

NEW JERSEY AFFORDABLE HOUSING NEED AND OBLIGATIONS

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REPORT SUBMITTED BY:

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1.0 SUMMARY OF REPORT

SUMMARY

This report develops a **complete methodology yielding a calculation of regional affordable housing need and affordable housing obligations for each municipality in New Jersey**. This methodology is developed in accordance with relevant Court decisions, precedents and statutes, and is similar to the Round 1 and Round 2 (Prior Round) methodologies for the calculation of affordable housing, as specified by the New Jersey Supreme Court's March 2015 decision commonly referred to as Mount Laurel IV and as further clarified in the Supreme Court's January 2017 decision commonly referred to as Mount Laurel V.

This summary section includes a brief overview of the relevant background and a brief guide to locating report and Appendix tables featuring statewide and municipal-level results. The sections that follow explain the methodology employed for each component of the calculation, detail the relevant precedents and statistical considerations used in its development, and present results at the regional and state level. The report concludes with Appendices featuring detailed tables specifying results by municipality.

1.1 BACKGROUND

In the landmark *Mount Laurel* decisions (commonly referred to as Mount Laurel I and Mount Laurel II), the New Jersey Supreme Court required that each municipality make provisions for its “fair share” of affordable housing. The New Jersey Legislature enacted the Fair Housing Act (FHA) which envisioned a “comprehensive planning and implementation response” to this constitutional obligation, including “the establishment of reasonable fair share housing guidelines and standards.”¹ The FHA created the Council on Affordable Housing (COAH) to administer the implementation of this response.

“Affordable” housing is defined in the FHA to mean housing that is affordable to a household with an income that is 80 percent or less of the median income for households of their size within their region.² Households that earn less than 80 percent of the regional median household income by household size are referred to as “Low and Moderate Income” (“LMI”) households.

¹ N.J.S.A. 52:28D-302 (c) and (d)

² N.J.S.A. 52:28D-304 (c), (d) and (m)).

New Jersey has taken numerous steps over several decades to implement the *Mount Laurel* decisions with respect to the provision of affordable housing for LMI households. Relevant milestones include:

- Fair Housing Act (FHA): The Fair Housing Act of 1985 is the legislative embodiment of the Mt. Laurel decision. The FHA provided the basis for the establishment of the Council on Affordable Housing (COAH) to oversee the fair share housing process that it establishes.
- Round 1: COAH calculated the affordable housing obligation for all municipalities in the state. Round 1 went into effect in 1987 and covered the period 1987- 1993.
- Round 2: At the close of Round 1, COAH again calculated the affordable housing obligation for all municipalities in the state. Round 2 went into effect in 1994 and covered the period 1993-1999 in addition to the prior cycle from 1987-1993. The Round 2 methodology was similar to, but not identical to, the Round 1 methodology.
- Round 3 (2004): COAH again calculated the affordable housing obligation for each municipality in 2004, using a different methodology than Round 1 or Round 2. In 2007, the Appellate Division invalidated this new methodology, commonly referred to as a “growth share” approach, and instructed COAH to revise its methodology to address its concerns with the growth share approach.
- Round 3 (2008): COAH attempted to remedy the deficiencies of the 2004 method and again calculated affordable housing obligations, using a modified growth share approach. In 2010, the Appellate Division again invalidated some of the various regulations COAH adopted in 2008 including the revised “growth share” methodology.
- Supreme Court (2013): In 2013, the New Jersey Supreme Court considered various challenges to the Appellate Division’s 2010 decision, and invalidated the Round 3 regulations COAH had adopted in 2008. In its decision, the Supreme Court affirmed the Appellate Division’s decision to require COAH to develop a methodology “similar to” the methodologies that COAH adopted in Round 1 and Round 2, and affirmed the Appellate Division’s direction to COAH to adopt new regulations in five months.
- Un-adopted Round 3 (2014): After various delays, COAH prepared and introduced Round 3 regulations for a third time, but failed to adopt them. These proposed regulations established a new affordable housing obligation for each municipality based on, but not identical to, the methodologies used in Round 1 and Round 2. The proposed regulations were prepared for COAH by Dr. Robert Burchell, the same expert that prepared the adopted Round 1 and Round 2 methodologies.

