developer of the site has filed a development application with the municipality prior to the expiration of the second round substantive certification period or the municipal petition for substantive certification for the 1999 through 2018 period, whichever is later.

(b) Notwithstanding the provisions of (a) above, pursuant to N.J.S.A. 52:27-311(g), a municipality that has received substantive certification for the 1987 through 1999 period and which has effected the construction of its entire affordable housing obligation of that period may amend its fair share plan or zoning ordinances with respect to sites being used to address its 1987 through 1999 affordable housing obligation. Prior to amending the fair share plan or zoning ordinances, the municipality shall obtain a determination from the Council as to whether the municipality has effected construction of its entire affordable housing obligation. To make such a determination, the Council shall require the municipality to submit the filed deeds with the appropriate deed restrictions, certificates of occupancy for units constructed and evidence of the transfer of RCA funds, if applicable.

(c) A zoned but unbuilt site that was included in a housing element and fair share plan that received prior round substantive certification or a judgment of compliance shall be evaluated by the Council at the time the municipality petitions for the third round to determine if the site continues to present a realistic opportunity for the construction of affordable housing. The municipality shall submit all decisions on applications for development on any unbuilt sites included in the prior round certified fair share plan. In evaluating an unbuilt site, the Council shall consider whether the site meets the following criteria:

1. The site is a suitable site pursuant to N.J.A.C. 5:97-3.13;

2. Market conditions create a realistic opportunity for the affordable housing to be constructed; and

3. Zoning on the site has been adopted prior to the filing of a third round housing element and fair share plan.

(d) Sites that no longer present a realistic opportunity shall not be eligible to address a portion of the fair share obligation. If the Council determines that the site continues to present a realistic opportunity, but can realistically accommodate a lower number of units than proposed in the fair share plan, the municipality may continue to utilize the site, but at the lower number of units.

(e) Sites that address the prior round obligation and are found to present a realistic opportunity pursuant to the provisions above shall be reviewed during plan evaluation pursuant to N.J.A.C. 5:96-10. If a site has not developed, a municipality may be required to amend its plan to address the shortfall.

5:97-6.6 Redevelopment

(a) Affordable housing units proposed through the redevelopment process shall be provided pursuant to the Local Redevelopment and Housing Law, N.J.S.A 40A:12A-1 et seq.

(b) The following provisions shall apply to affordable housing units proposed in a redevelopment area:

1. All sites shall meet the site suitability criteria set forth in N.J.A.C. 5:97-3.13.

2. The municipality or redeveloper shall have control of the site. Redevelopment plans and redeveloper agreements that rely on the future use of eminent domain shall not be considered to have site control and affordable housing units within these plans shall not be eligible for use in satisfying the municipality's fair share obligation.

3. If the redevelopment area contains brownfields, the Council may require the municipality and the redeveloper to participate in OSG's Brownfield Redevelopment Interagency Team (BRIT) process.

4. The redevelopment agreement shall ensure compliance with N.J.A.C. 5:97-6.4(d) through (h).

(c) The units shall comply with N.J.A.C. 5:97-9 and UHAC.

(d) The following minimum documentation, as detailed further in a checklist provided by the Council, shall be submitted with the municipality's petition for substantive certification or in accordance with the municipality's implementation schedule pursuant to N.J.A.C. 5:97-3.2(a)4:

1. Information regarding the redevelopment area on forms provided by the Council;

2. A resolution adopted by the governing body designating the area in need of redevelopment;

3. Proof that the resolution designating the area in need of redevelopment has been approved by DCA;

4. A redevelopment plan adopted by the governing body which includes the requirements for affordable housing; and

5. A description of the site, including the street location, block and lot, and acreage.

(e) The following minimum documentation, as detailed further in a checklist provided by the Council, shall be submitted by the municipality prior to the grant of substantive certification or in accordance with the municipality's implementation schedule pursuant to N.J.A.C. 5:97-3.2(a)4:

1. A demonstration of the suitability of the site, or future suitability of the site if the redevelopment area contains brownfields, as evidenced by a dated copy of the Remedial Action Work Plan (RAWP) submitted for DEP review and approval. Once approved by DEP, the munici-

pality must provide the Council with evidence of the approved RAWP;

2. A demonstration that the municipality or redeveloper has control of the site. Control shall be in the form of outright ownership, a contract to purchase or an option on the property;

3. All agreements with redevelopers of the redevelopment area. A redeveloper's agreement that will result in the creation of affordable housing shall include the following:

i. A description of the number, tenure and type of units;

ii. A schedule for the overall redevelopment plan, including the phasing of residential development; and

iii. Compliance with N.J.A.C. 5:97-6.4(i) through (k); and

4. The current status of the municipality's Workable Relocation Assistance Program (WRAP), pursuant to N.J.S.A. 52:31B-1 et seq. and 20:3-1 et seq., if applicable.

(f) The following documentation shall be submitted prior to marketing the completed units:

1. A draft or adopted operating manual that includes a description of the program procedures and administration in accordance with UHAC;

2. An affirmative marketing plan in accordance with UHAC; and

3. Designation of an experienced administrative agent, including a statement of his or her qualifications, in accordance with N.J.A.C. 5:96-18.

5:97-6.7 Municipally sponsored and 100 percent affordable developments

(a) Municipally sponsored and 100 percent affordable developments include, but are not limited to:

1. Developments in which all units are available to low- and moderate-income households;

2. Units created through a municipal partnership with a non-profit or other affordable housing provider; and

3. Developments for which the municipality serves as the primary sponsor.

(b) The following provisions shall apply to municipally sponsored and 100 percent affordable developments:

1. All sites shall meet the site suitability criteria set forth in N.J.A.C. 5:97-3.13.

2. The municipality or developer/sponsor shall have control or the ability to control the site(s).

3. The construction schedule shall provide for construction to begin within two years of substantive certification or in accordance with the municipality's implementation schedule pursuant to N.J.A.C. 5:97-3.2(a)4.

4. The first floor of all townhouse dwelling units and of all other multistory dwelling units must comply with N.J.A.C. 5:97-3.14.

(c) The units shall comply with N.J.A.C. 5:97-9 and UHAC.

(d) The following minimum documentation, as detailed further in a checklist provided by the Council, shall be submitted with the municipality's petition for substantive certification or in accordance with the municipality's implementation schedule pursuant to N.J.A.C. 5:97-3.2(a)4:

1. Information regarding the development on forms provided by the Council;

2. A demonstration that the municipality or developer/sponsor has control or has the ability to control the site(s). Control may be in the form of outright ownership, a contract to purchase or an option on the property;

3. A description of the site, including the street location, block and lot, and acreage;

4. A demonstration of the suitability of the site;

5. A request for proposals (RFP) or executed agreement, including a schedule for the construction of the units, with the developer or sponsor;

6. A pro forma for the development; and

7. A municipal resolution appropriating funds or a resolution of intent to bond in the event of a shortfall of funds.

(e) The following documentation shall be submitted prior to marketing the completed units:

1. A draft or adopted operating manual that includes a description of the program procedures and administration in accordance with UHAC;

2. An affirmative marketing plan in accordance with UHAC; and

3. Designation of an experienced administrative agent, including a statement of his or her qualifications, in accordance with N.J.A.C. 5:96-18.

5:97-6.8 Accessory apartment program

(a) An accessory apartment program shall be established by ordinance to permit accessory apartments, provided the units are affordable to low- and moderate-income households. Subject to the provisions of (b)2 below, accessory apartment programs may be designed to produce only low-income units, only moderate-income units or both low- and moderate-income units.

(b) The following provisions shall apply to an accessory apartment program:

1. No more than 10 or an amount equal to 10 percent of the fair share obligation, whichever is greater, accessory apartments may be used to address the fair share obligation, unless the municipality has demonstrated a successful history of an accessory apartment program.

2. The municipality shall provide a minimum of $20,000 per unit to subsidize the creation of each moderate-income accessory apartment or $25,000 to subsidize the creation of each low-income accessory apartment. Subsidy may be used to fund actual construction costs and/or to provide compensation for reduced rental rates.

3. There shall be water and sewer infrastructure with sufficient capacity to serve the proposed accessory apartments.

(c) The units shall comply with N.J.A.C. 5:97-9 and UHAC with the following exceptions:

1. Control periods for rental units (N.J.A.C. 5:80-26.11(a)); accessory apartments may have 10-year controls on affordability;

2. Bedroom distribution (N.J.A.C. 5:80-26.3(b) and (c)); however, the ordinance shall not restrict the number of bedrooms per unit;

3. Low/moderate income split (N.J.A.C. 5:80-26.3(a)); subject to the provisions of (b)2 above, accessory apartments shall be exempt from the requirement that at least 50 percent of the units created shall be affordable to households earning 50 percent or less of regional median income. In programs limited only to moderate-income households, an equivalent number of housing units for low-income households shall be addressed through other mechanisms in the Fair Share Plan; and

4. Affordability average (N.J.A.C. 5:80-26.3(d) and (e)); however, the maximum rent for a moderate-income unit shall be affordable to households earning no more than 60 percent of median income and the maximum rent for a low-income unit shall be affordable to households earning no more than 44 percent of median income;

(d) The following minimum documentation, as detailed further in a checklist provided by the Council, shall be submitted by the municipality with its petition for substantive certification:

1. Information regarding the program on forms provided by the Council;

2. A draft or adopted accessory apartment ordinance;

3. Documentation demonstrating the source(s) of funding;

4. A municipal resolution appropriating funds or a resolution of intent to bond in the event of a shortfall of funds;

5. A demonstration that the housing stock lends itself to accessory apartments; and

6. A demonstration that there is water and sewer infrastructure with sufficient capacity to serve the proposed accessory apartments; where the proposed location of an accessory apartment is served by individual well and/or septic system, the municipality must show that the well and/or septic system meet the appropriate DEP standards and have sufficient capacity for the additional unit.

(e) The following minimum documentation, as detailed further in a checklist provided by the Council, shall be submitted by the municipality prior to the grant of substantive certification:

1. A draft or adopted operating manual that includes a description of the program procedures and administration in accordance with UHAC;

2. An affirmative marketing plan in accordance with UHAC; and

3. Designation of an experienced administrative agent, including a statement of his or her qualifications, in accordance with N.J.A.C. 5:96-18.

5:97-6.9 Market to affordable program

(a) A market to affordable program shall include units purchased or subsidized through a written agreement with the property owner and sold or rented to low- and moderate-income households. Subject to the provisions of (b)3 below, market to affordable programs may be designed to produce only low-income units, only moderate-income units or both low- and moderate-income units.

(b) The following provisions shall apply to market to affordable programs:

1. At the time they are offered for sale or rental, eligible units may be new, pre-owned or vacant.

2. The units shall be certified to be in sound condition as a result of an inspection performed by a licensed building inspector.

3. The municipality shall provide a minimum of $25,000 per unit to subsidize each moderate-income unit and/or $30,000 per unit to subsidize the each low-income unit, with additional subsidy depending on the market prices or rents in a municipality.

4. No more than 10 for-sale and 10 rental units may be used to address the fair share obligation, unless the municipality has demonstrated a successful history of a market to affordable program.

(c) The units shall comply with N.J.A.C. 5:97-9 and UHAC with the following exceptions:

1. Bedroom distribution (N.J.A.C. 5:80-26.3(b) and (c)); however, the ordinance shall not restrict the number of bedrooms per unit;

2. Low/moderate income split (N.J.A.C. 5:80-26.3(a)); subject to the provisions of (a) above, units in a market to affordable program shall be exempt from the requirement that at least 50 percent of the units created shall be affordable to households earning 50 percent or less of regional median income. In programs limited only to moderate-income households, an equivalent number of housing units for low-income households shall be addressed through other mechanisms in the Fair Share Plan; and

3. Affordability average (N.J.A.C. 5:80-26.3(d) and (e)); however:

i. The maximum rent for a moderate-income unit shall be affordable to households earning no more than 60 percent of median income and the maximum rent for a low-income unit shall be affordable to households earning no more than 44 percent of median income; and

ii. The maximum sales price for a moderate-income unit shall be affordable to households earning no more than 70 percent of median income and the maximum sales price for a low-income unit shall be affordable to households earning no more than 40 percent of median income.

(d) The following minimum documentation, as detailed further in a checklist provided by the Council, shall be submitted by the municipality with its petition for substantive certification:

1. Information regarding the program on forms provided by the Council;

2. A demonstration that there are sufficient market-rate units within the municipality, as documented by the multiple listing service;

3. An estimate, based on (d)2 above, of the amount required to subsidize typical for-sale and/or rental units, including any anticipated rehabilitation costs;

4. Documentation demonstrating the source(s) of funding; and

5. A municipal resolution appropriating funds or a resolution of intent to bond in the event of a shortfall of funds.

(e) The following minimum documentation, as detailed further in a checklist provided by the Council, shall be submitted by the municipality prior to the grant of substantive certification:

1. A draft or adopted operating manual that includes a description of the program procedures and administration in accordance with UHAC;

2. An affirmative marketing plan in accordance with UHAC; and

3. Designation of an experienced administrative agent, including a statement of his or her qualifications, in accordance with N.J.A.C. 5:96-18.

5:97-6.10 Supportive and special needs housing

(a) Supportive and special needs housing includes, but is not limited to: residential health care facilities as regulated by the New Jersey Department of Health and Senior Services or DCA; group homes for the developmentally disabled and mentally ill as licensed and/or regulated by the New Jersey Department of Human Services; permanent supportive housing; and supportive shared living housing. Long term health care facilities including nursing homes, and Class A, B, C, D, and E boarding homes do not qualify as supportive and special needs housing.

(b) The following provisions shall apply to supportive and special needs housing:

1. The unit of credit for group homes, residential health care facilities, and shared living housing shall be the bedroom.

2. The unit of credit for permanent supportive housing shall be the unit.

3. Supportive and special needs housing that is age-restricted shall be included with the maximum number of units that may be age-restricted pursuant to N.J.A.C. 5:97-3.8.

4. All bedrooms and/or units shall be affordable to low-income households.

5. Units shall serve populations 18 and over.

6. All sites for supportive and special needs housing shall meet the site suitability criteria set forth in N.J.A.C. 5:97-3.13.

7. The municipality or developer/sponsor shall have control or the ability to control the site(s).

(c) The units shall comply with N.J.A.C. 5:97-9 and UHAC with the following exceptions:

1. Affirmative marketing (N.J.A.C. 5:80-26.15); however, group homes, permanent supportive housing and supportive shared living housing shall be affirmatively marketed to individuals with special needs in accordance with a plan approved by the Council's Executive Director;

2. Affordability average and bedroom distribution (N.J.A.C. 5:80-26.3); and

3. Occupancy standards (N.J.A.C. 5:80-26.4(c)) shall be limited to one person per bedroom for residential health care facilities, group homes, and supportive shared living housing.

(d) The following minimum documentation, as detailed further in a checklist provided by the Council, shall be submitted by the municipality with its petition for substantive certification or in accordance with the municipality's implementation schedule pursuant to N.J.A.C. 5:97-3.2(a)4:

1. Information regarding the supportive and/or special needs housing on forms provided by the Council;

2. A description of the site, including the street location, block and lot, and acreage;

3. A demonstration of the suitability of the site;

4. A demonstration that the municipality or provider has control or has the ability to control the site(s); control may be in the form of outright ownership, a contract to purchase or an option on the property;

5. An executed agreement, including a schedule for the construction of the supportive and/or special needs housing, with the provider, sponsor or developer;

6. A pro forma for the supportive and/or special needs housing;

7. Documentation demonstrating the source(s) of funding; and

8. A municipal resolution appropriating funds or a resolution of intent to bond in the event of a shortfall of funds.

(e) The following documentation shall be submitted prior to marketing the completed units:

1. An affirmative marketing plan in accordance with (c)1 above; and

2. If applicable, proof that the supportive and/or special needs housing is regulated by the New Jersey Department of Health and Senior Services, the New Jersey Department of Human Services or another State agency in accordance with the requirements of this section, which includes validation of the number of bedrooms or units in which low- or moderate-income occupants reside.

5:97-6.11 Assisted living residence

(a) An assisted living residence is a facility licensed by the New Jersey Department of Health and Senior Services to provide apartment-style housing and congregate dining and to assure that assisted living services are available. All or a designated number of apartments in the facility shall be restricted to low- and moderate-income households.

(b) The following provisions shall apply to assisted living residences:

1. The unit of credit shall be the apartment. However, a two-bedroom apartment shall be eligible for two units of credit if it is restricted to two unrelated individuals.

2. A recipient of a Medicaid waiver shall automatically qualify as a low- or moderate-income household.

3. Assisted living units are considered age-restricted housing in a Fair Share Plan and shall be included with the maximum number of units that may be age-restricted pursuant to N.J.A.C. 5:97-3.8.

4. The municipality shall execute a memorandum of understanding with the Agency.

5. Low- and moderate-income residents cannot be charged any upfront fees.

6. All sites for assisted living residences shall meet the site suitability criteria set forth in N.J.A.C. 5:97-3.13.

7. The municipality or developer/sponsor shall have control or the ability to control the site(s).

(c) The units shall comply with N.J.A.C. 5:97-9 and UHAC with the following exceptions:

1. Affirmative marketing (N.J.A.C. 5:80-26.15); however, the units shall be affirmatively marketed to individuals with special needs in accordance with a plan approved by the Council's Executive Director;

2. The deed restriction may be on the facility, rather than individual apartments or rooms;

3. Low/moderate income split and affordability average (N.J.A.C. 5:80-26.3(a), (d) and (e)); only if all of the affordable units are affordable to households at a maximum of 60 percent of median income; and

4. Tenant income eligibility (N.J.A.C. 5:80-26.13(b)); up to 80 percent of an applicant's gross income may be used for rent, food and services based on occupancy type and the affordable unit must receive the same basic services as required by the Agency's underwriting guidelines and financing policies. The cost of non-housing related services shall not exceed one and two-thirds times the rent established for each unit.

(d) The following minimum documentation, as detailed further in a checklist provided by the Council, shall be submitted by the municipality with its petition for substantive certification or in accordance with the municipality's implementation schedule pursuant to N.J.A.C. 5:97-3.2(a)4:

1. Information regarding the facility on forms provided by the Council;

2. A description of the site, including the street location, block and lot, and acreage;

3. A demonstration that the municipality or provider has control or has the ability to control the site(s); control

shall be in the form of outright ownership, a contract to purchase or an option on the property;

4. A demonstration of the suitability of the site;

5. An executed agreement, including a schedule for the construction of the assisted living residence, with the provider, sponsor or developer;

6. A pro forma for the facility;

7. Documentation demonstrating the source(s) of funding; and

8. A municipal resolution appropriating funds or a resolution of intent to bond in the event of a shortfall of funds.

(e) An executed Memorandum of Understanding with the Agency shall be submitted by the municipality prior to the grant of substantive certification or in accordance with the municipality's implementation schedule pursuant to N.J.A.C. 5:97-3.2(a)4.

5:97-6.12 Regional contribution agreement

(a) A municipality may transfer up to 50 percent of its prior round obligation and/or growth share obligation to another municipality by means of a contractual agreement in accordance with the formulas in N.J.A.C. 5:97-3 and the procedures set forth at N.J.A.C. 5:97-7.

(b) A municipality may not transfer any portion of its rehabilitation share.

(c) Previously approved RCAs shall be reviewed pursuant to the criteria set forth in N.J.A.C. 5:97-4.4.

5:97-6.13 Affordable housing partnership program

(a) An affordable housing partnership is a voluntary agreement by which two or more municipalities cooperate to build low- and moderate-income housing units.

(b) The following provisions shall apply to affordable housing partnership programs:

1. The municipalities shall be located within the same housing region.

2. Partnering municipalities may propose and shall meet the requirements of any affordable housing mechanism outlined in this subchapter, except for N.J.A.C. 5:97-6.2, 6.3 and 6.12.

3. The municipalities shall set forth the number of credits each municipality will be allotted. No credit shall be given to more than one municipality for the same unit.

4. Each municipality shall contribute resources, including, but not limited to, funding, sewer, water, and land.

5. Units constructed in another municipality shall fall within the maximum number of units permitted to be provided through an RCA, consistent with the provisions of N.J.A.C. 5:97-3.

(c) The units shall comply with N.J.A.C. 5:97-9 and UHAC, unless exempted pursuant to the applicable section of this subchapter for the proposed mechanism.

(d) The following minimum documentation, as detailed further in a checklist provided by the Council, shall be submitted by each municipality, as applicable, with its petition for substantive certification or in accordance with the municipality's implementation schedule pursuant to N.J.A.C. 5:97-3.2(a)4:

1. Information regarding the partnership program on forms provided by the Council;

2. A draft or executed agreement between all municipalities, which in addition to the requirements of (b)3 and 4 above, includes a schedule for the creation of the units and designation of the municipality responsible for monitoring the partnership program; and

3. All documentation required for the proposed mechanism, pursuant to the applicable section of this subchapter.

5:97-6.14 Extension of expiring controls

(a) A municipality may address a portion of its growth share obligation through the extension of affordability controls in accordance with N.J.A.C. 5:97-9 and UHAC, subject to the following:

1. The unit meets the criteria for prior-cycle or post-1986 credits set forth in N.J.A.C. 5:97-4.2 or 4.3;

2. The affordability controls for the unit are scheduled to expire during the 1999 through 2018 period;

3. The municipality shall obtain a continuing certificate of occupancy or a certified statement from the municipal building inspector stating that the restricted unit meets all code standards; and

4. If a unit requires repair and/or rehabilitation work in order to receive a continuing certificate of occupancy or certified statement from the municipal building inspector, the municipality shall fund and complete the work. A municipality may utilize its affordable housing trust fund to purchase the unit and/or complete the necessary repair and/or rehabilitation work.

(b) The following minimum documentation, as detailed further in a checklist provided by the Council, shall be submitted by each municipality, as applicable, with its petition for substantive certification or in accordance with the municipality's implementation schedule pursuant to N.J.A.C. 5:97-3.2(a)4:

1. Information regarding the development and specific units on forms provided by the Council;

2. A written commitment to extend controls from the owner, or evidence that the controls have been extended in accordance with UHAC;

3. The proposed or filed deed restriction for the extended control period;

4. A pro-forma for any proposed acquisition and/or rehabilitation costs;

5. Documentation demonstrating the source(s) of funding; and

6. A municipal resolution appropriating funds or a resolution of intent to bond in the event of a shortfall of funds.

(c) The following minimum documentation, as detailed further in a checklist provided by the Council, shall be submitted by the municipality prior to the grant of substantive certification or in accordance with the municipality's implementation schedule pursuant to N.J.A.C. 5:97-3.2(a)4:

1. A draft or adopted operating manual that includes a description of the program procedures and administration in accordance with UHAC;

2. An affirmative marketing plan in accordance with UHAC; and

3. Designation of an experienced administrative agent, including a statement of his or her qualifications, in accordance with N.J.A.C. 5:96-18.

5:97-6.15 Other innovative approaches

(a) A municipality may propose innovative programs or mechanisms, or any combination of mechanisms included in this subchapter, for the creation of affordable housing, provided that the following performance standards can be achieved and clearly demonstrated:

1. The units shall comply with N.J.A.C. 5:97-9 and UHAC;

2. All sites to be developed with new units shall meet the site suitability criteria set forth in N.J.A.C. 5:97-3.13;

3. Rehabilitated and converted units shall meet all local building codes;

4. The municipality shall demonstrate source(s) of funding; and

5. Units shall not be restricted to youth under 18 years of age.

SUBCHAPTER 7. REGIONAL CONTRIBUTION AGREEMENTS

5:97-7.1 General provisions

(a) A municipality that intends to enter into regional contribution agreements (RCAs) as a receiving municipality shall notify the Council of its interest and of any proposed conditions or requirements for its participation.

(b) The Council shall maintain current lists of municipalities which have notified it of the intent to enter into RCAs as receiving municipalities and shall provide copies of such lists to potential sending municipalities as requested.

(c) A municipality that is a defendant in an exclusionary zoning lawsuit or that is under the jurisdiction of the court for its housing obligation may request permission from the court to fulfill a portion of its fair share obligation by entering into an RCA. Pursuant to the Act, the court shall request that the Council review and make a recommendation concerning the proposed RCA.

(d) The minimum per unit transfer amount for each housing region, which may be reconsidered by the Council periodically, shall be the following:

Housing Region	Amount Per Unit
1	$80,000
2	$67,000
3	$67,000
4	$70,000
5	$71,000
6	$80,000

(e) If resolutions of intent or a signed agreement were adopted by both the sending and receiving municipalities between December 20, 2004 and December 17, 2007, the per unit transfer amount may be less than the minimums in (d) above, but not less than $35,000 per unit, provided the project plan is feasible pursuant to N.J.A.C. 5:97-7.6. If resolutions of intent or a signed agreement were adopted by both municipalities on or before December 20, 2004, the per unit transfer amount may be less than the minimums in (d) above, but not less than $25,000 per unit, provided the project plan is feasible pursuant to N.J.A.C. 5:97-7.6. If the RCA resolutions or contracts are amended to add additional units after December 17, 2007, the additional units shall be transferred at the minimums in (d) above.

5:97-7.2 Submission requirements

(a) The sending municipality shall notify its county planning board of its intent to enter into an RCA prior to submission of its plan to the Council.

(b) Statements of intent shall be submitted at the time of petition or in accordance with the municipality's implementation schedule pursuant to N.J.A.C. 5:97-3.2(a)4 by the sending municipality and the receiving municipality and shall

be in the form of a duly adopted resolution. Resolutions of intent are not binding upon either municipality and shall not preclude a receiving municipality from negotiating with any other potential sending municipality or renegotiating the per unit transfer amount.

(c) A draft contractual agreement shall be submitted to the Council by the sending municipality at the time of petition or in accordance with the municipality's implementation schedule pursuant to N.J.A.C. 5:97-3.2(a)4 and shall specify, at a minimum, the receiving municipality, the number of units to be transferred, the type of housing activity anticipated by the receiving municipality and the amount of compensation to be paid to the receiving municipality in return for such a transfer. The Council's Executive Director may require revisions to the initial contract upon review of the RCA and prior to the Council's approval.

(d) The receiving municipality's completed RCA Project Plan shall be submitted to the Council by the receiving municipality no later than 90 days from the date the sending municipality's petition is submitted to the Council or in accordance with the municipality's implementation schedule pursuant to N.J.A.C. 5:97-3.2(a)4.

(e) The sending municipality shall submit documentation demonstrating source(s) of funding.

5:97-7.3 Terms

(a) All draft RCA contracts shall specify payment schedules that conform to a construction or rehabilitation schedule, relate to the receiving municipality's ability to deliver housing units in a timely fashion, and take place within the period of substantive certification of the sending municipality. For RCAs that include a scattered site rehabilitation program, all funds must be transferred one year prior to expiration of substantive certification.

(b) The Council may, in its discretion, limit the number of RCA units that may be transferred to a receiving municipality based on a determination of the receiving municipality's capacity to administer the RCA units. The Council shall consider the municipality's past experience, if any, in administering affordable housing programs.

(c) At least 50 percent of all units accepted by a receiving municipality shall be affordable to low income households. In the case of RCAs that include a scattered site rehabilitation program, the receiving municipality shall ensure, as best as practicable, that 50 percent of the rehabilitated units are occupied by low income households.

(d) All units created or rehabilitated with RCA funds shall comply with N.J.A.C. 5:97-6, N.J.A.C. 5:97-9 and UHAC, as applicable.

(e) No receiving municipality shall receive credit toward its fair share obligation for units provided pursuant to an RCA.

(f) No municipality shall receive credit for any units provided for in the receiving municipality in excess of the units transferred pursuant to the RCA.

(g) No municipality shall receive rental bonuses for rental units created with RCA funds.

5:97-7.4 Sending municipality

(a) The number of age-restricted units that may be transferred shall be limited according to the sending municipality's age-restricted maximum pursuant to N.J.A.C. 5:97-3.8.

(b) No funds shall be transferred by the sending municipality until COAH has reviewed and signed the escrow agreement required by N.J.A.C. 5:97-7.5(g).

5:97-7.5 Receiving municipality

(a) A receiving municipality may use funds transferred through an RCA for any affordable housing activity including, but not limited to, the mechanisms set forth in N.J.A.C. 5:97-6. Rental obligations required by N.J.A.C. 5:97-3.4 or portions thereof that are transferred to a receiving municipality via an RCA must either create new rental housing units or meet the criteria for reconstruction.

(b) If a receiving municipality intends to accept RCA units in excess of its rehabilitation share for a scattered site rehabilitation program, it shall demonstrate a need for rehabilitation by documenting an existing waiting list of eligible applicants or conducting an exterior housing survey in a form provided by the Council. The Council shall determine the proportion of deteriorated or substandard housing units that are occupied by low- and moderate-income households by applying the appropriate "Low-Moderate Deterioration Share" number found in chapter Appendix B.

(c) The use of all funds shall be specified in an RCA Project Plan and shall be subject to Council approval. If there are funds in excess of the amount necessary to implement the RCA, the balance shall be used within the receiving municipality to produce additional low- and moderate-income housing units or for capital or other expenditures benefiting low- and moderate-income households.

(d) A maximum of $6,000 per unit transferred may be expended on administration in the receiving municipality. These funds shall only be spent on expenses that are directly related to the administration of the RCA program and units. If additional units above the number transferred are created or rehabilitated, the receiving municipality may submit a request to COAH to expend additional funds on administration. The request shall document the need for the additional funds.

(e) For RCA scattered site rehabilitation programs, the cumulative cost of major systems shall be no less than 50 percent of the hard costs for the unit.

(f) RCA funds shall be deposited into a separate interest bearing escrow account for each RCA.

(g) A receiving municipality shall enter into an escrow agreement with the Council and the bank that holds the escrow account, whereby the Council has access to the escrow account.

(h) A receiving municipality shall create the position of RCA Administrator pursuant to N.J.A.C. 5:96-19 and, subject to the Council's approval, appoint a municipal employee to serve in that position.

5:97-7.6 Review by the Agency

(a) The Agency shall review and provide the Council with a recommendation regarding the financial feasibility of the RCA Project Plan prior to the RCA receiving the Council's approval.

(b) The receiving municipality shall submit a completed RCA Project Plan application to the Agency delineating the manner in which the receiving municipality shall create or rehabilitate low- and moderate-income housing in response to the RCA. The RCA Project Plan shall be in such a form and contain such information as the Council or the Agency may require, and shall include, but not be limited to the names of the project(s) and/or programs(s) and the number of affordable units funded by the RCA, development costs, additional sources of funding for the projects or programs, applicability to COAH and UHAC rules and the agent responsible for administering the affordable units. The Council or the Agency may impose time limitations for the submission of an RCA Project Plan or any updates or conditions thereto.

(c) The Agency may undertake such review as is necessary, including scheduling meetings or hearings and requiring further information, studies or reports, in order to render a timely report on the financial feasibility of the proposed plan for the Council. Failure of the receiving municipality to promptly or properly comply with the requirements of the Agency may result in the Agency's refusal to recommend the approval of the proposed project.

5:97-7.7 Review and approval by county planning board(s)

(a) The receiving municipality's county planning board shall review and provide the Council with a recommendation regarding whether or not the RCA is in accordance with sound comprehensive regional planning and the goals and objectives of the State Development and Redevelopment Plan and provides a realistic opportunity for low- and moderate-income housing within convenient access to employment opportunities prior to the RCA receiving the Council's approval.

(b) A completed RCA Project Plan application, and the master plans and zoning ordinances of the sending and receiving municipalities, shall be forwarded to the county planning board of the county in which the receiving municipality is located for review and recommendation. The county planning board of the receiving municipality shall make a determination as to whether or not the RCA is in accordance with sound comprehensive regional planning and the goals and objectives of the State Development and Redevelopment Plan and provides a realistic opportunity for low- and moderate-income housing within convenient access to employment opportunities. If the RCA is between two municipalities in different counties, the county planning board of the receiving municipality may confer with or request information from the county planning board of the sending municipality.

(c) All determinations of a county planning board shall be by resolution and shall be accompanied by a report detailing the reasons for the determination. No fee shall be paid to the county planning board for its review pursuant to this section.

(d) The county planning board or agency shall file its review and recommendation with the Council within 45 days of receipt of a complete application for review. For good cause shown, a 15-day extension may be granted.

5:97-7.8 Review and approval by the Council

(a) An RCA shall be approved upon a finding by the Council that:

1. The project provides a realistic opportunity for low- and moderate-income housing within convenient access to employment opportunities as determined by the county planning board;

2. The project is consistent with sound comprehensive regional planning and the goals, policies and objectives of the State Development and Redevelopment Plan as determined by the county planning board; and

3. The receiving municipality's project is a financially feasible means of achieving the purposes of the RCA, as determined by the Agency.

(b) Upon recommendation of the Agency, the Council may approve, as part of the RCA, a provision that the time limitations for contractual guarantees or resale controls for low- and moderate-income units included in the proposed RCA Project Plan may be for less than 30 years if the Agency determines that modification is necessary to assure the economic viability of the project.

(c) The Council shall approve all RCAs by resolution. The Council shall set forth in its resolution a schedule for the contributions to be appropriated annually by the sending municipality. A copy of the adopted resolution shall be filed promptly with the Division of Local Government Services of the Department of Community Affairs. The Director of the Division, pursuant to N.J.S.A. 52:27D-312(d), shall thereafter not approve an annual budget of a sending municipality if it does not include appropriations necessary to meet the terms of the resolution.

(d) An RCA that has been approved by the Council may be executed once the Council grants substantive certification to the sending municipality.

5:97-7.9 Monitoring

The RCA Administrator of the receiving municipality shall submit monitoring reports to the Council and with the Agency setting forth fiscal accountability and progress in implementing the projects to be produced under the RCA. These reports shall be submitted at such time and in such form as the Council and the Agency may require.

5:97-7.10 Enforcement

(a) The Council shall take such actions as may be necessary to enforce an RCA with respect to the timely implementation of a project by the receiving municipality. Such actions may include, but are not limited to, one or more of the following:

1. Initiating a lawsuit to enforce an RCA contract;

2. Preventing a delinquent receiving municipality from entering into further RCAs for a specified period of time;

3. Ordering a sending municipality to temporarily or permanently cease payments to a receiving municipality;

4. Recommending that the Agency and DCA withhold further assistance available under the Act from the receiving municipality;

5. Ordering the receiving municipality's bank to cease disbursements from the RCA escrow account;

6. Ordering the receiving municipality to amend its RCA Project Plan to include viable alternative housing activity;

7. Directing the use of RCA funds to eligible housing activity in the municipality, county, or region; or

8. Such other actions as the Council may determine necessary.

SUBCHAPTER 8. AFFORDABLE HOUSING TRUST FUNDS

5:97-8.1 Purpose

(a) Affordable housing trust funds are intended to better enable municipalities to meet the low- and moderate-income housing needs in their municipality and region.

(b) Affordable housing trust funds may contain mandatory development fees, contributions from developers as a result of negotiated agreements, payments in lieu of constructing affordable units on sites zoned for affordable housing, funds in a barrier free escrow, recapture funds, proceeds from the sale of affordable units, rental income, repayments from affordable housing program loans, enforcement fines and application fees, and any other funds collected by the municipality in connection with its affordable housing programs, as permitted by the Council.

(c) A municipality may impose, collect and spend affordable housing trust funds only through participation in the Council's substantive certification process or through a comprehensive review designed to achieve a judgment of compliance.

(d) No municipality under the Council's jurisdiction shall spend affordable housing trust funds unless the Council has approved a plan for spending such funds in conformance with N.J.A.C. 5:97-8.10 and 5:96-5.3.

(e) The rules in this subchapter shall govern those municipalities that petition for substantive certification. The Council shall review development fee ordinances and spending plans and monitor affordable housing trust funds upon the request of the court.

5:97-8.2 Account requirements

(a) All affordable housing trust funds shall be deposited in a separate, interest-bearing account. In establishing the account, the municipality shall provide written authorization, in the form of a three-party escrow agreement between the municipality, the bank and the Council, to permit the Council to direct the disbursement of the funds as provided for in N.J.A.C. 5:97-8.13(b). This authorization shall be submitted to the Council within seven days from the opening of the trust fund account.

(b) With the approval of the Council and of the Division of Local Government Services, the municipality may invest its affordable housing trust fund in the State of New Jersey cash management fund, provided that the amount of money in the cash management fund that comprises the funds and income attributable to such funds shall at all times be identifiable. The municipality shall provide written authorization, in the form of a three-party escrow agreement between the municipality, the bank which holds the account linked to the cash management fund, and the Council, to permit the Council to direct the disbursement of development fees as provided for in N.J.A.C. 5:97-8.13(b). This authorization shall be submitted to the Council within seven days from the opening of the trust fund account.

(c) All interest accrued in the housing trust fund shall only be used on eligible affordable housing activities approved by the Council.

5:97-8.3 Development fee ordinances

(a) The New Jersey Supreme Court, in *Holmdel Builders Association v. Holmdel Township*, 121 *N.J.* 550 (1990), determined that mandatory development fees are both statutorily and constitutionally permissible. The Court directed the Council to promulgate appropriate development fee rules

specifying, among other things, the standards for these development fees.

(b) No municipality, except municipalities seeking to achieve or that have received a judgment of compliance, shall impose or collect development fees unless the municipality has petitioned the Council with an adopted Housing Element and Fair Share Plan and the Council has approved the municipality's development fee ordinance pursuant to N.J.A.C. 5:96-5.1.

(c) Residential development fees shall be a maximum of one and one half percent of the equalized assessed value (EAV), provided no increased density is permitted.

2. When a municipality approves an increase in residential density pursuant to N.J.S.A. 40:55D-70d(5) (known as a "d" variance), the municipality may impose a development fee of up to six percent of the equalized assessed value for each additional unit that may be realized. However, if the zoning on a site has changed during the two-year period preceding the filing of such a variance application, the density for the purposes of calculating the bonus development fee shall be the highest density permitted by right during the two-year period preceding the filing of the variance application.

3. Fees may be imposed on the construction of new residential development and additions and alterations to existing development. Ordinances governing the imposition of development fees shall clearly indicate which types of development shall be subject to the imposition of development fees. New construction fees shall be based on the equalized assessed value of land and improvements. Fees that result from additions and alterations shall be based on the increase in equalized assessed value that results from the addition or alteration.

(d) Non-residential development fees may be imposed pursuant to the following:

1. Fees shall be a maximum of three percent of the equalized assessed value.

2. When a municipality approves an increase in floor area pursuant to N.J.S.A. 40:55D-70d(4) (known as a "d" variance), the municipality may impose a development fee of up to six percent on the additional floor area realized. However, if the zoning on a site has changed during the two-year period preceding the filing of such a variance application, the base floor area for the purposes of calculating the bonus development fee shall be the highest floor area permitted by right during the two-year period preceding the filing of the variance application.

3. Fees may be imposed on the construction of new non-residential development and additions and alterations to existing development. Ordinances governing the imposition of development fees shall clearly indicate which types of development shall be subject to the imposition of development fees. New construction fees shall be based on the equalized assessed value of land and improvements. Fees that result from additions and alterations shall be based on the increase in equalized assessed value that results from the addition or alteration.

(e) The following are eligible exactions, ineligible exactions and exemptions:

1. Affordable housing developments and developments where the developer has made a payment in lieu of constructing affordable units shall be exempt from development fees.

2. Development fees may be imposed and collected when an existing structure is expanded, undergoes a change to a more intense use, or is demolished and replaced. The development fee that may be imposed and collected shall be calculated on the increase in the equalized assessed value.

3. Developments that have received preliminary or final approval prior to the adoption of a municipal development fee ordinance shall be exempt from development fees.

4. Municipalities may exempt specific types of development from fees or may impose lower fees for specific types of development, provided each classification of development is addressed consistently. For example, all retail development, all development by non-profit organizations, hospitals, or educational institutions may be exempt from the imposition of fees.

5. Municipalities may exempt specific areas or zones of the municipality from the imposition of fees or reduce fees in order to promote development in specific areas of the municipality. For example, all development north of Main Street may be exempt from the imposition of fees.

(f) Municipalities may collect 100 percent of the development fee on any specific development at the issuance of the certificate of occupancy. As an alternative, municipalities may collect up to 50 percent of the development fee at the time of issuance of the building permit. The remaining portion may be collected at the issuance of the certificate of occupancy.

(g) Imposed and collected development fees that are challenged shall be placed in an interest bearing escrow account by the municipality. If all or a portion of the contested fees are returned to the developer, the accrued interest on the returned amount shall also be returned.

(h) Any ordinance adopted by a municipality for the purpose of imposing and collecting development fees shall provide that, in the event any of the conditions described in N.J.A.C. 5:97-8.13(a) occur, the Council shall be authorized, on behalf of the municipality, to direct the manner in which all funds in the affordable housing trust fund shall be expended.

(i) A municipality that collects or anticipates collecting development fees must identify the funds on its monitoring report pursuant to N.J.A.C. 5:97-8.12 and include a plan for the use of the funds in its spending plan pursuant to N.J.A.C. 5:97-8.10.

5:97-8.4 Payments in lieu of constructing affordable units on site

(a) A municipality may, as an option to the on-site construction of affordable housing otherwise required by ordinance, provide for a payment in lieu of construction subject to the requirements of this section and N.J.A.C. 5:97-6.4.

(b) The amount of payments in lieu of constructing affordable units on site shall be established by ordinance and consistent with the amounts detailed in N.J.A.C. 5:97-6.4(c).

(c) Payments in lieu of constructing affordable units on residential and mixed-use sites shall only be used to fund eligible affordable housing activities within the municipality. However, payments-in-lieu of construction from non-residential sites where residential development is not a permitted use may be used for funding regional compliance mechanisms.

(d) A municipality that collects or anticipates collecting payments in lieu of construction must identify the funds on its monitoring report pursuant to N.J.A.C. 5:97-8.12 and include a plan for the use of the funds in its spending plan pursuant to N.J.A.C. 5:97-8.10.

5:97-8.5 Barrier free escrow

An affordable housing trust fund may contain fees collected to adapt affordable unit entrances to be accessible in accordance with the Act and N.J.A.C. 5:97-3.14. The municipality shall set forth the mechanism by which it will collect and distribute funds intended to convert adaptable entrances. Funds collected for this purpose must at all times be identifiable from other funds. A municipality that collects or anticipates collecting funds to adapt affordable unit entrances must identify the funds on its monitoring report pursuant to N.J.A.C. 5:97-8.12.

5:97-8.6 Other funds

An affordable housing trust fund may also contain recapture funds, proceeds from the sale of affordable units, rental income, repayments from affordable housing program loans, enforcement fines and application fees, and any other funds collected by the municipality in connection with its affordable housing programs. A municipality that collects or anticipates collecting such fees must identify the funds on its monitoring report pursuant to N.J.A.C. 5:97-8.12 and include a plan for the use of the funds in its spending plan pursuant to N.J.A.C. 5:97-8.10.

5:97-8.7 Use of funds for housing activity

(a) A municipality may use affordable housing trust funds for any housing activity as itemized in the spending plan and approved by the Council. Such activities include, but are not limited to:

1. A rehabilitation program;

2. New construction of affordable housing units and related development costs; in the case of inclusionary developments, eligible costs shall be pro-rated based on the proportion of affordable housing units included in the development;

3. Extensions or improvements of roads and infrastructure directly serving affordable housing development sites; in the case of inclusionary developments, costs shall be pro-rated based on the proportion of affordable housing units included in the development;

4. RCAs, except that payments in lieu of construction collected from residential and mixed-use development may not be used for this purpose;

5. Acquisition and/or improvement of land to be used for affordable housing;

6. Purchase of existing market rate or affordable housing for the purpose of maintaining or implementing affordability controls, such as in the event of a foreclosure;

7. Accessory apartment, market to affordable, or affordable housing partnership programs;

8. ECHO housing and related repair or unit relocation costs;

9. Green building strategies designed to be cost-saving for low- and moderate-income households, either for new construction that is not funded by other sources, or as part of necessary maintenance or repair of existing units;

10. Maintenance and repair of affordable housing units;

11. Repayment of municipal bonds issued to finance low- and moderate-income housing activity; and

12. Any other activity as specified in the approved spending plan.

(b) Municipalities are encouraged to use affordable housing trust funds to attract other funds such as, but not limited to, available public subsidies and funds from private lending institutions.

(c) Municipalities are encouraged to work cooperatively with residential and/or non-residential developers subject to development fees to identify specific affordable housing projects within the municipality for funding from the affordable housing trust fund.

5:97-8.8 Use of funds for affordability assistance

(a) At least 30 percent of all development fees collected and interest earned shall be used to provide affordability assistance to low- and moderate-income households, at least half of which shall be available to low- and moderate-income households in affordable units included in the municipality's Fair Share Plan. One-third of the affordability assistance portion shall be used to provide affordability assistance to very low income households.

1. Affordability assistance programs may include down payment assistance, security deposit assistance, low interest loans, rental assistance, assistance with homeowners association or condominium fees and special assessments, and assistance with emergency repairs.

2. Affordability assistance for very low income households may include offering a subsidy to developers of inclusionary or 100 percent affordable developments or buying down the cost of low- or moderate-income units in a municipal Fair Share Plan to make them affordable to very low income households.

Example: A 100-unit development in a municipality consists of 80 market-rate rental units, 10 moderate-income rental units and 10 low-income rental units. Two of the low-income units are priced to be affordable to a household earning 30 percent of regional median income (RMI). The remaining eight low-income units are priced to be affordable to households earning 45 percent of RMI. The rental rate established for the units priced at a 45 percent level of affordability is $603.00 per month while the rental rate established for units priced at a 30 percent level of affordability is $353.00 for a difference of $250.00 per month or $3,000 per year. Assuming a capitalization rate of 8.5 percent would establish a 30-year present value of $35,294 on the reduced rental income. Therefore, a developer might consider re-pricing low-income units to provide additional very-low income units in exchange for an up-front lump sum payment of $35,294 for each unit re-priced.

(b) Subject to the approval of the Council, municipalities may contract with a private or public entity to administer any part of its Housing Element and Fair Share Plan, including the requirement for affordability assistance, in accordance with N.J.A.C. 5:96-18.

(c) If the municipality demonstrates that there are no units for which affordability assistance programs can be offered, this requirement may be waived.

5:97-8.9 Use of funds for administrative expenses

(a) No more than 20 percent of all affordable housing trust funds, exclusive of the fees used to fund an RCA and barrier free escrow funds, shall be expended on administration.

(b) Administrative expenses can include salaries and benefits for municipal employees or consultant fees necessary to develop or implement an affordable housing program, a Housing Element and Fair Share Plan, and/or an affirmative marketing program. Administrative funds may be used for income qualification of households, monitoring the turnover of sale and rental units, preserving existing affordable housing, and compliance with Council monitoring requirements.

(c) Legal or other fees related to litigation opposing affordable housing sites or objecting to the Council's regulations and/or action are not eligible uses of the affordable housing trust fund.

5:97-8.10 Spending plans

(a) A plan to spend affordable housing trust funds shall include the following:

1. A projection of revenues anticipated from imposing fees on development, based on pending, approved and anticipated developments and historic development activity;

2. A projection of revenues anticipated from other sources, including contributions from developers as a result of negotiated agreements, payments in lieu of constructing affordable units on sites zoned for affordable housing, funds from the sale of units with extinguished controls, proceeds from the sale of affordable units, rental income, repayments from affordable housing program loans, and interest earned;

3. A description of the administrative mechanism that the municipality will use to collect and distribute revenues;

4. A description of the anticipated use of all affordable housing trust funds pursuant to N.J.A.C. 5:97-8.7, 8.8 and 8.9;

5. A schedule for the expenditure of all affordable housing trust funds;

6. If applicable, a schedule for the creation or rehabilitation of housing units;

7. If the municipality is supporting or sponsoring public sector or non-profit construction of housing, a pro-forma statement of the anticipated costs and revenues associated with the development, consistent with standards required by the Agency in its review of funding applications;

8. If the municipality maintains an existing affordable housing trust fund, a plan to spend the trust fund balance as of the date of its third round petition within four years of the Council's approval of the spending plan, or in accordance with an implementation schedule approved by the Council;

9. The manner through which the municipality will address any expected or unexpected shortfall if the anticipated revenues are not sufficient to implement the plan; and

10. A description of the anticipated use of excess affordable housing trust funds, in the event more funds than anticipated are collected, or projected funds exceed the amount necessary for satisfying the municipal affordable housing obligation.

(b) All spending plans are subject to the review and approval of the Council pursuant to N.J.A.C. 5:96-5.3.

5:97-8.11 Consideration for mechanisms not in the adopted Fair Share Plan

(a) A municipality may request authorization for expenditure of affordable housing trust funds on emergent affordable housing mechanisms not included in the municipal Fair Share Plan, in the form of an amendment to the spending plan.

(b) In addition to the requirements for approval of a spending plan or amendment to an approved spending plan set forth at N.J.A.C. 5:96-5, the resolution submitted by the municipality shall include a certification that the affordable housing opportunity addresses the Council's criteria set forth in N.J.A.C. 5:97-6, and the municipality shall submit information regarding the proposed mechanism in a format to be provided by the Council.

(c) The municipality shall submit an amendment to its Fair Share Plan to include the mechanism at the earlier of two years after the Council's approval of the spending plan amendment or the next planned amendment to the Fair Share Plan resulting from plan evaluation review pursuant to N.J.A.C. 5:96-10.

(d) The municipality shall submit monitoring pursuant to N.J.A.C. 5:96-11 relating to the affordable units created using affordable housing trust funds.

5:97-8.12 Monitoring

All municipalities under the Council's jurisdiction that maintain affordable housing trust funds shall submit monitoring to the Council. At a minimum, the monitoring shall include an accounting of any housing trust fund activity, including the source and amount of funds collected, the amount and purpose for which any funds have been expended, and the status of the plan to spend the remaining balance pursuant to N.J.A.C. 5:97-8.10(a)8. At the request of the Court, the Council will also conduct monitoring of affordable housing trust funds maintained by municipalities subject to the terms of a judgment of compliance. These reports shall be submitted by the Municipal Housing Liaison at such time and in such form as the Council requires.