- Supreme Court (2015 - “Mount Laurel IV”):³ In March 2015, following COAH’s failure to adopt a third iteration of Round 3 regulations within the time that the Supreme Court allowed, the Court declared COAH moribund, and ordered the courts to resume oversight of affordable housing. The Supreme Court provided guidance to trial judges on how to determine fair share obligations. The Court ruling, among other things, again affirmed that the methodology for the determination of affordable housing obligations should be similar to the prior rounds. However, the decision did not specifically address the treatment within third round obligations of the “gap period” between the end of Round 2 in 1999 and present day. This decision is referred to throughout this report as “Mount Laurel IV.”
- Supreme Court (2017 - “Mount Laurel V”):⁴ In January 2017, the New Jersey Supreme Court affirmed with modifications the Appellate Court’s 2016 decision with respect to the treatment of the gap period in determining Round 3 municipal housing obligations. The Court ruling, among other things, created a new component of Present Need to capture households formed during the gap period that still “need affordable housing today” and set forth guidance on how this new category should be quantified. It also reiterated the flexibility that it had provided the trial courts in assessing affordable housing need in Mount Laurel IV, including the use of Round 3 regulations that had not been explicitly invalidated. This decision is referred to throughout this report as “Mount Laurel V.”

Since the enactment of the New Jersey Fair Housing Act in 1985, COAH has been responsible for the implementation and assignment of these affordable housing responsibilities. However, for Round 3, COAH has been unable to adopt a methodology for the calculation and assignment of housing obligations that could withstand legal challenge. The absence of precise fair share numbers approved by the courts has frustrated the ability of municipalities to adopt appropriate housing elements and fair share plans and thereby comply with the directive of the Supreme Court to update their housing elements and fair share plans.

³ In re Adoption of N.J.A.C. 5:96 & 5:97 ex rel. New Jersey Council on Affordable Housing, 221 N.J. 1 (2015) (“Mount Laurel IV”)

⁴ In re Declaratory Judgment Actions Filed By Various Municipalities, 227 N.J. 508 (2017) (“Mount Laurel V”)

1.2 PURPOSE AND SCOPE

The purpose of this report is to set forth and apply a methodology for calculating affordable housing need for each municipality in New Jersey as accurately as possible consistent with the guidance and directives of the New Jersey Supreme Court and the Fair Housing Act. Courts, municipalities and other entities can then use these methods and calculations to inform their decisions about the obligation for each municipality.⁵

Calculations are based on the most appropriate data as of the time the report was produced. The calculations presented within broadly represent an update of the methodology set forth in ESI's May 2016 *Need and Obligations* report and April 2017 *Gap Present Need* report, incorporating new data and making minor methodology adjustments as warranted. We reserve the right to adjust the report if relevant new or updated information becomes available, or if additional court guidance is issued.

All calculations are based on data sets available uniformly on a statewide basis. At the municipal level, it is possible that there may be more accurate data than that available on a statewide level. Adjustments on the municipal level based on more accurate or recent data are outside the scope of this report, but may be addressed on a case by case basis through the municipal housing plan compliance process. In addition, this report does not quantify housing activity, credits or adjustments obtained by municipalities with respect to their assigned Prior Round (1987-1999) obligations. Nothing in this report should be construed to limit appropriate recognition of this activity, credits and adjustments within the municipal compliance process.

⁵ The Municipal Joint Defense Group engaged Econsult Solutions to prepare the original versions of this report. Econsult Solutions did not have a list of the participating municipalities at the time those reports were issued.

1.3 ORGANIZATION OF REPORT

Results for each municipality yielded by this methodology are included in the Appendices to this report. Summary obligations are shown for all municipalities in Appendix E, while inputs by category are shown for Region 1 only in Appendices A-D in the interest of clarity. The supporting workbook provides input results for all municipalities statewide.

Municipal-level results can be found in the following locations:

- Prospective Need by region and statewide: Section 4
- Traditional Present Need by region and statewide: Section 5
 - Traditional Present Need by municipality: Appendix A
- Gap Present Need by region and statewide: Section 6
- Municipal Allocation of Regional Need: Section 7
 - Prospective Need and Gap Present Need by municipality: Appendix B
- Secondary Source Adjustments by region and statewide: Section 8
 - Secondary Source Adjustments by municipality: Appendix C
- Allocation Cap Adjustments by region and statewide: Section 9
 - Allocation Cap Adjustments by municipality: Appendix D
- Initial Summary Obligations by region and statewide: Section 9
 - Initial Summary Obligations by municipality: Appendix E⁶
- Calculation for Park Ridge Borough: Appendix F

⁶ Note that the initial summary obligations include the full unadjusted Prior Round (1987-1999) obligations for each municipality as initially assigned by COAH in 1993. Municipalities can then reduce that initial obligation through the demonstration of applicable adjustments, housing activity and credits on a case by case basis in their efforts to secure approvals of their affordable housing plans.

2.0 METHODOLOGY BASIS AND PRINCIPLES

SUMMARY

Section 2 sets forth the basis and principles used to produce the comprehensive fair share methodology detailed in this report.