5:97-8.13 Enforcement

(a) The municipality's ability to impose and collect funds and maintain its affordable housing trust fund shall be conditioned on compliance with all requirements of this subchapter, which the Council shall monitor at least annually. Occurrence of any of the following may result in the Council taking an action pursuant to (b) below:

1. Failure to meet deadlines for information required by the Council in its review of a Housing Element and Fair Share Plan, development fee ordinance or plan for spending fees;

2. Failure to address the Council's conditions for approval of a plan to spend funds within the deadlines imposed by the Council;

3. Failure to address the Council's conditions for substantive certification within deadlines imposed by the Council;

4. Failure to submit accurate monitoring reports pursuant to N.J.A.C. 5:97-8.12 within the time limits imposed by the Council;

5. Failure to implement the spending plan and expend the funds within the time schedules specified in the spending plan, including the requirement to spend the remaining trust fund balance pursuant to N.J.A.C. 5:97-8.10(a)8;

6. Expenditure of funds on activities not approved by the Council;

7. Revocation of certification; or

8. Other good cause demonstrating that the funds are not being used for the approved purpose.

(b) In the event any of the conditions described in (a) above occur, the Council shall notify the municipality, including the chief financial officer, and the service list that such a condition has occurred and direct the municipality to remedy the condition.

1. If the municipality does not remedy the condition within the time period specified by the Council, the municipality shall cease imposition, collection, and expenditure of affordable housing trust funds.

2. Upon notifying the bank in accordance with the escrow agreement pursuant to N.J.A.C. 5:97-8.2, the Council shall direct the manner in which all funds in the affordable housing trust fund shall be expended.

3. In its direction of affordable housing trust funds, the Council shall first consider mechanisms included in the municipality's Fair Share Plan.

4. In the event that funding is not needed for mechanisms included in the municipality's Fair Share Plan, the Council shall solicit proposals from developers and organizations to create or rehabilitate affordable housing in compliance with the Council's regulations. In its solicitation, review, and selection of proposals, the Council shall act in consultation with the DCA Division of Housing.

5. To the extent practicable, the Council shall assign funds from the affordable housing trust fund to mech-

anisms planned within the municipality that generated the revenues or within close proximity to the municipality, such as within the county or region.

6. When the Council takes action pursuant to this section and additional units are created or rehabilitated, those units shall be eligible for credit in the municipality in which the units are constructed or rehabilitated.

(c) Any party that presents evidence to the Council's satisfaction that one or more of the conditions listed in (a) above exist in a particular municipality may request Council action pursuant to (b) above in the form of a motion pursuant to N.J.A.C. 5:96-13. The motion may also include a proposal to create or rehabilitate affordable housing, which shall be considered by the Council consistent with (b)3 and 4 above, and may include directing the municipality to expend funds on the proposal.

(d) The Council may also revoke a development fee ordinance approval for any municipality that fails to comply with the requirements of this subchapter. Where such approval has been revoked, the Council shall not approve an ordinance permitting such municipality to impose or collect development fees for the remainder of the substantive certification period or judgment of compliance.

(e) Neither loss of funds from the affordable housing trust fund account, nor loss of the municipality's ability to impose and collect development fees shall alter the municipality's responsibilities pursuant to substantive certification or a court ordered judgment of compliance.

5:97-8.14 Ongoing collection of fees and maintenance of the affordable housing trust fund

The ability for all municipalities to impose and collect fees and maintain an affordable housing trust fund shall expire with their substantive certification or judgment of compliance unless the municipality has petitioned the Council for substantive certification of a Housing Element and Fair Share Plan that addresses its succeeding affordable housing obligation, and has received the Council's approval of its development fee ordinance. Municipalities that fail to renew their ability to impose and collect development fees and maintain an affordable housing trust fund prior to the expiration of their substantive certification or judgment of compliance may resume the imposition and collection of development fees by complying with the requirements of this section. A municipality shall not impose a development fee on a development that receives preliminary or final approval after the expiration of substantive certification or a judgment of compliance, nor shall a municipality retroactively impose a development fee on such a development. A municipality shall not expend affordable housing trust funds after the expiration of substantive certification or a judgment of compliance.

SUBCHAPTER 9. ADMINISTRATION OF AFFORDABLE UNITS

5:97-9.1 Applicability of UHAC

(a) Affordable housing included in a municipal Fair Share Plan shall comply with UHAC. Exemptions from UHAC are provided in this chapter and UHAC. Municipal housing liaisons, administrative agents, and RCA administrators shall be governed by the applicable provisions of N.J.A.C. 5:96 and UHAC.

(b) If the cost of administering and/or advertising affordable units is to be a developer's responsibility, the requirement shall be a condition of the municipal planning board or zoning board approval and required by ordinance.

5:97-9.2 Regional income limits

(a) Administrative agents shall utilize the regional income limits established by the Council for the purpose of pricing affordable units and determining income eligibility of households.

(b) Regional income limits shall be established by the Council based on the median income by household size, which shall be established by a regional weighted average of the uncapped Section 8 income limits published by HUD. To compute this regional income limit, the HUD determination of median county income for a family of four is multiplied by the estimated households within the county. The resulting product for each county within the housing region is summed. The sum is divided by the estimated total households in each housing region. This quotient represents the regional weighted average of median income for a household of four. This regional weighted average is adjusted by household size based on multipliers used by HUD to adjust median income by household size.

(c) The Council shall annually adopt the regional income limits based on household size. In no event shall the income limits be less than the previous year.

5:97-9.3 Establishing sale prices and rents of units

(a) In establishing sale prices and rents of affordable housing units, the administrative agent shall follow the procedures set forth in UHAC, utilizing the regional income limits established by the Council.

(b) The price of owner-occupied low- and moderate-income units may increase annually based on the percentage increase in the regional median income limit for each housing region. In no event shall the maximum resale price established by the administrative agent be lower than the last recorded purchase price.

(c) The rent of low- and moderate-income units may be increased annually based on the percentage increase in the Housing Consumer Price Index for the United States. This increase shall not exceed nine percent in any one year. Rents for units constructed pursuant to low income housing tax credit regulations shall be indexed pursuant to the regulations governing low income housing tax credits.

SUBCHAPTER 10. COST GENERATION AND DEVELOPMENT REVIEW PROCESS

5:97-10.1 Purpose and scope

The Act incorporates the need to eliminate unnecessary cost generating features from municipal land use ordinances as a requirement of substantive certification. In order to receive and retain substantive certification, municipalities shall eliminate development standards and requirements that are not essential to protect the public welfare and shall design municipal ordinances to expedite municipal decisions on affordable housing development applications.

5:97-10.2 Unnecessary cost generating requirements

(a) In the development of municipal ordinances, a municipality shall use the Residential Site Improvement Standards, N.J.A.C. 5:21, as a frame of reference, where applicable. A municipality that wishes to impose more stringent standards shall bear the burden of justifying the need for such standards. To ensure that its municipal ordinances are not detrimental to the production of affordable housing or the financial feasibility of an affordable housing development, a municipality shall give special attention to:

1. Ensuring that municipal zoning requirements work to promote affordable housing developments by achieving the density and set-aside necessary to address the municipal fair share obligation. Examples of such requirements include but are not limited to: building setbacks, height and/or stories, spacing between buildings, and impervious surface standards;

2. Requirements to provide oversized water and sewer mains, as well as stormwater management provisions including culverts, to accommodate future development without a reasonable prospect for reimbursement;

3. Excessive open space, recreation, landscape, buffering, tree replacement and reforestation requirements; and

4. Excessive road width, pavement specifications and parking requirements.

(b) Municipal Housing Elements and Fair Share Plans, and resolutions of approval as necessary, shall allow for phased construction and phased performance guarantees for on-site, off-site and off-tract improvements required of affordable housing developments.

(c) The Council shall not permit restrictions on the bedroom mix of the market-rate units within an inclusionary development.

(d) Failure to remove unnecessary cost generative requirements on an affordable housing development application shall be considered a reason for dismissal from the Council's jurisdiction or revocation of substantive certification.

5:97-10.3 Development application procedures

(a) Affordable housing developments that are included in a Housing Element and Fair Share Plan have proceeded through a public process. Therefore, the focus of municipal development application review shall not be whether the sites are properly zoned. The focus shall be whether the design of the affordable housing development is consistent with the municipal zoning, subdivision and site plan ordinances. In order to expedite the review of development applications, municipalities shall cooperate with developers of affordable housing developments in scheduling pre-application conferences. Municipal boards shall schedule regular and special monthly meetings as needed and provide ample time at these meetings to consider the merits of an affordable housing development application. The goal of such a schedule is to ensure that development applications are acted upon within time limits mandated in the Municipal Land Use Law, N.J.S.A. 40:55D-1 et seq.

(b) Municipalities shall cooperate with developers of affordable housing developments in granting reasonable variances and waivers necessary to construct the affordable housing development.

(c) Municipalities shall cooperate with developers by expeditiously endorsing applications to other governmental agencies that require review and approval of that agency. Such endorsements shall be simultaneously submitted to the Council.

(d) Failure of the municipality to take any of the above actions on an affordable housing development application shall be considered a reason for dismissal from the Council's jurisdiction or revocation of substantive certification.

5:97-10.4 Special studies/escrow accounts

(a) It is common for municipalities to require developers of affordable housing developments to conduct special studies related to the fiscal, traffic and environmental impacts of proposed inclusionary developments. These studies are then reviewed by municipal professionals who are paid from escrow accounts funded by the developer of affordable housing developments as a requirement of the municipal review of the development application pursuant to N.J.S.A. 40:55D-1 et seq. The Council has determined that these studies shall not be used to alter the permitted density, unless as part of a use variance application pursuant to N.J.S.A. 40:55D-70d(4) or (5). Such studies may be used to foster proper design and to determine pro-rata off-tract improve-

ment costs, but may not be excessive. The Council has also determined that it is unnecessary for developers of affordable housing developments to pay for both the preparation of such a study and to pay into an escrow account for subsequent municipal review. Therefore, municipalities that receive substantive certification shall offer developers of affordable housing developments the option of preparing fiscal, traffic and environmental impact studies or choosing a consultant from a list of at least six professionals prepared by the municipality to prepare the studies. If the developer chooses a consultant from the municipally prepared list, the developer and municipality shall rely on the consultant's recommendations and no other reports shall be prepared.

(b) Fees to review development applications shall be estimated prior to payment of filing fees. Developers shall be entitled to review all charges against any escrowed fees and be provided with monthly accounting reports upon request as provided in N.J.S.A. 40:55D-1 et seq.

5:97-10.5 Developer relief

(a) Developers of affordable housing sites in conformance with a Housing Element and Fair Share Plan may seek relief from the Council if the municipality and the developer cannot agree on specific standards that apply to an affordable housing site.

(b) The developer of the affordable housing site may request the Council to provide a mediator to resolve the dispute. The resulting mediation shall not require a transfer to the Office of Administrative Law pursuant to the Administrative Procedures Act, N.J.S.A. 52:14B-1 et seq.

(c) Developers of affordable housing sites in conformance with a Housing Element and Fair Share Plan may seek an administrative order requiring the municipality to remove unnecessary cost generating requirements or to expedite the municipal review of a development application by filing a motion pursuant to N.J.A.C. 5:96-13. Developers need not request mediation pursuant to (b) above in order to file such a motion. The Council may hear such a motion concurrent with any such mediation notwithstanding the provisions of N.J.A.C. 5:96-13.1(d).

(d) Developers of affordable housing sites in conformance with a Housing Element and Fair Share Plan may request the Council to assist in expeditious processing or review provided the site meets the site suitability standards pursuant to N.J.A.C. 5:97-3.13. The Council shall strive for interagency cooperation in assisting the municipality and developer to move the affordable housing development forward expeditiously.

(e) If, after a hearing conducted pursuant to the Administrative Procedure Act, N.J.S.A. 52:14B-1 et seq., and the Uniform Administrative Procedure Rules, N.J.A.C. 1:1, and failure to comply with any resultant administrative order, the Council determines that a municipality has delayed action on a development application for an affordable housing site in conformance with the Housing Element and Fair Share Plan, or has required unnecessary cost generating requirements or obstructed the construction of an affordable housing site that is in conformance with a Housing Element and Fair Share Plan, the Council shall dismiss the municipality from the Council's jurisdiction or revoke its substantive certification.

APPENDIX A

GROWTH SHARE RATIO METHODOLOGY

COUNCIL ON AFFORDABLE HOUSING (COAH)

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INTRODUCTION

In COAH's Third Round Rules, municipalities incur affordable housing obligations when local housing units and jobs increase. The extent to which they do – each municipality's "growth share" for housing unit and employment growth – are determined by two Statewide Growth Share Ratios, developed using the methodology described in detail in this Appendix.[1]

The numerator in both of these ratios is New Jersey's projected affordable housing need. This total is calculated based on an estimate of future housing need as a percentage of future housing overall growth, as was done in the previously adopted Third Round Substantive Rules. We use the most recent and best data available and estimate that future need will grow as it has in the past. This assumes that in the period for which we are projecting need (between 1999 and 2018), low- and moderate-income households (those with incomes below 80 percent of their regional medians) represent the same percentage of all households as they do in 2000 (according to the 2000 U.S. Census 5-Percent Public Use Microdata Sample (PUMS)). Low- and moderate-income owners with significant assets – those who have paid off their mortgages and spend less than 38 percent of their income on other housing costs – are removed from this total, and low- and moderate-income residents of noninstitutional group quarters are added to this total, to reach a "Total Projected Need (1999-2018)" of 131,297 households.

Some of these households are accommodated by supply responses including "Secondary Sources of Supply." These adjustments to the composition and value of the housing stock include filtering and residential conversions (which can decrease the demand for affordable housing) and demolitions (which can increase the demand for affordable housing). In all, these Secondary Sources of Supply are expected to reduce New Jersey's projected affordable housing need by 15,631 units, or from 131,297 to 115,666.

This numerator (115,666) is then divided by two denominators – projected housing unit growth from 2004 to 2018 and projected employment growth from 2004 to 2018 – to create two Growth Share Ratios, one for housing and one for employment. Projected housing unit growth incorporates the expected increase in units over this time period as well as the predicted number of replacement units required. Also, units required to deliver prior round obligations are subtracted from this total[2], resulting in a Statewide figure for housing unit growth of 324,813. Projected job growth is simply based on the difference between Econsult's estimates for 2004 and 2018 employment, or 722,886.

Assigning 60 percent of projected affordable housing need to projected housing unit growth from 2004 to 2018, and the remainder (40 percent) to projected net employment growth from 2004 to 2018, results in the following growth share ratios:

New Jersey	
60 percent/40 percent Split	One Affordable Unit among Five Units Produced
	One Affordable Unit for 16 Jobs Created

LOW- AND MODERATE-INCOME HOUSING NEED (1999-2018)

The first step in understanding low- and moderate-income housing need in New Jersey is identifying the share of households with incomes below 80 percent of their regional medians – those households qualifying for housing assistance through federal and state programs. This methodology then assumes that the same portion of New Jersey's new households will be below 80 percent of their regional median incomes as were below 80 percent of their regional median according to the 2000 U.S. Census 5-Percent Public Use Microdata Sample (PUMS), released in August 2003. (This database is comprised of a sample of State housing units and includes characteristics about those units and the households that reside in them. It is especially valuable for identifying low- and moderate-income households since it reports household size as well as income level; both are necessary to compare incomes to COAH-published figures for low- and moderate-income category limits.)

Econsult projections predict that New Jersey will add 377,190 households between 1999 and 2018. An analysis of the PUMS data suggests that 37.7 percent of these households, or 142,201, will have low- or moderate-incomes.

This figure is refined to isolate low- and moderate-income households in need of affordable housing. Low- and moderate-income owners who have paid off their mortgages and currently spend less than 38 percent of their household income on housing costs are removed from this total. Low- and moderate-income residents of noninstitutional group quarters, as well as an estimate of vacant units, are added to this total. These calculations result in a Total Projected Need (1999-2018) of 131,071. (As described in subsequent sections, Secondary Sources of Supply reduce this need number.)

As described in detail in chapter Appendix F, Econsult bases its housing unit projections on data from the New Jersey Labor and Workforce Development (NJLWD). While other projections exist, most notably from the Metropolitan Planning Organization (MPO), Econsult uses NJLWD's population and employment projections as the county control totals because these forecasts are based on state of the art methodology consistently applied across all State of New Jersey counties. Econsult also relies on data from the U.S. Census Bureau's 1990 and 2000 Census and 2002 American Community Survey, and on land capacity estimates provided by Rutgers' National Center for Neighborhood & Brownfields Redevelopment (NCNBR). The Rutgers team identifies New Jersey's available land – the amount of undeveloped and unconstrained land available for future development on a statewide basis as of 2002 – using spatial files from the Office of Smart Growth (OSG), Department of Environmental Protection (DEP), and the New Jersey Department of Agriculture. (This is described separately in Appendix F.) This estimate of vacant land is then converted into estimates of residential and non-residential development capacity at the municipal level.

Using this information, Econsult constructs housing unit projections for municipalities based on county-wide projections, communities' historical growth rates, physical growth capacities, and expected growth rates (a function of the relationship between local build-out levels and historical growth rates) in the State's 566 municipalities. This technique produces housing unit totals going backward to 1999 and going forward to 2018.

Area	Population (1999)	Average Household Size (2000)	Households (1999)
New Jersey	8,359,592	2.68	3,116,867

The number of households in 2018 is derived from Econsult's housing unit estimates for 1999 and 2018. In 1999, total household figure – 3,116,867 – was just over five percent lower than the total housing unit figure. This implies that roughly five percent of the State's housing units (3,294,671 in all) were vacant that year. We assume that this same vacancy rate will exist in 2018 as well, when the number of households will again be approximately five percent less than the number of housing units.

Area	Housing Units (2018)	Vacancy Rate	Households (2018)
New Jersey	3,693,378	5.4 percent	3,494,057

Therefore, according to Econsult's projections, New Jersey is expected to add the following number of households between 1999 and 2018:

COAH Region		Households		Household Change
		1999	2018	1999-2018
1	Northeast Region	783,927	818,694	34,767
2	Northwest Region	689,671	733,077	43,406
3	West Central Region	424,610	471,092	46,482
4	East Central Region	560,127	683,012	122,885
5	Southwest Region	440,239	494,539	54,300
6	South-Southwest Region	218,515	293,643	75,128
Total		3,116,867	3,494,057	377,190

What portion of these households will have low or moderate incomes – incomes below 80 percent of their regional medians? To answer this question, we rely on the 2000 U.S. Census 5-Percent Public Use Microdata Sample (PUMS) and the COAH regions established in earlier rounds. (An analysis by the Center for Urban Policy Research (CUPR), a component of Rutgers University's Edward J. Bloustein School of Planning and Public Policy, and reported in the previously adopted Third Round Substantive Rules, justified retaining the COAH Regions used in earlier rounds. That research found the linkages between counties in the same region to be stronger than between counties in different regions. For one thing, at least two-thirds (and in some cases nearly all) workers not working at home commuted somewhere else within their region of residence (pages 60-61). Their work also found "significant social, economic, and income interrelationships" between counties within a given region (page 60). Additionally, these COAH Regions "comport with State Plan principles and land designations" (page 61).)

Each PUMS record includes a "PUMS Area" to describe the geographic location of that housing unit and household. To fit PUMS records to COAH regions, we group PUMS Areas in the following ways:

COAH Region		PUMS Area	County
1	Northeast	301, 302, 303, 304, 305, 306	Bergen
		400, 501, 502	Passaic
		601, 602, 701, 702, 703	Hudson
		1600	Sussex
2	Northwest	1301, 1302, 1401, 1402, 1403, 1404	Essex
		1501, 1502, 1503, 1504	Morris
		1700	Warren
		1800, 1901, 1902, 1903	Union

3	West Central Region	1,950	5,236	3,286	1,643	3,204	2,563
4	East Central Region	4,272	5,080	808	404	788	630
5	Southwest Region	2,713	4,769	2,056	1,028	2,005	1,604
6	South-Southwest Region	2,024	4,558	2,534	1,267	2,471	1,977
Total		24,842	36,139	11,297	5,649	11,015	8,812

Vacancies in the housing stock available to low- and moderate-income households also increase the need. This vacancy rate (more limited than that used to transform housing unit numbers into household totals) is derived by taking the number of non-seasonal vacant units as a percentage of all housing units in 2000 (according to the Census). These rates (roughly four percent Statewide) added 4,365 units to the subtotal numbers.

COAH Region		Vacancy Rate (excluding Seasonal Properties)	Vacant Units
1	Northeast Region	2.9 percent	339
2	Northwest Region	4.0 percent	565
3	West Central Region	2.4 percent	334
4	East Central Region	4.5 percent	1,554
5	Southwest Region	5.2 percent	842
6	South-Southwest Region	5.9 percent	1,334
Total		3.9 percent	4,635

Together, these steps result in a "Total Projected Need" number of 131,297 for the state as a whole.

COAH Region		Projected Need (37.7 percent of Household Change)	Paid-Down	Vacancy Rate (excluding Seasonal Properties)	Additional Demand from Group Quarters	Total Projected Need (1999-2018)
1	Northeast Region	13,107	-1,537	339	2,754	14,663
2	Northwest Region	16,364	-2,119	565	-716	14,094
3	West Central Region	17,524	-3,451	334	2,563	16,970
4	East Central Region	46,328	-11,699	1,554	630	36,812
5	Southwest Region	20,471	-4,135	842	1,604	18,782
6	South-Southwest Region	28,323	-5,681	1,334	1,977	25,953
Total		142,201	-24,350	4,635	8,812	131,297

SECONDARY SOURCES OF SUPPLY

Secondary Sources of Housing Supply refers to those housing market adjustments that change the composition and value of the housing stock. This methodology reviews three types of adjustments: filtering, residential conversions, and demolitions.[3]

"Filtering" is the process by which units decline in value and therefore become affordable to lower-income households. This process begins when higher end housing is built by private developers. When higher-income consumers move into these new units, the demand for their prior units declines, causing values or rents to drop; the units then become affordable to consumers at a lower income level. In this way, the construction of new, market-rate housing may reduce affordable housing needs by freeing up additional existing units for purchase or rent by moderate-income households. Filtering is most likely to take place in housing markets containing sound housing undergoing significant turnover and in close proximity to substantial new development.

According to this Econsult analysis (these methods are described in further detail in Appendix F), 47,306 units are expected to filter down to households of lower incomes between 1999 and 2018. Half (50 percent) of these filtered units (23,626 units) are located in suburban communities (as defined by the Rutgers University Center for Urban Policy Research). This suburban share of filtering is included in this analysis.

COAH Region		Filtering (1999-2018)
1	Northeast	5,254
2	Northwest	2,111
3	West Central	610
4	East Central	2,459
5	Southwest	7,428

COAH Region		Filtering (1999-2018)
6	South-Southwest	5,764
Total		23,626

Next, a residential conversion is the creation of a new dwelling unit from an existing structure (either residential or non-residential). Residential conversions occur when renovations increase the number of units in existing structures. The U.S. Department of Housing and Urban Development (HUD) considers residential conversions to be a significant source of housing supply to low- and moderate-income families. This primarily occurs in markets where new housing construction is not meeting the demand for smaller units.

This methodology (replicating that resulting in the previously adopted Third Round Substantive Rules) defines residential conversions as the change in total units, accounting for new construction (as indicated by certificates of occupancy) and demolitions. According to the U.S. Census, the number of housing units increased by 234,965 in New Jersey between 1990 and 2000. Our analysis of municipal-level data from the New Jersey Construction Reporter finds that, during the same time period, 233,916 certificates of occupancy were issued. According to state-level data reported in the previously adopted Third Round Substantive Rules (Appendix A, page 86), 26,212 residential properties were demolished between 1990 and 1999. Subtracting certificates of occupancy and adding demolitions to the total change in housing units (234,965 – 233,916 + 26,212) results in a difference of 27,261 units; these units were likely added through residential conversions.

This methodology estimates that 19.5 percent of converted units (5,316 units) are priced for low- and moderate-income households (since 19.5 percent of New Jersey's housing stock was affordable to these households in 2000).[4] Projecting these 10-year trends out 19 and a half years (from mid-1999 through 2018) suggests that 10,366 units will be created as a result of residential conversions throughout New Jersey.

COAH Region		Residential Conversion (1999-2018)
1	Northeast	1,163
2	Northwest	1,283
3	West Central	1,782
4	East Central	3,144
5	Southwest	2,079
6	South-Southwest	915
Total		10,366

Unlike filtering and residential conversions, demolitions, which occur as land values outpace housing utility and dilapidated building conditions reach hazardous levels, represent a source of additional *demand* (not supply). In other words, while filtering and residential conversions can create affordable units, demolitions eliminate affordable units. By removing housing from the existing stock, particularly that portion of the stock affordable and available to low-income households, demolitions increase the demand for those units that remain.

In order to estimate the number of demolitions likely to occur through 2018, this analysis collects demolition totals for all New Jersey municipalities from the New Jersey Construction Reporter for the years 1996 through 2006. On average, 4,829 properties were demolished annually during this time period.

COAH Region		Average Annual Number of Demolitions (1996-2006)
1	Northeast	907
2	Northwest	1,245
3	West Central	315
4	East Central	811
5	Southwest	504
6	South-Southwest	1,046
Total		4,829

These annual averages are multiplied by 14 to determine the total number of demolitions expected to occur between 2004 and 2018 (used to estimate the number of units required to replace the loss of depreciated units, a component of housing unit growth described in the next section) and by 19.5 to determine the total number of demolitions expected to occur between the middle of 1999 and the end of 2018 (used as a secondary source of supply in this section).

As with residential conversions, this methodology assumes that 19.5 percent of demolitions directly affect low- and moderate-income households by removing low-cost units from the housing stock.

COAH Region		All Demolitions (1999-2018)	Demolitions affecting Low- and Moderate-Income Households (19.5 percent of All Demolitions)
1	Northeast Region	17,685	3,449

2	Northwest Region	24,279	4,734
3	West Central Region	6,146	1,198
4	East Central Region	15,816	3,084
5	Southwest Region	9,835	1,918
6	South-Southwest Region	20,397	3,977
Total		94,158	18,361

Together these methods result in the following number of affordable housing units provided by secondary sources of supply for the State as a whole:

COAH Region		Filtering (1999-2018)	Residential Conversions (1999-2018)	Demolitions (1999-2018)	Total of Secondary Sources
1	Northeast	5,254	1,163	-3,449	2,969
2	Northwest	2,111	1,283	-4,734	-1,340
3	West Central	610	1,782	-1,198	1,194
4	East Central	2,459	3,144	-3,084	2,519
5	Southwest	7,428	2,079	-1,918	7,589
6	South-Southwest	5,764	915	-3,977	2,701
Total		23,626	10,366	-18,361	15,631

ADJUSTED PROJECTED NEED

Ultimately, affordable housing need is the Total Projected Need (based on household growth) minus the Secondary Sources of Supply already responding to a portion of that need.

COAH Region		Projected Affordable Housing Need (1999-2018)	Secondary Sources (1999-2018)	Adjusted Projected Need (1999-2018)
1	Northeast Region	14,663	-2,969	11,694
2	Northwest Region	14,094	1,340	15,434
3	West Central Region	16,970	-1,194	15,776
4	East Central Region	36,812	-2,519	34,293
5	Southwest Region	18,782	-7,589	11,193
6	South-Southwest Region	25,953	-2,701	23,251
Total		131,297	-15,631	115,666

This figure, the "Adjusted Projected Need (1999-2018)," is the numerator in the growth share ratio and therefore determines how much affordable housing need will be distributed across residential development and job increases.

To check the robustness of this approach, we estimate affordable housing need using a second approach. This second approach is modeled on the Department of Housing and Urban Development's (HUD) technique for identifying households with housing problems. According to the HUD approach, "housing need" is comprised of low- and moderate-income households (those below 80 percent of median income) paying 30 percent or more of household income on owner costs or rent, and any household living in dilapidated housing or in overcrowded conditions. As in the Secondary Sources approach, we assume that these issues will affect the same portion of new New Jersey households as they do all New Jersey households in 2000 (according to the Comprehensive Housing Affordability Strategy (CHAS) Dataset (available at www.huduser.org/datasets/cp.html)). We also add to this total the additional demand stemming from individuals currently living in non-institutional group quarters. As expected (because the HUD approach incorporates both primary and secondary sources of supply), the need number reached using this approach is slightly lower than that using the Secondary Sources approach. However, both result in similar growth share ratios (described in further detail below). As a result, this helps validate the use of and conclusions reached using the Secondary Sources Approach.

HOUSING UNIT GROWTH (2004-2018)

In COAH's Third Round Rules, municipalities incur affordable housing obligations when local housing units and jobs increase. To quantify these increases, Econsult projects housing unit and employment growth from 2004 to 2018 for all municipalities and the State as a whole. Because housing prices and production vary over long periods of time, with rapid growth in some periods and slow growth in others, extending projections out to 2018

makes sense in order to reflect both strong and weak housing markets. Given New Jersey's very strong housing market in recent years, it is likely that that projections stopping in 2014 would disproportionately capture a relatively slow part of the housing cycle.

According to Econsult's projections (described in detail in Appendix F), New Jersey will add the following number of housing units between 2004 and 2018:

COAH Region		Housing Units 2004	Housing Units 2018	Net Housing Unit Change (2004-2018)
1	Northeast Region	822,830	865,397	42,567
2	Northwest Region	725,278	774,896	49,618
3	West Central Region	450,829	497,966	47,137
4	East Central Region	652,007	721,975	69,968
5	Southwest Region	472,416	522,750	50,334
6	South-Southwest Region	289,826	310,394	20,568
Total		3,413,186	3,693,378	280,192

These figures show new construction but cannot capture the number of units built to replace those removed from the housing stock through demolition. The net removal of existing homes – through intentional demolition as well as due to disasters such as storms or fires – represents a "crucial component of overall housing demand."[5] This component is the number of housing units required to replace units lost, over and above the new units required to accommodate household growth.

Existing techniques for quantifying the number of net removals rely on Census estimates and direct measures of net removals, construction data, and housing counts from the decennial census. The Census estimates a roughly 0.3 percent net removal rate. Our net removal rate is based on actual demolition trends and the existing housing stock in New Jersey. On average, 4,829 units were demolished annually between 1996 and 2006 Statewide. This figure represents 0.15 percent of New Jersey's total housing units (3,310,275 in 2000, according to the Census). This net removal rate (0.15 percent) is similar to but below the national rate, a result not unanticipated given the higher-than-average property values in New Jersey.

To account for the replacement of depreciated units, this methodology adds a figure comparable to the total number of demolitions (projected for the period from 2004 to 2018 by multiplying the average annual number of properties demolished between 1996 and 2006 by 14) to the Net Housing Unit Change to arrive at an overall figure for projected housing unit growth. This calculation results in an estimate of 67,601 replacement units between 2004 and 2018.

COAH Region		Replacement Units (2004-2018)
1	Northeast Region	12,697
2	Northwest Region	17,431
3	West Central Region	4,413
4	East Central Region	11,355
5	Southwest Region	7,061
6	South-Southwest Region	14,644
Total		67,601

As in the previously adopted Third Round Substantive Rules, it is further assumed that the delivery of the Remaining Prior Round Obligation will reduce the housing supply able to support the current round's affordable housing requirement. An analysis by COAH staff determined that 22,980 units are necessary to deliver prior round obligations.

COAH Region		Units Required to Deliver Prior Round
1	Northeast Region	3,480
2	Northwest Region	4,740
3	West Central Region	2,610
4	East Central Region	8,880
5	Southwest Region	3,000
6	South-Southwest Region	270
Total		22,980

Therefore, considering growth between 2004 and 2018, factoring in replacement units, and subtracting out the number of units required to deliver the prior round obligation, the total number of units available to deliver housing for the current round need is 324,813 units.

COAH Region		Housing Unit Change (2004-2018)	Replacement Units (2004-2018)	Units Required to Deliver Prior Round	Reduced Units to Deliver Current Round
1	Northeast Region	42,567	12,697	-3,480	51,784
2	Northwest Region	49,618	17,431	-4,740	62,309
3	West Central Region	47,137	4,413	-2,610	48,940
4	East Central Region	69,968	11,355	-8,880	72,443
5	Southwest Region	50,334	7,061	-3,000	54,395
6	South-Southwest Region	20,568	14,644	-270	34,942
Total		280,192	67,601	-22,980	324,813

EMPLOYMENT GROWTH (2004-2018)

There is a strong link between jobs and housing. New jobs create a demand for housing by attracting new workers into a municipality, who will themselves require housing. (New jobs can also increase municipalities' tax bases.) Therefore, this non-residential development will generate a portion of the State's future affordable housing need.

According to Econsult's analysis (based on employment data from the New Jersey Department of Labor and Workforce Development, described in Appendix F), overall employment is expected to increase Statewide by 722,886 jobs between 2004 and 2018.

COAH Region		Employment 2004	Employment 2018	Net Total Employment Change (2004-2018)
1	Northeast Region	906,217	1,061,235	155,018
2	Northwest Region	903,057	1,066,602	163,545
3	West Central Region	607,514	700,025	92,511
4	East Central Region	574,244	726,717	152,473
5	Southwest Region	493,128	614,841	121,712
6	South-Southwest Region	268,996	306,622	37,626
Total		3,753,156	4,476,042	722,886

STATEWIDE GROWTH SHARE RATIOS

New residential and non-residential growth – and the municipalities that experience that growth – will be responsible for addressing the projected affordable housing need (115,666 units). The more municipalities grow, the greater their obligation, or "growth share." A municipality's "growth share" is a function of its actual growth. The Growth Share Ratios show the affordable obligation incurred by growth in housing units and jobs.

Because municipalities' affordable housing need stems from their increase in low- and moderate-income households as well as their increase in jobs (which attract additional employees, themselves in need of housing), there are two ratios: one for housing; and one for employment.

Affordable housing obligation is balanced between housing unit and employment growth, with a slightly greater emphasis on housing unit growth. Assigning 60 percent of projected affordable housing need to projected housing unit growth from 2004 to 2018, and 40 percent to projected net employment growth from 2004 to 2018, results in the following growth share ratios:

New Jersey	
60 percent/40 percent Split	One Affordable Unit among Five Units Produced
	One Affordable Unit for 16 Jobs Created

MUNICIPAL-LEVEL OBLIGATIONS

To generate housing unit and employment growth at the municipal level, Econsult follows a five-step process. First, Econsult projects 2018 figures for each municipality based on its historical growth rate and build-out level. (These individual projections are aggregated at the county level and compared to county control figures. Whenever this sum exceeds county control totals, Econsult proportionally scales the individual projections down.) Second, Econsult verifies these projections against the physical growth capacity of each municipality and ensures that no town has exceeded its maximum growth level. Third, Econsult checks to see that future growth is not significantly faster than historical growth. Fourth, when municipalities exceed both these upper growth limits, the excess population "spills over" into neighboring communities until those communities reach their own upper growth limits. Lastly, these final municipal totals are again summed to the county level and compared to county controls.

These totals provide estimates of growth at the municipal level. It should be noted that these are projections and actual growth will differ. As noted by the New Jersey Department of Labor and Workforce Development, projections "are not intended to constrain or to advocate specific levels of growth in the state. . . These projections are best used as a reference framework for planning, research, and program evaluation."

While municipalities incur affordable housing obligations with actual growth, these totals establish the expected need for affordable units which municipalities are obligated to respond to through zoning and other methods. Municipal-level projections are used as a starting point to determine that municipalities are providing for their fair share of affordable need going forward, with a focus on that portion that can be accommodated through

inclusionary zoning of vacant land. At a minimum, municipalities must zone or otherwise provide for their projected increase in housing units based on available vacant land.

Although they are derived from the best available data and methodology, replacement units cannot be reliably predicted at the municipal or regional level going forward. However, at the statewide level, they provide an estimate for how much growth New Jersey can expect in the future. This actual growth, wherever it takes place, will be captured by the Growth Share Ratios described in this appendix.

In sum, municipalities incur obligations to provide affordable housing only when and to the extent growth occurs. Each municipality's current round affordable housing obligation is based on *actual* growth while maintaining zoning based on projections to establish a realistic opportunity for affordable housing.

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[1] This current round obligation is in addition to municipalities' remaining obligations from prior rounds and rehabilitation obligation. These reflect communities' Rehabilitation Share and Prior Round Affordable Housing Need, described in detail in Appendices B and C.

[2] These units are removed because they are part of prior round plans to deliver affordable housing.

[3] Spontaneous rehabilitations were not included in this methodology. Research team members felt that while units were likely brought up to code ("spontaneously rehabilitated") over the course of the study period, others likely fell out of compliance, and it was not possible to verify the number of properties doing either one.

[4] According to the National Association of Realtors' mortgage calculator – and assuming households could put up to $10,000 toward their down-payment, had the State's average car payment ($447.00, reported by Edmunds Automotive Network) and credit card debt ($165.00, reported by PlasticEconomy.com), took out a loan at 6.375 percent (roughly the average commitment rate for 30-year, fixed rate loans in 2006 and 2007, according to Freddie Mac), and faced a 2.5 percent property tax rate (slightly below the average effective property tax rate for all New Jersey municipalities in 2004, reported by the New Jersey Division of Taxation) – a household earning $52,276 (the state median in 2000) could afford a $109,547 home. U.S. Census data from 2000 indicates that 19.5 percent of specified owner-occupied units were valued below $109,547.

[5] *America's Home Forecast: The Next Decade for Housing and Mortgage Finance* issued by the Homeownership Alliance, pg. 19.

APPENDIX C

COUNCIL ON AFFORDABLE HOUSING (COAH)

PRIOR ROUND AFFORDABLE NEED UPDATED METHODOLOGY

CONTENTS

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INTRODUCTION

As part of this effort, researchers also reviewed prior round obligation numbers and updated those numbers based on the latest data available for measuring secondary sources of supply. Replicating the existing methodology with updated data (described in detail below) increased municipalities' collective prior round obligation by 992 units in comparison to the 1993 unadjusted obligations. COAH is adopting municipalities' unadjusted 1987 to 1999 obligations, first published in 1993, which totaled 85,964, as shown in this Appendix. These are the numbers under which municipalities received substantive certification for their second round new construction obligations (prior round obligation). The methodology description below details the process researchers undertook to validate and update (where indicated) the prior round obligation numbers.

THE ADJUSTED BASE

In 1993, COAH released municipal-level affordable housing obligations that consisted of Indigenous Need *plus* Reallocated Present Need *plus* Prospective Need (1993 to 1999) *plus* Prior Round Prospective Need *plus* Demolitions *minus* Filtered Units *minus* Residential Conversions *minus* Spontaneous Rehabilitations. The Prior Round Prospective Need, as published in 1993, was updated by the prior research team of Robert W. Burchell and William R. Dolphin, from Rutgers University, in 2004.

Replication efforts followed the methodology described in the Existing Third Round Rules, used data presented in the August 19, 2004, OPRA response, and accepted the chapter Appendix A assertion that 2000 Census data indicated a 25 percent increase in all previously published projections (based on 1993 numbers). This effort recalculated only 1993 to 1999 Prospective Need, Demolitions, Filtered Units, and Residential Conversions. (The First Round Prospective Need was already adjusted in 1993 to reflect the difference between 1987 projections and data published in 1993 based on the 1990 Census.)

This work resulted in a Prior Round Obligation of 3,844 more units than previously published. These updated numbers were used as the Adjusted Base in this methodology.

COAH Region		Adjusted Base
1	Northeast	12,882
2	Northwest	7,490
3	West Central	17,573
4	East Central	32,602
5	Southwest	18,303
6	South-Southwest	10,582
Total		99,432

Again, the Adjusted Base of 99,432 units consists of the following three components: 1) the first round prior round prospective need of 38,202 units; 2) the second round prospective need of 42,127 units with a 25 percent increase in the 1993 numbers, resulting in 52,658 units; and 3) the second round reallocated present need of 8,572 units. The remaining reallocated present need was credited to the third round Rehabilitation Share.

DEMOLITIONS

Demolition data by municipality is available from the New Jersey Construction Reporter for the years 1996 to 2007. Statewide demolition totals from 1990 to 1999 were listed in the existing Third Round Substantive Rules. To determine the number of demolitions in each municipality between 1993 and 1999, this methodology first gathered municipal-level data for 1996 to 1999 from the New Jersey Construction Reporter. Next, this methodology analyzed the State-level data to determine what portion of New Jersey demolitions occurring between 1993 and 1999 occurred between 1996 and 1999.

Year	Demolitions	Breakdown
1993	1,430	
1994	1,471	30 percent
1995	3,350	
1996	2,642	
1997	4,918	70 percent
1998	2,867	
1999	4,052	
Total	20,730	

It was assumed that this breakdown held at the municipal level as well, or that each municipal total for 1996 to 1999 represented 70 percent of a community's total number of demolitions from 1993 to 1999. Therefore, to get a demolition figure for 1993 to 1999 at the municipal level, each municipal total from 1996 to 1999 was divided by 70 percent.

To isolate demolitions affecting low- and moderate-income households (by removing stock affordable to these households), this methodology then multiplied municipality demolition totals by 19.5 percent, the portion of New Jersey's housing valued at a level that low- and moderate-income households can afford.[1]

COAH Region		Demolitions (1993-1999)
1	Northeast	587
2	Northwest	1,422
3	West Central	298
4	East Central	556
5	Southwest	383
6	South-Southwest	795
Total		4,040

FILTERING

Econsult reviewed comprehensive property-level data on all paired home transactions in New Jersey from 1989-2006 to identify "filtered" housing unit – those that experienced a significant price change and whose occupant experienced a significant income change. Researchers further refined this analysis to focus only on those units starting or ending at values affordable to low- and moderate-income households or with occupants earning incomes below 80 percent of their regional median. (These methods are described in further detail in chapter Appendix F.)

According to Econsult's analysis (described in further detail in Appendix F), 7,796 units filtered down to households of lower incomes between 1993 and 1999:

COAH Region		Filtering (1993-1999)
1	Northeast	3,422
2	Northwest	1,708
3	West Central	402
4	East Central	554
5	Southwest	1,351
6	South-Southwest	359
Total		7,796

RESIDENTIAL CONVERSIONS

This methodology replicated the technique used in the previously released Third Round Substantive Rules, using the following steps to quantify residential conversions:

- The **change in total units** was derived by subtracting the number of housing units reported by the U.S. Census in 1990 from the number of housing units reported by the U.S. Census in 2000.
- **Certificates of Occupancy** numbers are available at the municipal level from the New Jersey Construction Reporter for 1996 to 1999. These totals were extrapolated to the 1990 to 1999 time span by analyzing building permits issued at the state level from 1990 to 1999 (available from the U.S. Census at http://www.census.gov/const/www/C40/table2.html#annual) to determine what portion of New Jersey building permits issued between 1990 and 1999 were issued between 1996 and 1999. It was assumed that the same breakdown held at the municipal level, or that each municipal total for 1996 to 1999 represented 48 percent of a community's total number of certifications from 1990 to

1999. Therefore, to get a certification figure for 1990 to 1999 at the municipal level, each municipal total from 1996 to 1999 was divided by 48 percent.

- **Demolition** data was collected at the municipal level from the New Jersey Construction Reporter for the years 1996 to 1999. To determine the number of demolitions in each municipality between 1990 and 1999, this methodology analyzed the State-level data to determine what portion of New Jersey demolitions occurring between 1990 and 1999 occurred between 1996 and 1999. It was assumed that this breakdown held at the municipal level, or that each municipal total for 1996 to 1999 represented 55 percent of a community's total number of demolitions from 1990 to 1999. Therefore, to get a demolition figure for 1990 to 1999 at the municipal level, each municipal total from 1996 to 1999 was divided by 55 percent.

Residential Conversions = Change in Units *minus* C of Os *plus* Demolitions

This methodology assumed that 19.5 percent of residential conversions were occupied by low- or moderate-income households. (In 2000, this portion of all New Jersey housing units was affordable to low- and moderate-income households.) The number of residential conversions affecting low- and moderate-income households between 1993 and 1999 is simply two-thirds (66.67 percent) of the Low-/Moderate-Income Share of Residential Conversions occurring between 1990 and 1999.

If a municipality lost low- or moderate-income units through conversions (the case in 257 communities), its residential conversion figure was 0. This was done because filtering numbers implicitly account for any loss of stocks.

Ultimately, these calculations indicated that there were 8,720 residential conversions statewide between 1993 and 1999:

COAH Region		**Residential Conversions (1993-1999)**
1	Northeast	2,338
2	Northwest	1,833
3	West Central	1,334
4	East Central	1,273
5	Southwest	1,299
6	South-Southwest	643
Total		8,720

REACHING AN UPDATED PRIOR ROUND AFFORDABLE HOUSING NEED

The Updated Affordable Housing Need in is equal to the Adjusted Base *plus* Demolitions *minus* Filtering *minus* Residential Conversions.[2] According to this analysis, 58 municipalities had negative Updated Prior Round Need numbers. Converting these negative figures to zero results in the following regional and Statewide totals:[3]

COAH Region		**Updated Prior Round Need**
1	Northeast	11,355
2	Northwest	6,774
3	West Central	16,310
4	East Central	31,931
5	Southwest	16,988
6	South-Southwest	10,456
Total		93,813

The municipal level figures are as follows:

Municipality	County	1987-99 Obligation
Absecon City	Atlantic County	144
Atlantic City	Atlantic County	2,458
Brigantine City	Atlantic County	124
Buena Borough	Atlantic County	41
Buena Vista Township	Atlantic County	19
Corbin City	Atlantic County	13
Egg Harbor City	Atlantic County	42
Egg Harbor Township	Atlantic County	763
Estell Manor City	Atlantic County	21

Municipality	County	1987-99 Obligation
Folsom Borough	Atlantic County	20
Galloway Township	Atlantic County	328
Hamilton Township	Atlantic County	349
Hammonton Town	Atlantic County	257
Linwood City	Atlantic County	140
Longport Borough	Atlantic County	59
Margate City	Atlantic County	96
Mullica Township	Atlantic County	40
Northfield City	Atlantic County	190
Pleasantville City	Atlantic County	0
Port Republic City	Atlantic County	19
Somers Point City	Atlantic County	103
Ventnor City	Atlantic County	27
Weymouth Township	Atlantic County	15
TOTAL ATLANTIC		5,268
Allendale Borough	Bergen County	137
Alpine Borough	Bergen County	214
Bergenfield Borough	Bergen County	87
Bogota Borough	Bergen County	13
Carlstadt Borough	Bergen County	228
Cliffside Park Borough	Bergen County	28
Closter Borough	Bergen County	110
Cresskill Borough	Bergen County	70
Demarest Borough	Bergen County	66
Dumont Borough	Bergen County	34
East Rutherford Borough	Bergen County	90
Edgewater Borough	Bergen County	28
Elmwood Park Borough	Bergen County	54
Emerson Borough	Bergen County	74
Englewood City	Bergen County	152
Englewood Cliffs Borough	Bergen County	219
Fair Lawn Borough	Bergen County	152
Fairview Borough	Bergen County	20
Fort Lee Borough	Bergen County	180
Franklin Lakes Borough	Bergen County	358
Garfield City	Bergen County	0
Glen Rock Borough	Bergen County	118
Hackensack City	Bergen County	201
Harrington Park Borough	Bergen County	56
Hasbrouck Heights Borough	Bergen County	58
Haworth Borough	Bergen County	64
Hillsdale Borough	Bergen County	111
Hohokus Borough	Bergen County	83
Leonia Borough	Bergen County	30
Little Ferry Borough	Bergen County	28
Lodi Borough	Bergen County	0

Municipality	County	1987-99 Obligation
Warren Township	Somerset County	543
Watchung Borough	Somerset County	206
TOTAL SOMERSET		4,639
Andover Borough	Sussex County	7
Andover Township	Sussex County	55
Branchville Borough	Sussex County	13
Byram Township	Sussex County	33
Frankford Township	Sussex County	36
Franklin Borough	Sussex County	9
Fredon Township	Sussex County	29
Green Township	Sussex County	20
Hamburg Borough	Sussex County	14
Hampton Township	Sussex County	44
Hardyston Township	Sussex County	18
Hopatcong Borough	Sussex County	93
Lafayette Township	Sussex County	27
Montague Township	Sussex County	9
Newton Town	Sussex County	24
Ogdensburg Borough	Sussex County	13
Sandyston Township	Sussex County	13
Sparta Township	Sussex County	76
Stanhope Borough	Sussex County	15
Stillwater Township	Sussex County	15
Sussex Borough	Sussex County	0
Vernon Township	Sussex County	60
Walpack Township	Sussex County	0
Wantage Township	Sussex County	35
TOTAL SUSSEX		658
Berkeley Heights Township	Union County	183
Clark Township	Union County	92
Cranford Township	Union County	148
Elizabeth City	Union County	0
Fanwood Borough	Union County	45
Garwood Borough	Union County	19
Hillside Township	Union County	0
Kenilworth Borough	Union County	83
Linden City	Union County	209
Mountainside Borough	Union County	123
New Providence Borough	Union County	135
Plainfield City	Union County	0
Rahway City	Union County	70
Roselle Borough	Union County	0
Roselle Park Borough	Union County	0
Scotch Plains Township	Union County	182
Springfield Township	Union County	135
Summit City	Union County	171

Municipality	County	1987-99 Obligation
Union Township	Union County	233
Westfield Town	Union County	139
Winfield Township	Union County	0
TOTAL UNION		1,967
Allamuchy Township	Warren County	13
Alpha Borough	Warren County	13
Belvidere Town	Warren County	0
Blairstown Township	Warren County	12
Franklin Township	Warren County	11
Frelinghuysen Township	Warren County	6
Greenwich Township	Warren County	41
Hackettstown Town	Warren County	62
Hardwick Township	Warren County	6
Harmony Township	Warren County	47
Hope Township	Warren County	8
Independence Township	Warren County	10
Knowlton Township	Warren County	14
Liberty Township	Warren County	7
Lopatcong Township	Warren County	56
Mansfield Township	Warren County	3
Oxford Township	Warren County	2
Phillipsburg Town	Warren County	0
Pohatacong Township	Warren County	47
Washington Borough	Warren County	0
Washington Township	Warren County	48
White Township	Warren County	16
TOTAL WARREN		422
TOTAL STATE		85,964

[1] According to the National Association of Realtors' mortgage calculator – and assuming households could put up to $10,000 toward their down-payment, had the state's average car payment ($447.00, reported by Edmunds Automotive Network) and credit card debt ($165.00, reported by PlasticEconomy.com), took out a loan at 6.375 percent (roughly the average commitment rate for 30-year, fixed rate loans in 2006 and 2007, according to Freddie Mac), and faced a 2.5 percent property tax rate (slightly below the average effective property tax rate for all New Jersey municipalities in 2004, reported by the New Jersey Division of Taxation) – a household earning $52,276 (the state median in 2000) could afford a $109,547 home. U.S. Census data from 2000 indicates that 19.5 percent of specified owner-occupied units were valued below $109,547.

[2] Spontaneous rehabilitations were not included in this methodology since, while units were likely brought up to code ("spontaneously rehabilitated") over the course of the study period, others likely fell out of compliance, and it was not possible to verify the number of properties doing either.

[3] If these negative figures were not zeroed out but kept as negative values, the Statewide Update Prior Round Need would be 86,956 and the regional subtotals as follows:

COAH Region		Updated Prior Round Need
1	Northeast	7,709
2	Northwest	5,371
3	West Central	16,135
4	East Central	31,331
5	Southwest	16,035
6	South-Southwest	10,374

APPENDIX D

UCC USE GROUPS FOR PROJECTING AND IMPLEMENTING NON-RESIDENTIAL COMPONENTS OF GROWTH SHARE

A one in 16 non-residential ratio shall be used to determine the number of affordable units to be created for each new job created in a municipality. For every 16 new jobs created in a municipality, as measured by new or expanded non-residential construction, the municipality shall have the obligation to provide one affordable residential unit. New jobs created shall be based on the gross square footage of non-residential development and on the use group of the facility being constructed. Use groups are as defined by the International Building Code (IBC) which has been incorporated by reference into the Uniform Construction Code (UCC). The following chart shall be used to project and implement the non-residential component of growth share:

Use Group	Description	Square Feet Generating One Affordable Unit	Jobs Per 1,000 Square Feet
B	Office buildings. Places where business transactions of all kinds occur. Includes banks, corporate offices, government offices, professional offices, car showrooms and outpatient clinics.	5,714	2.8
M	Mercantile uses. Buildings used to display and sell products. Includes retail stores, strip malls, shops and gas stations.	9,412	1.7
F	Factories where people make, process, or assemble products. Includes automobile manufacturers, electric power plants, foundries, and incinerators. F use group includes F1 and F2.	13,333	1.2
S	Storage uses. Includes warehouses, lumberyards, and aircraft hangers but excludes parking garages. S group includes S1 and S2.	10,667	1.5
H	High Hazard manufacturing, processing, generation and storage uses. H group includes H1, H2, H3, H4 and H5.	10,000	1.6
A1	Assembly uses including theaters, concert halls and TV studios.	10,000	1.6
A2	Assembly uses including casinos, night clubs, restaurants and taverns.	5,000	3.2
A3	Assembly uses including libraries, lecture halls, arcades, galleries, bowling alleys, funeral parlors, gymnasiums and museums but excluding houses of worship.	10,000	1.6
A4	Assembly uses including arenas, skating rinks and pools.	4,706	3.4
A5	Assembly uses including bleachers, grandstands, amusement park structures and stadiums	6,154	2.6
E	Schools K - 12	Exclude	Exclude
Various	Institutions of higher education	Exclude	Exclude
I	Institutional uses such as hospitals, nursing homes, assisted living facilities and jails. I group includes I1, I2, I3 and I4.	6,154	2.6
R1	Hotels and motels	9,412	1.7
U	Miscellaneous uses. Fences tanks, barns, agricultural buildings, sheds, greenhouses, etc.	Exclude	Exclude

In the case of mixed-use development, the jobs calculation will be assigned in proportion to the square footage of each use in the mixed use development.

For example, if a municipality issues a certificate of occupancy for a 10,000 square foot restaurant (use group A2), the affordable housing obligation would be 10,000 ÷ 5,000 or two affordable units. Alternatively, the affordable housing obligation for this same development could be calculated by applying a ratio of one unit for each 16 jobs created as follows: 10,000 ÷ 1,000 x 3.2 ÷ 16 = 2.

APPENDIX E

CRITERIA FOR POST-1986 CREDITS

In order to be eligible as a post-1986 credit, as referenced in N.J.A.C. 5:94-4.3, affordable housing developments and units must meet the following criteria:

Distribution of low and moderate income units:

With the exception of inclusionary developments constructed pursuant to the four percent low income tax credit regulations pursuant to the Internal Revenue Code Section 42h, at least half of all affordable units within each affordable housing development are affordable to low income households.

With the exception of inclusionary developments constructed pursuant to the four percent low income tax credit regulations pursuant to the Internal Revenue Code Section 42h, at least one-third of all affordable units in each bedroom distribution (pursuant to below) are affordable to low income households.

Bedroom distribution for affordable housing developments that are not age-restricted:

The combination of efficiency and one bedroom units is at least 10 percent and no greater than 20 percent of the total low and moderate income units.

At least 30 percent of all low and moderate income units are two-bedroom units.

At least 20 percent of all low and moderate income units are three-bedroom units.

Bedroom distribution for affordable housing developments that are age-restricted:

The number of bedrooms equals the number of age restricted low and moderate income units within the inclusionary development. The standard can be met by having all one-bedroom units or by having a two-bedroom unit for each efficiency unit.

Rents and prices of affordable units:

The following criteria was used to determine the initial maximum rents and sale prices of affordable units:

1. Efficiency units are affordable to one-person households;
2. One-bedroom units are affordable to 1.5 person households;
3. Two-bedroom units are affordable to three person households; and
4. Three-bedroom units are affordable to 4.5 person households.

The initial price of a low- and moderate-income owner-occupied single family housing unit was established so that after a down payment of five percent, the monthly principal, interest, homeowner and private mortgage insurances, property taxes (property taxes shall be based on the restricted value of low and moderate income units) and condominium or homeowner fees did not exceed 28 percent of the eligible gross monthly income. The master deeds of inclusionary developments regulating condominium or homeowner association established fees or special assessments of low and moderate income purchasers at a specific percentage of those paid by market purchasers. The percentage that shall be paid by low and moderate income purchasers is at least one third of the condominium or homeowner association fees paid by market purchasers. Once established within the master deed, the percentage shall not be amended without prior approval from the Council.

Gross rents of affordable units, including an allowance for utilities, was established so as not to exceed 30 percent of the gross monthly income of the appropriate household size. Those tenant-paid utilities that are included in the utility allowance are so stated in the lease. The allowance for utilities shall be consistent with the utility allowance approved by HUD for use in New Jersey. Any increases in rents and sales prices did not exceed the annual maximums permitted by COAH's regulations.

Affordability Average

For affordable housing developments constructed before January 1, 2001, the initial maximum average rent or price of low and moderate income units within each development was affordable to households earning 57.5 percent of median income. The moderate income sales units were available for at least three different prices and low income sales units were available for at least two different prices. For rental units, there must have been one rent for a low income unit and one rent for a moderate income unit for each bedroom distribution.

For affordable housing developments constructed on or after January 2, 2001 the initial maximum rents of low and moderate-income units within each development were affordable to households earning no more than 60 percent of median income. In averaging an affordability range of 52 percent for rental units, there must have been one rent for a low-income unit and one rent for a moderate-income unit for each bedroom distribution. The initial maximum sales prices of low and moderate income units within each development were affordable to households earning no more than 70 percent of median income. In averaging an affordability range of 55 percent for sales units, the moderate income sales units were available for at least two different prices and low income sales units were available for at least two different prices.

APPENDIX F

CONSULTANT REPORTS

COUNCIL ON AFFORDABLE HOUSING (COAH)

CONTENTS

Analysis of Vacant Land in New Jersey And Its Capacity to Support Future Growth

Prepared by
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For
The Council on Affordable Housing
Department of Community Affairs
State of New Jersey

Final Report
December 31, 2007

Table of Contents

1.0 Introduction

The National Center for Neighborhood & Brownfields Redevelopment (the Center) was requested by the New Jersey Council on Affordable Housing (COAH) to:

- Prepare a comprehensive analysis of vacant available land in the State of New Jersey;
- Estimate the capacity of that land to support future residential and non-residential development; and
- Estimate the amount of redevelopment that would occur statewide in the future.

These tasks are part of a larger project encompassing the analysis and revision of COAH's proposed Third Round Affordable Housing Rules, which is being led by the Penn Institute for Urban Research and Wharton GIS Lab at the University of Pennsylvania (U. Penn Team). The results produced by the Center will be used for three primary purposes:

- To determine if there is sufficient vacant land and remaining development capacity to support the State's projections of growth in households and employment out to at least the year 2018;
- To determine if there is sufficient vacant land and remaining development capacity in growth areas of the State as a whole and in each of the COAH Regions, to support the use of a growth-share methodology and growth-share ratios for distributing affordable housing needs; and,
- To provide an estimated upper ceiling or limit on the amount of household and employment growth that each of the 566 municipalities in the State will be able to absorb before it becomes fully developed.

1.1 Revisions and Expansion of Project Scope

A Draft Report was submitted to COAH by the Center on October 5, 2007, and was reviewed and made public by the COAH Board on October 10th. Written comments and questions were subsequently received by COAH from several interested stakeholder groups, and the Center participated in discussions of the report and related issues with representatives of COAH and these interested stakeholders. In response, COAH requested the Center to revise and expand its vacant land and development capacity analysis to include the Flood Hazard Area Control Act Rules which were adopted by the Department of Environmental Protection subsequent to the issuance of the Draft Report, on November 5th. These Rules restrict development of lands located in flood hazard and riparian zones of regulated waters, as described in N.J.A.C. 7:13-3 and 4.

The Center was also asked to comment on the potential long-term impacts of: 1) the DEP's proposed amendments to the State's Water Quality Management Planning Act Rules, as published in the New Jersey Register on May 21, 2007; and 2) the Highlands Regional Master Plan – Draft Final and supporting technical information issued on November 30, 2007.

2.0 Regional Planning Areas

The State of New Jersey is divided into different planning, environmental and regional governing areas that are regulated or guided by rules established by the Office of Smart Growth (OSG) and State Planning Commission, Department of Environmental Protection (DEP), Meadowlands Commission, Highlands Council and Pinelands Commission. Some are statewide while others are regional in nature, and they often overlap one another, sometimes dissecting municipalities into multiple parts with different rules for determining what lands are vacant and available for future development, the types of development permitted and the densities at which development should occur. In an effort to take all of these variables into proper consideration, the Center utilized the following resources in developing its analysis of vacant land and the capacity of that land to support future growth:

- Meadowlands, Highlands and Pinelands – These three regional planning organizations govern the use of about 1.4 million acres of land (the Highlands Council shares authority over the Preservation Area with the DEP), and use different definitions and methods for determining vacant land, buildable area, land uses and development densities. The Center worked closely with each organization to calculate vacant land and development capacity in a manner that was consistent with their land use rules and regulations.
- Draft State Plan and State Plan Policy Map – The State Development and Redevelopment Plan divides the State into planning areas that share common conditions with regard to development and environmental features, and identifies:
  - Areas for Growth – Metropolitan (PA-1), Suburban (PA-2) and Designated Centers
  - Areas for Limited Growth: Fringe (PA-3), Rural (PA-4), and Environmentally Sensitive (PA-5)
  - Areas for Conservation: Fringe (PA-3), Rural (PA-4), and Environmentally Sensitive (PA-5)

The Center used residential densities consistent with the objectives of the State Plan and market trends to calculate the capacity of vacant lands outside of the Meadowlands, Highlands Preservation Area and the Pinelands to support future growth.

- Sewer Service Area – DEP spatial data was used to identify vacant lands within existing sewer service areas, and those that were not. The Center used residential densities consistent with the objectives of the State Plan and market trends to calculate the capacity of vacant lands located within a sewer service area (SSA), and used septic densities provided by the DEP at the watershed level to calculate the capacity of lands located outside of an SSA. Proposed Water Quality Management Planning (WQMP) Rule amendments would remove some environmentally sensitive lands from current sewer service areas and require that development outside of SSAs be at new lower septic supported densities. The amendments would also make it more difficult to expand centralized wastewater treatment facilities that are discharging into impaired waters. It is unclear if, what form and when these amendments may be adopted, and therefore are not considered to be constraints when estimating the development capacity of vacant lands in this analysis.

3.0 Vacant Land Analysis

Vacant land is defined as those lands which are undeveloped and not environmentally or otherwise constrained from future development, based on current State or regional agency regulations and policies. The Center divided the State into five geographic and regional units in order to recognize differences in regulatory and policy land use constraints imposed by the three regional planning agencies versus other areas of the State, as well as the availability and use of data sources of differing quality and detail:

- Meadowlands
- Pinelands
- Highlands Planning Area
- Highlands Preservation Area
- Rest of State

The most current version (Version 3 – June 2007) of the Draft State Plan Policy Map was provided by OSG and used to delineate State Planning Areas and the boundaries of the Meadowlands and Pinelands. The Highlands boundaries were downloaded from its web site. The three regional areas were extracted from the LU/LC base map and addressed separately as described in this report. A number of municipalities partly located in the Meadowlands and Pinelands were split into two parts, and vacant land was computed separately for each section based on rules appropriate to that area.

A number of other spatial layers were overlaid on the resulting data so that each vacant land spatial polygon created had attributes which allowed the results to be condensed and summarized by:

- Municipality (1980 FIPS Code)
- County
- COAH region
- Type of Community (Urban, Suburban Exurban and Rural based a methodology developed by the Center for Urban Policy Research at Rutgers University)
- State Planning Area
- Designated Center
- Sewer Service Area (NJDPES Permit number if available)

All of the Center's spatial analysis and calculation of vacant land was replicated independently by the Wharton GIS Lab at the University of Pennsylvania, and any discrepancies were resolved and corrected. In addition, the vacant land estimates for the Meadowlands, Pinelands and Highlands were provided to these agencies for review, and corrections and adjustments were made where applicable.

Although the data used in this analysis is the most current and accurate available, and the methodology for estimating vacant land was the most thorough and appropriate, there may be differences at the municipal or community level when compared to local on-the-ground knowledge of individual land parcels.

3.1 Rest of State

A number of studies of vacant land at the municipal, county, regional and state level have been conducted in recent years by different organizations using differing methodologies and spatial data sets. The Center felt that it was critical for COAH to use the most current and accurate spatial data available, and that it use a set of assumptions and methodologies that were supported by the State's Office of Smart Growth (OSG) and Department of Environmental Protection (DEP). To this end a meeting was held in May 2007 with representatives from OSG, DEP, COAH, the Center and the U Penn Team, to discuss what data was available and how it should be used to produce the most accurate estimate of vacant land under current State regulation and land use policies.

It was agreed that vacant land outside of the New Jersey Highlands, Pinelands and Meadowlands ("Rest of State") would be calculated by the Center using spatial files made available by OSG, DEP and the NJ Department of Agriculture. The DEP's 2002 LU/LC spatial file would be used as the base file, and the following spatial data would be removed/subtracted from it to obtain vacant lands available for future development (see Appendix A for LU/LC Dictionary and Appendix B for list of spatial files):

1. All lands within the legislated boundary lines of the New Jersey Highlands, Pinelands and Meadowlands;
2. Lands already developed (IDs 1 – 5 in Dictionary);
3. Undeveloped-Unavailable Lands (IDs 10 & 11);
4. Undeveloped Wetlands (ID 9);
5. Public open space, parks, etc. (from OSG);
6. Private open space (from OSG);
7. Preserved farmlands (from NJ Department of Agriculture);
8. Buffers around C-1 streams (calculated by Center);
9. Developed areas within LU/LC code 1700 (from DEP); and
10. Upper Wetlands Boundary/Upper Wetlands Limit (from DEP).

The lands that were removed in this process included those that were already developed; waters and wetlands where development is either not permitted or highly restricted under current DEP rules, including 300 foot buffers around all Category One streams and their primary tributaries; parks, and privately and publicly acquired lands for open space or land conservancy purposes; preserved farmlands; and other lands deemed by DEP to be unavailable for development pursuant to current environmental rules and regulations.

3.1.1 Flood Hazard Area Constraints

In this revised analysis, the Center expanded the above list of constrained lands to remove flood plains and riparian zones described in the Flood Hazard Area Control Act Rule that was adopted on November 5, 2007. The flood hazard and floodway areas are based on a spatial database compiled by DEP using FEMA Flood Insurance Rate Maps (FIRM) covering the State's counties and municipalities as of 1996. These maps identify land areas that are subject to flooding at least every 100 years. The statewide database was developed through the merger of about two thousand individual spatial files, and as such they may not perfectly edge-match or exactly follow the more accurate 2002 LU/LC digital imagery. However, DEP and the Center believe that this data is a reasonable surrogate for flood-prone areas as per the FEMA definitions on a macro statewide scale.

The Flood Hazard Area Control Act Rules severely limit, but do not prevent new construction or redevelopment of existing structures in the floodplain. Construction outside the floodway and projects that are not a major development, as defined at N.J.A.C. 7:8- 1.2, and therefore not subject to the requirements of the Stormwater Management rules at N.J.A.C. 7:8 may be permitted. However, these exceptions are granted on a case by case basis. In addition, the costs associated with pursuing such a permit may create a deterrent to development in itself. To present the most conservative vacant land and capacity results, the Center assumed that no construction would occur within these floodplain areas.

Under the new Rules, development in riparian areas along regulated waters is severely restricted. Buffers of different sizes are required on all streams according to their designated uses consistent with the State's Surface Water Quality Standards (SWQS). The riparian zone along both sides of a Category One stream and its upstream tributaries is 300 feet, and was included as a constraint under previously adopted rules. The riparian zone along waters (and their upstream tributaries) deemed to be trout production or maintenance waters; any segment of water flowing through an area containing

habitat of threatened or endangered species, and considered to be critical to their survival; and waters flowing through an area containing acid producing soils is 150 feet. The riparian zone along all other streams is 50 feet.

The DEP's Water Monitoring and Standards program has coded in the current SWQS data list onto a draft copy of the new 2002 stream network. The 2002 streams were delineated off the 2002 LU/LC imagery and show streams down to less than 10 ft in length. The spatial data layer provided by DEP for this analysis reflects the stream classifications and antidegradation designations adopted as of October 16, 2006. The data is in draft form, currently under review, and is expected to be released to the public in early 2008. The Center constructed buffers along all such streams consistent with the riparian zone definitions using this DEP stream classification data.

In addition, the new Rule regulates the 150 foot transition areas required along freshwater wetlands of extraordinary resource value and 50 foot area along wetlands of intermediate resource value stipulated in the State's Freshwater Wetlands Protection Act (N.J.A.C. 7:7A). The Center was unable to locate or obtain any database that classifies the State's numerous wetlands into these resource value categories. After discussions with DEP, it was decided that a 100 foot buffer would be created by the Center along the boundaries of all unmodified and unaltered freshwater wetlands (LU2002_codes 6210 through 6500 listed under ID #9, Appendix A) as a surrogate in this analysis.

3.1.2 Net Vacant Land

It was determined in this revised analysis that there are 690,680 acres of undeveloped and unconstrained vacant land outside of the three regions.

3.2 Meadowlands

The New Jersey Meadowlands Commission has a comprehensive and up-to-date spatial database of the entire District which identifies developed, constrained and vacant land at the individual parcel level. A detailed review of this spatial database by Meadowlands Planning staff indicated that several undeveloped parcels are right-of-ways, roads, water or otherwise not vacant. After these adjustments and consideration of the new Flood Hazard Area rule, it was determined that there are only 224 acres of vacant buildable land remaining in the Meadowlands.

3.3 Pinelands

The New Jersey Pinelands Commission has an extensive spatial database that supports its Comprehensive Management Plan Land Capability Map, including parcel level detail on constrained and federal owned lands. However, it does not specifically identify vacant lands. The Center therefore used the same Rest of State methodology and data sources to create an initial spatial analysis and map for the Pinelands planning staff to review and compare with their own in-house studies.

Three differences between the Center's and Pinelands' results were found. The first was resolved by the Pinelands providing more extensive open space and constrained land information than was contained in the DEP data that had been made available to the Center. This included lands subject to the Coastal Area Facilities Review Act (CAFRA) regulation. The second was resolved by reclassifying a U.S. Air Force site from undeveloped to developed land, and the Pinelands staff providing spatial data for all federal lands in the District. The third was a difference in the treatment of LU/LC Code 1700 (Other Urban or Built-Up Land). Because the DEP had manually reviewed all major parcels in this category and removed any that were believed to be developed, the Center chose to leave the balance of such lands classified as undeveloped and thus vacant.

In this revised analysis, the Center removed additional lands constrained under the recently adopted Flood Hazard Area Control Act (see Sections 3.1.1 above). After these adjustments it was determined that the Pinelands has 220,930 acres of undeveloped and unconstrained vacant land.

3.4 New Jersey Highlands Planning Area

The Highlands Water Protection and Planning Act divided the Highlands Region into the Planning Area and the Preservation Area. Although it gave overall planning authority for the Region to the Highlands Council, determination of where and under what conditions future development could occur in the Preservation Area was delegated to the DEP. These restrictions will be included in the Highlands Regional Management Plan which is expected to be adopted in early 2008 and submitted to the State Planning Commission for endorsement later the same year. With concurrence from DEP, the Highlands Council and COAH, the Highlands were divided into the two regional areas for purposes of determining vacant land. A number of towns were split into two parts, and vacant land was computed separately for each section based on rules appropriate to the Planning and Preservation Areas.

The Highlands Council issued a Regional Master Plan – Final Draft and supporting technical information on November 30, 2007. The Plan imposes restrictions on development in buffered areas around all streams, wetlands and other critical resource areas, as well as in areas with slopes of 15 percent or greater, agricultural, and forested lands in the Planning Area. It also strengthens the previously adopted DEP restrictions on land use in the Preservation Area. Within 60 days of its adoption, the Plan must be submitted to the State Planning Commission for endorsement. Although many of the Planning Area provisions are voluntary until each municipality applies for and obtains Plan Conformance, endorsement of the Regional Management Plan by the State will give the Highlands Council authority to restrict development in its Protection Zone and three sub-Zones (Existing Community-Environmentally Constrained, Conservation-Environmentally Constrained, and Lake Community). In total, these land use categories represent about 75% of the Highlands total land area.

The Center used the Rest of State vacant land methodology and data sources to create an initial spatial analysis of vacant land for the Planning Area. It then subtracted or removed a hydrology layer of stream buffers, using a downloaded copy of the *Highlands Open Waters Protection Area* spatial file from the Highlands web site, and a steep slopes layer, using a downloaded copy of the *Slope Greater Than 15 Percent, Undeveloped* spatial file on the same web site, to create a final vacant land spatial file. It was determined that the *Highlands Open Waters Protection Area* spatial layer already represents those lands constrained under the recently adopted Flood Hazard Area Control Act.

The Regional Master Plan – Final Draft's provisions include further land use restrictions in the Planning Area. It will also use a more conservative nitrate dilution factor than the proposed DEP Wastewater Management Rules to determine the minimum lot size for septic systems, and not allow any use of buffers or wetlands for drainage as provided under the proposed DEP Rules. Although these land use restrictions will further impact the long-term residential and non-residential development capacity of the Highlands area, they will not significantly impact COAH's 2018 growth estimates. Most of these communities are expected to experience a low level of growth, and will not approach the development capacities on the currently estimated 110,237 acres of vacant land in the Planning Area over the next 10 years. The four counties having the greatest land areas within the Highlands – Morris, Passaic, Hunterdon and Warren – have an aggregate estimated residential development capacity that is more than three times the Department of Labor's projected 2002-2018 growth of 49,019 residential housing units.

3.5 New Jersey Highlands Preservation Area

As noted above, the DEP was tasked with developing stringent water and natural resource protection standards, policies and regulation that would be used to govern future development in the Highlands Preservation Area. The rules are quite complex, but generally provide exemptions for the construction of a single family home on a lot that existed at the time the Act was enacted in 2004. The ability to construct more than one residential unit on a subdivided parcel is however severely restricted and is very closely linked to having sufficient unconstrained vacant land available for construction of the proposed buildings.

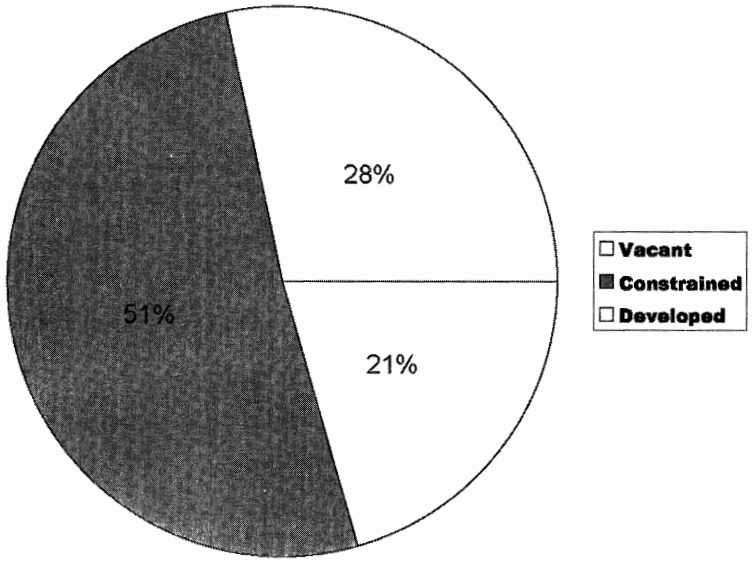
With assistance from DEP and Highlands' staff, the Center developed an unconstrained vacant land spatial file containing a total of 14,707 acres. The initial process followed the Rest of State methodology described earlier. Next, the following spatial data was subtracted/removed to arrive at vacant available land in the Preservation Area:

- Slopes of 10 percent or greater (downloaded from Highlands web site)
- Buffers on all Highlands Preservation Area waters including wetlands (downloaded from Highlands web site)
- National Heritage Priority sites for rare plant species and ecological communities (downloaded from DEP web site)
- DEP Landscape data (Corrected Version 3) for Ranks 2 through 5 (from DEP)

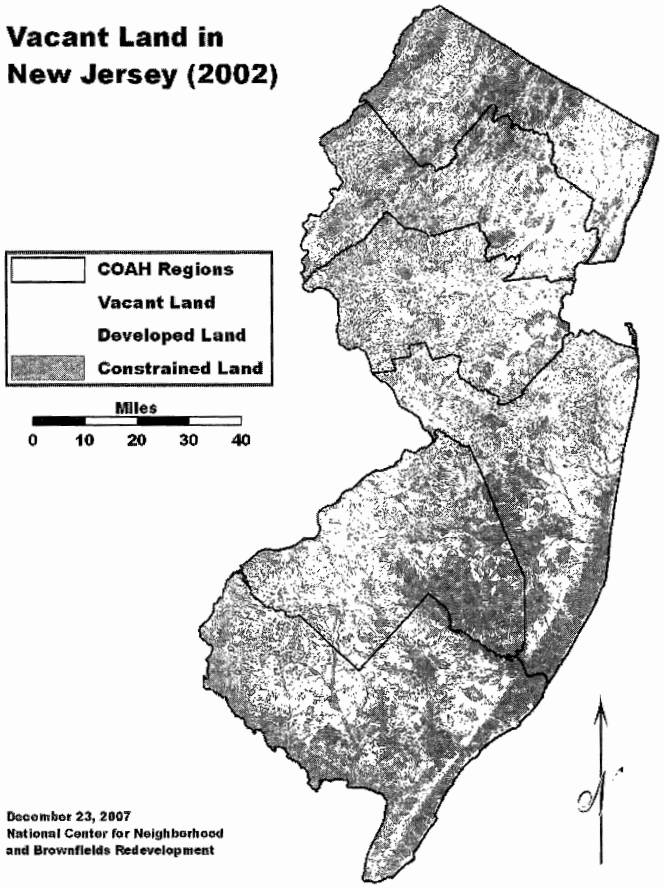
The Landscape data represents habitat for threatened and endangered species, ranks 2-5, consistent with DEP Highlands Preservation rules, and is in Draft form. A Final data set is expected to be made available to the public early in 2008.

3.6 Vacant Land Results

Combining the data and results of these studies show that out of the State's approximate 4.98 million acre total area, about 1.42 million acres (28%) are already developed and 2.54 million acres (51%) are made up of water, wetlands, open space, parks, preserved farms, and other constrained lands. Approximately 1.03 million acres of vacant land are available for future residential and non-residential development.



Developed lands stretch from the northeast part of the state and the large New York metropolitan area, southward through Trenton to the Camden and Philadelphia metropolitan area. Large areas of constrained lands are located in the Highlands and Pinelands.



A large proportion of the vacant land available for future development is thus located in less developed and lower density areas in the central areas of the state (COAH Regions 3 and 4), and even more so in the south (Regions 5 and 6):

- Region 1 – 98,496 acres
- Region 2 – 105,952 acres
- Region 3 – 161,245 acres
- Region 4 – 171,956 acres
- Region 5 – 190,945 acres
- Region 6 – 300,108 acres

A total of 19 municipalities have no remaining vacant land.

4.0 Land Capacity Analysis

Having identified and quantified the amount of vacant land in the State, the next step was to estimate the capacity of that land to support future residential and non-residential development. Capacity is defined as the maximum number of residential dwelling units and non-residential floor space that can be built on the available land, based on assumptions of how the land might be used in terms of type and density. These estimates will be used for three primary purposes:

- To determine if there is sufficient development capacity to support the State's projections of growth in households and employment out to at least the year 2018;
- To determine if there is sufficient vacant land and remaining development capacity in growth areas of the State as a whole and in each of the COAH Regions, to support the use of a growth-share methodology and growth-share ratios for distributing affordable housing needs; and,
- To provide an estimated upper ceiling or limit on the amount of household and employment growth that each of the 566 municipalities in the State will be able to absorb before it becomes fully developed.

One of the objectives of this analysis was to fully consider changes in land use policies and practices that have occurred since Round Two and which are currently being pursued by OSG and/or DEP. These include the goal of reducing future growth in State Planning Areas considered to be environmentally sensitive or better used for agricultural purposes, and seeking greater utilization of available lands in urban and suburban locations that have supporting infrastructure. The establishment of the Highlands Region and special designation of a Preservation Area, and the DEP's recently proposed wastewater and water quality management rules underscore the importance of these efforts.

As before, the Center divided the State into five geographic or regional land use units in order to recognize differences in regulatory and policy land use constraints imposed by the three regional planning agencies versus other areas of the State, as well as the availability and use of data sources of

differing quality and detail. Individual buildout models were then created for each, except the Meadowlands which was able to provide a more detailed analysis of its 224 acres based on individual parcel data and local zoning.

4.1 Rest of State

A buildout model was created for the Rest of State that took into consideration variations in the type and size of communities, existing and future land uses, and development densities based on existing conditions, State Planning Area location and access to wastewater treatment systems.

4.1.1 Residential Density Matrix

The 1.03 million acres of vacant land in the state is made up of widely different types and size communities. Existing residential and employment densities vary considerably from municipality to municipality, and region to region, and future growth will be impacted by the location of available lands in different State Planning Areas and access to wastewater treatment systems. To address these variations, the Center constructed a residential density matrix that divided the State into its six COAH Regions and each of these into five land use categories based on State Planning Area, sewer service area and community type.

- Type 1 – Located in Planning Area 1 (Metropolitan) and classified as Urban by the Center for Urban Policy Research (CUPR).
- Type 2 – Located in Planning Area 1 and classified as Suburban by CUPR.
- Type 3 – All other communities located in Planning Area 1.
- Type 4 – Located in Planning Area 2 (Suburban), a Designated Center or within a sewer service area.
- Type 5 – All other communities (those located in Planning Areas 3, 4, 4b and 5 that are not within a sewer service area or listed as a Designated Center).

State Planning Area 1 represents areas of the state that have experienced the most intense development, and includes some of New Jersey's oldest and established population centers. But it also encompasses the largest urban cities like Newark, Elizabeth, Trenton and Camden, as well as many smaller suburban and more rural areas ranging from Englewood, Voorhees and Millburn to Phillipsburg, Bridgeton and Millville. Rather than lumping them all in one basket, the Center divided them into three groups according to their CUPR classifications. The fourth category encompasses lands located in Planning Area 2 and Designated Centers. These areas are less intensely developed, have more dispersed and fragmented patterns of development, and are more likely to have land available for development. The Center expanded this category to also include areas outside PA-1 and PA-2 that are within a sewer service area, and thus have the infrastructure to support additional growth. Together these four categories represent the State's potential growth areas.

The fifth category encompasses all other lands, and thus those areas that are constrained in their development capacity because they are generally dependent on having sufficient land to support on-site septic treatment systems.

Using the DEP's 2002 LU/LC data for residential developed land and 2000 U.S. Census household data at the Census Tract level, the Center calculated an estimated average residential density for each Census Tract. That data was then used to calculate a weighted average current residential density for each municipality. The latest spatial versions of the State Plan Policy Map and DEP sewer service area map were overlaid on the municipal spatial and density data, and each resulting data record was then assigned to one of the first four land use categories based on the above criteria. This data was then used to calculate a median residential density for each of these four categories of land use located within each of the six COAH Regions.

	Land Use Category (DUs per Acre)			
COAH Region	**1**	**2**	**3**	**4**
1	19.19	6.28	1.99	1.35
2	15.53	4.75	2.33	2.27
3	13.84	5.52	1.89	1.69
4	15.31	4.07	1.94	2.32
5	15.28	4.61	2.79	2.30
6	22.73	3.68	2.04	1.87

As expected, the median densities varied by geography (COAH Regions) and community type (categories 1-3 within PA-1). There was less difference between categories 3 and 4. A review of average land use densities in each of these 24 growth areas often showed large variances between the most and least densely developed areas. After conferring with COAH and the U Penn Team, the Center adopted a methodology that assumed that future development on each category of vacant land would occur at the higher of the municipality's current average density or the median density of residentially developed lands in similar municipalities within the same COAH Region. This is consistent with studies which show that densities are stabilizing or declining in areas that are already dense, and increasing in other areas as land values rise.

In addition, a caveat was added that no new development would occur at densities more than 25 percent higher than the municipality's current average density. This minimum requirement is consistent with an analysis of data from the American Housing Survey for the United States (AHS) from 1995 and 2001 that indicates that the median lot size for all residential units (both occupied and vacant) declined by 26 percent over this time period. Although the AHS data is not available at a state level, the U Penn team believes that the results are representative of land use and density trends in New Jersey.

All category 5 vacant lands (those located in Planning Areas 3, 4, 4b and 5 that are not within a sewer service area or listed as a Designated Center) are subject to DEP regulations related to the use of on-site (septic) wastewater treatment systems. Current rules use a NO_3 concentration target of 5.2 mg/L to prevent water quality degradation, and DEP has used this limit to estimate the amount of land required for a typical house in different areas of the State. This calculation is based on a regional HUC 11-based application of the Department's GSR-32 groundwater recharge methodology, combined with the Trela-Douglas nitrate-dilution model. A spatial file with septic density parameters by watershed area was provided to the Center and used to calculate buildout on category 5 vacant lands.

New wastewater management and water quality management rules have been proposed by DEP which would reduce this nitrate standard to 2.0 mg/L in the future, however greater flexibility would be provided in the possible use of wetlands, riparian buffers and other environmentally sensitive lands for septic drainage purposes. This proposed change in septic densities was not used in computing development capacity for this analysis.

4.1.2 Non-Residential Densities

The amount of employment generated by commercial, industrial, retail and other non-residential properties varies widely across the state because of differences in floor area ratios (FARs) and the type and use of the building constructed. There is no Census Tract or other spatial data set that would provide an accurate estimation of current non-res space or associated densities at the municipal level that might be used to estimate future non-residential land capacity. Nor does the Center have access to municipal zoning and parcel level data.

After conferring with COAH, DEP and the U Penn Team, the Center adopted a methodology to generate a non-residential density for each municipality that is reflective of and a direct function of its residential density. Current and proposed State wastewater management (WWM) and water quality management (WQM) rules provide a mechanism and guidelines for equating residential housing units to non-residential floor area. The proposed WWM rule assumes that an average residential unit generates 500 gallons per day of wastewater effluent. N.J.A.C. 7:9A recommends a default value for non-residential facilities located outside of a sewer service area of 0.125 gallons per day per square foot. Thus, 4,000 sq. ft. of non-residential space on build type 5 vacant land areas produces the same amount of wastewater effluent as an average house. N.J.A.C. 7:14A recommends a default value for non-residential facilities located within a sewer service area of 0.100 gallons per day per square foot. Thus, 5,000 sq. ft. of non-residential space on build types 1-4 vacant land areas produces the same amount of wastewater effluent as an average house. This methodology of linking residential and non-residential densities through the use of wastewater flows is very similar to that used by the Pinelands Commission in its planning studies.

Using these conversion factors, an urban type community having a 20 DU per acre residential density would be given a 100,000 sq. ft. per acre non-residential density, or an FAR of about 2.3. A rural community having a residential density of 1 DU per 4 acres would have a non-residential density of 1,000 sq. ft. per acre.

These conversion factors were multiplied times the municipal residential density determined through the process described in Section 4.1.1 above, to determine the appropriate non-residential density for each vacant land area.

4.1.3 Land Use Mix

In 2002, approximately 67 percent of the developed land in the State was being used for residential housing purposes and 15 percent for commercial, industrial and retail space. However, the proportions used for these purposes varied widely across the state. About 22 percent of municipalities had 80 percent or more devoted to housing. Approximately one-fifth of municipalities had less than 8 percent being used for commercial purposes, while 10 percent had 30 percent of their developed lands used for this purposes. The Center has no information to show that individual municipalities are planning to significantly change these mixes in land use.

In 2002, approximately 14 percent of developed land was identified as being used for athletic fields, transportation/utility right of ways, military, transitional and other purposes. These uses varied widely as well. The assumption used in estimating the maximum buildout potential of the available lands will be that 10 percent will be used for non-residential and non-commercial purposes. This is less than the current average rate, and assumes that Military and several other land uses in this category will decline, remain static or not increase on average above the 10 percent estimate. The remaining 90 percent will be divided according to existing relationships between residential and commercial uses at the individual municipal level.

4.1.4 Minimum Parcel Size

The step by step process of spatial overlays and removal of developed and constrained lands created thousands of individual non-contiguous polygons. Some were slivers created by overlaying spatial files that have slightly different municipal or parcel boundary lines, while others were much larger. This was further exacerbated by dividing the land area represented by these polygons into residential and non-residential records based on the land use mix explained in 4.1.3 above. The default built into the Center's Spatial Land Impact Model (SLIM) is to place at least one dwelling unit on the residential portion and a commercial building on the non-residential portion of each record regardless of their size. This can cause a significant overstatement of buildout capacity if not refined.

The Center used two criteria to reduce this buildout error. The first compared the residential area size of each record to the minimum parcel size associated with its density. The minimum lot size was computed by taking the reciprocal of its DU per acre density (5 DUs per acre requires minimum 0.20 acres of land). For non-residential land a default minimum parcel size of 1,500 sq. ft. (30 ft. X 50 ft.) was used, since the permitted density takes into consideration multiple story buildings. The second focused on large lot low density areas (one acre or more per DU). In these areas a default value of one-half an acre was used in place of the default density. This method attempted to provide greater recognition that many of the split polygons are likely to be smaller than larger lot zoning areas might require, and that when contiguous steep slopes, wetlands and other environmental constraints are considered by the local planning board, that it may very well allow the parcel's development. Those land areas not meeting the minimum criteria was coded no build (NB) and the model ignored them in any buildout calculations.

4.1.5 Residential Buildout Results

The residential buildout was calculated for each polygon meeting the minimum residential parcel criteria, by multiplying its area in acres times the percent of residential land use associated with that municipality and the density (DUs per acre) assigned to that land use category. Results were rounded down to the nearest whole number before being combined with other results for the same build type in each municipality. A total of 752,804 new residential units could be constructed in areas outside of the three special regions.

4.1.6 Non-Residential Buildout Results

The non-residential buildout was computed for each polygon meeting the minimum non-residential parcel criteria, by multiplying its area in acres times the percent of non-residential land use associated with that municipality and the density (square feet per acre) assigned to that land use category. A total of approximately 1.02 million square feet of space could be constructed in areas outside of the three special regions.

4.2 New Jersey Meadowlands

The Meadowlands has only 224 acres of vacant buildable land split among a number of different type of parcels in the District, due to the large areas made up of wetlands and marshes, landfills, and commercial, industrial and entertainment facilities. Because of the small area involved, the Center asked the Commission's Planning Division to provide the Center with a detailed buildout analysis based on local zoning and knowledge of what

development was actually being considered for many of the parcels. That analysis estimates that 308 residential units and 8.0 million square feet of non-residential floor space will be created in a full development of these lands. The Commission also provided an analysis that indicates that the redevelopment of former landfills and underutilized commercial, industrial and entertainment properties have the potential to create as many as 5,775 new residential units and 12.0 million square feet of new floor space.

4.3 New Jersey Pinelands

A buildout model was created for the Pinelands that took into consideration variations in the type and size of communities, existing and future land uses, development densities based on the Pinelands Comprehensive Management Plan and Land Capability Map, and location vis-à-vis sewer service areas.

4.3.1 Residential Densities

The Pinelands Comprehensive Management Plan established nine land use management areas with goals, objectives, development intensities and permitted uses for each. The Center overlaid its Land Capability Map on the vacant land spatial file to identify available lands in five of the largest planning areas. The following recommended residential densities were then used to compute the residential buildout for each area:

- *Preservation Area District* – 288,300 total acres: No residential development is permitted, except for one-1 acre lots in designated infill areas (total 2,072 acres). The Center allocated those 2,072 dwelling units across the municipalities within the Preservation District based on vacant land.
- *Special Agricultural Production Area* – 40,300 total acres: Only residential farm-related housing is permitted at density of 1 DU per 40 acres.
- *Forest Area* – 245,500 total acres: Only residential development is permitted at density of 1 DU per 28 acres.
- *Agricultural Production Area* – 68,500 total acres: Farm related housing is permitted at density of 1 DU per 10 acres and non-farm related at 1 DU per 40 acres. Not knowing what proportion would be of each type in the future, the Center used the 1 DU per 28 acres density of the Forest Area for this area.
- *Rural Development Area* – 112,500 total acres: Limited, low-density residential development is permitted at density of 1 DU per 5 acres.

In the Pinelands Villages, Towns and Regional Growth Area the Center used the 2002 LU/LC mix of residential versus non-residential land use to identify lands available for residential development. The average weighted residential density of each municipality was used to calculate buildout on these remaining lands, since the overall mission of the Pinelands Commission is to limit and not promote growth.

As with Rest of State, 10 percent of the vacant available land was set aside for athletic fields, transportation/utility right of ways, military, transitional and other purposes. Residential development was apportioned to the remaining lands as appropriate to the land use management area and described above.

4.3.2 Non-Residential Densities

The Pinelands Comprehensive Management Plan severely restricts where non-residential development can occur and in some instances what type of non-residential uses are permitted. Limited in-fill non-residential development is permitted in the Preservation Area District, none is permitted in the Special Agricultural Production and Forest Areas, and agricultural commercial and roadside retail are generally permitted in the Agricultural Production and Rural Development Areas.

The Center did not have access to parcel level data with which to determine what infill lots exist in the Preservation Area District that would permit non-residential development, so only residential development was considered in the buildout. In the two planning areas where some non-residential development was permitted, the Center assumed that 10 percent of net vacant available lands (after 10 percent allocation to athletic fields, etc. noted above) would be used for this purpose and the remaining 90 percent would be used for residential development.

In the Pinelands Villages, Towns and Regional Growth Area the Center used the 2002 LU/LC mix of residential versus non-residential land use to identify net lands available for non-residential development. The average weighted residential density of each municipality was then multiplied by 4,000 square feet per DU if located outside a sewer service area and by 5,000 square feet if within an SSA, for purposes of calculating non-residential buildout on these remaining lands.

4.3.3 Minimum Parcel Size

As with the Rest of State modeling process, the spatial overlays and removal of developed and constrained lands created hundreds of individual non-contiguous polygons. The default built into the model is to place at least one dwelling unit on the residential portion and a commercial building on the non-residential portion of each record regardless of their size. This can cause a significant overstatement of buildout if not refined. The Center used the same minimum parcel size criteria as with Rest of State to reduce the potential for buildout error.

4.3.4 Buildout Results

The residential buildout was calculated for each polygon meeting the minimum residential parcel criteria, by multiplying its area in acres times the percent of residential land use and density (DUs per acre) associated with that land use management area or municipality. Results were rounded down to the nearest whole number before being combined with other results for the same type in each municipality. A total of 64,772 new residential units could be constructed in the Pinelands.

The non-residential buildout was computed for each polygon meeting the minimum non-residential parcel criteria, by multiplying its area in acres times the percent of non-residential land use and density (square feet per acre) associated with that land use management area or municipality. Results were rounded down to the nearest whole number before being combined with other results for the same build type in each municipality. A total of approximately 60.2 million square feet of space could also be constructed in the Pinelands.

4.4 New Jersey Highlands Planning Area

As noted earlier, the Highlands Water Protection and Planning Act divided the Highlands Region into the Planning Area and the Preservation Area. With concurrence from DEP, the Highlands Council and COAH the Center also separated the two regional parts for purposes of determining the buildout capacity of their vacant and available land.

4.4.1 Residential Density Matrix

The 110,237 acres of vacant land located in the Highlands Planning Area is made up of widely different types and size communities, and some are located in both the Planning and Preservation Areas. Existing residential and employment densities vary considerably from municipality to municipality, and region to region, and future growth will be impacted by the location of available lands in different State Planning Areas, access to

wastewater treatment systems, and changes that will occur as the Highlands Regional Management Plan is adopted and municipalities conform their land use and zoning densities to the Plan.

The vacant land analysis for the Planning Area removed lands located on steep slopes and in buffered areas around all streams, wetlands and other critical resource areas, and after conferring with Highlands and COAH staff it was agreed that the Rest of State residential density matrix that is based on State Planning Area, sewer service area and community type was a reasonable methodology for estimating the buildout capacity of these remaining lands.

4.4.2 Non-Residential Densities

As with the Rest of State, the Center adopted a methodology to generate a non-residential density for each municipality that is reflective of and a direct function of its residential density. Current and proposed State wastewater management (WWM) and water quality management (WQM) rules provide a mechanism and guidelines for equating residential housing units to non-residential floor area. The proposed WWM rule assumes that an average residential unit generates 500 gallons per day of wastewater effluent. N.J.A.C. 7:9A recommends a default value for non-residential facilities located outside of a sewer service area of 0.125 gallons per day per square foot. Thus, 4,000 sq. ft. of non-residential space on build type 5 vacant land areas produces the same amount of wastewater effluent as an average house. N.J.A.C. 7:14A recommends a default value for non-residential facilities located within a sewer service area of 0.100 gallons per day per square foot. Thus, 5,000 sq. ft. of non-residential space on build types 1-4 vacant land areas produces the same amount of wastewater effluent as an average house.

These conversion factors were multiplied times the municipal residential density determined through the process described in Section 4.4.1 above, to determine the appropriate non-residential density for each vacant land area.

4.4.3 Land Use Mix

As noted earlier, there are wide variations between regions and municipalities in the percent of land developed for residential, non-residential and other purposes. The assumption used in estimating the maximum buildout potential of the available lands in the Highlands Planning Area, like Rest of State, is that 10 percent will be used for non-residential and non-commercial purposes. The remaining 90 percent was divided according to existing relationships between current residential and commercial uses at the individual municipal level.

4.4.4 Minimum Parcel Size

As with the Rest of State buildout process, the spatial overlays and removal of developed and constrained lands created hundreds of individual non-contiguous polygons. The default built into SLIM is to place a minimum of one dwelling unit on each residential land use polygon and a commercial building, regardless of size, on each non-residential polygon. The Center used the same minimum parcel size criteria as with Rest of State to reduce the potential for buildout error.

4.4.5 Residential Buildout Results

The residential buildout was calculated for each polygon meeting the minimum residential parcel criteria, by multiplying its area in acres times the percent of residential land use associated with that municipality and the density (DUs per acre) assigned to that land use category. Results were rounded down to the nearest whole number before being combined with other results for the same build type in each municipality. A total of 97,553 new residential units could be constructed in the Highlands Planning Area.

4.4.6 Non-Residential Buildout Results

The non-residential buildout was computed for each polygon meeting the minimum non-residential parcel criteria, by multiplying its area in acres times the percent of non-residential land use associated with that municipality and the density (square feet per acre) assigned to that land use category. A total of approximately 90.7 million square feet of space could also be constructed in the Highlands Planning Area.

4.4.7 Potential Long-Term Impacts

The Highlands Regional Master Plan – Final Draft's provisions include a more conservative nitrate dilution factor than the proposed DEP Wastewater Management Rules to determine the minimum lot size for septic systems, and do not allow use of buffers or wetlands for drainage as provided under the proposed DEP Rules. Although these land use constraints will impact the long-term residential and non-residential development capacity of the Highlands area, they will not significantly impact COAH's 2018 growth estimates. Most of these communities are expected to experience a low level of growth and will not approach these estimated residential and non-residential development capacities over the next 10 years. The four counties having the greatest land areas within the Highlands – Morris, Passaic, Hunterdon and Warren – have an aggregate estimated residential development capacity that is more than three times the Department of Labor's projected 2002-2018 growth of 49,019 residential housing units.

4.5 New Jersey Highlands Preservation Area

The DEP was tasked with developing stringent water and natural resource protection standards, policies and regulation that would be used to govern future development in the Highlands Preservation Area. The rules are quite complex, but generally provide exemptions for the construction of a single family home on a lot that existed at the time the Act was enacted in 2004. The ability to construct more than one residential unit on a subdivided parcel is however severely restricted and is very closely linked to having sufficient unconstrained vacant land available for construction of the proposed buildings.

The Center created two buildout models for the Preservation Area to capture these differences. One for exempt parcels – those 25 acres or less in size – and a second for those greater than 25 acres in size. The 25 acre dividing point was chosen because it is the minimum parcel size (none of the land is forested) required for new development in the Preservation Area. The models both used parcel level data downloaded from the Highlands web site to identify and calculate the size of these parcels. No new non-residential construction is permitted except as redevelopment or expansion of existing non-residential building.

4.5.1 Exempt Parcels

Although the Preservation Area contains only 14,707 acres of vacant land when all environmental constraints are taken into consideration, the Highlands Act provides exemptions that permit the construction of new single family homes on land that may not be vacant under this definition:

- *Construction of a single family dwelling for own use or family use:* The construction of a single family dwelling, for an individual's own use or the use of an immediate family member, on a lot owned by the individual on the date of enactment of the Act or on a lot for which the individual has on or before May 17, 2004 entered into a binding contract of sale to purchase that lot; and

- *Construction of a single family dwelling on existing lot:* The construction of a single family dwelling on a lot in existence on the date of enactment of the Act, provided that the construction does not result in the ultimate disturbance of one acre or more of land or a cumulative increase in impervious surface by one-quarter acre or more.