The section is organized as follows:

- First, we review court directives and guidance on the appropriate methodology for calculating fair share obligations;
- From this guidance we set forth the basic principles utilized to produce and implement the methodology;
- Finally, we lay out the specific categories of affordable housing need included in the methodology for the current cycle.

The section concludes with an overview of the complete methodology and calculations that are developed and presented in the remainder of the report.

2.1 COURT GUIDANCE ON FAIR SHARE METHODOLOGY

The Supreme Court's directives on fair share methodology are addressed within a series of decisions going back to the invalidation of COAH's second "growth share" methodology by the Appellate Court in 2010. In rejecting COAH's methodology, the court ordered COAH to adopt third round rules that "incorporate a methodology similar to the methodology set forth in the first and second round rules," and to do so "on the basis of the most up-to-date available data":

This regulatory vacuum must be filled. The most reasonable means of achieving this objective is to require COAH to adopt third round rules that **incorporate a methodology similar to the methodology set forth in the first and second round rules**, which were approved by the courts in most respects...

Accordingly, we remand to COAH to adopt new third round rules that use a methodology for determining prospective need **similar to the methodologies used in the first and second rounds**. This determination should be made **on the basis of the most up-to-date available data**.

[In re: Adoption of N.J.A.C. 5:96 & 5:97, 416 N.J. Super. 462, 511 (App. Div. 2010), bold added]

In 2013, the Supreme Court upheld this ruling, and explicitly “endorse(d) the remedy imposed by the Appellate Division” (*i.e.* that COAH adopt obligations based on a “similar to” methodology):

Accordingly, we endorse the Appellate Division’s quick deadline for reimposing third-round obligations **based on the previous rounds’ method** of allocating fare share obligations among municipalities....**We endorse the remedy imposed by the Appellate Division.**

[In re: Adoption of N.J.A.C. 5:96 & 5:97, (215 N.J. 578, 620 (2013) (bold added)]

Here the Supreme Court utilizes the phrase “based on” the previous rounds’ method, rather than the phrase “similar to” utilized by the Appellate Division, but drew no distinction between the “based on” and “similar to” standard, as it explicitly endorses the Appellate Division’s remedy requiring COAH to use a methodology “similar to” prior rounds.

The Supreme Court’s 2015 Mount Laurel IV decision, which declared COAH moribund, affirms and does not modify this directive from its 2013 decision:

First, **as we said in In re Adoption of N.J.A.C. 5:96 & 5:97**, *supra*, previous methodologies employed in the First and Second Round Rules should be used to establish present and prospective statewide and regional affordable housing need. 215 N.J. at 620. The parties should demonstrate to the court computations of housing need and municipal obligations **based on those methodologies.**

[Mount Laurel IV, at 30 (bold added)]

The Supreme Court’s guidance on methodology principles set forth in its most recent ruling in Mount Laurel V plainly affirms that it intended in Mount Laurel IV to give trial judges considerable discretion in their implementation of the fair share process. The decision uses the term “considerable flexibility” in describing the discretion of the trial courts with respect to both “assessing” and “allocating” need (as well as in evaluating municipal compliance plans):

Although **we gave the trial courts considerable flexibility in assessing needs, allocating it by region and municipality**, and in evaluating municipal plans for compliance, we did identify some parameters for the courts’ actions.

[Mount Laurel V, at 525 (bold added)]

The Mount Laurel V decision is also clear that the Supreme Court does not view techniques from the First and Second Round regulations as the sole basis for the updated methodology. The Court noted that while it “included reference” to Round 1 and Round 2 in Mount Laurel IV, it similarly referenced aspects of the Third Round rules that have not been invalidated, and did so “without limitation to the discretion being afforded to the trial courts”:

The prior methodologies that the Court identified **included reference to the First and Second Round methodologies, ibid.** which avoided an assessment of growth share. See In re Adoption of N.J.A.C. 5:96 & 5:97, supra, 215 N.J. at 600. **The Court also referenced aspects or portions of the failed Third Round rules that had not been invalidated by the courts** in prior reviews. Mount Laurel IV, supra 221 N.J. at 30-33. Examples were listed for illumination **but without limitation to the discretion being afforded to the trial courts.**

[Mount Laurel V, at 525 (bold added)]

Taken together, the Court's guidance on Round 3 methodology plainly does not mandate a methodology identical to the one adopted by COAH in Round 2. The court's directive to utilize a method "similar to" or "based on" the First and Second Round methodologies clearly indicates that these methodologies serve as a framework and not a straitjacket. This latitude is made explicit in the "discretion" and "flexibility" that the Supreme Court afforded trial court judges in "assessing" and "allocating" need, and in the references to the consideration of portions of the failed Round 3 methodologies that had not been invalidated. Collectively, these decisions affirm the ability of trial courts to adopt methods that improve upon the approaches utilized in the First and Second rounds, in addition to incorporating the most up to date and appropriate data.