A 25 acre parcel size was chosen as the dividing point between the exempt and non-exempt buildout models used in the buildout capacity of the Highlands Preservation Area, because it is the minimum parcel size (none of the land is forested) required for new development. In total there are 86,253 parcels of 25 acres or less in the Preservation Area, but most are already developed. The Center did not have access to MOD4 parcel data, which would have indicated ownership and development status of these parcels. In its place, a spatial approach was developed in consultation with DEP and Highlands staffs for identifying those parcels that were likely already developed, and thus identifying those where a new single family home could be built with one of these exemptions. The 2002 LU/LC spatial data for lands already developed (IDs 1 – 5 in Dictionary) was overlaid on the parcel data. Those which had developed lands equal to 15 percent of the parcel's total area or 1 acre (whichever was larger) were classified as already developed.

A total of 9,662 parcels of 25 acres or less was found to be undeveloped and therefore eligible for the above single family home exemptions. This is an estimate, because each proposed home must still meet stringent DEP water quality management requirements in order to be constructed on that parcel.

4.5.2 Non-Exempt Parcels

There are 1,768 parcels greater than 25 acres in size in the Preservation Area that encompass a total of 207,596 acres of land. The rules that govern whether any of these parcels can be sub-divided into multiple eligible lots or at least be eligible for the above described single family home exemptions are very complex, and best addressed on a parcel by parcel basis. In order to simplify the requirements so that a buildout analysis could be prepared, the Center in consultation with DEP and Highlands staffs developed the following criteria for identifying developable parcels:

- *Minimum lot size requirement:* Under regulations established by DEP pursuant to the Highlands Act, the amount of land required to support each new dwelling unit on these larger parcels is a function of its forested and non-forested areas. The minimum housing lot size is calculated by multiplying the percent of total land that is forested by 88 acres and multiplying the balance times 25 acres, and then adding the two together. Thus, a parcel that is 50 percent forested requires a minimum housing lot size of 56.5 acres.
- *Already fully developed:* The Center did not have access to MOD4 parcel data, which would have indicated the development status of these parcels. In its place, the spatial approach for exempt parcels was used to identify those parcels that were already developed. If 4 percent or more of the parcel's total land area was developed then the entire parcel was categorized as fully developed. The actual DEP rule is 3 percent of impervious surface, but the Center used 4 percent to take into consideration the presence of grass and other non-impervious areas. It also provided a linkage to the rule for exempt parcels that the presence of 1 acre of development on a 25 acre parcel (4 percent) caused the entire parcel to be declared fully developed.
- *Partially developed:* The Center used the same process to identify those parcels that had one acre or more of developed land, but where the total did not reach or exceed 4 percent of the parcel's total area. The minimum housing lot size for each such parcel is first computed, and then the parcel is divided by that minimum. If it cannot be subdivided (parcel less than twice the minimum lot size) it is considered already fully developed since there is already an acre or more of existing development. If it can be subdivided, one lot is designated as already developed, and the remaining new lots constitute the maximum number of new homes that might be built.
- *No existing development:* The same process is used as with partially developed to determine how many lots can be created. The difference is that at least if it cannot be subdivided it is eligible for the single family house exemption.

To determine whether a parcel can be sub-divided into multiple eligible lots requires that each existing and potential lot first meet the minimum acreage requirement described above. A second test is then required to determine if there is sufficient vacant unconstrained land on which to actually build something. That is because the regulations do not permit the construction of a building or other major disturbance on the environmentally constrained lands. As an example: a 1,000 acre non-forested parcel could under the first test be subdivided into 40 – 25 acre lots. However, if the land is fully constrained due to endangered species habitat, etc., there is no vacant land available on the parcel to build a house, garage, etc. Previous studies have indicated that an average home in large lot areas covers a total of about one acre of land, thus each buildable lot must have at least an acre of vacant land on which the house can be built. Thus, the parcel in our example cannot be sub-divided. The Center was possibly more liberal in its interpretation of this requirement than might be feasible in terms of actual land use, since it allowed up to the maximum number of buildable lots to be designated if there was at least an acre of vacant land available for each. Still, the Center determined that only 1,382 new homes could be built on these 1,768 large parcels.

4.6 Land Capacity Results

Combining the results of these land capacity studies indicates that approximately 926,480 residential housing units and 1.18 billion square feet of non-residential space can be built on the State's vacant land, based on current and projected buildout densities:

Regional Area	Residential Units	Million Sq. Ft. Space
Meadowlands	308	8.0
Pinelands	64,772	60.2
Highlands - Planning	97,553	90.7
Highlands - Preservation	11,044	0
Rest of State	752,804	1,023.7

These land capacity results are distributed among the six COAH Regions as follows:

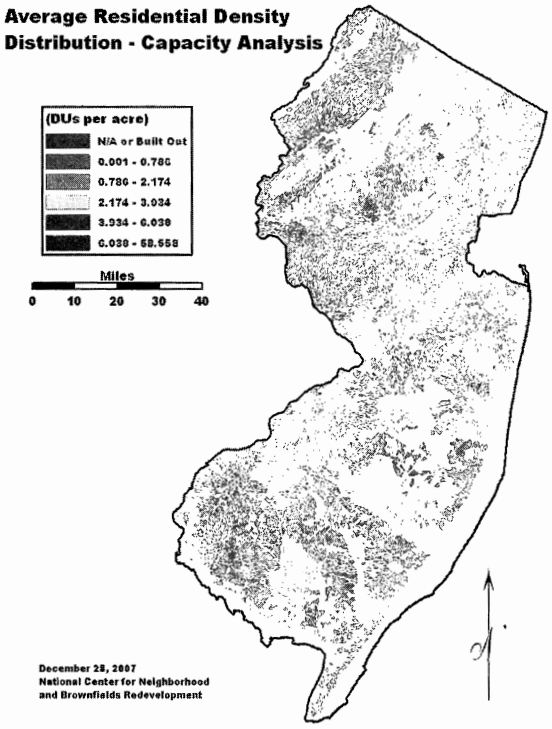
COAH Region	Residential Units	Million Sq. Ft. Space
1	110,355	182.8
2	133,171	191.7

COAH Region	Residential Units	Million Sq. Ft. Space
3	152,875	201.4
4	198,832	204.8
5	162,503	209.6
6	168,744	192.3

Development of vacant lands will be at average densities lower than current average densities in many municipalities, because a large share of these lands are located in the Pinelands, Highlands and areas outside sewer service areas. A total of only 129 municipalities would experience new development at densities higher than current average levels. Of this group, 17 municipalities would experience new development densities that are 20-24 percent higher than current levels, and the median for the 129 municipalities would be about 13 percent higher. However, when added to existing residential units, the group of 17 municipalities would have total average densities that are on average only 7.7 percent higher than current levels, and the group of 129 municipalities would have total average densities that are on average only 2.7 percent higher than current levels.

Because of the relative amounts and locations of vacant land available in the 17 towns noted above, vis-à-vis their associated densities, the average development density for the group as a whole would be 2.07 DUs per acre versus the current average of 3.42 DUs per acre. The larger group of 129 municipalities has much the same pattern of large amounts of vacant land in low density areas, and when looked at as a whole the average development density of 1.96 DUs per acre would be much lower than the current 4.37 DU per acre average.

As indicated on the map, new development will occur at low densities in the more rural areas of the state and at higher densities in those areas already having concentrations of development and thus the infrastructure need to support such growth.



4.7 Potential Development Capacity Constraints

The DEP has proposed changes to the State's Water Quality Management Planning Rules N.J.A.C. 7:15 (published in the New Jersey Register on May 21, 2007). Numerous changes in definitions, planning agency and other sections of the current rules have the potential to affect where and how much development may be permitted in the future. However, two major amendments will, if enacted in their proposed form, reduce the development capacity of certain categories of vacant land across the state. A third could reduce the development and redevelopment capacity of lands located in urban and suburban areas of the state over the long-term.

The first major change is the proposed "*general policy that large contiguous areas of environmentally sensitive resources, coastal planning areas where the extension of sewers would be inconsistent with New Jersey's Coastal Zone Management program and special restricted areas that are prone to natural hazards such as flooding, wave action and erosion should not be included in sewer service areas. The limitations on the extension of sewer service in these areas are consistent with the Department's mandate to protect the ecological integrity and natural resources of New Jersey, including water, threatened and endangered species, wetlands and unique and rare assemblages of plants.*" If implemented in its current form, this amendment will remove 25 acre and larger contiguous areas of undeveloped lands within an existing sewer service area that are made up of any one of wetlands, riparian buffers, habitat for threatened and endangered species, and critically important areas to conserve New Jersey's biological diversity. Most of these lands can still be developed, but will be at lower densities associated with septic treatment systems.

The second major change is the proposed reduction in the nitrate standard from the current 5.2 mg/L to a level of 2.0 mg/L. This new standard would apply to all Type 5 vacant lands (see Section 4.1.1) outside of the Highlands and those removed from current sewer service areas as noted above. However, the Rules relax the definition of lands that can be used to provide sufficient onsite dilution to include wetlands, riparian buffers and other optional environmental constraints. No buildings can be constructed on these lands, but they may be used in determining whether there is a sufficient area on the parcel for the required septic drainage field.

The Center did not use water and wastewater treatment capacity data to evaluate whether the vacant land capacity estimates in this report generate water demand that exceeds the capacity of the local provider or ground water resource, or effluent flows that exceed the treatment capacity of any sewer service area. Nor did it have any technical or other information that would allow it to determine whether such exceedances could be remedied by expansion of existing facilities and building of new plants. Under the proposed WQM Rule amendments counties will be required to develop comprehensive wastewater management plans using stricter stream loading limits (TMDLs) on point source discharges. It is therefore possible that some of the Center's long-term development capacity estimates at the municipal level will exceed the maximum capacity of wastewater treatment plants that are severely constrained by the assimilative capacity of their receiving waters. Alternative treatment processes may be required to meet future demand in these situations.

5.0 Redevelopment Potential

Many of the State's older urban and suburban communities have experienced redevelopment of former industrial and commercial sites into large residential, retail and mixed uses over the past 20 years. Former landfills in Elizabeth and Bayonne have been converted into a shopping center and golf course respectively; the Newark Bears and Trenton Thunder baseball stadiums have been built of former industrial sites; and former contaminated industrial areas along the Hudson River, in downtown Newark, Trenton and many other cities have been converted into dense residential housing mixed with some retail and commercial space. Often in conjunction with broader redevelopment of these areas, older and poor quality housing has been demolished and much more dense market rate and affordable housing has been constructed. Unfortunately, although these changes are visible, no central database has been developed to provide information on how many acres have been redeveloped, for what uses and at what densities. The Center has attempted to fill this void with analyses of land use and residential density changes, and to thus estimate the amount of new housing that will likely be created through continuing redevelopment across the State in the future.

5.1 Residential Redevelopment

An analysis was made of residential development between 1990 and 2000 and its impact on land use and residential densities at the municipal level as a method of estimating the amount of residential redevelopment that had occurred over this period. The Center identified 121 municipalities that had a weighted average residential density in 1990 of at least 2 DUs per acre and whose new construction density over the 1990-2000 period was at least 50% higher. The new construction density was calculated by dividing the change in housing units reported by the U.S. Census over these 10 years, by the change in residential developed land over this period per a linear interpolation of the DEP LU/LC data for 1986 and 2002. In the aggregate, these municipalities had an average 1990 density of 5.36 DUs per acre and an estimated new construction density of 13.23 - a rate about 2.5 times that of what existed in 1990.

The 121 municipalities were almost evenly distributed between the six COAH Regions, with Region 2 having the greatest participation (27.9% of its 104 municipalities) and Region 4 having the lowest (19.4% of its 98 municipalities). More than three-quarters of the communities were classified as Suburban, and there were more classified as Exurban or Rural (total of 17) versus Urban (12).

A total of 60,988 housing units were constructed over the ten year period. If this construction had been at the 1990 municipal average residential densities, only 22,063 housing units would have been built. Thus, the inference is that redevelopment of existing housing units at higher densities produced the additional 38,924 units over this period. Continued redevelopment of older housing stock will thus produce an average of 3,892 new units annually.

5.2 Non-Residential Land Redevelopment

A spatial analysis was made of changes in lands classified as non-residential developed land in the DEP's LU/LC data between 1986 and 2002 at the municipal level, together with changes in lands classified as residentially developed over this same period, as well as changes in total households from U.S. Census data in 1990 and 2000, to identify and quantify the amount of developed non-residential lands that had been converted to residential use. This analysis found 125 municipalities that had lost non-res developed lands over this 16 year period that could be reasonably traced to new residential development. A total of 4,202 acres were converted over this period, or an average of 262.6 acres per year.

Although perhaps smaller than what many would expect given the redevelopment that has occurred along the Hudson River and other areas of the State, it is reflective of the long and sometime difficult process involved in cleaning up what are often contaminated (brownfield) sites. Proposed changes to soil and groundwater remediation standards in the State will make conversion of some of the better located sites to residential use more difficult, but this change in cost-benefit relationship should increase the value and opportunity for residential and mixed-use redevelopment of the hundreds of other former industrial and commercial sites located across the State.

Applying the average densities for each COAH Region determined in the residential redevelopment analysis to the conversion of non-residential lands estimated above, indicates that redevelopment of these lands would occur at an average rate of 14.43 DUs per acre. This estimate is at the lower end of the median densities of all urban type communities located in Planning Area 1, which range between 13.84 and 22.73, and well below the 25 DUs per acre density used by the Meadowlands in its Planned Residential zone. Redeveloping former industrial and commercial sites often requires demolition and removal of steel and concrete structures, as well as removing contaminates to residential standards. A pro-forma financial analysis prepared by Econsult indicates that a 25 percent increase in residential density is required to offset a 6 percent increase in construction costs and that a 15 percent increase would be needed to offset a 4 percent cost increase. Given these different considerations, the Center assumed that non-residential land redevelopment would occur at densities 15 percent higher than the average estimated residential redevelopment density of each COAH Region, as determined in the above referenced study (an average of 16.60 DUs per acre). This will generate about 4,359 new residential units annually.

5.3 Redevelopment Summary

Taken together, the redevelopment of older housing stock at higher densities and the redevelopment of former industrial and commercial lands will produce an average of about 8,251 new housing units annually. Thus, over a fifteen year period, redevelopment could increase the state's residential housing capacity by more than 10 percent.

This historical based rate of redevelopment is expected to increase in future years, as the combination of smart growth incentives and environmental constraints shift growth away from rural areas and toward the state's urban and suburban areas that have critical transportation, water, wastewater and other infrastructure assets. In-fill development in these areas will quickly consume any remaining vacant land and increase the value of land occupied by former or underutilized industrial and commercial sites located in residential areas. Demand for additional housing will also result in many older single and multi-family housing units being demolished and replaced with more dense townhouses and mixed use condo developments. Redevelopment of older housing stock at higher densities and the redevelopment of former industrial and commercial lands could become the major source of housing for many of the state's older suburban and urban communities.

6.0 Growth Area Capacity

The State Development and Redevelopment Plan divides the State into planning areas that share common conditions with regard to development and environmental features, and refers to Metropolitan (PA-1), Suburban (PA-2) and Designated Centers as Areas for Growth. The Center believes that growth can also be supported on other lands that are located within a sewer service area. Development will also occur at much lower densities outside both of these areas, in more rural and environmentally sensitive areas that must be served by on-site septic treatment systems. The following is a breakout of the vacant land and capacity results for growth areas and those that will require septic treatment systems, by COAH Region.

Growth Areas:

COAH Region	Vacant Land (acres)	Pct. of Total COAH Region	Residential Housing Units	Pct. of Total COAH Region	Square Feet Space (000s)	Pct. of Total COAH Region
1	26,425	26.8	67,926	61.6	167,883	91.8
2	50,001	47.2	101,358	76.1	182,722	95.3
3	63,535	39.4	112,387	73.5	187,319	93
4	88,011	51.2	174,601	87.8	191,993	93.8
5	78,698	41.2	140,300	86.3	198,693	94.8
6	88,705	29.6	124,615	73.8	167,320	87
Totals	***395,375***	***38.4***	***721,187***	***77.8***	***1,095,930***	***92.7***

Areas Served by Septic Systems:

COAH Region	Vacant Land (acres)	Pct. of Total COAH Region	Residential Housing Units	Pct. of Total COAH Region	Square Feet Space (000s)	Pct. of Total COAH Region
1	72,072	73.2	42,429	38.4	14,951	8.2
2	55,950	52.8	31,813	23.9	9,026	4.7
3	97,710	60.6	40,488	26.5	14,044	7.0
4	83,945	48.8	24,231	12.2	12,799	6.2
5	112,247	58.8	22,203	13.7	10,924	5.2
6	211,402	70.4	44,129	26.2	24,988	13.0
Totals	***633,326***	***61.6***	***205,293***	***22.2***	***86,733***	***7.3***

Although the growth areas contain only 38.4 percent of the State's vacant lands, these lands, because of their location and access to centralized wastewater treatment systems have the capacity to support 77.8 percent of the total residential housing that could be built and 92.7 percent of all non-residential floor area space in the State.

7.0 Conclusions

As noted in the Introduction, this analysis of vacant land in New Jersey and its capacity to support future growth was to be used for three primary purposes:

- To determine if there is sufficient vacant land and remaining development capacity to support the State's projections of growth in households and employment out to at least the year 2018;
- To determine if there is sufficient vacant land and remaining development capacity in growth areas of the State as a whole and in each of the COAH Regions, to support the use of a growth-share methodology and growth-share ratios for distributing affordable housing needs; and,
- To provide an estimated upper ceiling or limit on the amount of household and employment growth that each of the 566 municipalities in the State will be able to absorb before it becomes fully developed.

The Center believes that each of these objectives has been achieved.

Of the State's approximate 4.98 million acre total area, about 1.03 million acres are undeveloped and unconstrained and thus available for future development. This estimate is much lower than those discussed previously by state planning officials, and reflects the recent establishment of the New Jersey Highlands and other initiatives intended to reduce the adverse environmental impacts of development on critical water and other natural resources in many areas of the State. However, it is important to put this estimate into the context of the State's land uses over time. All of the growth and development that has occurred in the 240 years since our nation was founded has only used 1.42 million acres or 28 percent of the state's total area. Remaining vacant lands have a capacity to provide an additional 926,480 residential housing units, or about 3.3 times the projected

growth in new housing needs over the next 10 years. Even if no development were permitted on lands outside of a sewer service area, the 395,375 acres of vacant land within the State's growth areas have a residential development capacity that is 2.6 times projected growth.

Redevelopment of former commercial and industrial lands for mixed use and residential purposes, and the redevelopment of existing older and lower quality housing stock into new more dense townhouses and condo buildings, are creating an estimated 8,251 additional new housing units per year. This represents a further increase in housing capacity of 0.89 percent per year, or about 10 percent over the course of the next 11-12 years.

Taken together, there is clearly sufficient vacant land, future development capacity and redevelopment potential to support the State's projected growth in population, households and employment well beyond 2018.

- As described in Section 6, and further noted above, only about 38 percent of the State's vacant lands are located in State Planning Areas 1 or 2, a Designated Center or other areas having access to centralized wastewater treatment systems (collectively referred to as growth areas). However, these locations have transportation, education, water, wastewater and other critical infrastructure assets, as well as cultural, higher education, shopping and other amenities that will attract and support considerable additional growth. The Center's analysis indicates that together these growth areas have the capacity to support 77.8 percent of the total residential housing that could be built in the State and 92.7 percent of all non-residential floor area space. An examination of the results for each of the six COAH Regions indicates that no less than 61.6 percent of the housing capacity and 87.0 percent of the non-residential floor space capacity is located within the growth area of that Region. In several Regions as much as 86-88 percent of the housing capacity and 94-95 percent of the non-residential floor areas are located within its growth area.

The magnitude of these results clearly indicate that there is sufficient vacant land and remaining development capacity in growth areas of the State as a whole and in each of the COAH Regions, to support the use of a growth-share methodology and growth-share ratios for distributing affordable housing needs.

Appendix A

Anderson Land Use/Land Cover Data Dictionary

Developed Land ID #		
1 Residential	**LU2002_code**	**Label_02**
	1110	RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING
	1120	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY
	1130	RESIDENTIAL, SINGLE UNIT, LOW DENSITY
	1140	RESIDENTIAL, RURAL, SINGLE UNIT
	1100	RESIDENTIAL
	1150	MIXED RESIDENTIAL
2 Non-Residential	**LU2002_code**	**Label_02**
	1200	COMMERCIAL/SERVICES
	1300	INDUSTRIAL
	1500	INDUSTRIAL/COMMERCIAL COMPLEXES
	1600	MIXED URBAN OR BUILT-UP LAND
	7300	EXTRACTIVE MINING
3 Other - Military	**LU2002_code**	**Label_02**
	1211	MILITARY RESERVATIONS
4 Other - Transitional	**LU2002_code**	**Label_02**
	7500	TRANSITIONAL AREAS
	7400	ALTERED LANDS
	7430	DISTURBED WETLANDS (MODIFIED)
5 Other - Plat	**LU2002_code**	**Label_02**
	1400	TRANSPORTATION/COMMUNICATIONS/UTILITIES
	1410	MAJOR ROADS
	1419	BRIDGE OVER WATER
	1440	AIRPORT FACILITIES
	1461	WETLAND RIGHTS-OF-WAY (MODIFIED)
	1462	UPLAND ROW (undeveloped)
	1463	UPLAND ROW (undeveloped)
	1499	STORM WATER BASIN
	1701	OTHER URBAN OR BUILT-UP LAND (developed)
	1710	CEMETARY
	1711	CEMETRAY ON A WETLAND
	1800	RECREATIONAL LAND
	1804	ATHLETIC FIELDS (SCHOOLS)
	1810	STADIUMS, CULTURAL CENTERS & ZOOS
	1850	MANAGED WETLAND IN BUILT-UP MAINTAINED REC AREA

NOTE: The code "1701" was assigned by NCNBR and is not a standard Anderson LULC code. Richard Grabowski of the NJDEP used 2002 aerial imagery to identify lands in the "1700" category that should be considered developed. These developed "1700" lands have been given the new designation "1701"

Undeveloped Land - Available

6 Undeveloped-Other	LU2002_code	Label_02
	1700	OTHER URBAN OR BUILT-UP LAND (undeveloped - see Note above)
	1741	PHRAGMITES DOMINATED URBAN AREA
	7600	UNDIFFERENTIATED BARREN LANDS
	1214	FORMER MILITARY; INDETERMINATE USE

7 Undeveloped-Agriculture	LU2002_code	Label_02
	2100	CROPLAND AND PASTURELAND
	2200	ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREAS
	2300	CONFINED FEEDING OPERATIONS
	2400	OTHER AGRICULTURE
	2260	CRANBERRY FARMS

8 Undeveloped-Forest	LU2002_code	Label_02
	4110	DECIDUOUS FOREST (10-50% CROWN CLOSURE)
	4120	DECIDUOUS FOREST (>50% CROWN CLOSURE)
	4210	CONIFEROUS FOREST (10-50% CROWN CLOSURE)
	4220	CONIFEROUS FOREST (>50% CROWN CLOSURE)
	4230	PLANTATION
	4311	MIXED FOREST (>50% CONIFEROUS WITH 10%-50% CROWN CLOSURE)
	4312	MIXED FOREST (>50% CONIFEROUS WITH >50% CROWN CLOSURE)
	4321	MIXED FOREST (>50% DECIDUOUS WITH 10-50% CROWN CLOSURE)
	4322	MIXED FOREST (>50% DECIDUOUS WITH >50% CROWN CLOSURE)
	4410	OLD FIELD (< 25% BRUSH COVERED)
	4411	PHRAGMITES DOMINATED OLD FIELD
	4420	DECIDUOUS BRUSH/SHRUBLAND
	4430	CONIFEROUS BRUSH/SHRUBLAND
	4440	MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND
	4100	DECIDUOUS FOREST
	4200	CONIFEROUS FOREST
	4310	MIXED WITH CONIFEROUS PREVALENT (> 50% Coniferous)
	4320	MIXED WITH DECIDUOUS PREVALENT (> 50% Deciduous)
	4400	BRUSH/SHRUBLAND
	4500	SEVERE BURNED UPLAND FOREST

9 Undeveloped-Wetlands	LU2002_code	Label_02
	1750	MANAGED WETLAND IN MAINTAINED LAWN GREENSPACE
	2140	AGRICULTURAL WETLANDS (MODIFIED)
	2150	FORMER AGRICULTURAL WETLAND-BECOMING SHRUBBY, NOT BUILT-UP)
	6210	DECIDUOUS WOODED WETLANDS
	6220	CONIFEROUS WOODED WETLANDS
	6231	DECIDUOUS SCRUB/SHRUB WETLANDS
	6232	CONIFEROUS SCRUB/SHRUB WETLANDS

6233	MIXED SCRUB/SHRUB WETLANDS (DECIDUOUS DOM.)
6234	MIXED BRUSH AND BOG WETLANDS, CONIFEROUS DOMINATE
6240	HERBACEOUS WETLANDS
6241	PHRAGMITES DOMINATED INTERIOR WETLAND
6251	MIXED FORESTED WETLANDS (DECIDUOUS DOM.)
6252	MIXED FORESTED WETLANDS (CONIFEROUS DOM.)
6500	SEVERE BURNED WETLANDS
8000	MANAGED WETLANDS (Modified)
6221	ATLANTIC WHITE CEDAR WETLANDS

Undeveloped Land - Unavailable

10 Undeveloped-Unavailable Wetlands	**LU2002_code**	**Label_02**
	6110	SALINE MARSHES
	6111	SALINE MARSH (low marsh)
	6112	SALINE MARSH (high marsh)
	6120	FRESHWATER TIDAL MARSHES
	6130	VEGETATED DUNE COMMUNITIES
	6141	PHRAGMITES DOMINATED COASTAL WETLANDS
	7100	BEACHES
	7200	EXPOSED ROCK

11 Undeveloped-Unavailable Water	**LU2002_code**	**Label_02**
	5410	TIDAL RIVERS, INLAND BAYS AND OTHER TIDAL WATERS
	5411	OPEN TIDAL BAYS
	5420	DREDGED LAGOON
	5430	ATLANTIC OCEAN
	5100	STREAMS AND CANALS
	5200	NATURAL LAKES
	5300	ARTIFICIAL LAKES

Appendix B
Spatial Data List

NJDEP 2002 LU/LC by WMA – WMA 1-20
-w01lu02.shp ... w20lu02.shp
The NJDEP's Land Use Land Cover data is acting as the main base layer from which areas deemed not to be available for future development will be removed. These include the LU/LC categories Developed Land, Undeveloped-Unavailable Land, and Undeveloped Wetlands listed in Appendix A.

NJDEP 2002 LU/LC Code 1700 Update
-BaseLayer.gdb
This update identifies areas such as roads and other high percent impervious surface areas within the 1700 Other Urban classification, which will be reclassified as already developed.

State Plan 3
-splan3.shp
The NJ State Plan 3 is the most recent version of the State Plan Policy Map. It contains the legislative boundaries of the Pinelands and Meadowlands, which will be subtracted from the LU/LC base layer and addressed separately. It will also be used in the analysis and the application of buildout densities appropriate to different types of land use across the state.

Highlands Region Boundary
-HighlandsRegion.shp
The Highlands Region Boundary file will be used to define the area to be subtracted from the LU/LC base layer. The Highlands Region will be addressed separately.

Open07 – 2007 Open Space File
-open07.shp
This file contains the most current data on public open space, parks, etc. These areas will be subtracted from the LU/LC base layer.

Non Profit Open Space – Private Open Space
-np_polygon.shp
-npe_polygon.shp
This data set shows areas classified as privately owned open space, and will also be subtracted from the LU/LC base layer.

Surface Water Quality Standards
-swqs.shp
The NJDEP's Surface Water Quality Standards data will be used to extract C1 streams. The Center will calculate and insert a 300 foot buffer on each side of these streams, and subtract these areas from the LU/LC base layer.

New Jersey Farmland Preservation Program
-njfpp.shp
The New Jersey Farmland Preservation Program data will be used to identify farmland that is currently protected by the program, and therefore is not available for development. These areas will be subtracted from the LU/LC base layer.

Highlands Open Waters Protection Area (Draft)
-HighlandsOpenWatersProtectionAreaDraft.shp
This layer was used exclusively as an additional land constraint in the Highlands region. It removes a 300 foot buffered area from around all streams, rivers, lakes and wetlands in the Highlands, as identified by the New Jersey Highlands Council.

Slope Greater Than 10 Percent
-g_10percent_m.shp
This layer was used exclusively as an additional land constraint in the Highlands Preservation Area. It removes undeveloped slopes greater than 10 percent in the Highlands, as identified by the New Jersey Highlands Council.

Slope Greater Than 15 Percent, Undeveloped (Draft)
-SlopeGreaterThan15PercentUndevelopedDraft.shp
This layer was used exclusively as an additional land constraint in the Highlands Planning Area. It removes undeveloped slopes greater than 15 percent in the Highlands, as identified by the New Jersey Highlands Council.

Pinelands Management Areas
PinelandsMgmtAreas.shp
This file was obtained from the New Jersey Pinelands Commission. It outlines the Boundaries of the Management Areas defined by the Commission and is used to set buildout densities in the Pinelands region.

Sewer Service Area
-statessa.shp
This file outlines the NJDEP-defined boundaries of sewer service areas in the state. This layer is used to define buildout densities ("Build Type") in all models outside the Highlands Preservation Area.

Center boundaries of the NJ State Development and Redevelopment Plan
-cenlne2.shp
This file was obtained from the NJDCA's Office of Smart Growth. It outlines the boundaries of designated and proposed Growth Centers of New Jersey. Only designated centers are used to define buildout densities in all models outside the Highlands Preservation Area.

DEP Landscape data for Ranks 2 through 5
-LandscapeV3-Ranks2345-PresArea-DIS.shp
This data represents areas where special protection is given to rare and endangered species and was provided by the NJDEP on CD. These areas are removed from the available land in the Highlands Preservation Area.

National Heritage Priority sites
-prisites.shp
This file outlines the NJDEP-defined areas where protection is given to rare natural communities. These areas are removed from the available land in the Highlands Preservation Area.

Appendix C
COAH Regions - Counties

COAH Regions – Counties

REGION 1
Bergen
Hudson
Passaic
Sussex

REGION 2
Essex
Morris
Union
Warren

REGION 3
Hunterdon
Middlesex
Somerset

REGION 4
Mercer
Monmouth
Ocean

REGION 5
Burlington
Camden
Gloucester

REGION 6
Atlantic
Cape May
Cumberland
Salem

NEW JERSEY COUNCIL ON AFFORDABLE HOUSING
TASK 1 – ALLOCATING GROWTH TO MUNICIPALITIES

Submitted To:
New Jersey Council on Affordable Housing
101 South Broad Street
Trenton NJ 08625

Submitted By:
Econsult Corporation
3600 Market Street 6th Floor
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January 2, 2008

TABLE OF CONTENTS

1.0 INTRODUCTION

1.1 Overview

In January 2007, the Appellate Division overturned portions of COAH's Round 3 growth share methodology and requested additional analysis to support the use of a growth share approach. The Court also directed COAH to determine how much vacant land is available in growth areas of the state.

The Court's request framed the work in Task 1 of the project undertaken by the Econsult Corporation and the Rutgers' National Center for Neighborhood & Brownfields Redevelopment (NCNBR). Specifically, Econsult's part of Task 1 is to provide municipality level 2018 projections of housing units and employment, and the implied net changes between 2004 and 2018. These projection results and the inputs from other Tasks will form the base data for COAH to determine the statewide affordable housing obligations.

The New Jersey Department of Labor and Workforce Development (NJLWD) currently makes projections of population and employment for each county in the state at various projection years. Task 1 provides a method for allocating county projections among the municipalities in each county for the year 2018. The method provides estimates of 2018 housing units and employment for each municipality consistent with the NJLWD population projections. It should be noted that projections are neither predictions nor forecasts. The NJLWD, in its discussion its county projections, provides a good perspective on the nature of projections stating that projections:

> …reflect identifiable long-term economic and demographic trends which have been implicitly or explicitly incorporated into the models. In other words, the projections are an extrapolation of past and current trends into the future. These projections do not take into account any current or future policy initiatives. They are not intended to constrain or to advocate specific levels of growth in the state…These projections are best used as a reference framework for planning, research, and program evaluation.

1.2 Projection Horizon, Major Estimation Years and Historical Growth Trends

The projection horizon for Task 1 is 2018. While the original Round 3 regulations covered the period through 2014, the projection period for this revision of Round 3 regulations has been extended to 2018 so that the period could reflect an entire housing cycle. Because housing prices and

production vary over long periods of time with rapid growth in some periods and slow growth in others, the research team determined that the period should be extended so that that the projection would reflect both strong and weak times in the housing market. Given the very strong housing market in New Jersey until recently, it is likely that a projection period that stopped in 2014 would have disproportionately captured a relatively slow part of the housing cycle, given the proposed rules focus on the period 2004-2018.

Although the projection period focuses on 2004-2018, the base year for the analysis is 2002, which is the latest year for which all necessary data are available for the required vacant land analysis performed by NCNBR. Data are extrapolated to 2004 to reflect the beginning of the period of growth that will be used by COAH to measure affordable housing obligations. Thus, the operating projection period in Task 1 is from 2002 to 2018. For consistency, the current Round 3 COAH rules use employment projections for the same period. To be consistent with the revised time frame for Round 3 COAH, housing and employment figures are reported for each municipality for the following years: 2002, 2004, and 2018.

NJLWD county projections are allocated to the municipal level based on historical trends for each municipality and the extent to which each municipality approaches its physical growth capacity. We measure actual municipal growth in the nine years prior to 2002. The beginning of the nine-year period in 1993 is the earliest year for which NJLWD provides employment data at the municipality level. To be consistent with the employment allocation model, the housing unit model also adopts 1993 as the beginning year for measuring municipal growth rates for housing.

1.3 Data Sources

The primary data used in the allocation model provided include: data available from the NJLWD, land capacity estimates provided by NCNBR, and data from the U.S. Census Bureau's 1990 and 2000 Census. These data include historical figures on population and employment at the municipal level and future projections at the county level. Data from post 2002 American Community Survey (ACS) is also used for gauging trends and various ratio analyses at the county level.

1.3.1 NJLWD County Projections

In May 2007, COAH, the University of Pennsylvania research team, and Econsult agreed to use county projections of population and employment provided by NJLWD in the Task 1 allocation models. These projections are the control totals for each county; that is, estimates of for each municipality are forced to sum to the population and employment data for that county. These restrictions ensure that municipal estimates will be consistent with county projections.

While other projections exist, most notably Metropolitan Planning Organization (MPO) projections, the population and employment projections provided by the NJLWD were chosen to provide the county control totals for population and employment for several reasons. First, there is a common methodology for forecasting population and employment for all New Jersey Counties. Methodological and data consistency is the primary concern in choosing a set of projection data that applied uniformly across the state. Since the NJLWD projection models have built-in connection of population and economic changes, the projection method is not only consistent across geography but across sectors.

Prepared separately by three different MPOs, the county projections from MPOs do not add up to an agreeable state total. Since the South Jersey Transportation Planning Organization (SJTPO) does not report its projection methodology in its website, we cannot evaluate it in details. The county population projection models used by Delaware Valley Regional Planning Commission (DVRPC) and the North Jersey Transportation Planning Authority (NJTPA) are similar in terms of using countywide and region-wide cohort survival techniques, but their county employment models differ significantly. DVRPC uses an employment-to-population/household method while NJTPA uses the NJLWD, the New York Metropolitan Transportation Council (NYMTC) and a regional shift-share method to estimate the county employment range. NJLWD projections, on the other hand do not have such methodological inconsistencies.

The NJLWD approach provides a consistent methodology in its projection of county population and employment by industry (work place based). It is reported in http://www.wnjpin.net/OneStopCareerCenter/LaborMarketInformation/lmi03/method.pdf.

NJLWD developed and compared the merit of four projections models:

- Economic-Demographic Model
- Historical Migration Model
- Zero Migration Model
- Linear Regression Model

NJLWD chose the Economic-Demographic Model as the preferred model for the county population and employment projection. In this model, related methods are used. Cohort-survival method is used to project population initially but the projection is adjusted by how future labor demand affects age-specific migration.

It should be noted that MPO's make some projections at the municipal level. However, each MPO distributes the county totals to municipalities in different manners. Again, SJTPO does not report its method. The allocation method used by NJTPA is similar to the Econsult method. However, DVRPC focuses on adjusting the difference in the current forecast and the previous one; and relies much on the input of county planning staff to revise the municipal forecasts. Once again, the inconsistency is problematic for developing statewide rules.

2018 County Population Projections

NJLWD's Projections of Total Population by County: 2004 to 2025 (http://www.wnjpin.net/OneStopCareerCenter/LaborMarketInformation/lmi03/Table1.pdf) provides county population projections for 2009, 2014, 2020, and 2025. The NJLWD projection figures are reported to the nearest 100 persons. An interpolation of the 2014 and 2020 projections in this table generated the implied 2018 county population projection that serves as the county control total in the Task 1 housing allocation model.

2018 County Employment Projections

NJLWD's Projections of Total Employment by County: 2004 to 2014 (http://www.wnjpin.net/OneStopCareerCenter/LaborMarketInformation/lmi04/index.html#ind) provides tables of industry employment projections for each county in New Jersey. Unlike the occupational employment tables

that contain data on employment held by county residents regardless of work location, these 21 tables report numbers of people working each county regardless of residence location. Each table reports the 2014 projected employment level for the private sector, local government, state government, and federal government, as well as the actual 2004 employment level. To keep a range of projection, these figures are rounded to the nearest 50 jobs.

Since no state government employment is reported at the municipal level, any model to distribute county employment to municipalities cannot accurately allocate employment in this sector. This point will be further elaborated in Section 3.2.2. As such, the employment sum of the private sector, local government and federal government of each county serves as the control total instead of the total employment.

NJLWD does not provide the 2018 projection, so it has to be extrapolated from known historical trends. An annualized growth rate was computed based on the 2002 county employment estimates (from http://www.wnjpin.net/OneStopCareerCenter/LaborMarketInformation/lmi14/cvremp02.zip) and the 2014 county projection mentioned above (both exclude the state government sector). This rate is applied to extrapolate the 2018 county employment projections (covering only the private sector, local government and federal government) that serve as the control totals for the 2018 municipal employment projections.

1.3.2 NJLWD Historical Estimates[1]

The historical data at the municipal level are crucial for the allocation model because they exhibit the historical growth rates of each municipality, particularly the reference period between 1993 and 2002. They are also used to evaluate how historical growth affected by its respective build-out constraint. The municipal population and employment estimates in 2002 are critical in the allocation model because the initial allocation (before taking into account various constraints and spillover) is based on historical growth from 1993 to 2002 and the extent to which a municipality is built-out.

Municipal Population Data

NJLWD computes annual population estimates at the municipality level based on the estimations provided by the US Census Bureau. Two sets of NJLWD population data are used in this study. The first is a table in which NJLWD reported the residents' population by municipality for each year between 1990 and 1999 (as revised in July 2003 to make necessary adjustments for the 2000 census results): http://www.wnjpin.net/OneStopCareerCenter/LaborMarketInformation/lmi02/inter9090.htm. The second is an Excel table (released in July 2007) that reports the US Census Bureau estimates of resident population for each municipality for each year between 2000 and 2006: http://www.wnjpin.net/OneStopCareerCenter/LaborMarketInformation/lmi02/mcd/mcdest06.xls.

NJLWD reports these population estimates as at July 1 of each year, so the population/housing estimates in this report should be considered as mid-year figures. The 1993 and 2002 municipal population estimates were entered into the allocation model and in turn converted to housing units for the calculation of historical growth rates.

Municipal Employment Data

Compared to the population data, the employment data for New Jersey are more complicated because of data privacy requirement issues and the change from the SIC classification system to the NAICS system in the late 1990s. Consequently, the data coverage across geographical areas and sectors (private, local government, state government, and federal government) varies across years. In addition, employment estimates at the state level do not always tie to sums of local estimates.

More importantly, state government employment information is not reported by municipality. The employment allocation model in Task 1 excludes state government employment because of the absence of information to guide its distribution at the sub-county level. Statewide, about 3 percent of the total employment falls into the state government sector.

The NJLWD municipal employment data covers the period between 1993 and 1999. After 1999, the only available municipal employment is for a single year of 2003. The data quality of these 8 datasets varies tremendously because of underreporting and missing data. From several conversations with the NJLWD researchers, we have identified only two years of reliable municipal employment estimates for the private sector, the local government, and the federal government that match the data reported at the state and county levels. These years are 1997 and 2003.

The employment estimates for 1993 were reliable for the federal government and for the private sector, but the reported local government jobs were about 60 percent undercounted when compared to the state total.[2] The growth rate of local government jobs between 1997 and 2003 has been used to extrapolate backward these undercounts for each municipality. Through that process, the aggregation of local government jobs is ensured to be close to those reported at the county level as well as at the state level.

The allocation model requires employment data for 2002 as an input but NJLWD does not report employment at municipal level. To overcome this problem, the 2002 employment was interpolated for each of the three sectors (the private sector, the local government, and the federal government) between 1997 and 2003. Since the estimation is only one year backward from 2003, if any estimation error exists, it should be minimal. In addition, the 2002 estimations are summed at the county level and adjusted so that they match those reported at the county level by NJLWD.

The three datasets for 1993, 1997 and 2003 can be found at:

- http://www.wnjpin.net/OneStopCareerCenter/LaborMarketInformation/lmi14/muns293.zip
- http://www.wnjpin.net/OneStopCareerCenter/LaborMarketInformation/lmi14/muns297.zip
- http://www.wnjpin.net/OneStopCareerCenter/LaborMarketInformation/lmi14/mun/mun03.xls

As year round averages are not available in these three datasets, this report used the September estimates for consistency across years. Consequently, all employment estimates are treated as in September.

Historical Estimates at State and County Levels

The NJLWD provides population and employment data at the state and county levels. The employment data are used to identify undercounting at the municipal level due to missing data, data suppression and undistributed portions. As mentioned above, the county employment is also used to as a control total in the correction of underestimation of the local government employment in 1993 and the estimation of the 2002 employment at the municipal level.

The population data can be found at:

http://www.wnjpin.net/OneStopCareerCenter/LaborMarketInformation/lmi02/index.html#county.

Employment data are at:

http://www.wnjpin.net/OneStopCareerCenter/LaborMarketInformation/lmi14/#.

1.3.3 NCNBR Growth Capacity Analysis

The vacant land analysis results provided by NCNBR are key data inputs to the allocation model. Based on detailed GIS analysis at the sub-municipality level, this analysis provides estimates of the potential number of housing units and the square footage of nonresidential floor space (by major types of office, retail, warehouse/industrial, and blended) that each municipality may potentially develop after 2002. These estimates are essentially "build-out" constraints for each municipality.

1.3.4 U.S. Census, American Community Survey, and Public Use Micro Sample Data

The U.S. Bureau of Census provides various data at the municipal level that are essential for Task 1, including ratios of: occupancy rate, headship rates, average household size, and housing unit/population ratios for 1990 and 2000. These data are useful for Task 1 even though they are not reported annually.

Additional data from the American Community Survey and from PUMS provide useful references, particularly for post 2002 data at the county and state levels. This data provides information about recent trends in headship rates and other ratios.

2.0 OVERVIEW OF THE ALLOCATION MODEL

The most common method used by researchers to disaggregate high-level forecasts to smaller geographic areas is the constant share allocation method. Essentially, this method first calculates the share of each smaller area in the larger area, then multiplies these shares by the projection of the larger area to derive the projections of the smaller areas.

The constant share method has three major drawbacks.

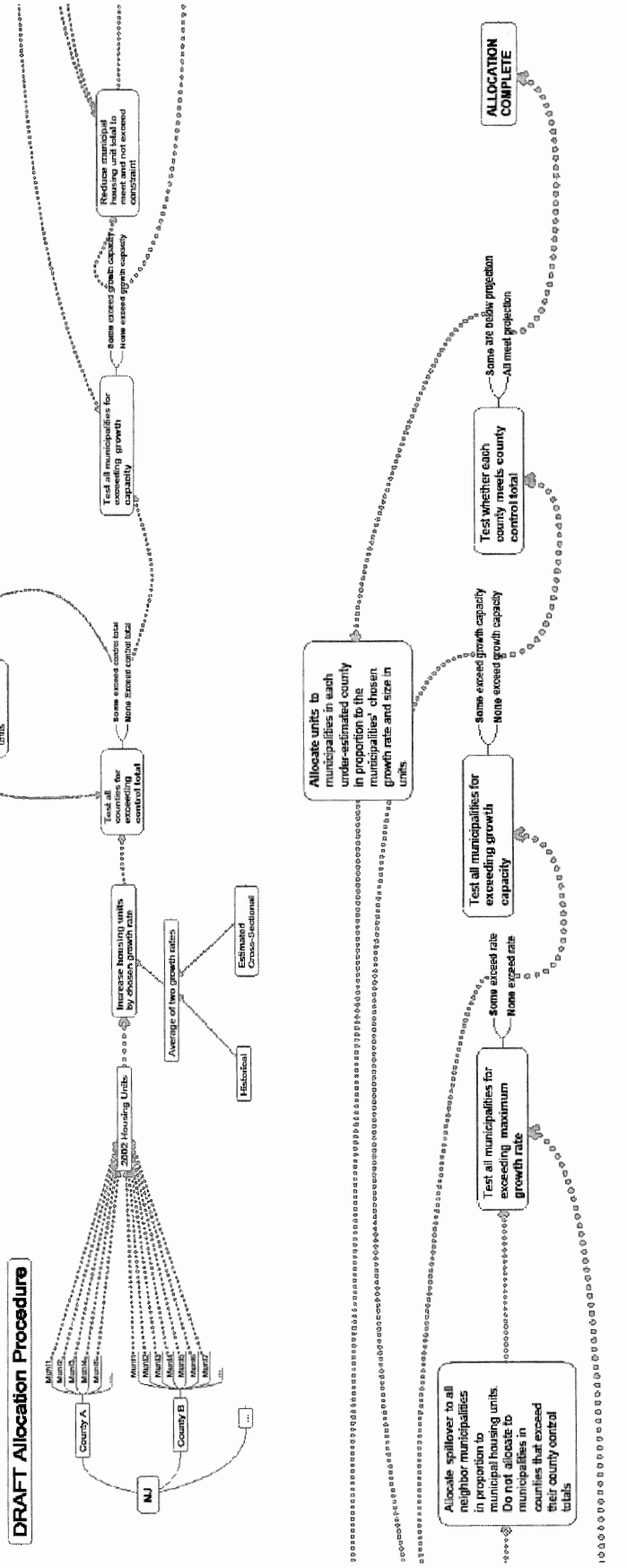
- It assumes a uniform growth rate across every sub-entity,
- It does not allow these shares to change over the projection period, and
- It does not factor in local conditions such as growth constraints.

To overcome these drawbacks, the Task 1 team developed a more sophisticated allocation model that is consistent with basic urban economic theories. This model was then used to allocate the 2018 countywide projected growth estimates across the municipalities in the county. The 2018 estimate of population was interpolated from the NJLWD data and the 2018 estimate of employment was extrapolated from the NJLWD data. There are four major inputs to the allocation model:

- NJLWD 2018 projections of population and employment at the county level
- Historical growth rates of population and employment of each municipality between 1993 and 2002
- Post-2002 growth capacity as estimated from the NCNBR vacant land analysis
- The implied growth rate estimated by a regression model on the relationship between the 1993 build-out level and historical growth rates of 566 municipalities (Appendices 1 and 2).

The allocation process is simple in concept but complex in implementation. The process is iterative in nature and is shown in Figure 2.1. While the flow chart is specifically for the housing model, the employment allocation model has essentially the same procedures. Below, the basic steps of the allocation model are delineated below.

Figure 2.1 – Allocation Model Flow Chart



Source: Econsult Corporation (2007)

The first step projects the 2018 housing units and employment for each municipality based on the chosen growth rate based on the average of the historical growth rate of the municipality and the implied growth rate estimated from the historical build-out level (as discussed in Appendices 1 and 2). These projections are aggregated at the county level and compared to the 2018 projections (labeled here as the county control total).[3] When the sum exceeds the county control totals, the projections are proportionately scaled down.

The second step in the allocation model is to verify that the physical growth capacity is not exceeded. The NCNBR vacant land analysis provides estimates of the maximum growth level a municipality may reach after 2002. The growth of each municipality is checked to see if such limits were achieved.[4] The 2018 projections are constrained to not exceed the municipal growth capacity.

The third step is to ensure that the projected growth rate of each municipality does not exceed the maximum of either its historical growth rate or its implied growth rate estimated from the historical build-out level.[5] This step imposes a maximum growth rate constraint and ensures that the future growth of each municipality will not be too fast based on both historical trends and the degree to which development is constrained by available land. This approach allows communities to grow faster than their historical rates, but tends to inhibit growth when a municipality is closer to complete build-out. Note that in the final step of the model, municipalities may exceed the maximum of the historical and build-out growth rate if it is required to scale to the control totals.

In the fourth step, the spillover amounts for municipalities that had growth rates beyond either the physical growth capacity or the maximum growth rate constraint (as established in the third step) are calculated. The spillover is sent to any adjacent municipalities whose growths have not reached their growth capacity or maximum growth rate. Once adjacent municipalities reach their constraints, any remaining spillover is allocated to the next ring of adjacent municipalities.

These four steps are repeated to see if individual municipalities exceed the growth capacity and maximum growth rate constraints after receiving a portion of the spillover. Each successive iteration results in a smaller and smaller spillover. The iterations continue until all of the spillover has been allocated and no municipality exceeds its constraints.

The fifth step is to re-check if the county sum is below the county control total after all spillover is distributed. If the two do not match within a range of 0.1, a ratio of municipal sum at the county total to the county control total is created. Then the ratio is multiplied to the 2018 projection for municipalities that have not reached their growth constraints. In other words, municipalities that have not reached their growth constraints would be scaled up so that the county sum matches the control totals. Then the second and onward steps would start again until the difference between county sum and county control total match.

3.0 HOUSING ALLOCATION MODEL

3.1 Scope

The purpose of the Round 3 COAH is to estimate the statewide and regional affordable housing obligations. The housing unit, therefore, logically becomes the unit of analysis for the residential growth allocation model. Furthermore, the residential portion of the constraint developed by NCNBR's vacant land analysis for the post-2002 municipal growth capacity is expressed in dwelling units.

The U.S. Census Bureau and NJLWD do not provide housing unit figures at the municipal level on a yearly basis. Reliable housing unit figures are only reported in 1990 and 2000 (Summary Tape File 1 of the 1990 census and Summary File 1 of the 2000 census). The availability of these data allows the computation of housing unit to population ratios for 1990 and 2000. Based on these two ratios, we estimated a 1993 ratio using linear interpolation. Multiplying the interpolated 1993 ratio by the estimated 1993 population levels for each municipality provided the estimated number of housing units for each municipality in that year.

The estimation of the number of housing units after 2000 was completed in a slightly different manner. In the absence of any information on the future relationship between population and housing units, the housing unit to population ratio used in the allocation model is the 2000 ratio. In other words, it is assumed that the 2000 ratio will remain constant through 2018. The 2002 housing unit amount is projected by multiplying the estimated 2002 population by the 2000 housing unit to population ratio.

3.2 Procedure

Housing units in 2018 for each municipality were projected by initially applying the average municipal historical growth rate and the implied growth rate of growth based on the 1993 build-out level. This implied growth rate is econometrically estimated by a cross-sectional regression of 1993 to 2002 municipal housing growth as a function of the percentage of the total possible build-out that has already occurred in 1993. As expected, this estimation—discussed in greater detail in Appendix 1—reveals that growth slows as municipalities approach their build-out capacity. Henceforward, we refer to the growth rate implied by this cross-sectional relationship as the "build-out growth rate." The average of the historical growth rate and the implied "build-out growth rate" is used to reflect the fact that there are unique circumstances associated with individual municipalities that may not be captured in the build-out growth rate, but are reflected in the historical rates. Growth rates are expected to fall as municipalities approach complete build-out, which is reflected, in part, by averaging build-out and historical rates.

The initial projections are then scaled to be consistent with the county control totals. Since the county control totals from the NJLWD 2018 projection are in terms of population rather than housing units, it is necessary to convert the housing unit projections to population projections. The projected number of housing units per municipality was then divided by the 2000 housing unit to population ratio to derive the projected 2018 municipal population. These population figures were added at the county level and compared to the projected 2018 county control totals.

If the county control totals were exceeded, the municipal population was scaled down in proportion to its growth between 2002 and 2018, until the sum of the population within a county matched that of the county control totals. The adjusted municipal population was then converted back to housing units after the downward scaling. The new projected growth was then compared to the two constraints: a) the post-2002 physical growth capacity, and b) the maximum growth rate constraint, i.e., the maximum of its historical growth rate and the build-out growth rate.

The above step provides an estimate of the spillover of housing units for those municipalities that either reached its physical growth capacity or exceeded the maximum growth rate constraint. These spillover units were distributed to neighboring municipalities until the receiving municipalities reached growth limits (due to either physical growth capacity or the maximum growth rate constraints).

The redistribution of the spillover housing units proceeded until all units were fully allocated and none of the receiving municipalities exceeded the two growth limit conditions. Once this was achieved, a scaling up procedure was performed for municipalities in those counties for which the sum of the projected 2018 population at the county level was below the county control total, even after accepting spillover housing units from other counties. However, municipalities that have reached its maximum growth limit will not be scaled up. After this scaling up procedure, the same spillover allocation procedure was performed until the spillover was fully distributed.

The allocation model provides housing unit figures for 2002 and 2018. To estimate the 2004 housing units, we use a straight-line interpolation between 2002 and 2018.

3.3 Results

In 2002, the number of residents in New Jersey was 8,577,510 and it grew to 8,675,880 in 2004. According to NJLWD, the projected state population in 2018 is 9,411,670. This implies an absolute growth of 735,790 residents between 2004 and 2018, or a total growth of 8.5 percent in that period. It is important that keep in mind that these numbers are projections 10 years into the future, based on historical experience, demographic and economic theory. Since the future does not exactly mimic the past, the actual population growth will differ from these projections.

Based on the 2002 population and the 2000 housing to population ratio, it is estimated that in 2002 there were 3,372,924 housing units in New Jersey. Housing grew to 3,412,981 units in 2004. The allocation model estimated that in 2018, New Jersey would have 3,693,380 housing units. For the 2004 to 2018 period, the net increase is 280,397 units or a total growth of 8 percent. At this rate of growth, the state will gain about 20,028 housing units per annum.

Figure 3.1 summarizes the allocation by COAH region. The fastest growth in housing units is found in COAH Region 4, 5 and 3 (in descending order), all would experience over a 10 percent growth between 2004 and 2018.

Figure 3.1 - Housing Units by COAH Region: 2002, 2004 and 2018

COAH region	Units in 2002	Units in 2004	Units Allocated 2018	Net Changes 2004 - 2018	Annual Rate of Change 2004 to 2018*
1 - Northeast	816,451	822,569	865,397	42,828	0.36%
2 - Northwest	718,142	725,236	774,896	49,660	0.47%
3 – West Central	443,713	450,495	497,966	47,471	0.72%
4 – East Central	641,904	651,913	721,975	70,062	0.73%
5 - Southwest	465,643	472,781	522,750	49,968	0.72%
6 – South-Southwest	287,070	289,986	310,394	20,408	0.49%
New Jersey	**3,372,924**	**3,412,981**	**3,693,378**	**280,397**	**0.57%**

**Growth rates are calculated at a compound (exponential) annual rate*

Source: Econsult Corporation (2007)

Figure 3.2 summarizes the housing allocation by county. All counties grew in housing units except Cape May County, for which NJLWD projected barely a growth of 270 residents between 2004 and 2018. The highest housing growth rates between 2004 and 2018 are found in Gloucester County, Sussex County and Ocean County (in descending order). It should be noted that the growth in housing units may not correspond to the change in population because each county has different housing unit to population ratios.

Figure 3.2 - Housing Units by County: 2002, 2004 and 2018

County	Units in 2002	Units in 2004	Units Allocated 2018	Net Changes 2004 - 2018	Annual Rate of Change 2004 to 2018*
ATLANTIC	116,609	118,621	132,707	14,086	0.80%
BERGEN	344,139	346,781	365,272	18,491	0.37%
BURLINGTON	166,898	169,942	191,244	21,302	0.85%
CAMDEN	200,747	202,589	215,483	12,894	0.44%
CAPE MAY	90,802	90,690	89,905	-785	-0.06%
CUMBERLAND	53,342	54,018	58,748	4,730	0.60%
ESSEX	301,981	303,777	316,348	12,571	0.29%
GLOUCESTER	97,997	100,251	116,023	15,772	1.05%
HUDSON	241,008	241,816	247,471	5,655	0.17%
HUNTERDON	46,741	47,681	54,266	6,585	0.93%
MERCER	135,937	137,741	150,362	12,621	0.63%
MIDDLESEX	281,166	284,859	310,714	25,855	0.62%

County	Units in 2002	Units in 2004	Units Allocated 2018	Net Changes 2004 - 2018	Annual Rate of Change 2004 to 2018*
MONMOUTH	245,408	248,245	268,102	19,857	0.55%
MORRIS	177,607	180,452	200,365	19,913	0.75%
OCEAN	260,559	265,928	303,511	37,583	0.95%
PASSAIC	172,956	174,423	184,690	10,267	0.41%
SALEM	26,317	26,656	29,034	2,378	0.61%
SOMERSET	115,807	117,954	132,986	15,032	0.86%
SUSSEX	58,348	59,550	67,964	8,414	0.95%
UNION	195,495	197,084	208,202	11,118	0.39%
WARREN	43,059	43,924	49,981	6,057	0.93%
NEW JERSEY	**3,372,924**	**3,412,981**	**3,693,378**	**280,397**	**0.57%**

Source: Econsult Corporation (2007)

The full allocation result by municipality can be found in Appendix A.

It should be noted that the projection is for total housing units in 2018 and net changes in units from 2004 to 2018. The increase in number of housing units is not, however the total number of new units that need to be constructed over the period. In addition to building the new projected here, additional units must be constructed to replace units demolished over the same period. The additional units required to offset demolition is not analyzed in this task.

4.0 THE EMPLOYMENT ALLOCATION MODEL

4.1 Scope

4.1.1 Unit of Analysis

The majority of the input data for this model are employment data. These include the 1993 and 2002 municipal employment levels and the NJLWD 2018 projected county employment levels. As indicated in Section 3, the state government sector is not reported anywhere at the municipal level, so this employment allocation model only covered three sectors: private employment, federal government, and local government. State government employment will be discussed separately. The other input data is non-residential build-out constraints.

4.1.2 Converting Floor Space to Employment

The physical growth capacity in this model is based on the data generated by the NCNBR vacant land study. The data are expressed in terms of gross floor area and are broken down into office, retail, warehouse/industrial, and others/blended for almost all municipalities.

When testing whether the future growth limit is reached with the projected employment level, it is important to translate the gross floor space into employment. Task 4 includes a literature review and a sample survey for New Jersey on employee/floor space ratios by type of uses. Here are the ratios (in terms of number of employees per 1,000 square feet of gross floor space) we recommended in Task 4:

- Office 3.32
- Retail 2
- Warehouse 1.72
- Manufacturing and Industry 1.43

These ratios could be sensitive to the estimated amount of employment based on the potential nonresidential development, so all chosen ratios in the employment allocation model were within the upper and lower bound of those recommended by Task 4. For the purposes of this analysis this resulted in an average ratio of 2.9 per 1000 feet to convert build-out square feet to employment which is close to the median ratio found in Task 4. Using an adjustment of 8% for vacancies and 15% for common areas this translates to 2.25 employees per 1000 square feet. This ratio was not identical for all municipalities because their current mix of commercial space varies by municipality.

4.2 Procedure

The employment model is similar in structure to the housing model. Statewide, the historical employment growth rate (excluding the state government sector) is approximately 1.3 percent between 1993 and 2002, but some municipalities experienced annual rates over 15 percent in this period. While the majority of such municipalities had a very small employment base in 1993, some mid-size municipalities (with 1993 employment around 2,000 jobs) like Allendale Borough in Bergen County, Swedesboro Borough in Gloucester County, and Monroe Township in Middlesex County, had annual rates exceeding 15 percent. In other words, these municipalities more than doubled their employment primarily due to new development. Such fast employment growth rates are unlikely to sustain, especially when their growth capacity is being used up. In addition, initial tests showed that the allocation based on the average of the historical rate and the build-out growth rate resulted in a high degree of spillover as many municipalities would hit the two growth constraints in the model.

In the first step, the initial municipal employment by 2018 was projected based on the average of the historical growth rate or the build-out growth rate. These initial projections were summed at the county level and compared to county control totals. In the case of exceeding the county control totals, the employment of each municipality was scaled down.

Next, the growth of each municipality was measured against its physical growth capacity to ensure that the build-out level did not exceed 100 percent of its physical development capacity. It was also compared to the maximum growth rate (either the historical rate or the build-out growth rate). The spillover was then estimated and sent to those adjacent municipalities that had the capacity to receive the spillover.

In each round of the allocation of the spillover, each receiving municipality was checked to ensure that the growth increment did not violate the two growth constraints of the model (growth capacity and maximum growth rate).

For counties that had a sum of initial projected employment less than the county control totals, their municipalities would receive cross-county spillover under the same set of constraints. The county total was then compared to the control total. If the county total was still below the control total, the municipality employment was scaled upward and the spillover allocation procedures followed.

This process resulted in a municipal allocation that summed to within 0.4% of the total statewide employment. Each county was close to its control total as well. The remaining 0.4% of employment was allocated by proportionately scaling up or down municipalities in each county such that the projections summed to the county control totals exactly and neither the growth rate nor build-out constraints were violated.[6]

4.3 Results

In 2002, the employment (excluding state government employees) in New Jersey was 3,649,890, slightly lower than the 1999 figures, reflecting the recession in 2000 and 2001. According to the NJLWD projected 2014 employment, it is extrapolated that in 2018, the employment would reach 4,476,040. This implies an absolute growth of 772,890 jobs between 2004 and 2018, or a total growth of 19 percent during that period. At this rate of growth, the state will gain about 51,630 jobs per annum from 2004 to 2018. Note that the NJLWD projections reflect past history and market realities. As with population, the actual employment growth will differ from that projected by the NJLWD. The full allocation result by municipality is in Appendix 4. Map 2 below shows the annual growth rate by municipality.

Figure 4.1 summarizes the employment allocation by COAH region. The fastest growth is found in COAH Region 4, which is projected to grow at an annual rate of 1.7% between 2004 and 2018.

Figure 4.1 - Employment by COAH Region: 2002, 2004 and 2018

COAH Region	Employment in 2002	Employment in 2004	Employment Allocated 2018	Net Changes Between 2004 and 20018	Annual Rate of Change 2004 to 2018
1 - Northeast	884,072	906,217	1,061,235	155,018	1.1%
2 - Northwest	879,693	903,057	1,066,602	163,545	1.2%
3 - West Central	594,298	607,514	700,025	92,511	1.0%
4 - East Central	552,462	574,244	726,717	152,473	1.7%
5 - Southwest	475,741	493,129	614,841	121,712	1.6%
6 - South Southwest	263,621	268,996	306,622	37,626	0.9%
New Jersey	**3,649,887**	**3,753,156**	**4,476,042**	**722,885**	**1.3%**

Source: Econsult Corporation

Figure 4.2 summarizes the employment growth of each county. All would increase their employment base and the highest growth is found in Sussex County, Gloucester County, and closely followed by Ocean County, Mercer County and Monmouth County. On the other hand, Cape May County and Middlesex County would experience slow growth.

In Bergen county, the initial allocation based on historical and S-curve growth rates was not sufficient to meet the county control total. The allocation program altered the county control total for Bergen to account for this, decreasing it by 23,866. This extra county-level forecasted growth was then spilled over into neighboring Passaic and Hudson counties, within Bergen's COAH region. The 23,866 spillover was allocated based on the 2002 employment in each receiving county; Hudson County received 58% of the growth and Passaic County received 42%.

Figure 4.2 - Employment by County: 2002, 2004 and 2018

County	Employment in 2002	Employment in 2004	Employment Allocated 2018	Net Changes 2004 - 2018	Annual Rate of Change 2004 to 2018
Atlantic	141,267	144,513	167,237	22,724	1.05%
Bergen	442,776	451,319	511,120	59,801	0.89%
Burlington	189,071	196,056	244,951	48,895	1.60%
Camden	197,095	203,151	245,540	42,389	1.36%
Cape May	45,014	45,449	48,496	3,047	0.46%
Cumberland	55,708	56,866	64,971	8,105	0.96%
Essex	338,076	344,882	392,524	47,642	0.93%
Gloucester	89,575	93,922	124,350	30,428	2.02%
Hudson	235,617	242,248	288,669	46,421	1.26%
Hunterdon	45,540	47,115	58,136	11,021	1.51%

County	Employment in 2002	Employment in 2004	Employment Allocated 2018	Net Changes 2004 - 2018	Annual Rate of Change 2004 to 2018
Mercer	169,772	176,557	224,054	47,497	1.72%
Middlesex	378,605	386,180	439,204	53,024	0.92%
Monmouth	241,567	250,788	315,331	64,543	1.65%
Morris	275,611	285,383	353,790	68,407	1.55%
Ocean	141,123	146,899	187,332	40,433	1.75%
Passaic	168,692	173,522	207,336	33,813	1.28%
Salem	21,632	22,168	25,918	3,750	1.12%
Somerset	170,153	174,220	202,685	28,465	1.09%
Sussex	36,987	39,127	54,110	14,983	2.34%
Union	229,810	235,548	275,711	40,163	1.13%
Warren	36,196	37,244	44,577	7,333	1.29%
New Jersey	**3,649,887**	**3,753,156**	**4,476,042**	722,885	1.27%

Source: Econsult Corporation

The full allocation result by municipality can be found in Appendix B.

5.0 STATE GOVERNMENT EMPLOYMENT

The employment allocation model does not cover this sector because of data deficiency at the municipal level. However, to complete the employment picture, some discussion on the state government sector is deserved.

First, from a policy perspective, the growth of state government employment is usually not the prerogative of local government. The planning and development of state facilities is initiated by the state government. As such, the housing obligations resulted from the growth of state government employment should be better born by the state government.

Second, the state government sector only accounts for about 3.5 percent of the total employment in New Jersey. For majority of the municipalities, this sector has little housing impact. However, due to the highly uneven geographical distribution of state government jobs, few municipalities, such as Trenton, have a fairly high share of jobs in this sector. Over the past decade, over one of six jobs in Mercer County belonged to the state government. The available data, however, are not sufficient to identify the distraction with the county.

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[1] The three MPOs report population and employment at the municipality level through 2000 to 2030 at five year intervals, but not for earlier years. Since we adopted the NJLWD projection, the MPO data is used for reference only.

[2] The same undercounting of local government jobs occurred in other years except 1997 and 2003. The 1994 and 1995 data missed all federal government employment figures.

[3] The housing unit comparison is performed after converting the 2018 municipal housing unit projection to population by applying the 2000 municipal population to housing unit ratio. Direct comparison cannot perform because 2018 housing projection is unavailable.

[4] Since the physical growth capacity only provides number of housing units for residential land, and floor space for nonresidential land, the nonresidential floor space is converted to employment before the verification. The conversion factors are discussed in Section 6.1.2.

[5] In section 5.2, we describe in more details how we apply the empirical relationship between housing growth and historical build-out level.

[6] In this final step, adjacency was not taken into consideration.

APPENDIX A - MUNICIPAL GROWTH RATES IN THE HOUSING ALLOCATION MODEL

Housing growth of a municipality should slow down as the municipality's physical growth capacity is being reached. In other words, a municipality is unlikely to sustain its historical growth rates as measured between the 1993 and 2002 period in the following 16 years if it has already approached a high build-out level.

To capture this relationship between the anticipated housing growth rate between 2002 and 2018 and the 2002 build-out level, a regression model was developed to empirically estimate the implied historical growth rates that measure how build-out levels affect future growth rates. In this model, the dependent variable is the housing growth rate (a linear annual growth rate) between 1993 and 2002 for each of the 566 municipalities. The independent variable is the 1993 build-out level and was estimated by dividing the number of housing units in 1993 with the sum of the 2002 housing units and the number of potential housing units that could be built after 2002. This equation applies to municipalities that had a positive growth between 1993 and 2002. However, for a few declining communities, this equation may end up a build-out ratio over 100 percent when the amount of housing units lost between 1993 and 2002 is larger than the post-2002 growth capacity. In this case, the build-out level is estimated by changing the denominator in this equation to the sum of the 1993 housing units and the number of potential housing units that could be built after 2002.

This regression model had 566 observations initially but outliers with historical growth rates above the 99 percentile or below the 1 percentile in the sample were excluded in the model. Since municipalities within the same COAH Region may behave differently as a group from others in a different COAH Region, the slope and the y-intercept of the implied rates would also differ by COAH region. Two sets of dummy variables are introduced in the model. The first set of 5 dummy variables captures the effects of the COAH region, i.e. it will change the y-intercept or the initial historical rate when the build-out level is 0. The second set of dummy variables measure the interaction effects of COAH region on the slope of the curve.

The functional form of the model is in cubic form (a declining curve with two turns). The goodness of fit of a regression model is usually measured by coefficient of determination (adjusted R Square that explains the percent of variations in the data). The Task 1 regression model of implied historical growth rate of housing units has a coefficient of determination of 0.4778, a strong result for cross-sectional regression models.

Figure A.1 - Housing Unit by Municipality: 2002, 2004 and 2018

Municipality	COAH Region	County	Units in 2002	Units in 2004	2018 Units Based On Historic Growth	2018 Units Based On "S" Curve	Units Allocated 2018	Net Changes 2004-2018	Annual Rate of Change 2004-2018
Absecon City	6	ATLANTIC	2,924	2,967	3,091	3,041	3,266	299	0.69%
Atlantic City	6	ATLANTIC	20,070	20,052	19,120	20,070	19,927	-125	-0.04%
Brigantine City	6	ATLANTIC	9,329	9,329	9,645	9,375	9,332	3	0.00%
Buena Borough	6	ATLANTIC	1,539	1,545	1,513	1,671	1,586	42	0.19%
Buena Vista Township	6	ATLANTIC	2,840	2,889	3,054	3,108	3,230	341	0.80%
Corbin City	6	ATLANTIC	219	226	259	242	274	48	1.39%
Egg Harbor City	6	ATLANTIC	1,750	1,769	1,801	1,876	1,898	130	0.51%
Egg Harbor Township	6	ATLANTIC	13,063	13,829	17,880	14,774	19,192	5,363	2.37%
Estell Manor City	6	ATLANTIC	563	586	710	643	748	162	1.76%
Folsom Borough	6	ATLANTIC	702	712	738	729	780	68	0.66%
Galloway Township	6	ATLANTIC	12,264	12,850	15,975	13,725	16,955	4,104	2.00%
Hamilton Township	6	ATLANTIC	8,105	8,390	9,819	8,937	10,386	1,996	1.54%
Hammonton Town	6	ATLANTIC	4,930	5,017	5,329	5,372	5,626	609	0.82%
Linwood City	6	ATLANTIC	2,800	2,818	3,098	2,876	2,941	123	0.30%
Longport Borough	6	ATLANTIC	1,574	1,574	1,641	1,584	1,574	0	0.00%
Margate City	6	ATLANTIC	7,085	7,085	7,400	7,131	7,090	4	0.00%
Mullica Township	6	ATLANTIC	2,195	2,245	2,450	2,387	2,596	351	1.04%

Municipality	COAH Region	County	Units in 2002	Units in 2004	2018 Units Based On Historic Growth	2018 Units Based On "S" Curve	Units Allocated 2018	Net Changes 2004-2018	Annual Rate of Change 2004-2018
Northfield City	6	ATLANTIC	2,973	3,001	3,103	3,046	3,196	196	0.45%
Pleasantville City	6	ATLANTIC	7,038	7,042	6,768	7,123	7,067	25	0.03%
Port Republic City	6	ATLANTIC	397	405	433	439	459	54	0.90%
Somers Point City	6	ATLANTIC	5,360	5,375	5,280	5,377	5,481	106	0.14%
Ventnor City	6	ATLANTIC	7,969	7,969	8,263	8,012	7,969	0	0.00
Weymouth Township	6	ATLANTIC	921	948	1,072	1,021	1,135	188	1.30%
Allendale Borough	1	BERGEN	2,169	2,203	2,468	2,254	2,436	234	0.72%
Alpine Borough	1	BERGEN	758	795	965	829	1,053	258	2.03%
Bergenfield Borough	1	BERGEN	9,126	9,149	9,103	9,146	9,311	162	0.13%
Bogota Borough	1	BERGEN	2,903	2,912	2,955	2,920	2,970	59	0.14%
Carlstadt Borough	1	BERGEN	2,491	2,492	2,547	2,500	2,497	5	0.02%
Cliffside Park Borough	1	BERGEN	10,359	10,376	10,668	10,423	10,493	117	0.08%
Closter Borough	1	BERGEN	2,894	2,911	3,027	2,933	3,033	122	0.29%
Cresskill Borough	1	BERGEN	2,741	2,764	2,887	2,789	2,926	162	0.41%
Demarest Borough	1	BERGEN	1,650	1,668	1,703	1,684	1,799	130	0.54%
Dumont Borough	1	BERGEN	6,471	6,497	6,612	6,520	6,680	183	0.20%
East Rutherford Borough	1	BERGEN	3,773	3,787	3,760	3,786	3,887	100	0.19%
Edgewater Borough	1	BERGEN	5,147	5,235	10,461	5,711	5,854	619	0.80%
Elmwood Park Borough	1	BERGEN	7,246	7,304	7,453	7,341	7,706	403	0.38%
Emerson Borough	1	BERGEN	2,418	2,458	2,580	2,502	2,738	280	0.77%
Englewood City	1	BERGEN	9,595	9,661	9,710	9,684	10,127	465	0.34%
Englewood Cliffs Borough	1	BERGEN	1,942	1,969	2,059	1,993	2,156	187	0.65%
Fair Lawn Borough	1	BERGEN	11,987	12,034	12,199	12,069	12,366	332	0.19%
Fairview Borough	1	BERGEN	5,032	5,051	4,965	5,041	5,180	130	0.18%
Fort Lee Borough	1	BERGEN	18,174	18,334	19,373	18,540	19,453	1,119	0.42%

Municipality	COAH Region	County	Units in 2002	Units in 2004	2018 Units Based On Historic Growth	2018 Units Based On "S" Curve	Units Allocated 2018	Net Changes 2004-2018	Annual Rate of Change 2004-2018
Franklin Lakes Borough	1	BERGEN	3,601	3,686	4,115	3,817	4,279	593	1.07%
Garfield City	1	BERGEN	11,695	11,723	11,790	11,738	11,917	194	0.12%
Glen Rock Borough	1	BERGEN	4,015	4,031	4,049	4,037	4,144	113	0.20%
Hackensack City	1	BERGEN	19,326	19,392	20,353	19,553	19,854	462	0.17%
Harrington Park Borough	1	BERGEN	1,589	1,611	1,650	1,629	1,765	154	0.66%
Hasbrouck Heights Borough	1	BERGEN	4,608	4,624	4,680	4,636	4,733	109	0.17%
Haworth Borough	1	BERGEN	1,151	1,163	1,179	1,187	1,246	83	0.49%
Hillsdale Borough	1	BERGEN	3,549	3,592	3,690	3,625	3,890	298	0.57%
Ho-Ho-Kus Borough	1	BERGEN	1,470	1,483	1,498	1,492	1,577	94	0.44%
Leonia Borough	1	BERGEN	3,333	3,347	3,342	3,349	3,446	99	0.21%
Little Ferry Borough	1	BERGEN	4,450	4,466	4,429	4,464	4,582	116	0.18%
Lodi Borough	1	BERGEN	9,966	10,011	10,326	10,069	10,324	313	0.22%
Lyndhurst Township	1	BERGEN	8,112	8,117	8,344	8,152	8,157	39	0.03%
Mahwah Township	1	BERGEN	9,716	9,996	11,619	10,354	11,958	1,961	1.29%
Maywood Borough	1	BERGEN	3,768	3,783	3,760	3,783	3,888	105	0.20%
Midland Park Borough	1	BERGEN	2,645	2,658	2,690	2,665	2,748	90	0.24%
Montvale Borough	1	BERGEN	2,677	2,727	2,952	2,828	3,076	349	0.86%
Moonachie Borough	1	BERGEN	1,085	1,088	1,080	1,087	1,107	19	0.12%
New Milford Borough	1	BERGEN	6,421	6,438	6,462	6,444	6,554	116	0.13%
North Arlington Borough	1	BERGEN	6,541	6,558	6,602	6,568	6,672	115	0.12%
Northvale Borough	1	BERGEN	1,620	1,623	1,681	1,632	1,641	18	0.08%
Norwood Borough	1	BERGEN	2,014	2,035	2,443	2,102	2,178	144	0.49%
Oakland Borough	1	BERGEN	4,625	4,702	5,321	4,822	5,245	543	0.78%
Old Tappan Borough	1	BERGEN	1,873	1,919	2,651	2,025	2,235	317	1.10%
Oradell Borough	1	BERGEN	2,830	2,852	2,852	2,872	3,008	156	0.38%
Palisades Park Borough	1	BERGEN	6,661	6,694	7,287	6,794	6,929	235	0.25%

Municipality	COAH Region	County	Units in 2002	Units in 2004	2018 Units Based On Historic Growth	2018 Units Based On "S" Curve	Units Allocated 2018	Net Changes 2004-2018	Annual Rate of Change 2004-2018
Paramus Borough	1	BERGEN	8,365	8,461	8,974	8,570	9,137	676	0.55%
Park Ridge Borough	1	BERGEN	3,295	3,321	3,531	3,361	3,506	185	0.39%
Ramsey Borough	1	BERGEN	5,461	5,557	5,976	5,661	6,223	666	0.81%
Ridgefield Borough	1	BERGEN	4,156	4,168	4,180	4,172	4,253	85	0.14%
Ridgefield Park Village	1	BERGEN	5,117	5,156	5,117	5,184	5,431	275	0.37%
Ridgewood Village	1	BERGEN	8,778	8,823	8,881	8,841	9,137	314	0.25%
River Edge Borough	1	BERGEN	4,213	4,227	4,278	4,237	4,321	95	0.16%
River Vale Township	1	BERGEN	3,411	3,449	3,621	3,487	3,715	266	0.53%
Rochelle Park Township	1	BERGEN	2,109	2,118	2,126	2,121	2,178	60	0.20%
Rockleigh Borough	1	BERGEN	81	85	98	91	108	24	1.77%
Rutherford Borough	1	BERGEN	7,189	7,217	7,243	7,226	7,409	193	0.19%
Saddle Brook Township	1	BERGEN	5,161	5,185	5,304	5,209	5,351	166	0.23%
Saddle River Borough	1	BERGEN	1,333	1,380	1,701	1,459	1,711	331	1.55%
South Hackensack Township	1	BERGEN	844	846	899	854	862	16	0.13%
Teaneck Township	1	BERGEN	13,668	13,749	13,929	13,795	14,320	571	0.29%
Tenafly Borough	1	BERGEN	4,947	4,989	5,009	5,005	5,280	292	0.41%
Teterboro Borough	1	BERGEN	8	7	4	8	4	-4	-5.07%
Upper Saddle River Borough	1	BERGEN	2,676	2,724	2,941	2,779	3,060	336	0.83%
Waldwick Borough	1	BERGEN	3,486	3,516	3,587	3,534	3,725	209	0.41%
Wallington Borough	1	BERGEN	4,892	4,923	4,893	4,925	5,147	223	0.32%
Washington Township	1	BERGEN	3,396	3,445	3,628	3,488	3,781	337	0.67%
Westwood Borough	1	BERGEN	4,618	4,634	4,796	4,662	4,745	111	0.17%
Woodcliff Lake Borough	1	BERGEN	1,872	1,926	2,258	2,001	2,303	377	1.29%
Wood-Ridge Borough	1	BERGEN	3,085	3,117	3,160	3,133	3,335	218	0.48%
Wyckoff Township	1	BERGEN	5,761	5,843	6,255	5,932	6,414	571	0.67%

Municipality	COAH Region	County	Units in 2002	Units in 2004	2018 Units Based On Historic Growth	2018 Units Based On "S" Curve	Units Allocated 2018	Net Changes 2004-2018	Annual Rate of Change 2004-2018
Bass River Township	5	BURLINGTON	611	618	640	681	668	50	0.56%
Beverly City	5	BURLINGTON	1,047	1,053	1,037	1,057	1,094	40	0.27%
Bordentown City	5	BURLINGTON	1,903	1,918	1,915	1,953	2,028	110	0.40%
Bordentown Township	5	BURLINGTON	3,890	4,026	5,288	4,336	4,977	951	1.53%
Burlington City	5	BURLINGTON	4,199	4,245	4,349	4,368	4,561	316	0.51%
Burlington Township	5	BURLINGTON	7,748	8,100	12,337	8,721	10,565	2,465	1.92%
Chesterfield Township	5	BURLINGTON	933	943	968	1,063	1,014	71	0.52%
Cinnaminson Township	5	BURLINGTON	5,233	5,303	5,583	5,422	5,792	489	0.63%
Delanco Township	5	BURLINGTON	1,318	1,342	1,493	1,447	1,514	172	0.87%
Delran Township	5	BURLINGTON	6,143	6,287	8,091	6,655	7,301	1,013	1.07%
Eastampton Township	5	BURLINGTON	2,454	2,494	2,701	2,638	2,770	276	0.75%
Edgewater Park Township	5	BURLINGTON	3,317	3,354	3,451	3,545	3,613	259%	0.53%
Evesham Township	5	BURLINGTON	17,234	17,453	21,672	18,237	18,984	1,532	0.60%
Fieldsboro Borough	5	BURLINGTON	216	220	306	234	247	27	0.83%
Florence Township	5	BURLINGTON	4,563	4,664	5,379	5,094	5,371	706	1.01%
Hainesport Township	5	BURLINGTON	1,973	2,046	2,983	2,198	2,556	510	1.60%
Lumberton Township	5	BURLINGTON	4,542	4,714	6,890	5,066	5,917	1,203	1.64%
Mansfield Township	5	BURLINGTON	2,895	3,055	6,171	3,312	4,179	1,123	2.26%
Maple Shade Township	5	BURLINGTON	9,041	9,091	9,070	9,139	9,439	348	0.27%
Medford Lakes Borough	5	BURLINGTON	1,558	1,559	1,553	1,559	1,567	8	0.03%
Medford Township	5	BURLINGTON	8,446	8,630	9,888	9,064	9,917	1,287	1.00%
Moorestown Township	5	BURLINGTON	7,462	7,653	9,155	8,048	8,993	1,339	1.16%
Mount Holly Township	5	BURLINGTON	4,245	4,294	4,744	4,411	4,632	339	0.54%
Mount Laurel Township	5	BURLINGTON	17,277	17,707	21,673	18,653	20,715	3,008	1.13%
New Hanover Township	5	BURLINGTON	1,347	1,361	1,832	1,432	1,458	97	0.49%

Municipality	COAH Region	County	Units in 2002	Units in 2004	2018 Units Based On Historic Growth	2018 Units Based On "S" Curve	Units Allocated 2018	Net Changes 2004-2018	Annual Rate of Change 2004-2018
North Hanover Township	5	BURLINGTON	2,707	2,702	2,429	2,821	2,670	-32	-0.09%
Palmyra Borough	5	BURLINGTON	3,451	3,498	3,879	3,603	3,820	323	0.63%
Pemberton Borough	5	BURLINGTON	520	525	525	544	555	31	0.41%
Pemberton Township	5	BURLINGTON	10,789	10,922	11,227	11,269	11,857	935	0.59%
Riverside Township	5	BURLINGTON	3,123	3,130	3,094	3,133	3,181	51	0.12%
Riverton Borough	5	BURLINGTON	1,111	1,114	1,137	1,122	1,142	27	0.17%
Shamong Township	5	BURLINGTON	2,229	2,268	2,642	2,362	2,542	274	0.82%
Southampton Township	5	BURLINGTON	4,898	4,967	5,262	5,097	5,445	479	0.66%
Springfield Township	5	BURLINGTON	1,207	1,232	1,401	1,378	1,407	176	0.96%
Tabernacle Township	5	BURLINGTON	2,415	2,447	2,572	2,593	2,670	223	0.62%
Washington Township	5	BURLINGTON	174	171	131	180	151	-20	-0.89%
Westampton Township	5	BURLINGTON	2,700	2,780	3,452	3,066	3,333	554	1.31%
Willingboro Township	5	BURLINGTON	11,129	11,205	11,077	11,266	11,740	535	0.33%
Woodland Township	5	BURLINGTON	511	528	687	587	649	121	1.48%
Wrightstown Borough	5	BURLINGTON	339	322	177	339	209	-114	-3.05%
Audubon Borough	5	CAMDEN	3,793	3,796	3,727	3,793	3,817	21	0.04%
Audubon Park Borough	5	CAMDEN	496	498	497	505	510	12	0.18%
Barrington Borough	5	CAMDEN	3,159	3,192	3,527	3,276	3,423	231	0.50%
Bellmawr Borough	5	CAMDEN	4,553	4,545	4,385	4,623	4,489	-57	-0.09%
Berlin Borough	5	CAMDEN	2,501	2,574	3,026	2,705	3,084	511	1.30%
Berlin Township	5	CAMDEN	2,024	2,059	2,243	2,166	2,306	246	0.81%
Brooklawn Borough	5	CAMDEN	1,021	1,023	1,279	1,060	1,036	13	0.09%
Camden City	5	CAMDEN	29,683	29,725	29,273	30,043	30,022	297	0.07%
Cherry Hill Township	5	CAMDEN	27,199	27,448	28,576	27,882	29,190	1,742	0.44%
Chesilhurst Borough	5	CAMDEN	584	599	693	650	708	109	1.20%
Clementon Borough	5	CAMDEN	2,201	2,188	2,058	2,229	2,100	-89	-0.30%

Municipality	COAH Region	County	Units in 2002	Units in 2004	2018 Units Based On Historic Growth	2018 Units Based On "S" Curve	Units Allocated 2018	Net Changes 2004-2018	Annual Rate of Change 2004-2018
Collingswood Borough	5	CAMDEN	6,833	6,844	6,857	6,855	6,916	72	0.07%
Gibbsboro Borough	5	CAMDEN	858	878	990	945	1,014	136	1.04%
Gloucester City	5	CAMDEN	4,587	4,569	4,345	4,605	4,440	-129	-0.20%
Gloucester Township	5	CAMDEN	24,773	25,388	29,018	26,750	29,692	4,304	1.12%
Haddon Heights Borough	5	CAMDEN	3,121	3,128	3,097	3,136	3,178	50	0.11%
Haddon Township	5	CAMDEN	6,426	6,436	6,503	6,455	6,507	71	0.08%
Haddonfield Borough	5	CAMDEN	4,614	4,624	4,684	4,641	4,691	67	0.10%
Hi-Nella Borough	5	CAMDEN	494	496	498	513	512	16	0.23%
Laurel Springs Borough	5	CAMDEN	803	799	757	803	773	-26	-0.24%
Lawnside Borough	5	CAMDEN	1,114	1,126	1,176	1,208	1,209	84	0.51%
Lindenwold Borough	5	CAMDEN	8,229	8,227	8,019	8,323	8,217	-10	-0.01%
Magnolia Borough	5	CAMDEN	1,838	1,838	1,796	1,849	1,841	2	0.01%
Merchantville Borough	5	CAMDEN	1,612	1,612	1,606	1,612	1,614	2	0.01%
Mount Ephraim Borough	5	CAMDEN	1,880	1,882	1,874	1,882	1,894	12	0.05%
Oaklyn Borough	5	CAMDEN	1,883	1,884	1,881	1,884	1,896	11	0.04%
Pennsauken Township	5	CAMDEN	12,946	13,032	13,266	13,189	13,632	599	0.32%
Pine Hill Borough	5	CAMDEN	4,472	4,573	5,151	4,839	5,278	705	1.03%
Pine Valley Borough	5	CAMDEN	23	24	31	27	31	7	1.80%
Runnemede Borough	5	CAMDEN	3,508	3,524	3,542	3,556	3,637	113	0.23%
Somerdale Borough	5	CAMDEN	2,166	2,170	2,142	2,194	2,197	27	0.09%
Stratford Borough	5	CAMDEN	2,841	2,845	2,800	2,851	2,872	27	0.07%
Tavistock Borough	5	CAMDEN	7	7	10	8	10	3	2.20%
Voorhees Township	5	CAMDEN	11,237	11,439	12,716	11,840	12,851	1,412	0.83%
Waterford Township	5	CAMDEN	3,719	3,769	4,005	3,932	4,120	351	0.64%
Winslow Township	5	CAMDEN	12,544	12,822	14,413	13,884	14,770	1,948	1.02%

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Woodlynne Borough	5	CAMDEN	1,007	1,007	1,006	1,007	1,007	0	0.00%
Avalon Borough	6	CAPE MAY	5,301	5,298	5,221	5,301	5,283	-16	-0.02%
Cape May City	6	CAPE MAY	3,969	3,964	4,053	3,983	3,929	-35	-0.06%
Cape May Point Borough	6	CAPE MAY	503	503	446	503	499	-4	-0.05%
Dennis Township	6	CAPE MAY	2,289	2,286	2,562	2,510	2,266	-20	-0.06%
Lower Township	6	CAPE MAY	13,704	13,687	14,192	13,932	13,562	-124	-0.07%
Middle Township	6	CAPE MAY	7,597	7,587	8,029	8,040	7,519	-68	-0.06%
North Wildwood City	6	CAPE MAY	7,357	7,347	7,427	7,367	7,281	-66	-0.06%
Ocean City	6	CAPE MAY	20,518	20,492	21,791	20,705	20,305	-187	-0.07%
Sea Isle City	6	CAPE MAY	6,874	6,865	7,569	6,976	6,804	-62	-0.06%
Stone Harbor Borough	6	CAPE MAY	3,385	3,381	3,503	3,402	3,351	-30	-0.06%
Upper Township	6	CAPE MAY	5,407	5,400	5,485	5,758	5,352	-48	-0.06%
West Cape May Borough	6	CAPE MAY	1,008	1,006	1,089	1,027	998	-8	-0.06%
West Wildwood Borough	6	CAPE MAY	754	753	719	754	746	-7	-0.07%
Wildwood City	6	CAPE MAY	6,313	6,304	6,271	6,313	6,247	-58	-0.07%
Wildwood Crest Borough	6	CAPE MAY	4,764	4,758	4,734	4,764	4,715	-44	-0.07%
Woodbine Borough	6	CAPE MAY	1,058	1,057	1,204	1,166	1,048	-9	-0.06%
Bridgeton City	6	CUMBERLAND	6,776	6,789	6,693	7,074	6,877	88	0.09%
Commercial Township	6	CUMBERLAND	2,185	2,212	2,359	2,412	2,401	190	0.59%
Deerfield Township	6	CUMBERLAND	1,101	1,127	1,309	1,273	1,311	184	1.09%
Downe Township	6	CUMBERLAND	1,140	1,150	1,198	1,240	1,224	74	0.45%
Fairfield Township	6	CUMBERLAND	1,996	2,005	2,015	2,279	2,067	62	0.22%
Greenwich Township	6	CUMBERLAND	360	365	393	413	399	34	0.64%
Hopewell Township	6	CUMBERLAND	1,730	1,771	2,056	1,995	2,060	289	1.09%
Lawrence Township	6	CUMBERLAND	1,039	1,064	1,237	1,199	1,239	175	1.09%

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Maurice River Township	6	CUMBERLAND	1,595	1,630	1,864	1,796	1,874	244	1.00%
Millville City	6	CUMBERLAND	10,711	10,840	11,535	12,264	11,747	907	0.58%
Shiloh Borough	6	CUMBERLAND	219	221	234	246	239	18	0.55%
Stow Creek Township	6	CUMBERLAND	574	586	663	664	667	81	0.93%
Upper Deerfield Township	6	CUMBERLAND	2,909	2,958	3,266	3,342	3,305	347	0.80%
Vineland City	6	CUMBERLAND	21,008	21,299	22,962	23,662	23,336	2,038	0.65%
Belleville Township	2	ESSEX	14,081	14,124	14,148	14,169	14,419	296	0.15%
Bloomfield Township	2	ESSEX	19,385	19,457	19,542	19,542	19,962	505	0.18%
Caldwell Borough	2	ESSEX	3,417	3,436	3,505	3,467	3,573	137	0.28%
Cedar Grove Township	2	ESSEX	4,473	4,565	4,772	4,736	5,204	639	0.94%
City Of Orange Township	2	ESSEX	12,604	12,630	12,785	12,677	12,816	185	0.10%
East Orange City	2	ESSEX	28,374	28,439	27,827	28,419	28,894	456	0.11%
Essex Fells Borough	2	ESSEX	757	772	780	805	872	101	0.88%
Fairfield Township	2	ESSEX	2,446	2,462	2,633	2,504	2,575	113	0.32%
Glen Ridge Borough	2	ESSEX	2,473	2,477	2,482	2,482	2,507	30	0.09%
Irvington Township	2	ESSEX	23,990	24,024	23,770	24,023	24,261	236	0.07%
Livingston Township	2	ESSEX	9,553	9,653	10,275	9,854	10,356	703	0.50%
Maplewood Township	2	ESSEX	8,564	8,583	8,856	8,644	8,715	132	0.11%
Millburn Township	2	ESSEX	7,147	7,198	7,221	7,254	7,552	354	0.34%
Montclair Township	2	ESSEX	15,403	15,450	15,652	15,525	15,778	329	0.15%
Newark City	2	ESSEX	101,196	101,807	100,984	102,459	106,086	4,279	0.29%
North Caldwell Borough	2	ESSEX	2,111	2,146	2,166	2,204	2,389	243	0.77%
Nutley Township	2	ESSEX	11,413	11,447	11,855	11,538	11,689	241	0.15%
Roseland Borough	2	ESSEX	2,189	2,236	2,626	2,338	2,563	327	0.98%
South Orange Village Township	2	ESSEX	5,665	5,681	5,811	5,734	5,793	112	0.14%

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Verona Township	2	ESSEX	5,693	5,745	5,726	5,797	6,107	362	0.44%
West Caldwell Township	2	ESSEX	4,034	4,080	4,328	4,167	4,404	323	0.55%
West Orange Township	2	ESSEX	17,013	17,366	17,778	17,806	19,834	2,468	0.95%
Clayton Borough	5	GLOUCESTER	2,688	2,756	3,243	2,978	3,238	482	1.16%
Deptford Township	5	GLOUCESTER	10,935	11,220	13,257	12,097	13,219	1,998	1.18%
East Greenwich Township	5	GLOUCESTER	2,070	2,124	2,504	2,334	2,499	375	1.17%
Elk Township	5	GLOUCESTER	1,360	1,379	1,460	1,558	1,509	130	0.65%
Franklin Township	5	GLOUCESTER	5,590	5,716	6,548	6,316	6,600	883	1.03%
Glassboro Borough	5	GLOUCESTER	6,573	6,696	7,409	7,090	7,554	858	0.87%
Greenwich Township	5	GLOUCESTER	1,994	2,012	2,113	2,047	2,141	129	0.44%
Harrison Township	5	GLOUCESTER	3,311	3,509	5,566	3,786	4,900	1,391	2.41%
Logan Township	5	GLOUCESTER	2,075	2,127	2,487	2,350	2,489	362	1.13%
Mantua Township	5	GLOUCESTER	5,502	5,709	7,462	6,287	7,159	1,450	1.63%
Monroe Township	5	GLOUCESTER	11,282	11,552	13,389	12,576	13,441	1,889	1.09%
National Park Borough	5	GLOUCESTER	1,162	1,173	1,188	1,194	1,243	70	0.42%
Newfield Borough	5	GLOUCESTER	624	631	655	647	681	49	0.54%
Paulsboro Borough	5	GLOUCESTER	2,622	2,639	2,665	2,662	2,764	124	0.33%
Pitman Borough	5	GLOUCESTER	3,640	3,677	3,772	3,730	3,932	255	0.48%
South Harrison Township	5	GLOUCESTER	910	946	1,252	1,044	1,195	249	1.68%
Swedesboro Borough	5	GLOUCESTER	862	875	937	907	965	90	0.70%
Washington Township	5	GLOUCESTER	16,869	17,240	20,156	18,026	19,838	2,598	1.01%
Wenonah Borough	5	GLOUCESTER	857	866	889	891	927	61	0.49%
West Deptford Township	5	GLOUCESTER	8,163	8,278	8,795	8,793	9,080	803	0.66%
Westville Borough	5	GLOUCESTER	1,932	1,940	1,890	1,949	1,997	57	0.21%
Woodbury City	5	GLOUCESTER	4,381	4,388	4,449	4,403	4,438	50	0.08%

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Woodbury Heights Borough	5	GLOUCESTER	1,050	1,056	1,043	1,074	1,098	43	0.28%
Woolwich Township	5	GLOUCESTER	1,546	1,742	6,633	1,787	3,116	1,374	4.24%
Bayonne City	1	HUDSON	26,631	26,707	26,945	27,067	27,240	533	0.14%
East Newark Borough	1	HUDSON	791	792	806	794	794	2	0.02%
Guttenberg Town	1	HUDSON	4,752	4,753	5,034	4,794	4,755	3	0.00%
Harrison Town	1	HUDSON	5,221	5,239	5,337	5,299	5,364	125	0.17%
Hoboken City	1	HUDSON	20,364	20,403	22,147	20,674	20,680	277	0.10%
Jersey City	1	HUDSON	93,424	93,794	96,093	94,834	96,380	2,587	0.19%
Kearny Town	1	HUDSON	13,759	13,793	14,281	13,892	14,025	232	0.12%
North Bergen Township	1	HUDSON	22,299	22,418	23,507	22,697	23,248	831	0.26%
Secaucus Town	1	HUDSON	6,346	6,358	6,314	6,375	6,445	87	0.10%
Union City	1	HUDSON	23,602	23,661	24,008	23,768	24,075	414	0.12%
Weehawken Township	1	HUDSON	6,093	6,129	6,415	6,256	6,378	250	0.29%
West New York Town	1	HUDSON	17,725	17,770	19,742	18,077	18,085	316	0.13%
Alexandria Township	3	HUNTERDON	1,661	1,707	2,089	1,894	2,028	321	1.24%
Bethlehem Township	3	HUNTERDON	1,349	1,376	1,740	1,449	1,561	185	0.91%
Bloomsbury Borough	3	HUNTERDON	345	347	346	350	361	14	0.29%
Califon Borough	3	HUNTERDON	412	415	417	418	434	19	0.32%
Clinton Town	3	HUNTERDON	1,104	1,124	1,540	1,193	1,262	138	0.83%
Clinton Township	3	HUNTERDON	4,433	4,559	5,573	4,943	5,438	879	1.27%
Delaware Township	3	HUNTERDON	1,754	1,779	1,922	2,014	1,956	176	0.68%
East Amwell Township	3	HUNTERDON	1,655	1,683	1,856	1,884	1,875	192	0.77%
Flemington Borough	3	HUNTERDON	1,891	1,898	1,880	1,904	1,953	54	0.20%
Franklin Township	3	HUNTERDON	1,174	1,195	1,328	1,353	1,339	144	0.82%
Frenchtown Borough	3	HUNTERDON	641	644	640	660	669	25	0.27%
Glen Gardner Borough	3	HUNTERDON	860	862	919	873	882	19	0.16%
Hampton Borough	3	HUNTERDON	586	581	507	586	548	-33	-0.41%
High Bridge Borough	3	HUNTERDON	1,493	1,506	1,539	1,557	1,594	89	0.41%

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Holland Township	3	HUNTERDON	1,984	2,016	2,217	2,211	2,242	226	0.76%
Kingwood Township	3	HUNTERDON	1,475	1,513	1,826	1,704	1,783	269	1.18%
Lambertville City	3	HUNTERDON	1,970	1,993	2,100	2,098	2,155	162	0.56%
Lebanon Borough	3	HUNTERDON	508	509	492	514	518	9	0.13%
Lebanon Township	3	HUNTERDON	2,117	2,141	2,241	2,184	2,310	169	0.54%
Milford Borough	3	HUNTERDON	487	488	472	501	498	9	0.14%
Raritan Township	3	HUNTERDON	7,593	7,800	9,515	8,458	9,249	1,449	1.22%
Readington Township	3	HUNTERDON	5,994	6,160	7,553	6,741	7,327	1,166	1.25%
Stockton Borough	3	HUNTERDON	260	262	262	271	273	11	0.31%
Tewksbury Township	3	HUNTERDON	2,142	2,193	2,592	2,397	2,551	358	1.09%
Union Township	3	HUNTERDON	1,778	1,821	2,156	1,928	2,127	306	1.11%
West Amwell Township	3	HUNTERDON	1,077	1,109	1,388	1,243	1,335	226	1.33%
East Windsor Township	4	MERCER	10,456	10,684	12,502	11,311	12,276	1,592	1.00%
Ewing Township	4	MERCER	13,012	13,100	13,514	13,718	13,718	618	0.33%
Hamilton Township	4	MERCER	35,014	35,273	36,579	36,070	37,089	1,816	0.36%
Hightstown Borough	4	MERCER	2,102	2,104	2,067	2,124	2,119	15	0.05%
Hopewell Borough	4	MERCER	837	841	849	859	866	25	0.21%
Hopewell Township	4	MERCER	5,770	6,054	8,916	6,600	8,047	1,993	2.05%
Lawrence Township	4	MERCER	11,645	11,899	13,927	12,535	13,673	1,775	1.00%
Pennington Borough	4	MERCER	1,042	1,053	1,153	1,079	1,129	76	0.50%
Princeton Borough	4	MERCER	3,333	3,311	3,045	3,333	3,154	-157	-0.35%
Princeton Township	4	MERCER	6,657	6,800	7,943	7,220	7,803	1,003	0.99%
Trenton City	4	MERCER	33,771	33,893	34,035	34,126	34,746	853	0.18%
Washington Township	4	MERCER	4,364	4,577	6,710	4,938	6,068	1,491	2.03%
West Windsor Township	4	MERCER	7,934	8,152	10,002	8,700	9,674	1,522	1.23%
Carteret Borough	3	MIDDLESEX	7,578	7,633	8,280	7,784	8,020	387	0.35%

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Cranbury Township	3	MIDDLESEX	1,161	1,189	1,461	1,304	1,381	193	1.08%
Dunellen Borough	3	MIDDLESEX	2,547	2,548	2,595	2,556	2,558	10	0.03%
East Brunswick Township	3	MIDDLESEX	16,997	17,215	18,911	17,842	18,745	1,530	0.61%
Edison Township	3	MIDDLESEX	36,555	36,965	40,045	37,860	39,834	2,870	0.54%
Helmetta Borough	3	MIDDLESEX	798	806	1,012	842	868	62	0.53%
Highland Park Borough	3	MIDDLESEX	6,123	6,146	6,151	6,242	6,312	166	0.19%
Jamesburg Borough	3	MIDDLESEX	2,360	2,375	2,515	2,412	2,482	107	0.32%
Metuchen Borough	3	MIDDLESEX	5,221	5,255	5,399	5,319	5,488	233	0.31%
Middlesex Borough	3	MIDDLESEX	5,185	5,206	5,365	5,248	5,347	141	0.19%
Milltown Borough	3	MIDDLESEX	2,714	2,729	2,854	2,763	2,835	106	0.27%
Monroe Township	3	MIDDLESEX	14,282	14,800	20,685	16,106	18,430	3,630	1.58%
New Brunswick City	3	MIDDLESEX	13,944	14,012	14,178	14,333	14,492	480	0.24%
North Brunswick Township	3	MIDDLESEX	14,669	14,930	17,272	15,622	16,759	1,829	0.83%
Old Bridge Township	3	MIDDLESEX	22,685	22,946	24,867	24,059	24,774	1,827	0.55%
Perth Amboy City	3	MIDDLESEX	15,393	15,466	15,618	15,730	15,975	509	0.23%
Piscataway Township	3	MIDDLESEX	17,257	17,528	19,822	18,402	19,424	1,897	0.74%
Plainsboro Township	3	MIDDLESEX	9,432	9,645	11,725	10,344	11,138	1,493	1.03%
Sayreville Borough	3	MIDDLESEX	15,649	15,904	18,109	16,888	17,688	1,784	0.76%
South Amboy City	3	MIDDLESEX	3,134	3,156	3,268	3,240	3,312	156	0.35%
South Brunswick Township	3	MIDDLESEX	14,552	15,069	20,919	16,331	18,691	3,622	1.55%
South Plainfield Borough	3	MIDDLESEX	7,610	7,657	8,395	7,810	7,987	330	0.30%
South River Borough	3	MIDDLESEX	5,915	5,967	6,596	6,112	6,332	365	0.42%
Spotswood Borough	3	MIDDLESEX	3,236	3,263	3,421	3,324	3,452	188	0.40%
Woodbridge Township	3	MIDDLESEX	36,171	36,449	37,934	37,139	38,391	1,942	0.37%

Municipality	COAH Region	County	Units in 2002	Units in 2004	2018 Units Based On Historic Growth	2018 Units Based On "S" Curve	Units Allocated 2018	Net Changes 2004-2018	Annual Rate of Change 2004-2018
Aberdeen Township	4	MONMOUTH	6,553	6,607	6,914	6,759	6,987	380	0.40%
Allenhurst Borough	4	MONMOUTH	369	369	357	369	369	0	0.00%
Allentown Borough	4	MONMOUTH	716	721	782	735	759	38	0.36%
Asbury Park City	4	MONMOUTH	7,711	7,731	7,690	7,746	7,876	145	0.13%
Atlantic Highlands Borough	4	MONMOUTH	2,049	2,064	2,129	2,092	2,167	103	0.35%
Avon-By-The-Sea Borough	4	MONMOUTH	1,381	1,382	1,388	1,383	1,385	3	0.01%
Belmar Borough	4	MONMOUTH	3,995	3,996	4,069	4,008	4,009	13	0.02%
Bradley Beach Borough	4	MONMOUTH	3,142	3,147	3,082	3,142	3,181	34	0.08%
Brielle Borough	4	MONMOUTH	2,126	2,141	2,246	2,172	2,246	105	0.34%
Colts Neck Township	4	MONMOUTH	3,371	3,436	4,135	3,720	3,891	456	0.89%
Deal Borough	4	MONMOUTH	947	949	915	947	961	13	0.10%
Eatontown Borough	4	MONMOUTH	6,352	6,403	6,684	6,582	6,763	360	0.39%
Englishtown Borough	4	MONMOUTH	699	708	962	747	770	62	0.60%
Fair Haven Borough	4	MONMOUTH	2,042	2,043	2,042	2,044	2,052	8	0.03%
Farmingdale Borough	4	MONMOUTH	638	639	638	640	646	7	0.08%
Freehold Borough	4	MONMOUTH	4,015	4,030	4,027	4,044	4,134	104	0.18%
Freehold Township	4	MONMOUTH	11,645	11,893	14,692	12,805	13,635	1,742	0.98%
Hazlet Township	4	MONMOUTH	7,368	7,408	7,458	7,494	7,692	283	0.27%
Highlands Borough	4	MONMOUTH	2,798	2,809	2,772	2,846	2,881	73	0.18%
Holmdel Township	4	MONMOUTH	5,390	5,517	8,309	5,926	6,402	885	1.07%
Howell Township	4	MONMOUTH	16,877	17,234	21,231	18,911	19,735	2,501	0.97%
Interlaken Borough	4	MONMOUTH	396	396	400	396	396	0	0.00%
Keansburg Borough	4	MONMOUTH	4,267	4,269	4,277	4,271	4,278	9	0.02%
Keyport Borough	4	MONMOUTH	3,396	3,408	3,408	3,419	3,489	82	0.17%
Lake Como Borough	4	MONMOUTH	1,103	1,103	1,041	1,103	1,103	0	0.00%

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Little Silver Borough	4	MONMOUTH	2,292	2,299	2,460	2,327	2,344	45	0.14%
Loch Arbour Village	4	MONMOUTH	155	155	170	158	155	0	0.00%
Long Branch City	4	MONMOUTH	14,022	14,081	13,985	14,139	14,493	413	0.21%
Manalapan Township	4	MONMOUTH	11,995	12,244	14,953	12,968	13,991	1,747	0.96%
Manasquan Borough	4	MONMOUTH	3,525	3,528	3,671	3,549	3,542	15	0.03%
Marlboro Township	4	MONMOUTH	12,588	12,974	18,186	13,886	15,678	2,704	1.36%
Matawan Borough	4	MONMOUTH	3,648	3,663	3,632	3,691	3,767	104	0.20%
Middletown Township	4	MONMOUTH	24,337	24,503	25,165	24,981	25,665	1,162	0.33%
Millstone Township	4	MONMOUTH	2,950	3,049	4,390	3,369	3,743	693	1.47%
Monmouth Beach Borough	4	MONMOUTH	1,978	1,978	2,018	1,984	1,980	2	0.01%
Neptune City Borough	4	MONMOUTH	2,340	2,346	2,348	2,353	2,389	43	0.13%
Neptune Township	4	MONMOUTH	12,386	12,493	13,115	12,800	13,242	749	0.42%
Ocean Township	4	MONMOUTH	10,819	10,921	11,584	11,181	11,632	711	0.45%
Oceanport Borough	4	MONMOUTH	2,120	2,136	2,188	2,189	2,252	115	0.38%
Red Bank Borough	4	MONMOUTH	5,467	5,476	5,546	5,495	5,542	66	0.09%
Roosevelt Borough	4	MONMOUTH	350	352	364	367	370	18	0.35%
Rumson Borough	4	MONMOUTH	2,595	2,604	2,598	2,613	2,671	67	0.18%
Sea Bright Borough	4	MONMOUTH	1,202	1,202	1,169	1,202	1,202	0	0.00%
Sea Girt Borough	4	MONMOUTH	1,273	1,279	1,275	1,288	1,319	40	0.22%
Shrewsbury Borough	4	MONMOUTH	1,249	1,256	1,350	1,276	1,304	48	0.27%
Shrewsbury Township	4	MONMOUTH	544	545	540	546	558	13	0.17%
Spring Lake Borough	4	MONMOUTH	1,921	1,922	1,924	1,922	1,927	5	0.02%
Spring Lake Heights Borough	4	MONMOUTH	2,943	2,952	2,940	2,959	3,015	63	0.15%
Tinton Falls Borough	4	MONMOUTH	6,400	6,559	8,463	7,047	7,671	1,112	1.12%
Union Beach Borough	4	MONMOUTH	2,264	2,272	2,461	2,306	2,328	56	0.17%

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Upper Freehold Township	4	MONMOUTH	1,866	1,949	3,215	2,155	2,530	581	1.88%
Wall Township	4	MONMOUTH	10,302	10,560	13,578	11,442	12,365	1,805	1.13%
West Long Branch Borough	4	MONMOUTH	2,533	2,544	2,527	2,555	2,619	75	0.21%
Boonton Town	2	MORRIS	3,326	3,363	3,417	3,416	3,623	260	0.53%
Boonton Township	2	MORRIS	1,520	1,553	1,744	1,637	1,789	235	1.01%
Butler Borough	2	MORRIS	3,192	3,222	3,633	3,311	3,429	207	0.45%
Chatham Borough	2	MORRIS	3,214	3,226	3,279	3,246	3,313	87	0.19%
Chatham Township	2	MORRIS	4,005	4,052	4,145	4,167	4,384	331	0.56%
Chester Borough	2	MORRIS	632	640	733	661	694	54	0.58%
Chester Township	2	MORRIS	2,468	2,520	3,148	2,654	2,881	361	0.96%
Denville Township	2	MORRIS	6,203	6,383	7,641	6,739	7,643	1,260	1.29%
Dover Town	2	MORRIS	5,547	5,573	5,495	5,588	5,753	181	0.23%
East Hanover Township	2	MORRIS	3,910	3,956	4,775	4,116	4,281	325	0.57%
Florham Park Borough	2	MORRIS	4,623	4,731	7,541	5,105	5,488	757	1.07%
Hanover Township	2	MORRIS	4,824	4,915	5,809	5,134	5,555	640	0.88%
Harding Township	2	MORRIS	1,260	1,265	1,209	1,386	1,305	39	0.22%
Jefferson Township	2	MORRIS	7,594	7,705	8,212	7,902	8,483	778	0.69%
Kinnelon Borough	2	MORRIS	3,151	3,177	3,463	3,246	3,362	185	0.41%
Lincoln Park Borough	2	MORRIS	4,088	4,137	4,201	4,237	4,476	339	0.56%
Long Hill Township	2	MORRIS	3,199	3,241	3,507	3,325	3,529	288	0.61%
Madison Borough	2	MORRIS	5,240	5,266	5,056	5,426	5,448	182	0.24%
Mendham Borough	2	MORRIS	1,832	1,856	1,914	1,924	2,019	163	0.60%
Mendham Township	2	MORRIS	1,906	1,947	2,178	2,136	2,235	288	0.99%
Mine Hill Township	2	MORRIS	1,388	1,415	1,641	1,474	1,600	186	0.88%
Montville Township	2	MORRIS	7,625	7,772	10,399	8,238	8,802	1,030	0.89%
Morris Plains Borough	2	MORRIS	1,988	2,010	2,035	2,056	2,159	150	0.51%

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Morris Township	2	MORRIS	8,121	8,267	8,857	8,606	9,284	1,017	0.83%
Morristown Town	2	MORRIS	7,735	7,794	8,414	7,945	8,202	408	0.37%
Mount Arlington Borough	2	MORRIS	2,176	2,233	3,247	2,394	2,631	398	1.18%
Mount Olive Township	2	MORRIS	9,627	9,778	10,995	10,116	10,836	1,058	0.74%
Mountain Lakes Borough	2	MORRIS	1,365	1,383	1,432	1,411	1,509	126	0.62%
Netcong Borough	2	MORRIS	1,330	1,337	1,475	1,363	1,385	48	0.25%
Parsippany-Troy Hills Township	2	MORRIS	20,175	20,492	21,680	21,295	22,711	2,220	0.74%
Pequannock Township	2	MORRIS	5,185	5,219	5,973	5,358	5,455	236	0.32%
Randolph Township	2	MORRIS	9,129	9,353	11,263	9,833	10,923	1,570	1.11%
Riverdale Borough	2	MORRIS	955	976	1,074	1,027	1,123	147	1.00%
Rockaway Borough	2	MORRIS	2,475	2,499	2,639	2,546	2,667	168	0.47%
Rockaway Township	2	MORRIS	9,082	9,334	10,899	9,800	11,098	1,764	1.24%
Roxbury Township	2	MORRIS	8,489	8,719	10,273	9,156	10,330	1,611	1.22%
Victory Gardens Borough	2	MORRIS	583	585	611	592	605	19	0.23%
Washington Township	2	MORRIS	6,071	6,155	6,946	6,359	6,743	588	0.65%
Wharton Borough	2	MORRIS	2,372	2,402	2,657	2,472	2,613	211	0.60%
Barnegat Light Borough	4	OCEAN	1,248	1,248	1,358	1,264	1,248	0	0.00%
Barnegat Township	4	OCEAN	6,509	6,733	8,459	7,362	8,304	1,571	1.51%
Bay Head Borough	4	OCEAN	1,068	1,069	1,176	1,085	1,071	3	0.02%
Beach Haven Borough	4	OCEAN	2,613	2,607	2,398	2,613	2,563	-43	-0.12%
Beachwood Borough	4	OCEAN	3,713	3,785	4,204	3,940	4,293	508	0.90%
Berkeley Township	4	OCEAN	23,416	23,992	27,452	25,158	28,022	4,030	1.12%
Brick Township	4	OCEAN	33,449	33,816	38,248	34,839	36,384	2,568	0.52%
Eagleswood Township	4	OCEAN	719	731	789	798	812	81	0.76%

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Harvey Cedars Borough	4	OCEAN	1,239	1,239	1,264	1,242	1,239	0	0.00%
Island Heights Borough	4	OCEAN	832	837	982	860	866	29	0.25%
Jackson Township	4	OCEAN	16,257	16,879	21,976	18,235	21,229	4,350	1.65%
Lacey Township	4	OCEAN	10,939	11,168	12,559	11,748	12,776	1,608	0.97%
Lakehurst Borough	4	OCEAN	1,022	1,025	990	1,037	1,049	24	0.17%
Lakewood Township	4	OCEAN	22,948	23,653	28,901	25,329	28,591	4,937	1.36%
Lavallette Borough	4	OCEAN	3,250	3,250	3,404	3,272	3,250	0	0.00%
Little Egg Harbor Township	4	OCEAN	8,814	9,091	11,130	9,786	11,028	1,937	1.39%
Long Beach Township	4	OCEAN	9,194	9,194	9,437	9,229	9,196	2	0.00%
Manchester Township	4	OCEAN	24,080	24,654	28,407	26,294	28,673	4,019	1.08%
Mantoloking Borough	4	OCEAN	544	544	553	545	544	0	0.00%
Ocean Gate Borough	4	OCEAN	1,165	1,165	1,230	1,175	1,169	4	0.02%
Ocean Township	4	OCEAN	3,111	3,178	3,577	3,500	3,647	469	0.99%
Pine Beach Borough	4	OCEAN	890	895	917	903	929	34	0.26%
Plumsted Township	4	OCEAN	2,854	2,948	3,588	3,129	3,603	655	1.44%
Point Pleasant Beach Borough	4	OCEAN	3,606	3,610	4,003	3,669	3,641	31	0.06%
Point Pleasant Borough	4	OCEAN	8,494	8,504	8,846	8,558	8,570	66	0.06%
Seaside Heights Borough	4	OCEAN	2,856	2,861	2,804	2,856	2,896	35	0.09%
Seaside Park Borough	4	OCEAN	2,847	2,849	3,162	2,895	2,859	11	0.03%
Ship Bottom Borough	4	OCEAN	2,252	2,252	2,240	2,252	2,252	0	0.00%
South Toms River Borough	4	OCEAN	1,135	1,145	1,163	1,172	1,217	72	0.44%
Stafford Township	4	OCEAN	12,230	12,679	18,322	13,616	15,822	3,143	1.59%
Surf City Borough	4	OCEAN	2,694	2,694	3,891	2,845	2,694	0	0.00%
Toms River Township	4	OCEAN	42,572	43,620	50,602	45,649	50,955	7,335	1.12%

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Tuckerton Borough	4	OCEAN	1,999	2,014	2,019	2,081	2,120	106	0.37%
Bloomingdale Borough	1	PASSAIC	2,972	3,011	3,077	3,087	3,280	269	0.61%
Clifton City	1	PASSAIC	31,447	31,868	32,731	32,122	34,817	2,949	0.63%
Haledon Borough	1	PASSAIC	2,952	2,995	3,102	3,096	3,300	305	0.70%
Hawthorne Borough	1	PASSAIC	7,477	7,576	7,780	7,636	8,270	694	0.63%
Little Falls Township	1	PASSAIC	5,275	5,351	6,224	5,507	5,886	535	0.68%
North Haledon Borough	1	PASSAIC	2,714	2,778	2,991	2,831	3,227	449	1.08%
Passaic City	1	PASSAIC	20,388	20,464	20,577	20,496	20,992	529	0.18%
Paterson City	1	PASSAIC	47,697	47,351	45,859	47,697	44,925	-2,426	-0.37%
Pompton Lakes Borough	1	PASSAIC	4,123	4,176	4,260	4,240	4,547	371	0.61%
Prospect Park Borough	1	PASSAIC	1,901	1,920	1,920	1,931	2,053	133	0.48%
Ringwood Borough	1	PASSAIC	4,302	4,331	4,484	4,362	4,533	202	0.33%
Totowa Borough	1	PASSAIC	3,674	3,732	3,883	3,864	4,140	408	0.74%
Wanaque Borough	1	PASSAIC	3,538	3,610	3,788	3,688	4,119	508	0.95%
Wayne Township	1	PASSAIC	19,543	20,150	22,611	20,700	24,394	4,245	1.37%
West Milford Township	1	PASSAIC	10,369	10,458	11,343	10,622	11,088	629	0.42%
West Paterson Borough	1	PASSAIC	4,585	4,652	4,814	4,822	5,120	468	0.69%
Alloway Township	6	SALEM	1,021	1,032	1,068	1,176	1,114	81	0.54%
Carneys Point Township	6	SALEM	3,310	3,356	3,507	3,707	3,673	317	0.65%
Elmer Borough	6	SALEM	555	555	547	563	557	2	0.03%
Elsinboro Township	6	SALEM	528	529	523	542	534	5	0.07%
Lower Alloways Creek Township	6	SALEM	741	763	880	826	919	156	1.33%
Mannington Township	6	SALEM	565	575	612	654	642	67	0.79%
Oldmans Township	6	SALEM	697	711	792	797	810	98	0.93%
Penns Grove Borough	6	SALEM	2,058	2,060	2,032	2,068	2,073	12	0.04%

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Pennsville Township	6	SALEM	5,622	5,665	5,822	5,831	5,971	306	0.38%
Pilesgrove Township	6	SALEM	1,298	1,333	1,528	1,498	1,574	241	1.20%
Pittsgrove Township	6	SALEM	3,215	3,299	3,746	3,649	3,887	588	1.18%
Quinton Township	6	SALEM	1,141	1,156	1,222	1,300	1,266	110	0.65%
Salem City	6	SALEM	2,839	2,850	2,849	2,941	2,926	76	0.19%
Upper Pittsgrove Township	6	SALEM	1,280	1,308	1,475	1,475	1,498	191	0.98%
Woodstown Borough	6	SALEM	1,446	1,464	1,552	1,546	1,590	127	0.59%
Bedminster Township	3	SOMERSET	4,452	4,530	4,961	4,881	5,076	546	0.82%
Bernards Township	3	SOMERSET	10,062	10,225	14,501	10,879	11,366	1,141	0.76%
Bernardsville Borough	3	SOMERSET	2,860	2,914	3,249	3,107	3,291	378	0.87%
Bound Brook Borough	3	SOMERSET	3,771	3,776	3,698	3,771	3,805	30	0.06%
Branchburg Township	3	SOMERSET	5,454	5,597	6,924	5,984	6,598	1,001	1.18%
Bridgewater Township	3	SOMERSET	16,142	16,478	21,135	17,404	18,831	2,354	0.96%
Far Hills Borough	3	SOMERSET	400	417	625	461	533	116	1.77%
Franklin Township	3	SOMERSET	21,000	21,412	24,257	22,404	24,298	2,886	0.91%
Green Brook Township	3	SOMERSET	2,213	2,246	3,523	2,410	2,475	230	0.70%
Hillsborough Township	3	SOMERSET	13,093	13,399	15,960	14,341	15,542	2,143	1.07%
Manville Borough	3	SOMERSET	4,286	4,298	4,361	4,319	4,382	84	0.14%
Millstone Borough	3	SOMERSET	173	175	184	178	189	15	0.58%
Montgomery Township	3	SOMERSET	7,053	7,329	17,664	8,050	9,260	1,931	1.68%
North Plainfield Borough	3	SOMERSET	7,516	7,535	7,262	7,516	7,673	137	0.13%
Peapack-Gladstone Borough	3	SOMERSET	874	890	989	983	1,001	111	0.85%
Raritan Borough	3	SOMERSET	2,629	2,674	2,919	2,762	2,984	311	0.79%
Rocky Hill Borough	3	SOMERSET	293	296	300	306	319	23	0.53%
Somerville Borough	3	SOMERSET	4,843	4,867	4,803	4,881	5,030	164	0.24%

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South Bound Brook Borough	3	SOMERSET	1,664	1,666	1,633	1,664	1,676	11	0.04%
Warren Township	3	SOMERSET	4,968	5,155	7,325	5,529	6,462	1,307	1.63%
Watchung Borough	3	SOMERSET	2,060	2,077	2,011	2,189	2,192	115	0.39%
Andover Borough	1	SUSSEX	274	275	272	307	285	10	0.25%
Andover Township	1	SUSSEX	2,063	2,116	2,423	2,351	2,485	369	1.16%
Branchville Borough	1	SUSSEX	377	377	362	381	380	3	0.06%
Byram Township	1	SUSSEX	3,170	3,223	3,461	3,347	3,592	369	0.78%
Frankford Township	1	SUSSEX	2,352	2,404	2,688	2,706	2,770	366	1.02%
Franklin Borough	1	SUSSEX	2,012	2,034	2,089	2,140	2,181	148	0.50%
Fredon Township	1	SUSSEX	1,071	1,094	1,223	1,233	1,260	166	1.01%
Green Township	1	SUSSEX	1,127	1,165	1,415	1,292	1,431	266	1.48%
Hamburg Borough	1	SUSSEX	1,347	1,365	1,510	1,405	1,490	125	0.63%
Hampton Township	1	SUSSEX	2,067	2,100	2,244	2,349	2,331	231	0.75%
Hardyston Township	1	SUSSEX	3,111	3,232	4,183	3,441	4,078	846	1.68%
Hopatcong Borough	1	SUSSEX	6,219	6,271	6,341	6,456	6,632	362	0.40%
Lafayette Township	1	SUSSEX	833	864	1,073	963	1,079	215	1.60%
Montague Township	1	SUSSEX	1,629	1,664	1,843	1,869	1,902	239	0.96%
Newton Town	1	SUSSEX	3,467	3,528	3,816	3,734	3,955	427	0.82%
Ogdensburg Borough	1	SUSSEX	904	911	924	919	954	44	0.33%
Sandyston Township	1	SUSSEX	922	940	1,031	1,059	1,067	126	0.90%
Sparta Township	1	SUSSEX	6,825	6,967	8,037	7,265	7,960	993	0.96%
Stanhope Borough	1	SUSSEX	1,437	1,458	1,538	1,527	1,600	142	0.67%
Stillwater Township	1	SUSSEX	2,066	2,138	2,620	2,376	2,643	506	1.53%
Sussex Borough	1	SUSSEX	968	975	979	995	1,025	50	0.35%
Vernon Township	1	SUSSEX	10,239	10,467	11,709	10,901	12,064	1,597	1.02%
Walpack Township	1	SUSSEX	34	34	30	34	31	-2	-0.52%

Municipality	COAH Region	County	Units in 2002	Units in 2004	2018 Units Based On Historic Growth	2018 Units Based On "S" Curve	Units Allocated 2018	Net Changes 2004-2018	Annual Rate of Change 2004-2018
Wantage Township	1	SUSSEX	3,833	3,950	4,687	4,416	4,768	818	1.35%
Berkeley Heights Township	2	UNION	4,621	4,741	5,436	4,928	5,585	844	1.18%
Clark Township	2	UNION	5,766	5,810	5,937	5,882	6,113	304	0.36%
Cranford Township	2	UNION	8,613	8,680	8,901	8,758	9,149	469	0.38%
Elizabeth City	2	UNION	43,729	44,172	45,994	44,612	47,274	3,101	0.49%
Fanwood Borough	2	UNION	2,646	2,658	2,770	2,678	2,745	87	0.23%
Garwood Borough	2	UNION	1,791	1,793	1,827	1,799	1,811	18	0.07%
Hillside Township	2	UNION	7,444	7,482	7,555	7,501	7,746	264	0.25%
Kenilworth Borough	2	UNION	2,951	2,971	3,072	2,992	3,113	142	0.33%
Linden City	2	UNION	15,763	15,927	16,684	16,092	17,076	1,149	0.50%
Mountainside Borough	2	UNION	2,502	2,518	2,560	2,550	2,629	111	0.31%
New Providence Borough	2	UNION	4,523	4,563	4,717	4,617	4,847	284	0.43%
Plainfield City	2	UNION	16,291	16,338	16,481	16,368	16,665	327	0.14%
Rahway City	2	UNION	10,514	10,560	10,938	10,628	10,877	318	0.21%
Roselle Borough	2	UNION	7,949	7,974	8,019	7,986	8,151	177	0.16%
Roselle Park Borough	2	UNION	5,288	5,300	5,341	5,309	5,389	88	0.12%
Scotch Plains Township	2	UNION	8,580	8,667	9,366	8,802	9,279	612	0.49%
Springfield Township	2	UNION	6,328	6,394	6,665	6,537	6,851	457	0.49%
Summit City	2	UNION	8,206	8,247	8,318	8,354	8,532	286	0.24%
Union Township	2	UNION	20,357	20,559	21,335	20,744	21,969	1,411	0.48%
Westfield Town	2	UNION	10,934	11,027	11,374	11,105	11,675	648	0.41%
Winfield Township	2	UNION	700	703	708	708	726	23	0.23%
Allamuchy Township	2	WARREN	1,810	1,838	2,047	1,968	2,035	197	0.73%
Alpha Borough	2	WARREN	1,040	1,056	1,164	1,143	1,163	108	0.70%
Belvidere Town	2	WARREN	1,173	1,188	1,269	1,260	1,288	100	0.58%
Blairstown Township	2	WARREN	2,210	2,254	2,646	2,544	2,561	307	0.92%
Franklin Township	2	WARREN	1,150	1,180	1,495	1,326	1,390	211	1.18%

Municipality	COAH Region	County	Units in 2002	Units in 2004	2018 Units Based On Historic Growth	2018 Units Based On "S" Curve	Units Allocated 2018	Net Changes 2004-2018	Annual Rate of Change 2004-2018
Frelinghuysen Township	2	WARREN	773	787	894	894	880	93	0.80%
Greenwich Township	2	WARREN	1,727	1,862	5,607	1,995	2,807	945	2.98%
Hackettstown Town	2	WARREN	3,906	3,959	4,411	4,081	4,326	368	0.64%
Hardwick Township	2	WARREN	567	583	753	655	693	110	1.24%
Harmony Township	2	WARREN	1,097	1,114	1,243	1,265	1,235	121	0.74%
Hope Township	2	WARREN	773	790	956	893	911	121	1.02%
Independence Township	2	WARREN	2,281	2,325	2,706	2,440	2,631	306	0.89%
Knowlton Township	2	WARREN	1,166	1,190	1,420	1,347	1,363	173	0.97%
Liberty Township	2	WARREN	1,125	1,144	1,378	1,195	1,276	133	0.79%
Lopatcong Township	2	WARREN	2,945	3,058	4,496	3,288	3,850	792	1.66%
Mansfield Township	2	WARREN	2,998	3,037	3,267	3,261	3,305	268	0.61%
Oxford Township	2	WARREN	1,041	1,073	1,425	1,177	1,292	219	1.34%
Phillipsburg Town	2	WARREN	6,681	6,733	6,819	7,033	7,101	367	0.38%
Pohatcong Township	2	WARREN	1,420	1,438	1,550	1,526	1,567	128	0.61%
Washington Borough	2	WARREN	2,902	2,929	3,021	3,011	3,118	190	0.45%
Washington Township	2	WARREN	2,237	2,274	2,556	2,499	2,530	256	0.77%
White Township	2	WARREN	2,036	2,114	3,101	2,340	2,659	545	1.65%
New Jersey			3,372,928	3,412,981	3,726,970	3,519,452	3,693,378	280,397	0.57%

Source: Econsult Corporation (2007)

APPENDIX B - MUNICIPAL GROWTH RATES IN THE EMPLOYMENT ALLOCATION MODEL

Employment growth of a municipality should slow down as the municipality's nonresidential growth capacity (in terms of floor space) is being reached. In other words, a municipality is unlikely to sustain its historical growth rates as measured between the 1993 and 2002 period in the following 16 years if it is approaching 100 percent build-out.

To capture this relationship between the anticipated employment growth rate between 2002 and 2018 and the 2002 build-out level, a regression model was developed to empirically estimate the implied historical growth rates that measure how build-out levels affect future growth rates. In this model, the dependent variable is the employment growth rate (a linear annual growth rate) between 1993 and 2002 for each of the 566 municipalities. The independent variable is the 1993 build-out level and was estimated by dividing the number of employment in 1993 with the sum of the 2002 employment and the anticipated increase in employment after 2002 based on all nonresidential land being developed. This equation applies to municipalities that had a positive growth between 1993 and 2002. However, for a few declining communities, this equation may end up as a build-out ratio over 100 percent if more employment was lost between 1993 and 2002 than the potential employment growth after 2002. In this case, the build-out level is estimated by changing the denominator in this equation to the sum of the 1993 employment and post-2002 potential employment that could be accommodated by a full development of all nonresidential land.

This regression model of implied historical rates of employment had 566 observations initially, but outliers with historical growth rates above the 99 percentile or below the 1 percentile in the sample were excluded. Since municipalities within the same COAH Region may behave differently as a group from others in a different COAH Region, the y-intercept of implied rates would differ by COAH regions. To capture this difference, one set of dummy variables is introduced in the model to reflect the effects of the COAH region. Unlike the housing model, the regression model of implied employment growth did not include a set of COAH regional interaction dummy variables because the relationship between capacity and growth rates was not found to differ across COAH regions.

Figure A.2 - Employment by Municipality: 2002, 2004 and 2018

Municipality	COAH Region	County	Employment in 2002	Employment in 2004	Employment Based On "S" Curve Growth	Employment Based On Historic Growth	Employment Allocated 2018	Net Changes Between 2004 and 2018	Annual Rate of Change 2004 to 2018
Absecon City	6	Atlantic	3,292	3,363	5,033	4,686	3,860	497	0.99%
Atlantic City	6	Atlantic	59,828	59,621	63,484	56,502	58,174	-1,447	-0.18%
Brigantine City	6	Atlantic	2,031	2,032	2,774	3,212	2,038	6	0.02%
Buena Borough	6	Atlantic	1,634	1,656	3,057	2,031	1,807	152	0.63%
Buena Vista Township	6	Atlantic	1,222	1,259	2,761	2,001	1,518	259	1.35%
Corbin City	6	Atlantic	538	548	850	735	620	72	0.88%
Egg Harbor City	6	Atlantic	3,444	3,869	9,035	23,487	6,843	2,974	4.16%
Egg Harbor Township	6	Atlantic	15,928	17,406	43,020	63,550	27,755	10,349	3.39%
Estell Manor City	6	Atlantic	261	282	672	947	431	148	3.06%
Folsom Borough	6	Atlantic	872	895	1,466	1,348	1,058	163	1.20%
Galloway Township	6	Atlantic	7,428	7,819	18,494	15,151	10,555	2,736	2.17%
Hamilton Township	6	Atlantic	10,463	10,865	21,578	19,515	13,681	2,816	1.66%
Hammonton Town	6	Atlantic	8,407	8,628	16,405	12,917	10,178	1,549	1.19%
Linwood City	6	Atlantic	2,837	2,856	3,434	3,166	2,988	132	0.32%
Longport Borough	6	Atlantic	229	227	229	194	210	-16	-0.53%
Margate City	6	Atlantic	1,660	1,661	1,819	1,858	1,670	9	0.04%
Mullica Township	6	Atlantic	594	608	1,195	869	705	97	1.06%
Northfield City	6	Atlantic	4,731	4,849	7,369	7,111	5,676	827	1.13%

Municipality	COAH Region	County	Employment in 2002	Employment in 2004	Employment Based On "S" Curve Growth	Employment Based On Historic Growth	Employment Allocated 2018	Net Changes Between 2004 and 2018	Annual Rate of Change 2004 to 2018
Pleasantville City	6	Atlantic	7,610	7,717	11,450	9,458	8,462	746	0.66%
Port Republic City	6	Atlantic	94	95	168	120	106	11	0.76%
Somers Point City	6	Atlantic	6,117	6,210	8,710	9,202	6,858	648	0.71%
Ventnor City	6	Atlantic	2,027	2,027	2,402	2,551	2,027	0	0.00%
Weymouth Township	6	Atlantic	20	20	46	14	17	-3	-1.16%
Allendale Borough	1	Bergen	6,706	6,735	13,201	45,597	6,940	205	0.21%
Alpine Borough	1	Bergen	350	361	387	304	437	76	1.38%
Bergenfield Borough	1	Bergen	4,244	4,292	4,418	3,933	4,630	338	0.54%
Bogota Borough	1	Bergen	1,815	1,843	2,345	2,798	2,039	196	0.72%
Carlstadt Borough	1	Bergen	13,407	13,426	13,475	12,948	13,555	130	0.07%
Cliffside Park Borough	1	Bergen	2,896	2,944	3,491	3,821	3,277	333	0.77%
Closter Borough	1	Bergen	3,137	3,188	3,460	3,461	3,545	357	0.76%
Cresskill Borough	1	Bergen	1,893	1,925	2,318	2,571	2,148	223	0.79%
Demarest Borough	1	Bergen	1,018	1,039	1,163	1,167	1,188	149	0.96%
Dumont Borough	1	Bergen	2,121	2,146	2,359	2,454	2,321	175	0.56%
East Rutherford Borough	1	Bergen	9,741	9,914	10,833	10,813	11,127	1,213	0.83%
Edgewater Borough	1	Bergen	3,775	4,400	8,000	8,499	8,774	4,374	5.05%
Elmwood Park Borough	1	Bergen	7,843	8,164	9,194	8,141	10,407	2,244	1.75%
Emerson Borough	1	Bergen	2,726	2,818	3,451	3,523	3,464	646	1.48%
Englewood City	1	Bergen	14,645	14,792	15,586	15,661	15,821	1,029	0.48%
Englewood Cliffs Borough	1	Bergen	8,602	8,736	9,128	8,488	9,673	937	0.73%
Fair Lawn Borough	1	Bergen	11,384	11,503	11,803	10,354	12,339	836	0.50%
Fairview Borough	1	Bergen	3,129	3,308	3,876	3,260	4,563	1,255	2.32%
Fort Lee Borough	1	Bergen	18,064	18,324	24,278	30,724	20,141	1,817	0.68%
Franklin Lakes Borough	1	Bergen	7,634	7,740	11,748	18,374	8,485	745	0.66%

Municipality	COAH Region	County	Employment in 2002	Employment in 2004	Employment Based On "S" Curve Growth	Employment Based On Historic Growth	Employment Allocated 2018	Net Changes Between 2004 and 2018	Annual Rate of Change 2004 to 2018
Garfield City	1	Bergen	6,050	6,196	6,583	5,583	7,218	1,022	1.10%
Glen Rock Borough	1	Bergen	3,522	3,536	3,873	4,215	3,637	101	0.20%
Hackensack City	1	Bergen	43,838	44,573	50,285	52,127	49,720	5,147	0.78%
Harrington Park Borough	1	Bergen	731	754	1,052	1,267	913	159	1.38%
Hasbrouck Heights Borough	1	Bergen	4,307	4,355	4,808	5,048	4,687	333	0.53%
Haworth Borough	1	Bergen	701	723	899	947	875	152	1.37%
Hillsdale Borough	1	Bergen	2,300	2,368	2,796	2,823	2,840	473	1.31%
Ho-Ho-Kus Borough	1	Bergen	1,125	1,144	1,472	1,758	1,279	135	0.80%
Leonia Borough	1	Bergen	1,988	2,019	2,279	2,385	2,232	214	0.72%
Little Ferry Borough	1	Bergen	3,088	3,163	3,369	2,922	3,684	522	1.10%
Lodi Borough	1	Bergen	5,716	5,927	6,815	6,459	7,403	1,476	1.60%
Lyndhurst Township	1	Bergen	12,032	12,090	13,640	15,269	12,496	406	0.24%
Mahwah Township	1	Bergen	13,361	14,175	21,135	23,421	19,870	5,695	2.44%
Maywood Borough	1	Bergen	3,580	3,629	3,953	4,031	3,968	340	0.64%
Midland Park Borough	1	Bergen	3,659	3,698	4,320	4,834	3,969	271	0.51%
Montvale Borough	1	Bergen	9,859	10,208	11,439	10,677	12,652	2,444	1.54%
Moonachie Borough	1	Bergen	6,973	6,998	7,068	6,893	7,174	176	0.18%
New Milford Borough	1	Bergen	1,749	1,769	1,824	1,668	1,909	140	0.55%
North Arlington Borough	1	Bergen	3,124	3,147	3,645	4,128	3,310	163	0.36%
Northvale Borough	1	Bergen	4,126	4,142	4,181	3,770	4,254	112	0.19%
Norwood Borough	1	Bergen	1,893	1,933	2,312	2,484	2,209	277	0.96%
Oakland Borough	1	Bergen	6,933	7,043	8,133	8,685	7,812	769	0.74%
Old Tappan Borough	1	Bergen	1,746	1,806	3,692	10,699	2,227	421	1.51%
Oradell Borough	1	Bergen	2,944	3,008	3,203	2,975	3,453	445	0.99%
Palisades Park Borough	1	Bergen	3,867	4,015	5,094	5,257	5,054	1,039	1.66%
Paramus Borough	1	Bergen	42,920	43,450	47,449	48,847	47,158	3,708	0.59%

Municipality	COAH Region	County	Employment in 2002	Employment in 2004	Employment Based On "S" Curve Growth	Employment Based On Historic Growth	Employment Allocated 2018	Net Changes Between 2004 and 2018	Annual Rate of Change 2004 to 2018
Park Ridge Borough	1	Bergen	3,568	3,613	4,046	4,272	3,925	312	0.59%
Ramsey Borough	1	Bergen	10,500	10,831	14,075	15,502	13,144	2,314	1.39%
Ridgefield Borough	1	Bergen	5,189	5,278	5,520	4,907	5,898	620	0.80%
Ridgefield Park Village	1	Bergen	5,077	5,230	6,018	5,908	6,297	1,068	1.34%
Ridgewood Village	1	Bergen	11,515	11,588	12,516	13,212	12,100	512	0.31%
River Edge Borough	1	Bergen	2,903	2,919	3,536	4,273	3,034	115	0.28%
River Vale Township	1	Bergen	1,471	1,498	1,573	1,418	1,683	186	0.84%
Rochelle Park Township	1	Bergen	4,987	5,027	5,112	4,193	5,308	281	0.39%
Rockleigh Borough	1	Bergen	1,802	1,923	2,652	2,601	2,766	844	2.63%
Rutherford Borough	1	Bergen	7,747	7,820	8,239	8,306	8,331	511	0.45%
Saddle Brook Township	1	Bergen	9,619	9,787	10,561	10,430	10,963	1,176	0.81%
Saddle River Borough	1	Bergen	733	772	1,001	985	1,041	270	2.16%
South Hackensack Township	1	Bergen	5,189	5,215	5,340	5,346	5,398	183	0.25%
Teaneck Township	1	Bergen	13,671	13,855	15,818	16,943	15,141	1,286	0.64%
Tenafly Borough	1	Bergen	4,230	4,304	4,889	5,078	4,825	521	0.82%
Teterboro Borough	1	Bergen	8,314	8,404	8,676	8,480	9,030	627	0.51%
Upper Saddle River Borough	1	Bergen	3,968	3,999	5,449	7,567	4,212	214	0.37%
Waldwick Borough	1	Bergen	2,903	2,963	3,430	3,570	3,380	417	0.95%
Wallington Borough	1	Bergen	2,510	2,693	3,886	3,901	3,976	1,283	2.82%
Washington Township	1	Bergen	1,072	1,112	1,449	1,543	1,395	283	1.63%
Westwood Borough	1	Bergen	5,901	5,943	6,067	5,906	6,240	297	0.35%
Woodcliff Lake Borough	1	Bergen	4,288	4,405	4,739	4,122	5,225	820	1.23%
Wood-Ridge Borough	1	Bergen	3,324	3,533	4,523	4,192	4,995	1,462	2.50%
Wyckoff Township	1	Bergen	5,033	5,146	6,110	6,450	5,936	790	1.03%
Bass River Township	5	Burlington	1,186	1,270	4,164	11,098	1,859	589	2.76%

Municipality	COAH Region	County	Employment in 2002	Employment in 2004	Employment Based On "S" Curve Growth	Employment Based On Historic Growth	Employment Allocated 2018	Net Changes Between 2004 and 2018	Annual Rate of Change 2004 to 2018
Beverly City	5	Burlington	487	504	600	688	625	120	1.54%
Bordentown City	5	Burlington	1,782	1,826	2,333	2,241	2,137	310	1.13%
Bordentown Township	5	Burlington	4,649	4,921	9,011	8,503	6,829	1,907	2.37%
Burlington City	5	Burlington	5,777	6,051	8,571	9,343	7,970	1,919	1.99%
Burlington Township	5	Burlington	11,214	11,694	16,253	17,232	15,057	3,362	1.82%
Chesterfield Township	5	Burlington	443	482	1,207	1,119	756	274	3.27%
Cinnaminson Township	5	Burlington	7,563	7,742	8,922	9,374	8,991	1,250	1.07%
Delanco Township	5	Burlington	2,485	2,745	5,886	7,473	4,564	1,819	3.70%
Delran Township	5	Burlington	4,807	4,922	6,143	5,980	5,727	805	1.09%
Eastampton Township	5	Burlington	620	699	1,620	2,337	1,250	551	4.24%
Edgewater Park Township	5	Burlington	1,539	1,575	1,969	1,909	1,830	255	1.08%
Evesham Township	5	Burlington	22,533	23,154	27,472	37,151	27,500	4,346	1.24%
Fieldsboro Borough	5	Burlington	28	31	79	76	49	19	3.45%
Florence Township	5	Burlington	2,237	2,296	3,835	2,858	2,707	412	1.19%
Hainesport Township	5	Burlington	2,060	2,130	2,817	2,864	2,618	488	1.49%
Lumberton Township	5	Burlington	3,124	3,366	5,265	7,003	5,057	1,692	2.95%
Mansfield Township	5	Burlington	1,365	1,472	3,147	3,109	2,224	752	2.99%
Maple Shade Township	5	Burlington	5,693	5,855	6,826	7,424	6,991	1,135	1.27%
Medford Lakes Borough	5	Burlington	435	434	442	398	424	-10	-0.16%
Medford Township	5	Burlington	8,626	8,788	10,140	10,111	9,924	1,136	0.87%
Moorestown Township	5	Burlington	23,650	24,233	27,790	31,643	28,315	4,082	1.12%
Mount Holly Township	5	Burlington	11,106	11,293	12,744	12,749	12,599	1,306	0.78%
Mount Laurel Township	5	Burlington	32,059	33,945	44,600	63,500	47,145	13,200	2.37%
New Hanover Township	5	Burlington	5,742	5,794	6,582	7,488	6,158	364	0.44%
North Hanover Township	5	Burlington	607	605	803	554	591	-14	-0.17%

Municipality	COAH Region	County	Employment in 2002	Employment in 2004	Employment Based On "S" Curve Growth	Employment Based On Historic Growth	Employment Allocated 2018	Net Changes Between 2004 and 2018	Annual Rate of Change 2004 to 2018
Palmyra Borough	5	Burlington	1,806	1,846	2,253	2,199	2,124	279	1.01%
Pemberton Borough	5	Burlington	405	411	629	447	450	39	0.66%
Pemberton Township	5	Burlington	5,410	5,579	6,631	6,547	6,765	1,185	1.39%
Riverside Township	5	Burlington	1,660	1,626	1,835	1,242	1,387	-239	-1.13%
Riverton Borough	5	Burlington	932	919	966	753	828	-91	-0.74%
Shamong Township	5	Burlington	883	898	1,004	1,011	1,000	103	0.78%
Southampton Township	5	Burlington	2,466	2,544	3,002	3,774	3,093	548	1.40%
Springfield Township	5	Burlington	546	588	1,364	1,204	880	292	2.92%
Tabernacle Township	5	Burlington	1,153	1,252	1,869	2,829	1,944	692	3.19%
Washington Township	5	Burlington	369	377	457	400	430	54	0.95%
Westampton Township	5	Burlington	3,685	3,990	7,859	8,770	6,125	2,135	3.11%
Willingboro Township	5	Burlington	7,079	7,304	8,570	10,471	8,880	1,575	1.40%
Woodland Township	5	Burlington	285	310	780	621	485	175	3.25%
Wrightstown Borough	5	Burlington	575	586	1,060	604	664	78	0.89%
Audubon Borough	5	Camden	2,335	2,341	2,604	2,834	2,383	42	0.13%
Audubon Park Borough	5	Camden	52	61	120	272	122	61	5.09%
Barrington Borough	5	Camden	1,340	1,373	1,600	1,416	1,605	232	1.12%
Bellmawr Borough	5	Camden	5,029	5,211	5,900	5,474	6,484	1,273	1.57%
Berlin Borough	5	Camden	4,342	4,401	5,348	4,334	4,811	410	0.64%
Berlin Township	5	Camden	5,022	5,406	7,555	10,937	8,090	2,685	2.92%
Brooklawn Borough	5	Camden	1,080	1,099	1,302	1,824	1,234	135	0.83%
Camden City	5	Camden	30,683	31,216	37,382	31,298	34,948	3,731	0.81%
Cherry Hill Township	5	Camden	49,408	50,346	56,266	57,208	56,915	6,568	0.88%
Chesilhurst Borough	5	Camden	126	153	424	512	345	191	5.96%
Clementon Borough	5	Camden	2,307	2,343	2,681	2,322	2,597	253	0.74%
Collingswood Borough	5	Camden	3,057	3,095	3,406	3,439	3,361	266	0.59%

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Gibbsboro Borough	5	Camden	1,700	1,732	2,336	1,747	1,954	222	0.87%
Gloucester City	5	Camden	2,540	2,645	3,093	2,962	3,380	735	1.77%
Gloucester Township	5	Camden	9,917	10,490	14,846	13,453	14,499	4,010	2.34%
Haddon Heights Borough	5	Camden	2,135	2,174	2,447	2,596	2,447	273	0.85%
Haddon Township	5	Camden	3,488	3,491	3,737	3,179	3,514	23	0.05%
Haddonfield Borough	5	Camden	5,961	5,992	6,718	7,368	6,210	218	0.26%
Hi-Nella Borough	5	Camden	58	64	178	107	105	41	3.61%
Laurel Springs Borough	5	Camden	827	831	966	1,276	858	27	0.23%
Lawnside Borough	5	Camden	2,599	2,759	3,472	3,618	3,880	1,121	2.47%
Lindenwold Borough	5	Camden	2,072	2,219	3,113	3,097	3,248	1,029	2.76%
Magnolia Borough	5	Camden	615	638	731	759	797	159	1.60%
Merchantville Borough	5	Camden	827	828	836	820	836	8	0.07%
Mount Ephraim Borough	5	Camden	1,092	1,102	1,178	1,161	1,168	67	0.42%
Oaklyn Borough	5	Camden	866	868	918	927	885	17	0.14%
Pennsauken Township	5	Camden	22,804	23,406	26,256	24,893	27,618	4,213	1.19%
Pine Hill Borough	5	Camden	964	1,179	2,744	4,023	2,686	1,507	6.06%
Pine Valley Borough	5	Camden	129	170	525	1,207	459	289	7.34%
Runnemede Borough	5	Camden	2,549	2,650	3,046	3,163	3,356	706	1.70%
Somerdale Borough	5	Camden	1,687	1,750	2,028	1,983	2,194	443	1.63%
Stratford Borough	5	Camden	2,311	2,315	2,564	2,122	2,347	31	0.10%
Tavistock Borough	5	Camden	0	0	0	0	0	0	#DIV/0!
Voorhees Township	5	Camden	16,928	17,780	21,105	23,146	23,741	5,961	2.09%
Waterford Township	5	Camden	3,494	3,646	4,358	5,199	4,706	1,061	1.84%
Winslow Township	5	Camden	6,559	7,185	13,259	11,692	11,566	4,381	3.46%
Woodlynne Borough	5	Camden	192	192	216	245	193	1	0.03%

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Avalon Borough	6	Cape May	1,623	1,627	1,788	1,806	1,655	28	0.12%
Cape May City	6	Cape May	5,430	5,436	7,177	8,058	5,476	40	0.05%
Cape May Point Borough	6	Cape May	241	241	564	2,255	242	1	0.03%
Dennis Township	6	Cape May	1,967	2,021	4,415	4,416	2,401	380	1.24%
Lower Township	6	Cape May	3,329	3,442	4,936	4,304	4,235	793	1.49%
Middle Township	6	Cape May	9,967	10,114	17,438	14,838	11,142	1,029	0.69%
North Wildwood City	6	Cape May	1,906	1,904	1,906	1,803	1,886	-17	-0.07%
Ocean City	6	Cape May	6,340	6,340	6,963	7,160	6,340	0	0.00%
Sea Isle City	6	Cape May	1,415	1,415	1,570	1,620	1,415	0	0.00%
Stone Harbor Borough	6	Cape May	1,222	1,222	1,259	1,270	1,222	0	0.00%
Upper Township	6	Cape May	3,477	3,575	8,485	7,202	4,262	688	1.26%
West Cape May Borough	6	Cape May	286	294	543	753	353	59	1.31%
West Wildwood Borough	6	Cape May	40	40	84	233	40	0	0.00%
Wildwood City	6	Cape May	4,850	4,850	4,993	5,032	4,850	0	0.00%
Wildwood Crest Borough	6	Cape May	2,296	2,292	2,296	2,143	2,264	-28	-0.09%
Woodbine Borough	6	Cape May	625	636	1,754	1,043	711	75	0.80%
Bridgeton City	6	Cumbereland	9,326	9,431	18,503	12,762	10,163	732	0.54%
Commercial Township	6	Cumbereland	487	500	1,521	1,018	591	91	1.20%
Deerfield Township	6	Cumbereland	723	733	2,034	1,058	802	69	0.64%
Downe Township	6	Cumbereland	313	330	992	1,377	451	120	2.25%
Fairfield Township	6	Cumbereland	1,396	1,461	4,193	4,941	1,916	455	1.96%
Greenwich Township	6	Cumbereland	97	100	251	199	117	18	1.17%
Hopewell Township	6	Cumbereland	244	248	754	401	279	31	0.83%
Lawrence Township	6	Cumbereland	1,405	1,487	4,327	6,783	2,063	576	2.37%
Maurice River Township	6	Cumbereland	452	466	1,417	1,046	562	96	1.35%

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Millville City	6	Cumbereland	10,777	10,959	29,567	17,229	12,230	1,272	0.79%
Shiloh Borough	6	Cumbereland	182	197	530	1,703	306	108	3.17%
Stow Creek Township	6	Cumbereland	453	491	1,392	4,239	761	269	3.17%
Upper Deerfield Township	6	Cumbereland	1,965	2,015	5,480	3,985	2,367	352	1.16%
Vineland City	6	Cumbereland	27,888	28,447	68,946	48,663	32,363	3,915	0.93%
Belleville Township	2	Essex	8,800	8,805	9,527	8,274	8,841	36	0.03%
Bloomfield Township	2	Essex	13,753	13,970	15,349	14,421	15,490	1,520	0.74%
Caldwell Borough	2	Essex	2,518	2,625	3,396	3,904	3,371	746	1.80%
Cedar Grove Township	2	Essex	5,573	6,066	8,865	9,996	9,517	3,451	3.27%
City Of Orange Township	2	Essex	7,106	7,026	7,923	6,108	6,462	-563	-0.60%
East Orange City	2	Essex	15,886	16,090	18,165	16,308	17,515	1,425	0.61%
Essex Fells Borough	2	Essex	236	244	316	272	303	58	1.54%
Fairfield Township	2	Essex	23,672	24,049	26,710	27,801	26,685	2,636	0.75%
Glen Ridge Borough	2	Essex	1,130	1,138	1,280	1,427	1,196	58	0.35%
Irvington Township	2	Essex	9,838	9,925	11,103	9,836	10,531	606	0.42%
Livingston Township	2	Essex	23,035	23,377	27,184	30,395	25,769	2,392	0.70%
Maplewood Township	2	Essex	5,390	5,300	5,623	4,449	4,670	-630	-0.90%
Millburn Township	2	Essex	14,869	15,028	16,547	17,549	16,140	1,112	0.51%
Montclair Township	2	Essex	13,040	13,189	14,112	14,240	14,235	1,045	0.55%
Newark City	2	Essex	135,584	139,123	180,486	153,262	163,898	24,775	1.18%
North Caldwell Borough	2	Essex	612	604	768	518	547	-57	-0.70%
Nutley Township	2	Essex	10,674	10,674	11,232	9,991	10,673	-1	0.00%
Roseland Borough	2	Essex	10,986	11,102	12,243	11,091	11,916	814	0.51%
South Orange Village Township	2	Essex	5,435	5,525	6,597	7,611	6,153	628	0.77%
Verona Township	2	Essex	4,196	4,329	5,174	4,970	5,257	928	1.40%

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West Caldwell Township	2	Essex	8,349	8,507	9,271	8,614	9,611	1,104	0.88%
West Orange Township	2	Essex	17,394	18,188	23,192	21,395	23,745	5,557	1.92%
Clayton Borough	5	Gloucester	1,068	1,093	1,963	1,289	1,272	178	1.09%
Deptford Township	5	Gloucester	10,561	11,039	17,000	14,575	14,387	3,347	1.91%
East Greenwich Township	5	Gloucester	1,315	1,384	2,157	2,143	1,867	483	2.16%
Elk Township	5	Gloucester	455	501	1,467	1,194	819	319	3.58%
Franklin Township	5	Gloucester	2,250	2,321	3,935	2,944	2,817	497	1.39%
Glassboro Borough	5	Gloucester	5,392	5,607	8,705	7,703	7,112	1,505	1.71%
Greenwich Township	5	Gloucester	1,175	1,153	1,487	893	996	-157	-1.04%
Harrison Township	5	Gloucester	1,799	1,968	3,371	4,436	3,152	1,184	3.42%
Logan Township	5	Gloucester	3,678	3,880	9,709	6,148	5,293	1,413	2.24%
Mantua Township	5	Gloucester	7,346	8,234	14,177	23,776	14,451	6,217	4.10%
Monroe Township	5	Gloucester	6,082	6,470	12,231	11,147	9,185	2,715	2.53%
National Park Borough	5	Gloucester	265	277	375	403	362	85	1.93%
Newfield Borough	5	Gloucester	1,188	1,192	1,256	1,151	1,220	28	0.16%
Paulsboro Borough	5	Gloucester	3,147	3,260	4,048	4,315	4,052	792	1.57%
Pitman Borough	5	Gloucester	2,464	2,442	2,826	2,093	2,290	-152	-0.46%
South Harrison Township	5	Gloucester	386	416	620	1,111	624	209	2.95%
Swedesboro Borough	5	Gloucester	5,709	5,880	9,535	31,858	7,073	1,194	1.33%
Washington Township	5	Gloucester	10,604	10,905	13,999	13,420	13,010	2,106	1.27%
Wenonah Borough	5	Gloucester	734	749	877	1,150	856	107	0.96%
West Deptford Township	5	Gloucester	8,050	8,827	16,125	18,459	14,266	5,439	3.49%
Westville Borough	5	Gloucester	2,317	2,355	2,576	2,486	2,618	263	0.76%
Woodbury City	5	Gloucester	10,963	11,015	12,374	13,693	11,375	361	0.23%

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Woodbury Heights Borough	5	Gloucester	1,965	2,029	2,318	2,443	2,476	447	1.43%
Woolwich Township	5	Gloucester	662	926	2,493	5,657	2,777	1,851	8.16%
Bayonne City	1	Hudson	14,820	15,017	27,982	16,941	16,393	1,376	0.63%
East Newark Borough	1	Hudson	855	836	878	684	705	-131	-1.21%
Guttenberg Town	1	Hudson	1,372	1,342	1,377	1,094	1,129	-213	-1.23%
Harrison Town	1	Hudson	3,937	3,919	6,606	3,756	3,791	-128	-0.24%
Hoboken City	1	Hudson	14,199	14,507	17,066	17,927	16,663	2,156	0.99%
Jersey City	1	Hudson	96,706	101,198	163,253	153,660	132,642	31,444	1.95%
Kearny Town	1	Hudson	18,486	18,641	21,774	20,063	19,728	1,086	0.41%
North Bergen Township	1	Hudson	20,876	21,182	30,121	24,140	23,326	2,144	0.69%
Secaucus Town	1	Hudson	37,364	37,540	41,112	39,130	38,772	1,232	0.23%
Union City	1	Hudson	11,719	12,254	18,380	18,486	15,999	3,745	1.92%
Weehawken Township	1	Hudson	8,046	8,555	13,242	15,072	12,115	3,560	2.52%
West New York Town	1	Hudson	7,237	7,258	8,644	7,454	7,406	148	0.14%
Alexandria Township	3	Hunterdon	305	307	663	340	322	15	0.33%
Bethlehem Township	3	Hunterdon	362	357	370	277	323	-34	-0.72%
Bloomsbury Borough	3	Hunterdon	697	697	879	1,229	697	0	0.00%
Califon Borough	3	Hunterdon	924	924	1,257	1,907	924	0	0.00%
Clinton Town	3	Hunterdon	2,443	2,546	4,089	5,140	3,269	723	1.80%
Clinton Township	3	Hunterdon	4,651	4,854	8,608	8,007	6,275	1,421	1.85%
Delaware Township	3	Hunterdon	324	340	1,287	762	451	111	2.05%
East Amwell Township	3	Hunterdon	1,042	1,103	2,481	2,870	1,528	425	2.36%
Flemington Borough	3	Hunterdon	6,642	6,673	7,012	7,119	6,894	220	0.23%
Franklin Township	3	Hunterdon	1,037	1,167	3,808	8,587	2,074	907	4.19%
Frenchtown Borough	3	Hunterdon	766	778	967	1,010	866	87	0.76%
Glen Gardner Borough	3	Hunterdon	570	570	732	1,045	570	0	0.00%
Hampton Borough	3	Hunterdon	636	635	637	599	624	-10	-0.12%
High Bridge Borough	3	Hunterdon	571	586	935	885	695	108	1.22%

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Holland Township	3	Hunterdon	210	208	395	169	192	-16	-0.57%
Kingwood Township	3	Hunterdon	357	368	1,239	603	443	75	1.34%
Lambertville City	3	Hunterdon	1,870	1,983	5,796	5,341	2,774	791	2.43%
Lebanon Borough	3	Hunterdon	2,049	2,137	4,099	6,287	2,755	618	1.83%
Lebanon Township	3	Hunterdon	1,066	1,066	1,131	1,303	1,066	0	0.00%
Milford Borough	3	Hunterdon	1,085	1,106	1,480	1,504	1,250	145	0.88%
Raritan Township	3	Hunterdon	8,633	8,998	17,565	18,012	11,553	2,555	1.80%
Readington Township	3	Hunterdon	6,520	6,822	12,916	14,141	8,938	2,116	1.95%
Stockton Borough	3	Hunterdon	425	438	655	724	529	91	1.36%
Tewksbury Township	3	Hunterdon	826	929	2,634	5,206	1,649	720	4.18%
Union Township	3	Hunterdon	1,267	1,252	1,638	1,004	1,148	-104	-0.62%
West Amwell Township	3	Hunterdon	262	270	968	449	327	57	1.37%
East Windsor Township	4	Mercer	6,876	7,143	14,936	9,393	9,009	1,866	1.67%
Ewing Township	4	Mercer	14,832	15,430	30,601	20,943	19,620	4,189	1.73%
Hamilton Township	4	Mercer	27,339	28,299	46,226	35,207	35,015	6,717	1.53%
Hightstown Borough	4	Mercer	3,846	3,951	5,950	5,446	4,684	733	1.22%
Hopewell Borough	4	Mercer	611	648	1,290	1,069	904	256	2.41%
Hopewell Township	4	Mercer	4,165	4,841	14,508	11,751	9,571	4,730	4.99%
Lawrence Township	4	Mercer	22,642	23,524	41,152	31,036	29,695	6,171	1.68%
Pennington Borough	4	Mercer	4,149	4,200	10,659	20,556	4,556	356	0.58%
Princeton Borough	4	Mercer	19,613	19,792	25,863	25,408	21,047	1,255	0.44%
Princeton Township	4	Mercer	10,173	10,585	24,948	31,712	13,469	2,884	1.74%
Trenton City	4	Mercer	30,672	31,839	53,665	42,220	40,007	8,168	1.64%
Washington Township	4	Mercer	4,822	5,243	15,124	24,715	8,189	2,946	3.24%
West Windsor Township	4	Mercer	20,032	21,064	40,189	36,664	28,289	7,225	2.13%
Carteret Borough	3	Middlesex	9,696	10,040	16,173	19,220	12,449	2,409	1.55%

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Cranbury Township	3	Middlesex	13,632	13,901	17,922	20,006	15,785	1,884	0.91%
Dunellen Borough	3	Middlesex	1,299	1,303	1,326	1,373	1,334	31	0.17%
East Brunswick Township	3	Middlesex	22,559	22,671	28,017	24,471	23,459	787	0.24%
Edison Township	3	Middlesex	76,620	78,030	102,358	105,885	87,897	9,867	0.85%
Helmetta Borough	3	Middlesex	175	191	581	925	300	109	3.28%
Highland Park Borough	3	Middlesex	2,607	2,661	4,646	3,907	3,042	380	0.96%
Jamesburg Borough	3	Middlesex	4,225	4,294	11,028	39,536	4,779	485	0.77%
Metuchen Borough	3	Middlesex	5,828	5,914	7,340	7,768	6,516	602	0.69%
Middlesex Borough	3	Middlesex	6,723	6,773	7,300	7,523	7,120	347	0.36%
Milltown Borough	3	Middlesex	2,661	2,755	4,837	7,068	3,409	655	1.53%
Monroe Township	3	Middlesex	4,937	5,583	20,041	34,165	10,103	4,521	4.33%
New Brunswick City	3	Middlesex	34,102	34,812	54,197	51,093	39,781	4,969	0.96%
North Brunswick Township	3	Middlesex	16,754	17,285	34,376	30,060	21,004	3,719	1.40%
Old Bridge Township	3	Middlesex	11,863	12,363	26,336	23,720	15,864	3,501	1.80%
Perth Amboy City	3	Middlesex	12,447	12,569	19,197	15,070	13,424	855	0.47%
Piscataway Township	3	Middlesex	33,404	33,879	49,812	44,062	37,207	3,328	0.67%
Plainsboro Township	3	Middlesex	12,667	13,071	30,992	23,347	15,901	2,829	1.41%
Sayreville Borough	3	Middlesex	7,352	7,510	18,969	11,147	8,613	1,103	0.98%
South Amboy City	3	Middlesex	2,811	2,848	4,655	3,644	3,111	262	0.63%
South Brunswick Township	3	Middlesex	21,403	22,129	46,473	39,829	27,211	5,082	1.49%
South Plainfield Borough	3	Middlesex	19,350	19,403	20,824	20,114	19,775	372	0.14%
South River Borough	3	Middlesex	3,211	3,339	5,877	6,913	4,235	896	1.71%
Spotswood Borough	3	Middlesex	2,460	2,493	3,168	3,200	2,726	233	0.64%
Woodbridge Township	3	Middlesex	49,819	50,362	60,500	61,338	54,161	3,800	0.52%

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Aberdeen Township	4	Monmouth	4,412	4,642	8,747	6,345	6,252	1,610	2.15%
Allenhurst Borough	4	Monmouth	546	546	546	532	546	0	0.00%
Allentown Borough	4	Monmouth	1,643	1,666	4,291	8,482	1,823	158	0.65%
Asbury Park City	4	Monmouth	3,613	3,732	5,753	4,323	4,564	832	1.45%
Atlantic Highlands Borough	4	Monmouth	2,308	2,362	4,942	5,982	2,741	379	1.07%
Avon-By-The-Sea Borough	4	Monmouth	437	437	445	365	434	-2	-0.04%
Belmar Borough	4	Monmouth	2,155	2,162	2,237	2,083	2,212	50	0.16%
Bradley Beach Borough	4	Monmouth	814	825	1,057	1,007	898	74	0.61%
Brielle Borough	4	Monmouth	1,254	1,280	1,883	1,783	1,459	179	0.94%
Colts Neck Township	4	Monmouth	2,558	2,678	6,122	7,070	3,518	840	1.97%
Deal Borough	4	Monmouth	608	611	717	706	633	22	0.25%
Eatontown Borough	4	Monmouth	12,330	13,145	25,408	20,645	18,850	5,705	2.61%
Englishtown Borough	4	Monmouth	2,783	2,841	4,103	3,848	3,246	405	0.96%
Fair Haven Borough	4	Monmouth	1,256	1,258	2,310	2,935	1,275	17	0.09%
Farmingdale Borough	4	Monmouth	3,674	3,682	7,516	10,729	3,741	59	0.11%
Freehold Borough	4	Monmouth	13,796	13,926	22,404	24,023	14,838	912	0.45%
Freehold Township	4	Monmouth	14,336	15,283	29,780	22,613	21,910	6,627	2.61%
Hazlet Township	4	Monmouth	6,327	6,552	11,076	10,197	8,124	1,572	1.55%
Highlands Borough	4	Monmouth	957	1,025	2,214	1,656	1,505	479	2.78%
Holmdel Township	4	Monmouth	10,587	10,766	13,745	10,772	12,017	1,252	0.79%
Howell Township	4	Monmouth	8,677	9,518	28,700	18,777	15,404	5,887	3.50%
Interlaken Borough	4	Monmouth	48	48	126	310	48	0	0.00%
Keansburg Borough	4	Monmouth	1,315	1,320	2,141	2,425	1,353	33	0.18%
Keyport Borough	4	Monmouth	2,485	2,577	4,652	4,424	3,223	646	1.61%
Lake Como Borough	4	Monmouth	354	354	354	338	354	0	0.00%

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Little Silver Borough	4	Monmouth	2,292	2,302	3,710	4,156	2,372	70	0.21%
Loch Arbour Village	4	Monmouth	53	53	165	496	53	0	0.00%
Long Branch City	4	Monmouth	8,680	8,864	11,907	9,047	10,151	1,287	0.97%
Manalapan Township	4	Monmouth	8,490	8,982	20,754	22,752	12,422	3,441	2.34%
Manasquan Borough	4	Monmouth	5,708	5,715	11,742	17,104	5,764	49	0.06%
Marlboro Township	4	Monmouth	8,180	8,874	19,495	16,891	13,730	4,856	3.17%
Matawan Borough	4	Monmouth	4,112	4,200	6,967	6,948	4,819	619	0.99%
Middletown Township	4	Monmouth	16,555	17,040	22,272	19,284	20,436	3,396	1.31%
Millstone Township	4	Monmouth	1,350	1,500	4,532	4,087	2,553	1,052	3.87%
Monmouth Beach Borough	4	Monmouth	556	556	557	536	557	1	0.01%
Neptune City Borough	4	Monmouth	6,009	6,062	13,917	22,311	6,433	371	0.43%
Neptune Township	4	Monmouth	10,886	11,403	18,506	14,025	15,023	3,620	1.99%
Ocean Township	4	Monmouth	8,879	9,260	14,276	11,742	11,929	2,669	1.83%
Oceanport Borough	4	Monmouth	7,775	7,820	8,919	8,700	8,137	317	0.28%
Red Bank Borough	4	Monmouth	16,097	16,208	21,642	21,758	16,983	775	0.33%
Roosevelt Borough	4	Monmouth	94	102	254	277	158	56	3.18%
Rumson Borough	4	Monmouth	1,588	1,595	2,871	3,491	1,645	50	0.22%
Sea Bright Borough	4	Monmouth	821	821	925	939	821	0	0.00%
Sea Girt Borough	4	Monmouth	1,919	1,929	3,672	4,696	1,995	67	0.24%
Shrewsbury Borough	4	Monmouth	4,472	4,534	5,936	5,648	4,967	433	0.65%
Shrewsbury Township	4	Monmouth	1,304	1,305	2,608	3,676	1,313	8	0.04%
Spring Lake Borough	4	Monmouth	1,122	1,124	1,223	1,222	1,135	11	0.07%
Spring Lake Heights Borough	4	Monmouth	1,344	1,370	2,323	2,380	1,555	185	0.91%
Tinton Falls Borough	4	Monmouth	6,652	7,411	19,815	15,420	12,724	5,313	3.94%
Union Beach Borough	4	Monmouth	958	975	1,150	1,007	1,094	119	0.83%

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Upper Freehold Township	4	Monmouth	1,452	1,632	4,864	7,953	2,893	1,261	4.17%
Wall Township	4	Monmouth	9,472	10,365	27,892	16,479	16,617	6,252	3.43%
West Long Branch Borough	4	Monmouth	5,474	5,550	8,648	8,802	6,081	531	0.65%
Boonton Town	2	Morris	3,045	3,196	4,237	4,597	4,249	1,054	2.06%
Boonton Township	2	Morris	1,457	1,499	1,864	2,145	1,789	291	1.27%
Butler Borough	2	Morris	2,837	2,971	3,876	4,048	3,907	937	1.98%
Chatham Borough	2	Morris	3,902	3,939	4,461	4,958	4,198	259	0.46%
Chatham Township	2	Morris	1,872	1,943	2,492	2,465	2,440	497	1.64%
Chester Borough	2	Morris	2,711	2,766	3,206	3,454	3,152	386	0.94%
Chester Township	2	Morris	1,288	1,321	1,522	1,554	1,550	229	1.15%
Denville Township	2	Morris	8,967	9,541	13,092	14,348	13,557	4,017	2.54%
Dover Town	2	Morris	6,993	6,789	7,353	4,906	5,362	-1,427	-1.67%
East Hanover Township	2	Morris	14,689	14,995	18,160	20,885	17,137	2,142	0.96%
Florham Park Borough	2	Morris	13,554	14,166	18,234	17,916	18,452	4,286	1.91%
Hanover Township	2	Morris	16,633	17,016	20,066	19,495	19,699	2,683	1.05%
Harding Township	2	Morris	904	965	1,359	1,618	1,395	429	2.66%
Jefferson Township	2	Morris	2,389	2,461	2,946	3,130	2,967	506	1.34%
Kinnelon Borough	2	Morris	1,898	1,900	2,352	3,232	1,915	15	0.06%
Lincoln Park Borough	2	Morris	3,439	3,610	4,824	4,831	4,804	1,195	2.06%
Long Hill Township	2	Morris	2,644	2,709	3,198	3,182	3,163	454	1.11%
Madison Borough	2	Morris	9,355	9,778	13,877	19,436	12,736	2,958	1.91%
Mendham Borough	2	Morris	1,609	1,667	2,512	4,509	2,070	403	1.56%
Mendham Township	2	Morris	798	832	1,053	1,043	1,070	238	1.81%
Mine Hill Township	2	Morris	481	529	835	992	866	337	3.58%
Montville Township	2	Morris	11,587	11,884	16,047	22,225	13,966	2,082	1.16%

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Morris Plains Borough	2	Morris	10,124	10,354	11,838	12,220	11,962	1,608	1.04%
Morris Township	2	Morris	3,446	3,464	5,185	3,418	3,586	123	0.25%
Morristown Town	2	Morris	35,096	35,495	37,700	37,481	38,291	2,796	0.54%
Mount Arlington Borough	2	Morris	1,346	1,407	2,036	1,944	1,835	428	1.91%
Mount Olive Township	2	Morris	10,930	11,249	16,263	26,491	13,482	2,233	1.30%
Mountain Lakes Borough	2	Morris	2,783	2,859	3,771	4,905	3,389	530	1.22%
Netcong Borough	2	Morris	921	943	1,209	1,105	1,099	156	1.10%
Parsippany-Troy Hills Township	2	Morris	50,588	53,395	71,529	77,930	73,044	19,649	2.26%
Pequannock Township	2	Morris	6,093	6,212	7,344	8,185	7,048	836	0.91%
Randolph Township	2	Morris	7,814	8,160	10,488	10,779	10,580	2,420	1.87%
Riverdale Borough	2	Morris	2,591	2,743	4,239	4,057	3,807	1,064	2.37%
Rockaway Borough	2	Morris	6,299	6,530	8,955	12,038	8,144	1,614	1.59%
Rockaway Township	2	Morris	10,609	11,445	17,013	17,656	17,298	5,853	2.99%
Roxbury Township	2	Morris	8,496	9,008	12,799	12,082	12,594	3,586	2.42%
Victory Gardens Borough	2	Morris	110	118	183	210	173	55	2.78%
Washington Township	2	Morris	2,188	2,208	2,786	3,743	2,344	137	0.43%
Wharton Borough	2	Morris	3,125	3,318	5,491	13,155	4,670	1,352	2.47%
Barnegat Light Borough	4	Ocean	348	348	451	472	349	1	0.02%
Barnegat Township	4	Ocean	1,812	1,964	7,766	6,241	3,031	1,066	3.15%
Bay Head Borough	4	Ocean	436	435	440	421	428	-7	-0.11%
Beach Haven Borough	4	Ocean	1,731	1,731	1,989	2,027	1,731	0	0.00%
Beachwood Borough	4	Ocean	864	920	2,296	2,060	1,312	392	2.57%
Berkeley Township	4	Ocean	4,201	4,527	15,735	10,168	6,807	2,281	2.96%
Brick Township	4	Ocean	17,843	18,693	38,108	37,782	24,646	5,953	1.99%

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Eagleswood Township	4	Ocean	431	476	1,887	2,119	789	314	3.68%
Harvey Cedars Borough	4	Ocean	225	225	319	346	225	0	0.00%
Island Heights Borough	4	Ocean	270	276	730	1,443	315	39	0.96%
Jackson Township	4	Ocean	10,229	10,620	30,599	18,737	13,354	2,734	1.65%
Lacey Township	4	Ocean	5,247	5,504	17,318	11,453	7,303	1,799	2.04%
Lakehurst Borough	4	Ocean	1,573	1,647	3,487	3,625	2,162	515	1.96%
Lakewood Township	4	Ocean	23,647	24,789	68,439	50,928	32,783	7,994	2.02%
Lavallette Borough	4	Ocean	808	806	808	769	788	-17	-0.15%
Little Egg Harbor Township	4	Ocean	2,134	2,399	8,986	11,257	4,251	1,853	4.17%
Long Beach Township	4	Ocean	1,313	1,313	1,557	1,594	1,315	2	0.01%
Manchester Township	4	Ocean	3,460	3,696	14,667	9,758	5,351	1,655	2.68%
Mantoloking Borough	4	Ocean	180	180	439	885	180	0	0.00%
Ocean Gate Borough	4	Ocean	107	107	170	189	110	3	0.17%
Ocean Township	4	Ocean	854	928	3,556	3,168	1,445	517	3.21%
Pine Beach Borough	4	Ocean	517	520	1,306	2,662	539	19	0.26%
Plumsted Township	4	Ocean	981	1,066	3,254	3,318	1,664	598	3.23%
Point Pleasant Beach Borough	4	Ocean	3,872	3,894	5,004	5,021	4,045	151	0.27%
Point Pleasant Borough	4	Ocean	4,405	4,387	4,616	4,124	4,263	-124	-0.20%
Seaside Heights Borough	4	Ocean	1,307	1,325	1,760	1,506	1,448	123	0.64%
Seaside Park Borough	4	Ocean	863	865	1,583	1,994	880	15	0.12%
Ship Bottom Borough	4	Ocean	1,131	1,131	1,375	1,418	1,131	0	0.00%
South Toms River Borough	4	Ocean	432	471	1,495	1,765	743	272	3.31%
Stafford Township	4	Ocean	8,080	8,669	25,567	22,430	12,791	4,122	2.82%

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Surf City Borough	4	Ocean	652	652	1,236	1,654	652	0	0.00%
Toms River Township	4	Ocean	40,054	41,176	79,573	62,240	49,038	7,861	1.26%
Tuckerton Borough	4	Ocean	1,116	1,159	3,028	2,069	1,460	301	1.66%
Bloomingdale Borough	1	Passiac	1,256	1,471	2,974	3,625	2,973	1,502	5.16%
Clifton City	1	Passiac	30,665	30,959	36,540	29,738	33,020	2,061	0.46%
Haledon Borough	1	Passiac	1,553	1,695	3,579	2,623	2,691	996	3.36%
Hawthorne Borough	1	Passiac	5,651	5,946	7,674	7,034	8,009	2,063	2.15%
Little Falls Township	1	Passiac	5,539	5,729	6,988	6,309	7,060	1,331	1.50%
North Haledon Borough	1	Passiac	1,579	1,735	2,885	3,183	2,825	1,090	3.54%
Passaic City	1	Passiac	19,023	19,555	23,005	23,042	23,282	3,726	1.25%
Paterson City	1	Passiac	38,014	38,505	42,554	37,757	41,942	3,437	0.61%
Pompton Lakes Borough	1	Passiac	1,987	2,092	3,121	2,578	2,826	734	2.17%
Prospect Park Borough	1	Passiac	1,002	1,133	2,245	3,331	2,052	919	4.33%
Ringwood Borough	1	Passiac	2,284	2,284	2,858	3,770	2,284	0	0.00%
Totowa Borough	1	Passiac	11,939	12,547	18,625	15,554	16,800	4,254	2.11%
Wanaque Borough	1	Passiac	2,043	2,131	3,024	2,481	2,745	614	1.83%
Wayne Township	1	Passiac	36,375	37,557	45,538	39,438	45,835	8,277	1.43%
West Milford Township	1	Passiac	4,647	4,647	4,682	4,729	4,647	0	0.00%
West Paterson Borough	1	Passiac	5,135	5,536	8,972	8,103	8,344	2,808	2.97%
Alloway Township	6	Salem	594	619	1,731	1,820	791	173	1.77%
Carneys Point Township	6	Salem	2,001	2,061	5,848	4,550	2,484	422	1.34%
Elmer Borough	6	Salem	1,527	1,538	1,987	1,867	1,615	77	0.35%
Elsinboro Township	6	Salem	134	131	159	75	112	-19	-1.12%
Lower Alloways Creek Township	6	Salem	964	960	1,896	867	935	-26	-0.19%
Mannington Township	6	Salem	942	952	2,512	1,262	1,022	70	0.51%

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Oldmans Township	6	Salem	674	682	1,700	918	734	53	0.53%
Penns Grove Borough	6	Salem	1,112	1,115	1,549	1,207	1,138	23	0.14%
Pennsville Township	6	Salem	4,160	4,176	7,318	4,635	4,289	113	0.19%
Pilesgrove Township	6	Salem	976	1,060	2,816	9,133	1,648	588	3.20%
Pittsgrove Township	6	Salem	2,702	2,918	7,334	21,818	4,428	1,510	3.02%
Quinton Township	6	Salem	145	147	448	222	163	16	0.72%
Salem City	6	Salem	3,068	3,111	6,163	4,526	3,414	302	0.66%
Upper Pittsgrove Township	6	Salem	982	1,029	2,815	3,579	1,361	331	2.01%
Woodstown Borough	6	Salem	1,651	1,668	2,957	2,190	1,786	118	0.49%
Bedminster Township	3	Somerset	7,092	7,373	12,253	13,393	9,340	1,967	1.70%
Bernards Township	3	Somerset	10,883	10,803	11,685	9,628	10,239	-563	-0.38%
Bernardsville Borough	3	Somerset	3,083	3,174	3,844	3,867	3,808	635	1.31%
Bound Brook Borough	3	Somerset	4,313	4,326	4,862	5,882	4,415	89	0.15%
Branchburg Township	3	Somerset	8,424	8,811	15,443	17,664	11,517	2,707	1.93%
Bridgewater Township	3	Somerset	32,941	34,145	48,633	56,424	42,573	8,428	1.59%
Far Hills Borough	3	Somerset	933	950	1,157	1,251	1,072	122	0.86%
Franklin Township	3	Somerset	32,403	32,964	46,999	41,968	36,889	3,925	0.81%
Green Brook Township	3	Somerset	3,863	3,958	5,554	7,005	4,622	664	1.11%
Hillsborough Township	3	Somerset	7,791	8,138	19,142	15,949	10,566	2,428	1.88%
Manville Borough	3	Somerset	2,294	2,351	4,235	6,995	2,751	400	1.13%
Millstone Borough	3	Somerset	114	118	217	339	145	27	1.49%
Montgomery Township	3	Somerset	9,404	9,791	15,977	18,306	12,504	2,712	1.76%
North Plainfield Borough	3	Somerset	3,905	3,924	4,075	4,191	4,055	131	0.23%
Peapack-Gladstone Borough	3	Somerset	1,483	1,463	1,837	1,184	1,322	-140	-0.72%
Raritan Borough	3	Somerset	9,550	9,869	15,469	16,414	12,099	2,231	1.47%

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Rocky Hill Borough	3	Somerset	351	353	417	394	371	17	0.34%
Somerville Borough	3	Somerset	14,481	14,538	15,430	15,443	14,933	396	0.19%
South Bound Brook Borough	3	Somerset	510	515	558	620	549	34	0.46%
Warren Township	3	Somerset	10,039	10,131	11,487	11,551	10,774	643	0.44%
Watchung Borough	3	Somerset	6,296	6,526	9,478	11,300	8,140	1,613	1.59%
Andover Borough	1	Sussex	1,497	1,597	3,086	2,556	2,299	702	2.64%
Andover Township	1	Sussex	859	985	2,593	2,720	1,870	885	4.68%
Branchville Borough	1	Sussex	1,637	1,662	1,848	1,904	1,838	176	0.72%
Byram Township	1	Sussex	320	336	479	534	445	109	2.04%
Frankford Township	1	Sussex	718	780	2,113	1,470	1,214	434	3.21%
Franklin Borough	1	Sussex	1,278	1,337	2,493	1,700	1,754	416	1.96%
Fredon Township	1	Sussex	206	212	436	250	257	44	1.36%
Green Township	1	Sussex	209	233	571	549	399	166	3.92%
Hamburg Borough	1	Sussex	1,046	1,069	1,479	1,160	1,226	158	0.99%
Hampton Township	1	Sussex	646	710	1,733	1,259	1,161	451	3.57%
Hardyston Township	1	Sussex	958	1,127	2,805	3,500	2,311	1,184	5.26%
Hopatcong Borough	1	Sussex	1,135	1,210	2,245	1,767	1,737	526	2.61%
Lafayette Township	1	Sussex	1,738	1,944	4,330	3,777	3,385	1,441	4.04%
Montague Township	1	Sussex	546	580	1,502	890	816	237	2.48%
Newton Town	1	Sussex	8,169	8,691	14,782	13,560	12,346	3,655	2.54%
Ogdensburg Borough	1	Sussex	250	256	290	283	298	42	1.09%
Sandyston Township	1	Sussex	150	173	489	487	337	164	4.87%
Sparta Township	1	Sussex	6,918	7,237	12,152	17,926	9,472	2,235	1.94%
Stanhope Borough	1	Sussex	2,240	2,295	3,723	6,030	2,679	384	1.11%
Stillwater Township	1	Sussex	345	378	962	648	609	231	3.46%

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Sussex Borough	1	Sussex	2,152	2,181	2,640	2,208	2,384	203	0.64%
Vernon Township	1	Sussex	3,059	3,160	3,985	3,763	3,871	710	1.46%
Walpack Township	1	Sussex	97	97	239	908	97	0	0.00%
Wantage Township	1	Sussex	814	875	2,466	1,500	1,304	429	2.89%
Berkeley Heights Township	2	Union	5,187	5,277	6,463	5,132	5,905	628	0.81%
Clark Township	2	Union	7,275	7,416	8,256	8,320	8,401	985	0.90%
Cranford Township	2	Union	13,866	14,083	16,109	17,493	15,601	1,518	0.73%
Elizabeth City	2	Union	44,565	46,445	57,805	51,319	59,602	13,157	1.80%
Fanwood Borough	2	Union	1,579	1,593	1,652	1,552	1,689	97	0.42%
Garwood Borough	2	Union	2,222	2,233	2,279	2,175	2,308	75	0.24%
Hillside Township	2	Union	6,572	6,725	7,510	6,773	7,792	1,068	1.06%
Kenilworth Borough	2	Union	10,392	10,571	12,227	13,370	11,823	1,252	0.80%
Linden City	2	Union	19,885	20,835	28,302	22,952	27,488	6,652	2.00%
Mountainside Borough	2	Union	5,292	5,357	5,867	6,123	5,809	452	0.58%
New Providence Borough	2	Union	8,804	8,910	9,351	8,527	9,652	742	0.57%
Plainfield City	2	Union	9,624	9,749	10,269	9,385	10,620	872	0.61%
Rahway City	2	Union	13,178	13,407	14,725	14,714	15,012	1,605	0.81%
Roselle Borough	2	Union	3,899	3,887	4,112	3,346	3,803	-84	-0.16%
Roselle Park Borough	2	Union	2,299	2,324	2,430	2,219	2,502	178	0.53%
Scotch Plains Township	2	Union	5,760	5,847	6,858	7,762	6,452	606	0.71%
Springfield Township	2	Union	10,557	10,665	12,934	9,941	11,419	754	0.49%
Summit City	2	Union	13,723	13,854	14,487	12,865	14,772	918	0.46%
Union Township	2	Union	34,662	35,762	43,326	46,743	43,462	7,700	1.40%
Westfield Town	2	Union	10,362	10,497	12,259	13,960	11,438	942	0.62%
Winfield Township	2	Union	107	114	160	203	160	46	2.47%
Allamuchy Township	2	Warren	343	348	501	422	381	34	0.66%

Municipality	COAH Region	County	Employment in 2002	Employment in 2004	Employment Based On "S" Curve Growth	Employment Based On Historic Growth	Employment Allocated 2018	Net Changes Between 2004 and 2018	Annual Rate of Change 2004 to 2018
Alpha Borough	2	Warren	515	532	1,062	829	649	117	1.43%
Belvidere Town	2	Warren	2,102	2,142	3,109	2,784	2,422	280	0.88%
Blairstown Township	2	Warren	1,708	1,765	3,111	2,787	2,165	400	1.47%
Franklin Township	2	Warren	935	989	1,662	1,756	1,365	376	2.33%
Frelinghuysen Township	2	Warren	236	247	477	455	327	79	2.01%
Greenwich Township	2	Warren	654	689	1,202	1,171	932	243	2.18%
Hackettstown Town	2	Warren	9,167	9,369	11,657	12,194	10,786	1,416	1.01%
Hardwick Township	2	Warren	76	91	183	711	194	104	5.59%
Harmony Township	2	Warren	219	223	496	285	250	27	0.83%
Hope Township	2	Warren	304	307	567	337	325	18	0.41%
Independence Township	2	Warren	388	387	563	375	381	-6	-0.12%
Knowlton Township	2	Warren	758	789	1,599	1,373	1,005	216	1.74%
Liberty Township	2	Warren	553	557	627	703	582	25	0.32%
Lopatcong Township	2	Warren	1,134	1,159	2,049	1,570	1,335	175	1.01%
Mansfield Township	2	Warren	1,009	1,021	1,517	1,154	1,107	86	0.58%
Oxford Township	2	Warren	360	372	767	568	457	85	1.47%
Phillipsburg Town	2	Warren	9,055	9,334	15,192	13,733	11,289	1,955	1.37%
Pohatcong Township	2	Warren	1,740	1,948	3,593	16,282	3,403	1,455	4.07%
Washington Borough	2	Warren	2,269	2,316	3,524	3,087	2,649	332	0.96%
Washington Township	2	Warren	1,915	1,887	2,464	1,540	1,692	-195	-0.78%
White Township	2	Warren	756	772	1,669	1,000	883	111	0.97%
New Jersey			3,649,887	3,753,156	5,461,171	5,449,473	4,476,042	722,885	1.27%

Source: Econsult Corporation (2007)

NEW JERSEY COUNCIL ON AFFORDABLE HOUSING
TASK 2 – ESTIMATING THE DEGREE TO WHICH FILTERING IS A SECONDARY SOURCE OF AFFORDABLE HOUSING

Final Report Submitted To:
New Jersey Council on Affordable Housing
101 South Broad Street
Trenton NJ 08625

Final Report Submitted By:
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FINAL REPORT – November 16, 2007

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EXECUTIVE SUMMARY

This presents a new approach to measuring the extent to which filtering has affected the supply of affordable housing for low-to-moderate (low-mod) households in New Jersey from 1993 through 2005 based on property-level data on home transactions in New Jersey from 1989 through 2005. It also provides a projection of filtering for the 2006 to 2018 period. Because new data and mapping techniques are now available, the approach differs significantly from the previous estimation of filtering.

1.0 PRIOR METHOD

From the 1989 and 1999 American Housing Survey, all sampled households that were identified as being in Metropolitan Statistical Areas[1] that were located (at least partially) in New Jersey were identified. The researchers compared reported household incomes in the two years, and classified households into two categories: "low-moderate income" and "middle-upper income". A unit that was occupied by a "low-mod" household in 1989, but became occupied by a "middle-upper" household in 1999 was classified as having "filtered up". Conversely, a unit that was occupied by a "middle-upper" household in 1989 but became occupied by a "low-mod" household in 1999 was classified as having "filtered down".

They then computed the percent of the AHS sample that both filtered up and filtered down. Because the research is only concerned with how filtering is a secondary source of affordable housing for low-mod households, they dropped filtered units that remained beyond the reach of affordability to these households. This effectively eliminates units from the sample that only filtered between relatively high-income households. These two modified filtering numbers were netted against each other to obtain the net filtering rate for the 1989-1999 period. They then applied this percent to the housing stock of NJ to determine the total number of units that filtered. Lastly, this number was multiplied times 1.5 to adjust the ten-year filtering number to the fifteen-year period of 1999-2014.

While the initial effort was state-of-the-art at the time that it was developed, there are limitations to the data and methods.

1) The American Housing Survey data has very limited spatial information.

The American Housing Survey does not provide information on location of housing units by municipality. Thus filtering must be calculated on a metropolitan or statewide basis and allocated to municipalities. With the availability of housing sales data and GIS software, it is now possible to directly evaluate municipality filtering.

NEW JERSEY COUNCIL ON AFFORDABLE HOUSING
TASK 3 – COMPENSATORY BENEFITS TO DEVELOPERS FOR PROVISION OF AFFORDABLE HOUSING

Final Report Submitted To:
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FINAL– December 11, 2007

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EXECUTIVE SUMMARY

In its review of New Jersey Council on Affordable Housing's (COAH) Third Round substantive and procedural rules and regulations, the Appellate Division of the Superior Court of New Jersey identified, among other challenges, issues related to the mechanisms municipalities have to work with towards fulfilling affordable housing requirements. Specifically, it determined that **the ultimate responsibility for establishing a real estate environment conducive to meeting affordable housing needs rests with the municipality through its land use ordinances,** and that therefore **municipalities must offer development incentives sufficient to generate a realistic opportunity for developers to produce new affordable housing.**

To the extent that the provision of affordable housing is deemed an appropriate public interest, **governments have a number of mechanisms at their disposal to actively encourage greater production within their jurisdictions.**[1] These tools include offering density bonuses, easing construction-related requirements, and/or providing financial subsidies.

Therefore, we can generate an illustrative pro forma statement to determine the effect on developer profitability of the affordable housing requirement, and then evaluate a variety of types and scales of compensatory benefits. Thus, we can solve for the various incentive amounts necessary to offset the cost of the affordable housing requirement, and can then compare that scale of incentives with levels that municipalities might choose to offer, **to determine if such levels can be considered as sufficient.**

Importantly, we assume that affordable units are allowed to differ in size from market units. According to an extensive literature and best practices review conducted by Applegate and Thorne-Thomsen, the most common sizing of affordable units is two units on the same footprint as one market unit, which would result in an approximate per-unit construction cost reduction of 40 percent.

From there, the incentive levels required to offset the affordable housing requirement depend on the set-aside ratio and on the affordability level of the affordable units: the more affordable units required, and the more deeply affordable they must be, the more offsetting incentives that are needed. For the purposes of this analysis, we use base assumptions of a 20 percent set-aside ratio (i.e. one affordable unit among five total units, or one for every four market units) and a price that is affordable to someone making 55 percent of median household income.

Based on these assumptions and scenarios, we can determine the scale of incentives required to compensate for the affordable housing requirement. For example, **assuming a "one for one" density bonus, we find that a 4.3 percent construction cost reduction on all units is needed** if all additional units are market units.

The results from these scenarios inform our study in the following ways:

- First, our illustrative examples calculate what is necessary to completely *offset the cost of the affordable housing requirement*; certainly, in the marketplace, there are situations in which an incentive does not need to completely offset the cost of the affordable housing requirement for it to be effective in inducing developers to build.
- Second, these illustrative examples utilize very aggressive assumptions related to the provision of affordable housing: the set-aside ratio and the affordability level. These are policy choices that can be made, but it must be stated that *requiring more affordable units and/or requiring that those units are more deeply affordable necessarily means higher levels of incentives are needed to offset the associated costs.*
- Third, in fact many government entities that have instituted affordable housing requirements are located in *extremely attractive real estate markets*, and thus developers are often so motivated to build there that they are willing to bear the additional cost of the affordable housing requirement with zero incentives, density-related or otherwise.
- Fourth, many affordable housing requirement programs encourage the *mixing of incentive types*. Thus, while density bonuses alone might require fairly high density increases, density bonuses in conjunction with construction cost reductions require more reasonable density increases.

Of course, **municipalities need not limit themselves to the minimum affordable housing requirements**. A municipality might be motivated to go beyond minimum affordable housing requirements if COAH gives additional credit for doing so, and thus understanding the scale of incentives required to offset requirements at different set-aside ratios and affordability levels can provide some guidance on such trade-offs.

Importantly, the results above assume that land costs represent 20 percent of total project costs. The higher land costs are as a percentage of total project costs, the lower the density bonus that is required, since the mechanism by which additional market units offset the cost of building affordable units is by allowing the developer to spread the project's fixed costs (i.e. land costs) over more units. Thus, higher fixed costs as a percentage of total project costs mean that there is a lot to be gained back by the developer in spreading out those higher fixed costs over additional market units.

Therefore, **higher density bonuses are needed in lower-income areas, while lower density bonuses are needed in higher-income areas**. This reconciles with national findings: in many cases, higher-income areas can institute affordable requirements with little or no offset density bonus, while lower-income areas often struggle to enable the construction of market units, and thus imposing an affordable requirement would require high levels of offsetting incentives to induce development.

Non-residential construction also generates an affordable housing obligation, but housing units cannot always be included at the same site, and non-residential developers may not have the expertise or desire to build residential units. Non-residential developers have heretofore then paid a development fee instead of directly bearing the cost of building affordable units. If intended to completely pay for the cost of building affordable units, the development fee would be somewhere between 2.8 percent and 10.1 percent, based on building type (see Figure E.1).

Figure E.1 – Cost of Affordable Housing as a Function of Non-Residential Construction

Building Type	Office	Retail	Factory	Storage	Manuf	Theater	Restaurant	Library	Arena	Stadium	K-12	Hospital	Hotel
Sample # SF in Project	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
Average $ Constr Cost/SF	$ 112.5	$ 157.6	$ 94.8	$ 84.8	$ 159.4	$ 151.7	$ 127.3	$ 134.6	$ 131.3	$ 154.3	$ 152.2	$ 306.5	$ 233.7
Total Sample Project Cost	$ 11,252,510	$ 15,761,980	$ 9,477,980	$ 8,479,500	$ 15,944,850	$ 15,170,530	$ 12,727,920	$ 13,459,980	$ 13,131,620	$ 15,434,000	$ 15,216,920	$ 30,648,190	$ 23,367,170
Approx. Project Cost / Market Value	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Assessed Value / Market Value	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Sample Project Assessed Value	$ 22,505,020	$ 31,523,960	$ 18,955,960	$ 16,959,000	$ 31,889,700	$ 30,341,060	$ 25,455,840	$ 26,919,960	$ 26,263,240	$ 30,868,000	$ 30,437,840	$ 61,296,380	$ 46,734,340
Task 4 Jobs/1000 Gross SF	2.6	1.6	1.1	1.3	1.4	1.5	2.9	1.5	3.1	2.3	1.6	2.3	1.6
Jobs Created by Project	259.4	156.4	111.7	134.7	143.4	146.4	293.3	147.3	312.8	234.6	156.4	234.6	156.4
Jobs Per Affordable Unit	16	16	16	16	16	16	16	16	16	16	16	16	16
# Affordable Units to be Built	16.2	9.8	7.0	8.4	9.0	9.2	18.3	9.2	19.6	14.7	9.8	14.7	9.8
$ Cost Per Affordable Unit	$ 135,735	$ 135,735	$ 135,735	$ 135,735	$ 135,735	$ 135,735	$ 135,735	$ 135,735	$ 135,735	$ 135,735	$ 135,735	$ 135,735	$ 135,735
$ Cost for All Affordable Units	$ 2,200,397	$ 1,326,806	$ 947,719	$ 1,142,528	$ 1,216,239	$ 1,242,106	$ 2,487,762	$ 1,249,636	$ 2,653,613	$ 1,990,210	$ 1,326,806	$ 1,990,210	$ 1,326,806
$ Cost as a % of Assessed Value	9.8%	4.2%	5.0%	6.7%	3.8%	4.1%	9.8%	4.6%	10.1%	6.4%	4.4%	3.2%	2.8%

Source: Econsult Corporation

locations, and the existing densities and related regulations for one municipality versus that of another. This must be balanced against the benefit of predictability and certainty that comes with established thresholds.

Thus, it may be impossible to pre-produce pro forma statements that are encompassing of all permutations or that are extremely accurate. Nevertheless, it is possible to pre-produce some illustrative pro forma statements, which can be used to derive some general principles that are applicable to the notion of "sufficiency," and that can also be used to address some of the important sub-topics that were introduced in Section 1.

3.2 The Economics of Incentives

Our analysis in this section, then, can be used by COAH as a benchmark against which municipal plans can be compared, since these illustrative pro forma statements provide some sense of the impact of various incentives on developer returns. Before we can even set up benchmark assumptions, though, we must revisit a couple of theoretical issues that have been introduced previously and that can now be discussed in the context of these illustrative pro forma statements.

Elasticity of Land Supply

As mentioned earlier, the introduction of an affordable housing requirement would tend to lower the cost of land, while the introduction of offsetting incentives would tend to increase the cost of land. These increases and decreases in land acquisition costs would have a direct effect on a developer's estimated profit.

If the status quo has already capitalized the affordable housing requirement into land prices, but it has not yet capitalized the existence of incentives, it is possible that, if land supply is completely inelastic and markets are perfect, the value of the incentive, rather than restoring the developer's original return to the level prior to the affordable housing requirement, will simply lead to the exact increase in land acquisition cost that offsets the incentive. Under such a scenario, no amount of incentives, no matter how great, restores the developer's original return, and therefore no amount of incentives will induce additional provision of affordable housing units.

However, empirically we note that incentives do in fact work to induce development. Nevertheless, while their value may not be fully capitalized into land prices, it is equally true that **their value is at least somewhat capitalized into land prices**. One might preliminarily calculate what scale of incentives would be required to offset the cost of the affordable housing requirement, but that scale of incentives might not actually achieve the desired level of affordable housing units, because the introduction of that scale of incentives would increase the land acquisition cost, thus changing the numbers in the pro forma statement.

Discarding equally the possibility that incentives are completely capitalized into land prices and the possibility that they are not at all capitalized into land prices, let us temporarily assume that incentives are exactly 50 percent capitalized into land prices. This is the equivalent of saying that rather than whatever level of incentives one might initially calculate to be needed to offset the cost of the affordable housing requirement, the actual level of incentives needs to be double that, to account for the effect on land acquisition costs of the introduction of the incentives.

In reality, it is not clear what percentage of the value of incentives is actually capitalized into land prices. Affordable housing requirements may result in reduced land prices, which in turn reduces the need for incentives; while offsetting incentives may result in increased land prices, which in turn shrinks the impact of those incentives.

Presumptive Density

As will be detailed below, the goal of the upcoming illustrative development pro forma statements is to calculate the amount of incentives needed to offset the cost of the affordable housing requirement. Many of the incentive types are some form of density bonus; in such cases, the pro forma model can estimate the amount density has to increase to restore a developer's profits to their levels before the introduction of the affordable housing requirement.

What the pro forma model does not focus on is the inherent profitability of a project. Thus, the question of whether a certain density level that is being offered can be deemed sufficient for inducing construction can only be determined if the starting density is known.

Nevertheless, regardless of the original density, is there a notion of "presumptive density"? In other words, is there a density that is innately sufficient to induce affordable housing, regardless of what the current density levels are? Again, the pro forma model, in its current form, cannot answer such a question.

However, intuitively, we can conjecture over whether there exists such a density level. Real estate markets are efficient enough that if a location's zoning allows a relatively high density, and demand to live at that location is high enough that all the allowable units will be sold for a profit, then the price of the land may go up accordingly, such that there is no "extra margin" enjoyed by the developer that would thus enable him to accept losing money by building affordable units.

On the other hand, we know that many parts of the country have successfully integrated affordable housing requirements without prohibitively slowing development. These locations are characterized by high demand and/or natural supply limits (most notably, coastlines), such that there is such a premium to build that developers are willing to "pay the cost" of affordable units for the right to build there. In theory, a dense enough zoning could create such a dynamic, and to the extent that the increased value of the location is not totally captured by higher land prices, there could be sufficient incentive to developers from the density by itself to induce construction even in light of affordable housing requirements.

3.3 Pro Forma Model - Approach

Our goal in generating and annotating an illustrative pro forma statement is to determine the effect on developer profitability of first the affordable housing requirement, and then of a variety of types and scales of compensatory benefits. Specifically, we have constructed a pro forma statement that consists of three sheets:

1. The initial pro forma statement, prior to affordable housing requirement and affordable housing incentives;
2. The pro forma statement, after the affordable housing requirement has been accounted for but prior to the introduction of the affordable housing incentives; and

3. The pro forma statement, after both the affordable housing requirement and the affordable housing incentives have been accounted for.

By solving for the various incentive amounts necessary to offset the cost of the affordable housing requirement, we can then compare that scale of incentives with levels that municipalities might choose to offer, to determine if such levels can be considered as sufficient. Specifically, we can calculate the estimated density bonus or construction cost reduction needed, among other incentive packages.

It is important to note that **these are merely illustrative examples, intended to provide general guidance on development activities that span a wide diversity of inputs and results**, with variations according to geography, market conditions, and other variables. Initial assumptions have been chosen to represent reasonable inputs, but certainly individual cases will have their own characteristics.

While we have built out the model so as to allow for a variety of assumptions, we will initially walk through a base scenario involving a development of 100 houses for sale. We then loaded in reasonable estimates for various revenue and expenditure assumptions.[21]

It is important to note that we load in initial assumptions of land acquisition and demolition at approximately 20 percent of total project costs,[22] and infrastructure costs at approximately 5 percent of total project costs.[23] These proportions for acquisition, demolition, and infrastructure are important because a density bonus offsets an affordable housing requirement to the extent that such project costs can be held as fixed while more units are added, thus lowering the cost per unit and thus enabling a developer to incur additional costs while retaining a desired profitability level.[24]

We then set house prices **such that the internal rate of return on the initial investment is around 15 percent.**[25] Based on our initial assumptions, this requires a sale price of $419,379, a price level at which the internal rate of return is exactly 15 percent and the overall net income for the project is $1.6 million (see Figure 3.1).

With the introduction of an affordable housing requirement, a certain number of affordable units will have to be built, depending on the set-aside ratio. Let us preliminarily assume that the set-aside ratio is 20 percent – i.e. affordable units represent 20 percent of all units, or, put another way, there must be one affordable unit for every four market units. Thus, instead of 100 market units selling for $419,379, the development now (temporarily) consists of 80 market units selling for $419,379 and 20 affordable units selling for much less. Based on COAH's current payment in lieu calculations and assuming a mix of homebuyers that consists of half who are at 40 percent of median income and half who are at 70 percent of median income, we have determined that the affordable price is $89,265.

We can now see the impact of the affordable requirement on the developer's bottom line. Not surprisingly, the replacement of 20 market units with 20 affordable units that sell for significantly less than the market units as well as significantly less than the cost to construct them leads to a significant drop in profitability: a negative internal rate of return, and an overall net loss for the project of $4.7 million (see Figure 3.2).[26]

Figure 3.1 – Illustrative Pro Forma, Step 1: Prior to Affordable Housing Requirement and Affordable Housing Incentives

	Use Type	*Residential Market Sale*	*Residential Affordable Sale*	*Upfront Exp Land Acq/Demo*	*Upfront Exp Infrastructure*	*Total Development*
Sale Price/Unit	$	419,379				
# Units		100		4,000,000	4,000,000	
SF/unit		2,000		1	1	
Total SF		200,000		4,000,000	4,000,000	
Constr$/SF	$	150		$ 2.00	$ 0.50	
Sellout Begins in Mo#		13				
Sell-out Pd (Months)		12				
Constr Pd (Months)		24				
Debt / Total		70%				
Debt Interest Rate		7%				
Discount Rate		3%				
Devt Fee (0% if AH)		1%				
Upfront Revenues	$	41,937,945				$ 41,937,945
Upfront Expenses	$	(30,300,000)		$ (8,000,000)	$ (2,000,000)	$ (40,300,000)

# acres	92
units/acre	1.1
land/cost	20%
infrastructure/cost	5%
net income	$ 1,637,945
10-Year PV	$ (502,504)
IRR	15.00%

COAH Region	*AH = X% Med Inc*
Blended	**55%**

COAH Region	1	2	3	4	5	6	Blended
Affordable Sale Price	$87,065	$95,808	$110,921	$93,710	$79,784	$68,304	**$89,265**

Source: Econsult Corporation (2007)

Figure 3.2 – Illustrative Pro Forma, Step 2: Accounting for Affordable Housing Requirement But Not Yet for Offsetting Incentives

Use Type	*Residential Market Sale*	*Residential Affordable Sale*	*Upfront Exp Land Acq/Demo*	*Upfront Exp Infrastructure*	*Total Development*
Sale Price/Unit	$ 419,379	$ 89,265			
# Units	80	20	4,000,000	4,000,000	
SF/unit	2,000	2,000	1	1	
Total SF	160,000	40,000	4,000,000	4,000,000	
Constr$/SF	$ 150	$ 150	$ 2.00	$ 0.50	
Sellout Begins in Mo#					
Sell-out Pd (Months)					
Constr Pd (Months)					
Debt / Total					
Debt Interest Rate					
Discount Rate					
Devt Fee (0% if AH)	0%	0%			
Upfront Revenues	$ 33,550,356	$ 1,785,307			$ 35,335,663
Upfront Expenses	$ (24,000,000)	$ (6,000,000)	$ (8,000,000)	$ (2,000,000)	$ (40,000,000)

# acres	92
units/acre	1.1
land/cost	20%
infrastructure/cost	5%
net income	$ (4,664,337)
10-Year PV	$ (499,999)
IRR	#DIV/0!

Step 1 to Step 2 -

Zero out devt fee	0%
AH set-aside ratio	20%
Resulting market units	80
Resulting affordable units	20

Source: Econsult Corporation (2007)

3.4 Illustrative Results

Now we can introduce compensatory incentives, and specifically we can determine the scale of incentives that are needed to offset the effect of the introduction of the affordable housing requirement. In other words, we can calculate the amount of incentives that would have to be added in our illustrative example for the internal rate of return to return to 15 percent.

Importantly, we make one key assumption prior to this calculation. Previously, we had not assumed that there would be any difference between the market units and the affordable units. In reality, affordable units almost always differ from market units, if not in the quality of the materials allowed to be used (thus leading to a reduction in the construction cost per square foot) then in the size of the structures (thus leading to a reduction in the square foot per unit). In fact, according to the extensive literature and best practices review conducted by Applegate and Thorne-Thomsen, the most common sizing of affordable units is two units on the same footprint as one market unit (see Figure 3.3).

Figure 3.3 – Illustrative Sizing of Affordable Units vs. Market Units (Fairfax County, Virginia)

(L) Two Affordable Town Homes, (R) One Market-Rate Single-Family Home

Source: Applegate and Thorne-Thomsen (2007)

Based on this scale of sizing, affordable units would be substantially less costly to produce than market units. The cost would not be cut in half, because there are certain fixed costs per unit, such as kitchens and heating/cooling systems, that do not decrease even given much smaller footprints. We estimate that the cost savings per unit is on the order of 40 percent, assuming that footprints are cut exactly in half and that fixed costs represent 20 percent of the cost of constructing a house (see Figure 3.4).

Figure 3.4 – Illustrative Cost Savings on Affordable Units if Built at Two Units Per Lot vs, One Unit Per Lot

	# units / lot	*SF / unit*	*fixed cost per unit*	*variable cost per SF*	*total cost for lot*	*total cost/unit*
market	1	2000	$60,000	$120	$300,000	$300,000
affordable	2	1000	$60,000	$120	$360,000	$180,000
cost savings per unit						40%

Source: Econsult Corporation (2007)

The Applegate and Thorne-Thomsen report affirms the primacy of density bonuses as the incentive type of choice for municipalities, although it also finds that most programs offer more than one incentive type to induce the construction of affordable housing. Accordingly, we solve for the following incentive package:

- What is the *construction cost reduction* needed to offset the affordable housing requirement, given that affordable units can be half the size of market units and that a "one for one" density bonus is assumed? In this case, we assume that municipalities grant that 20 percent more total units can be built,[27] and then determine the necessary reduction in construction cost per square foot, which can be achieved by relaxing various construction-related regulations such as materials used or parking minimums.

Based on these assumptions and scenarios, we can determine the scale of incentives required to compensate for the affordable housing requirement. **Assuming a "one for one" density bonus, we find that a 4.3 percent construction cost reduction on all units is needed** if all additional units are allowed to be market units (see Figure 3.5).

Figure 3.5 – Illustrative Pro Forma, Step 3: Construction Cost Reduction Needed w/20% Density Bonus, Assuming all Additional Units are Market

Use Type	Residential Market Sale	Residential Affordable Sale	Upfront Exp Land Acq/Demo	Upfront Exp Infrastructure	Total Development
Sale Price/Unit	$ 419,379	$ 89,265			
# Units	100	20	4,000,000	4,000,000	
SF/unit	2,000	1,000	1	1	
Total SF	200,000	20,000	4,000,000	4,000,000	
Constr$/SF	$ 144	$ 165	$ 2.00	$ 0.50	
Sellout Begins in Mo#					
Sell-out Pd (Months)					
Constr Pd (Months)					
Debt / Total					
Debt Interest Rate					
Discount Rate					
Devt Fee (0% if AH)	0%	0%			
Upfront Revenues	$ 41,937,945	$ 1,785,307			$ 43,723,252
Upfront Expenses	$ (28,716,900)	$ (3,298,641)	$ (8,000,000)	$ (2,000,000)	$ (42,015,541)

# acres	92
units/acre	1.3
land/cost	19%
infrastructure/cost	5%
net income	$ 1,707,711
10-Year PV	$ (525,157)
IRR	15.00%

Step 2 to Step 3 -

AH SF Reduction	50%	[AH units can be smaller]
AH Cost Reduction	40%	[Cost reduc < SF reduc]
Density Bonus	20%	[Either set or solve for]
DB Units all Market?	Y	[N = retain set-aside %]

	If all DB units market	*If set-aside ratio retained*
Final market units	100	96
Final affordable units	20	24
Addn constr cost reduc	4.3%	8.1%

Source: Econsult Corporation (2007)

3.5 Lessons Learned

National and Local Context

It is important to remember that the results above are derived from an illustrative pro-forma analysis. Individual municipalities, and individual projects within them, may in fact have very different revenue and expense estimates associated with them. Furthermore, at a statewide level, policy decisions such as the setting of the set-aside ratio and the affordability level will play a role in the incentive levels needed to offset the affordable requirement: the higher the set-aside ratio and/or the deeper the affordability, the more incentives that will be needed.

In placing these incentive levels within a broader, national context, it is important to keep the following considerations in mind:

- First, our illustrative examples calculate what is necessary to *completely offset the cost of the affordable housing requirement*; certainly, in the marketplace, there are situations in which an incentive does not need to completely offset the cost of the affordable housing requirement for it to be effective in inducing developers to build. Developers may, for example, choose to accept lower margins, and/or find ways to reduce construction costs on their own or through their sub-contractors such that the cost of the affordable requirement is absorbed without adversely affecting profitability. The marketplace may also provide a boost, as noted before, in that the existence of an affordable housing requirement may cause land prices to fall, helping the numbers work for developers.
- Second, these illustrative examples utilize two very aggressive assumptions related to the provision of affordable housing. For one, providing one affordable unit for every four market units that are built is a very high proportion of affordable units. Furthermore, making affordable units such that someone at 55 percent of median income can afford them is a very deep level of affordability. These are policy choices that can be made, but it must be stated that *requiring more affordable units and/or requiring that those units are more deeply affordable necessarily means higher levels of incentives are needed to offset the associated costs.*
- Third, in fact many government entities that have instituted affordable housing requirements are located in *extremely attractive real estate markets*, and thus developers are often so motivated to build there that they are willing to bear the additional cost of the affordable housing requirement with zero incentives, density-related or otherwise. In such cases, not only do incentives not need to fully offset the additional cost of the affordable housing requirement, they do not need to be offered at all.
- Fourth, many affordable housing requirement programs encourage the *mixing of incentive types*. Thus, while density bonuses alone might require fairly high density increases, density bonuses in conjunction with construction cost reductions require more reasonable density increases.

Of course, *municipalities need not limit themselves to the minimum affordable housing requirements*. For example, a municipality could offer a certain level of density bonus or construction cost reduction to offset the cost of the affordable housing requirement, and in parallel offer a deeper level of density bonus or construction cost reduction in exchange for more affordable units than are required, or alternatively for the required number of units sold at a more affordable price, either of which might earn them additional credit towards their affordable housing requirement. A municipality might be motivated to go beyond minimum affordable housing requirements if COAH gives additional credit for doing so, and thus understanding the scale of incentives required to offset requirements at different set-aside ratios and affordability levels provides some guidance to such trade-offs.

Variation Across Municipalities

Importantly, the results above assume that land costs represent 20 percent of total project costs. The higher land costs are as a percentage of total project costs, the lower the density bonus that is required, since the mechanism by which additional market units offset the cost of building affordable units is by allowing the developer to spread the project's fixed costs (i.e. land costs) over more units. Thus, higher fixed costs as a percentage of total project costs mean that there is a lot to be gained back by the developer in spreading out those higher fixed costs over additional market units. Conversely, if fixed costs are a relatively small percentage of total project costs, the developer does not gain much back by adding additional market units.

In fact, while land costs tend to adjust in response to the attractiveness of the land (in terms of what prices the market is willing to pay for such a location), construction costs are far more homogenous across real estate markets. Consider, for example, our base case as compared to developments in two other municipalities, one that is very low-income and one that is very high-income.[28] On average, land costs tend to represent about 20 percent of total project costs. However, in a municipality that is very low-income, land costs will be far lower, while total project costs will not move as drastically, to the extent that construction costs are relatively equal. The opposite is true in a municipality that is very high-income: land costs will be far higher, while total project costs will not move as drastically. In the first case, land costs might be substantially less than 20 percent of total project costs, while in the second case, land costs might be substantially more than 20 percent of total project costs.

Higher density bonuses are needed in lower-income areas, while lower density bonuses are needed in higher-income areas. This reconciles with national findings: in many cases, higher-income areas can institute affordable requirements with little or no offset density bonus, while lower-income areas often struggle to enable the construction of market units, and thus imposing an affordable requirement would require high levels of offsetting incentives to induce development.

Presumptive Densities

Returning to the notion of presumptive densities, it is clear that the effectiveness of an incentive in offsetting the cost of the affordable housing requirement depends more on the change in density levels rather than on the density level itself. Said another way, the pro forma model, as currently constructed, does not focus on the inherent profitability of a project but rather on how an affordable housing requirement and then offsetting compensatory benefits affect that profitability. Thus, the question of whether a certain density can be deemed sufficient for inducing construction can only be determined if the starting density is known, and so the pro forma model can only touch on the notion of presumptive densities, not answer it directly.

New Construction Versus Rehabilitation

The question of new construction versus rehabilitation, from the lens of the pro forma model, is a question of acquisition and construction costs. To the extent that all other variables are held equal, but a rehabilitation project is swapped in for a new construction project, the difference in profitability will be a function of the amount that the acquisition and construction costs differ.

This, too, is a comparison that can only be made on a case-by-case basis, and cannot easily be generalized, since acquisition and construction costs for rehabilitation projects vary widely depending on the existing value of the property and the depth of renovation that is needed. One additional and interesting wrinkle to this discussion is the vast number of existing incentive programs within the state that are in place to induce developers to choose existing sites and buildings for development rather than building anew in "greenfields." The existence of these incentives can, in many cases, not only narrow the usual difference in cost between new construction and rehabilitation but also, in some cases, make rehabilitation less costly, even factoring in the not uncommon presence of site remediation.

4.0 RECOMMENDATIONS FOR REGULATORY LANGUAGE

This report has been concerned primarily with providing guidance to the New Jersey Council on Affordable Housing (COAH) in determining **what constitutes a "sufficient" set of incentives offered by a municipality to achieve its fair share of affordable housing requirements,** as per the ruling of the Appellate Division of the Superior Court of New Jersey. To address this main topic, we have provided an inventory of incentive mechanisms (Section 2) and walked through an illustrative pro forma statement to understand the relative impact of various incentives under various scenarios (Section 3).

4.1 Sufficiency of Incentives

Having covered this terrain, we can now offer direct guidance on the notion of "sufficiency," and on related sub-topics that were first surfaced in Section 1. The advantage of a "presumptive density" lies in its simplicity, predictability, and record of success in producing affordable housing. Raw density levels are easy to determine, while changes in density levels require a more complicated calculation involving the weighting of various density levels in different parts of the municipality, in order to determine existing density levels.

Nevertheless, as has been covered previously, real estate markets are such that there may not be a density level that is necessarily sufficient to offset the cost of the affordable housing requirement. The presumptive density level, in other words, depends on a number of variables, most notably the existing density of the municipality, since it is the change in density and not the density level itself that is important.

As discussed previously, in practice many incentive programs around the nation have tended to combine density bonuses with other incentives, such as relaxation of various regulations that tend to lower construction costs. Most commonly, affordable units are allowed to be different in size and/or quality than market units, drastically lowering the cost of constructing them and thus reducing the amount of incentives needed to offset the loss to the developer in providing them. Therefore, in our analysis we make an important assumption that affordable units are half the size of market units, resulting in a construction cost reduction of approximately 40 percent per affordable unit.

Given that assumption, we find that the amount of incentives required to offset the affordable housing requirement depends on **a number of statewide policy decisions,** most notably the set-aside ratio, the affordability level, and the definition of a density bonus as allowing all additional units to be market versus as requiring that additional units retain the set-aside ratio. Again, these are policy choices that affect the scale of the cost of building affordable units and also of the effectiveness of different levels of offsetting incentives.

Importantly, the amount of incentives required to offset the affordable housing requirement also depends on **the proportion that land and other fixed costs contribute** to a typical project's total costs, to the extent that density bonuses work to offset the cost of building affordable units by spreading a project's fixed costs over more units. In particular, in extremely high-income municipalities, land costs can become a very high proportion of total project costs, thus necessitating relatively smaller density bonuses to offset; while in extremely low-income municipalities, land costs can become a very low proportion of total project costs, thus necessitating relatively higher density bonuses to offset.

Finally, it is important to note that this analysis has concerned itself with the sufficiency of incentives. National and local experience suggests that **incentives do not need to be sufficient to be effective**. In other words, this analysis calculates the level at which an incentive completely offsets the affordable housing requirement; but a developer might be sufficiently motivated to build at incentive levels that are far lower, or in some cases with no offsetting incentive offered at all.

In short, this analysis is intended to offer guidance in framing regulatory language and in setting policy, by offering illustrative calculations that provide a framework for making such decisions. In its most recent ruling, the Court made it clear that municipalities must provide a "realistic opportunity" for affordable units to be developed, and it connected that responsibility with the concept of "sufficient" incentives. Thus, the above illustrative pro-forma statements offer some guidance for COAH to evaluate plans put forth by municipalities to that end.

4.2 Municipality Types

There can be a difficulty in setting a statewide rule in a state as diverse in its housing markets as New Jersey. Certainly, there is a wide variation in starting densities across the state, as well as in the relative attractiveness of the housing market, in terms of the usefulness of a certain scale of density bonus.

A simple yet useful way to get at this variation is to **compare a municipality's median house prices with equivalent construction costs.** In other words, determining how much more or less a house sells for in relation to how much it costs to build is an important indicator of the attractiveness of a municipality's housing market, relative to other municipalities.[29]

Efficient real estate markets mean that where house prices are high, land will be relatively expensive, and where house prices are low, land will be relatively cheap. To the extent that there is wide variation between municipalities in terms of the ratio between median prices and construction costs, this has implications for what constitutes a sufficient density bonus.

Since construction costs do not vary nearly as much across the state as median house prices, higher-income municipalities will have price/cost ratios far greater than 1.0, while lower-income municipalities will have price/cost ratios less than 1.0. This simply constructed index thus offers some guidance in terms of classifying municipalities, so that a particular municipality's incentive plan can be evaluated based on whether it is a higher-income municipality (and thus does not need to offer as high of a density bonus) or a lower-income municipality (and thus needs to offer a higher density bonus).

4.3 Non-Residential Construction

Heretofore, we have discussed the application of incentives related to residential construction. However, non-residential construction also generates an affordable housing obligation, which poses a challenge to the extent that housing units cannot always be included at the same site, and non-residential

developers may not have the expertise or desire to build residential units. Non-residential developers have heretofore then paid a development fee instead of directly bearing the cost of building affordable units. Would municipalities need to offer incentives to such developers? Density bonuses, the usual mechanism, could apply here in the form of increased floor area ratios (FAR), and **regulatory changes could reduce costs or increase value of construction and thereby encourage development, as could financial subsidies.**

However, such an analysis would have to be preceded by the resolution of a fundamental policy question concerning the need to offer incentives at all. The absence of incentives, after all, would simply mean a higher cost of locating a non-residential use within the state. This could possibly mean the loss of business, on the margins, as developers choose to site their non-residential developments outside state lines or not build them altogether. The alternative of offering incentives is equivalent to spreading the cost across all taxpayers. Thus, it is a matter of policy preference first, whether the state seeks to offer incentives for non-residential construction or not.

To use some specific numbers, there is currently a 2 percent development fee levied on non-residential construction that does not build its own affordable housing. Given that construction costs and employment densities vary by building type, the actual cost of building an affordable unit ranges from 2.8 percent to 10.1 percent of the assessed value of non-residential construction (see Figure 4.1).[30]

Figure 4.1 – Cost of Affordable Housing as a Function of Non-Residential Construction

Building Type	Office	Retail	Factory	Storage	Manuf	Theater	Restaurant	Library	Arena	Stadium	K-12	Hospital	Hotel
Sample # SF in Project	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
Average $ Constr Cost/SF	$ 112.5	$ 157.6	$ 94.8	$ 84.8	$ 159.4	$ 151.7	$ 127.3	$ 134.6	$ 131.3	$ 154.3	$ 152.2	$ 306.5	$ 233.7
Total Sample Project Cost	$ 11,252,510	$ 15,761,960	$ 9,477,960	$ 8,479,500	$ 15,944,850	$ 15,170,530	$ 12,727,920	$ 13,459,900	$ 13,131,620	$ 15,434,000	$ 15,218,920	$ 30,648,190	$ 23,367,170
Approx. Project Cost / Market Value	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Assessed Value / Market Value	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Sample Project Assessed Value	$ 22,505,020	$ 31,523,920	$ 18,955,920	$ 16,959,000	$ 31,889,700	$ 30,341,060	$ 25,455,840	$ 26,919,800	$ 26,263,240	$ 30,868,000	$ 30,437,840	$ 61,296,380	$ 46,734,340
Task 4 Jobs/1000 Gross SF	2.6	1.6	1.1	1.3	1.4	1.5	2.9	1.5	3.1	2.3	1.6	2.3	1.6
Jobs Created by Project	259.4	156.4	111.7	134.7	143.4	146.4	293.3	147.3	312.8	234.6	156.4	234.6	156.4
Jobs Per Affordable Unit	16	16	16	16	16	16	16	16	16	16	16	16	16
# Affordable Units to be Built	16.2	9.8	7.0	8.4	9.0	9.2	18.3	9.2	19.6	14.7	9.8	14.7	9.8
$ Cost Per Affordable Unit	$ 135,735	$ 135,735	$ 135,735	$ 135,735	$ 135,735	$ 135,735	$ 135,735	$ 135,735	$ 135,735	$ 135,735	$ 135,735	$ 135,735	$ 135,735
$ Cost for All Affordable Units	$ 2,200,397	$ 1,326,806	$ 947,719	$ 1,142,528	$ 1,216,239	$ 1,242,106	$ 2,487,762	$ 1,249,636	$ 2,653,613	$ 1,990,210	$ 1,326,806	$ 1,990,210	$ 1,326,806
$ Cost as a % of Assessed Value	9.8%	4.2%	5.0%	6.7%	3.8%	4.1%	9.8%	4.6%	10.1%	6.4%	4.4%	3.2%	2.8%

Source: Econsult Corporation

4.4 Payments in Lieu

Before the Court issued its opinion, COAH proposed revised regulations for payments in lieu, with the intention of addressing the main objection raised about the existing regulations.[31] The objective of these new proposed regulations is to estimate the amount of subsidy needed in each COAH Region to produce an affordable housing unit to establish a basis for the required payments. We think these proposed regulations reasonably estimate the cost of providing affordable housing. However, the proposed formula assumes that construction costs do not vary across regions, although it does incorporate varying land costs and household income levels (see Figure 4.2).

Figure 4.2 – Current COAH "Payment in Lieu of" Amounts

COAH Region	*1st Quartile*	*Land Costs*	*Constr Costs*	*Soft Costs*	*Total Costs*	*AH Price*	*Req Subsidy*
1	$330,000	$82,500	$155,433	$19,035	$256,968	$87,065	$169,903
2	$255,000	$63,750	$155,433	$17,535	$236,718	$95,808	$140,910
3	$381,966	$95,492	$155,433	$20,074	$270,998	$110,921	$160,077
4	$343,725	$85,931	$155,433	$19,309	$260,673	$93,710	$166,963
5	$257,790	$64,448	$155,433	$17,590	$237,471	$79,784	$157,687
6	$264,690	$66,173	$155,433	$17,728	$239,334	$68,304	$171,030
Blended	**$305,529**	**$76,382**	**$155,433**	**$18,545**	**$250,360**	**$89,265**	**$161,095**

Source: New Jersey Council on Affordable Housing (2007)

COAH's current "Payment in Lieu of" calculations assume uniform construction costs across COAH Regions. Construction costs are certainly more uniform across the state than house prices, due to the common drivers that affect such costs regardless of location. Nevertheless, such costs are not totally uniform, to the extent that there are minor differences in the cost of labor and materials in different parts of the state.

Using publicly available data from RS Means, we can determine these variations across municipalities, and then aggregate them to a COAH Region level.[32] Specifically, we take COAH's original $155,433 construction cost across all COAH Regions and adjust upward or downward, depending on the relationship of the weighted average of all municipalities within a given COAH Region to the statewide average. Adding back other costs and then subtracting the affordable housing price gets us **the new required subsidy per unit by COAH Region,** which as the table below demonstrates, is anywhere from 9 percent lower to 7 percent higher than the original figures (see Figure 4.3). We recommend that COAH adopt these figures in its proposed regulatory language to account for these construction costs differentials across geography.

Figure 4.3 – Adjusted Affordable Housing Subsidy Amounts

COAH Region	*1st Quartile*	*Land Costs*	*% of NJ Avg*	*Constr Costs*	*Soft Costs*	*Total Costs*	*AH Price*	*Req Subsidy*	*% of Previous*
1	$330,000	$82,500	107%	$165,798	$19,035	$267,332	$87,065	$180,267	106%
2	$255,000	$63,750	105%	$163,206	$17,535	$244,491	$95,808	$148,683	106%
3	$381,966	$95,492	91%	$141,258	$20,074	$256,824	$110,921	$145,903	91%
4	$343,725	$85,931	91%	$140,697	$19,309	$245,937	$93,710	$152,227	91%
5	$257,790	$64,448	98%	$152,835	$17,590	$234,873	$79,784	$155,089	98%
6	$264,690	$66,173	108%	$167,262	$17,728	$251,163	$68,304	$182,859	107%
Blended	**$305,529**	**$76,382**	**100%**	**$155,433**	**$18,545**	**$250,360**	**$89,265**	**$161,095**	**100%**

Source: Econsult Corporation (2007)

APPENDIX A – PRICE/COST INDEX METHODOLOGY AND RESULTS

The supply of housing in a municipality, whether affordable or market rate, is a function of the risk-adjusted returns relative to other possible investments. In this Appendix, we seek to **categorize municipalities according to their relative attractiveness to developers,** based on the relationship between house prices and construction costs. In this way, we can attempt to quantify the variations across COAH Regions related to affordable housing provision.

Perhaps the most significant indicator of the strength of a municipality's residential real estate market is **the relationship between market prices and construction costs.** In the simplest terms, if housing prices exceed construction costs, then new housing units might be produced, while if prices are less than costs, definitely no new supply will be built.[33]

If we can estimate construction costs by municipality, we can compare each to the local housing prices. Therefore, we look at costs and prices per SF of constant quality units.

1) Look at market prices for all houses instead of new ones

2) Normalize house prices by median number of bedrooms based on census info

3) Use the free apartment construction index from RS Means for an x bedroom apartment[34]

On the price side, we divide out by number of rooms, which is available via US Census data; and on the cost side, we look up the construction cost for apartments. This is a relatively approximate method, in that it does not compare like products across municipalities, since age and size of housing stock varies from municipality to municipality. Nevertheless, this approach does get at degrees of unattractiveness reasonably well, by giving an indication of how far from construction costs the average market price is. These results can be determined at a municipal, county, or COAH Region level (see Figure A.1).

Figure A.1 – Price/Cost Index Results, by COAH Region

COAH Region	County Price/Cost Ratio-Low Const. Cost	Price/Cost Ratio-Medium Const. Cost
1	2.53	2.26
2	2.50	2.25
3	1.91	1.72
4	1.91	1.72
5	0.90	0.81
6	1.61	1.45

Source: Econsult Corporation (2007)

There are other, more complex ways to approach this comparison, but at this stage we are merely interested in an easily computable index that uses free and public data. In fact, this simple index has the nice benefit of being easy to understand, in that any number below 1.00 signifies that market prices are below construction costs, and any number above 1.00 signifies that market prices are above construction costs.[35]

APPENDIX B – PROPOSED PAYMENT IN LIEU OF PROVISION REGULATIONS (COAH)

The proposed rule at N.J.A.C. 5:94-4.4 deletes the option for payments in lieu to be negotiated between the municipality and the developer and instead establishes a standard guideline for establishing the amount of payments in lieu of constructing affordable units on site to better assist municipalities and ensure that the amount is determined consistently throughout the State. The payment in lieu amount is to be based upon one of three methods, or a combination thereof. A more detailed description of the calculations follows.

For a payment in lieu amount based on new construction, residential land value was established by analyzing over 17,000 Home Owner Warranty policies issued during the first nine months of 2006. Land values were based on 25 percent of the first quartile of all new homes throughout the state grouped by COAH Region.

To establish development costs, the Council assumed that a development with affordable units would commonly take place in a multi-family dwelling without an elevator. Additional assumptions regarding development hard costs, related soft costs, and the developer's fee were drawn from the cost criteria included in a current rulemaking proposal by the New Jersey Department of Community Affairs, which proposes revisions to its rules at N.J.A.C. 5.43-1 et seq. regarding the Neighborhood Preservation Balanced Housing Program. To arrive at unit costs, a typical unit was calculated to include 920 square feet based on the bedroom distribution criteria outlined in the HMFA's rule at N.J.A.C. 5:80-26.3, commonly referred to as the Uniform Housing Affordability Controls.

Finally, development costs have been offset by the estimated proceeds from the sale of the affordable unit or the capitalization of rental income, resulting in the required subsidy amount. The subsidy amount would then be divided by eight to determine a per market-rate residential payment in lieu or by 25 to determine a per job non-residential payment in lieu. For example, in Region 1 the subsidy amount was calculated to be $169,913, resulting in a per market-rate residential payment in lieu of $21,239 and a per job non-residential payment in lieu of $6,797.

The Council will review the formula periodically, propose adjustments to the payment schedule and publish the results annually to reflect changing conditions in the real estate market and construction costs or to reflect updated cost containment parameters associated with the Neighborhood Preservation Balanced Housing Program.

The second proposed calculation method is based on municipalities utilizing the "Buy Down" program described in N.J.A.C. 5:94-4.10. Municipalities shall base payments in lieu of constructing affordable units on the differential between market value housing and affordable housing based on market rate housing that represents the first quartile of existing home sales for the region and the affordable prices, and including a consideration for rehabilitation necessary to comply with code requirements.

Alternatively, municipalities may propose a more detailed method of determining payments in lieu provided the method is approved by the Council and the method provides a clear and demonstrable relationship between the net cost of providing affordable housing and the fee being established. In so doing, municipalities may blend costs associated with varying affordable housing delivery mechanisms to establish one standardized fee.

5:94-4.4 Municipal zoning options

(a)-(b) (No change.)

(c) The amount of payments in lieu of constructing affordable units on site shall be [negotiated between the municipality and the developer] **established by ordinance and shall be based on an analysis of the net cost of subsidizing affordable housing within the municipality, which utilizes one or more of the techniques in 1. - 3. below and which may be combined to establish a blended rate based on the municipality's proposed use of funds. Anticipated proceeds from the sale or rental of these units shall be calculated to conform to the income stratification and bedroom distribution criteria outlined in N.J.A.C. 5:80-26.1 et seq. Payment in lieu amounts shall be re-established periodically but not less frequently than at the third, fifth and eighth year plan reviews established pursuant to N.J.A.C. 5:95-9.**

1. Amounts established for payments in lieu of constructing affordable units that are based on constructing new residential units pursuant to N.J.A.C. 5:94-4.6 shall be based on the sum of development hard costs, related soft costs and developer's fees pursuant to the cost containment provisions of N.J.A.C. 5:43-1 et seq. and land costs equal to 25 percent of the first quartile of new construction costs as reported to the Homeowner Warranty Program and totaled by Region. Average construction costs and offsetting proceeds anticipated from the sale of the unit or the capitalization of rental income shall be published annually by the Council. The initial determination of these costs is as follows, which is valid until [one year from the effective date of these rules]:

COAH Region	1st Quartile	Land Costs	Construction Costs	Total Cost	Affordable Price	Subsidy Required
1	$330,000	$82,500	$155,443	$256,978	$87,065	$169,913
2	$255,000	$63,750	$155,443	$236,728	$95,808	$140,920
3	$381,966	$95,492	$155,443	$271,009	$110,921	$160,088
4	$343,725	$85,931	$155,443	$260,284	$93,710	$166,974
5	$257,790	$64,448	$155,443	$237,482	$79,784	$157,698
6	$264,690	$66,173	$155,443	$239,345	$68,304	$171,041

2. Amounts established for payments in lieu of constructing affordable units that are based on buying down or subsidizing rents pursuant to N.J.A.C. 5:94-4.10 or N.J.A.C. 5:94-4.11 shall be based on an analysis of the first quartile of market value or market-rate rent of housing currently available for sale or rent within the municipality with the payment in lieu amount representing the subsidy required to make the units affordable after deducting anticipated proceeds from the sale or rental of these units and giving consideration to any rehabilitation expenses necessary to comply with N.J.A.C. 5:94-4.10(a)3.

3. **Municipal ordinances establishing payments in lieu of constructing affordable housing may utilize alternative valuation methods subject to approval from the Council. All amounts established for payments in lieu of constructing affordable units shall be directly related to net costs associated with the proposed mechanisms for delivering affordable housing as detailed in a Spending Plan that has been approved by COAH pursuant to N.J.A.C. 5:94-6.5.**

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[1] An extensive literature and best practices review was conducted by Applegate and Thorne-Thomsen to inventory these various mechanisms, and to highlight their use and effectiveness around the country.

[2] The Appellate Division of the Superior Court of New Jersey in the matter of the adoption of N.J.A.C. 5:94 and 5:95 by COAH (January 25, 2007), p. 103.

[3] The extent of filtering and its capacity to address low-moderate income needs was also questioned by the Court, and is the subject of Task 2 of this overall effort.

[4] Montgomery County, Maryland website.

[5] City of Boston website.

[6] Note that with reduced value associated with building housing, more land will be used for other purposes, and less land will be used for housing, all else equal.

[7] To the extent that land prices drop below this level, then some of the landowners' losses are due to reduced housing production. This is because the amount of economically developable land will be reduced as its return for that use is reduced.

[8] This discussion deals with a market in which a restriction (i.e. the affordable housing requirement) is imposed, and incentives are then offered. The first action, imposing the affordable housing requirement, lowers demand for development, and hence both prices and land consumed for residential development will tend to fall. The second action, making offsetting incentives available, reverses this effect, mitigating some or all of the effects of lower demand. This is true whether one tends to believe the original price or the post-requirement price is the more "efficient" price.

[9] Capitalization occurs in an asset whenever there is a change in a characteristic or attribute related to the asset. These can be positive or negative changes; if the former, the asset becomes more attractive, increasing demand for the asset, which in turn increases its market price. A similar story, with effects in the opposite direction, occurs if a negative change or characteristic is introduced.

[10] See *Building Industry Association: Philadelphia Tax Abatement Analysis*, Econsult Corporation (September 2006), in which it was proven that the ten-year property tax abatement in Philadelphia has induced a significant proportion of the new construction that took place subsequent to the existence of the abatement.

[11] This may be even more likely in states like New Jersey, where demand for open space is fairly strong, and the "border" between residential use and non-development is very responsive to prices.

[12] COAH's Second Round Rules, for example, set six units per acre as a presumptive density, which meant that municipalities that offered that incentive were presumed to have created a realistic opportunity for the construction of affordable housing within the municipality.

[13] This assumes, as discussed previously, that the supply of developable land is not totally fixed. In other words, if there is no ability to add or subtract to the amount of developable land, then it is alternatively possible that the introduction of an affordable housing requirement will lead to a reduction in land prices, such that from the developer's standpoint, there is no difference in profitability (i.e. the added cost of having to build affordable units is completely offset by the lower land acquisition cost).

[14] Note that while large lot size zoning may reduce the value of land per acre, it also may result in higher priced housing, as wealthier owners put larger, more luxurious housing on the land.

[15] Metro website.

[16] Note that as discussed previously, by making the land more desirable for development, the price of land will rise, offsetting some of the positive incentive for development.

[17] Note that by structuring fiscal incentives such that they are only available with the construction affordable housing, it is more likely that the incentive will result in additional housing production rather than simply increases in land prices.

[18] Bay Area Homeless Alliance website.

[19] City of Madison website.

[20] Portland Development Commission website.

[21] Key initial assumptions include the following:

- Houses will be 2000 square feet in size.
- Construction costs will be $150 per square foot, inclusive of both hard and soft costs.
- The construction will take 24 months, with the first houses completed and ready for sale halfway through the construction period.
- The houses will sell out over a 12-month period, and thus all houses will have been sold by the completion of the construction period.
- Seventy percent of the project cost will be raised via debt at a 7 percent interest rate, and the other 30 percent is in the form of equity.
- The interest on the debt will be capitalized during the construction period.
- Loan proceeds are drawn down as needed and paid back as houses are sold.
- Inflation will be three percent.

- A development fee of 1 percent will be assessed, but is waived if affordable units are built.

[22] Controlling for the income level of residents and the market price of for-sale units, land cost as a proportion of total project costs is a ratio that tends to hold relatively constant across high-density and low-density locations. The higher the density of a site, the more profitable the development potential for that site, and therefore the higher the land price; but this is offset by the fact that higher-density sites require less land per unit. The same holds true for lower-density sites: land prices are lower, but more land needs to be purchased per unit.

Importantly, land cost as a proportion of total project costs is not relatively constant as one considers higher-income and higher-priced sites, or conversely lower-income and lower-priced sites. As we discuss later in this section, it is possible for land costs to deviate significantly as a proportion of total project costs, and when they do, such sites require fundamentally different density bonus levels to offset the cost of building affordable units.

[23] Infrastructure costs are relatively constant as a proportion of total project costs, although it is likely that they are more prone than land costs to move up or down as a proportion of total project costs when comparing high-density versus low-density sites. It is also hard to generalize if infrastructure costs are truly unchanged as units are added, as it is possible that costs could increase if additional systems need to be installed on a per-unit basis, or alternatively that costs could actually decrease if higher densities necessitate less linear feet of roads and thus less road material. Nevertheless, to the extent that this is simply an illustrative pro-forma, we will simply assume that this proportion is fixed for the purposes of this exercise.

[24] To size this project to a typical New Jersey development, we assume the development site is 4 million square feet, or about 92 acres; thus, the initial density for the development is about 1.1 units per acre. Additional assumptions for costs associated with acquisition, demolition, and infrastructure yield acquisition and demolition costs of about $8 million and infrastructure costs of about $2 million out of a $40 million project cost.

[25] I.e. the developer would be indifferent in choosing between the estimated cash flows from this proposed development and those from an alternate investment of equal risk that earned approximately 15 percent annually, as determined by factoring in upfront revenues and expenses, as well as 30 years of ongoing revenues and expenses, properly discounted. In other words, we set house prices and/or rental rates such that the internal rate of return will be approximately 15 percent. This return is inclusive of developer fees, and thus represents a reasonable level of profitability. Note that if this level is set at 20 or even 25 percent, the ensuing results do not materially change.

[26] Bear in mind that, in addition to the introduction of the affordable housing requirement, a second difference in the second sheet is the removal of development fees.

[27] A 20 percent density bonus is modeled here because a 20 percent set-aside ratio is assumed, and thus this level of incentive represents a "one for one" density bonus: one additional unit for every initially required affordable unit. For the purposes of this illustrative scenario, we assume that all additional units are market units; thus, a 20 percent density bonus defined in this way would mean that the project would go from 100 market units (Step 1) to 80 market units and 20 affordable units (Step 2) to 100 market units and 20 affordable units (Step 3).

[28] Alternatively, one could compare a municipality with itself: the municipality at one point in time, versus a different point in time after it had experienced material changes in density and/or income levels.

[29] See Appendix A for a description of a price/cost index methodology and for results of these calculations at the COAH Region level.

[30] These estimates make the following assumptions:

- Construction costs are based on estimates obtained from RS Means' free online cost estimator.
- Project costs are assumed to be 50 percent of market value, while assessed value is equal to market value in New Jersey.
- Employment density uses figures determined by building type for employees per 1000 gross square feet from other recent work performed for COAH by Econsult Corporation.
- We assume a revised ratio of one affordable unit required for every 16 jobs created.
- Our subsidy per affordable unit is calculated as follows: 2000 square feet per unit, times $150 construction cost per square foot, minus 40% cost savings by halving the size of the affordable units, plus+ land costs at 20 percent of total project costs, minus $89,265 (affordable price for 55 percent of median income).

[31] See Appendix B for the text of the proposed Payment in Lieu regulations.

[32] We use the same data as described and depicted in Appendix A.

[33] If we consider land value as a residual, then housing prices would have to exceed construction costs by at least the value of the next best use (opportunity cost) of the land. Note that one "use" of the land is to hold it speculatively in anticipation of higher future prices.

[34] RS Means gives a low, medium, and high estimates; we have chosen to display separate results for low and medium.

[35] We note that communities with low priced homes and no new homes will fall at the bottom, and communities with higher priced old homes and significant numbers of new homes will fall near the top. We are only interested in the ordering. We group communities as high, median and low prices relative to construction costs. This provides an indication of which communities are unlikely to see development—especially with added burdens.

We also note that problems arise when one tries to compare construction costs (new houses) with sales prices (varying degrees of house age, with some municipalities having generally older stock than others). Also, we are not able to compare on a per SF basis, because that data is not always available. On the cost side, RS Means' online calculator is not free for residential construction aside from apartments.

Finally, there is a danger in putting too much weight into these specific numbers, to the extent that they represent data from one point in time, a time that happens to be experiencing greater than normal volatility on both the price and cost side: prices have soared and are now declining, while construction costs have increased faster than historical growth rates.

Despite these shortcomings, this simple index achieves what we are seeking, namely a reasonable approximation of the relative degree of attractiveness to build, from municipality to municipality.

NEW JERSEY COUNCIL ON AFFORDABLE HOUSING
TASK 4 – COUNTING JOBS AT THE LOCAL LEVEL

Final Report Submitted To:
New Jersey Council on Affordable Housing
101 South Broad Street
Trenton NJ 08625

Final Report Submitted By:
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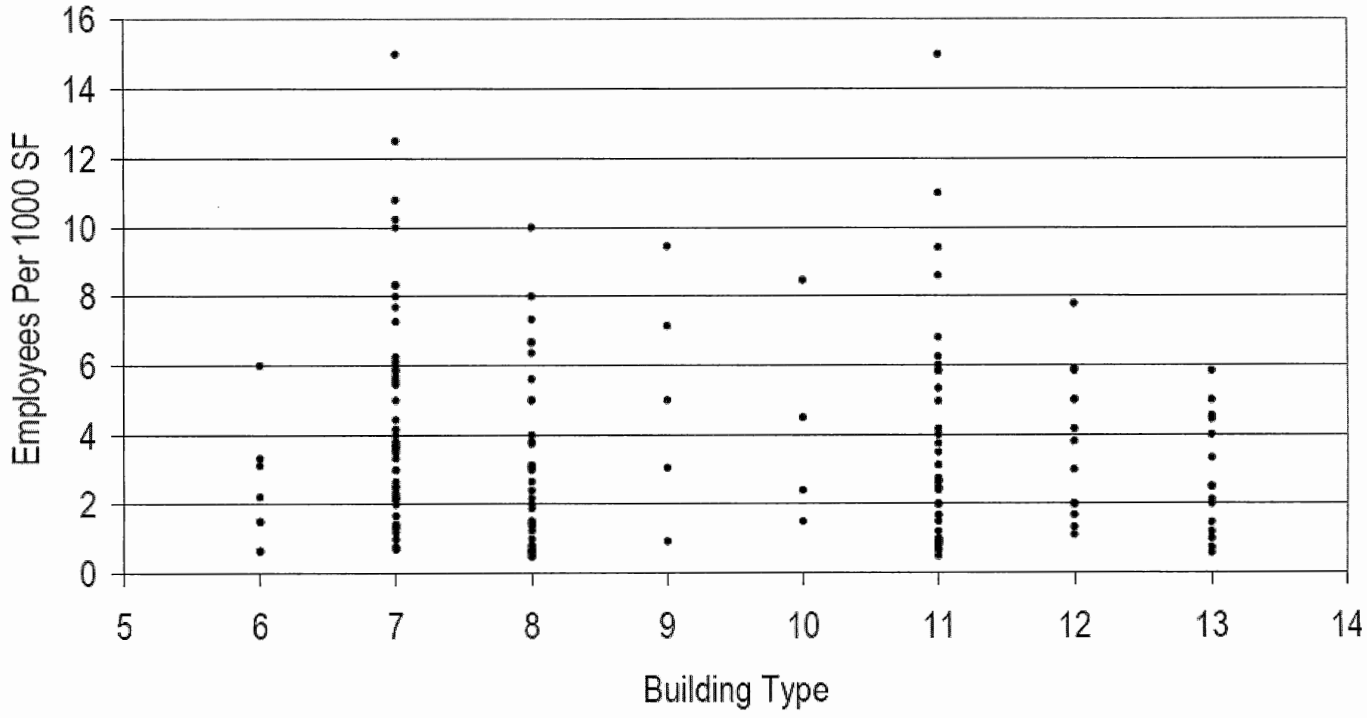
FINAL – December 11, 2007

Distribution of Employees Per 1000 SF, Selected Building Types
(6 = Theater, 7 = Restaurant, 8 = Library, 9 = Arena, 10 = Stadium, 11 = K-12, 12 = Hospital, 13 = Hotel)



Source: the reed group(2007)

Survey Responses, Selected Building Types and Industries

	S3A Location # employees	S3B Total FT employees	S3C Total PT employees	Q3 % Office space	Empl / 1000SF
Arenas	17	2	15	10	9.44
	40	40		90	0.20
	1	0	1	10	5.00
	2	2		99	0.16
	6	6		5	0.03
	1	1		0	0.93
	1437	728	709	30	3.05
	25	4	21	10	7.14
Stadiums	11	11		100	8.46
	72	65	7	5	2.40
	150	150		25	1.50
	8	6	2	5	26.67
	400	350	50	30	0.29
	9	9	0	75	4.50
Higher Education	1437	728	709	30	3.05
	400	350	50	30	0.29
	160	68	92	20	2.67
	1	1	0	100	1.43
	350	200	150	20	0.41
	990	890	100	7	0.80
	15	12	3	10	0.30
	2	1	1	20	1.67
	57	54	3	40	1.88
	675	317	358	14	1.52

Source: the reed group (2007)