In addition to this broad guidance, the Courts have in some instances provided additional guidance on specific elements of the methodology. Most notable, the Mount Laurel V decision provides guidance on the calculation of need for the Gap Present Need category, while the Appellate Division's 2007 decision on COAH's 2004 regulations provided direction as to the approach the court would find acceptable to the calculation of filtering of affordable housing. Relevant court guidance on these topics is discussed within this report in the context of those calculations (Section 6 and Section 8.3, respectively).

2.2 METHODOLOGY PRINCIPLES

With the court's guidance described above as the basis, we develop our methodology from the following basic principles:

1. **The methodology is based on or similar to the methods in the prior rounds, and consistent with applicable legislation and court guidance.**

Our methodology pays deference to the methods employed in the First Round and the Second Round, making adjustments only when necessary, with the purpose of producing reliable and accurate numbers. Our method does not develop a new methodology "from scratch," but rather works within the existing framework embodied in COAH's prior methodologies. This approach is consistent with the Supreme Court's directive, as described in Section 2.1.

It is neither possible nor desirable to follow the prior round methodology precisely. First, there is no single prior round methodology, since many methods differ between Round 1 and Round 2, and the precise data sources utilized in those rounds are not always available. In addition, we have made adjustments in response to errors in the prior round methodologies (including where techniques in prior methodologies conflict with the Fair Housing Act), changes in data availability, and changes in laws, legal guidance or circumstances. We have also considered and in some cases incorporated methods utilized by COAH in the prior iterations of Round 3 that have not been invalidated. This process necessarily calls on modelers to make appropriate judgements in designing an accurate model with a basis in the prior round methods. Thus, the universe of steps is much larger than a “mechanical” reproduction of the second round. All adjustments to the Prior Round methodologies are supported in detail in this report, and in our various response reports and testimony.

As described in Section 6, the unique circumstances of the gap period necessitate a unique methodological approach to quantify this redefined category of need. Our Gap Present Need calculation incorporates existing principles from the fair share methodology in service of implementing the guidance set forth in Mount Laurel V.

2. The methodology seeks to quantify affordable housing need as accurately as possible within this framework.

Our goal from the outset has been and remains to quantify the affordable housing need as accurately as possible, consistent with Prior Round methodologies, the FHA, and the guidance provided by the courts. This goal of producing the best possible calculations means that we find it sensible to correct meaningful methodological errors, and to incorporate more accurate data sources. The perpetuation of mathematical and conceptual errors frustrates an accurate quantification of the affordable housing need and obligation.

In some instances, new data sources have become available since the development of the Round 2 method more than two decades ago that allow for a more precise quantification consistent with the original intent of the prior round method. Where these new data sources allow for improvements in the accuracy of the calculation, they are incorporated into the method.

3. The methodology utilizes the most recent and appropriate data that is available on a uniform statewide basis.

In accordance with the Mount Laurel directives, we have utilized the most up to date available data source appropriate for each aspect of the calculation, and have updated data sources within this iteration of our methodology accordingly. The data utilized in our calculations are derived from publicly available sources, and our supporting workbook links to the original sources for this data. Government data sources, notably those from the U.S. Census Bureau and the State of

New Jersey, are relied upon heavily. We utilize only data that are available on a uniform statewide basis.

As described above, many new data sources have become available in the two decades since the prior round method was developed. Most notable is the American Community Survey (ACS), which provides robust data on an annual basis that was in many instances previously available only through the decennial Census. For each aspect of the calculation, we have carefully evaluated and selected the most appropriate data source in service of developing the most accurate possible calculation, consistent with our experience and approach to economic and statistical modeling.

4. The methodology is transparent and reliable.

Finally, our extensive documentation of our methodology and the underlying data and calculations makes it both transparent and reliable. The calculation of affordable housing obligations is constrained by the Fair Housing Act, court decisions, prior methods, data availability, and other factors, so it is complex and lengthy. We lay out the method in significant detail in this report and also provide a supporting electronic workbook. This workbook supplies the data sources, calculations and programs needed to recreate our method. Interested parties have therefore had the opportunity to review the data and calculations.

Consistent with the guidance of Judge Serpentelli in AMG Realty Co. vs. Warren Twp., our method uses “reliable data, as few assumptions as possible, and an internal system of checks and balances”.⁷ As noted above, we have carefully selected the most appropriate data source for each calculation in the interest of reliability and accuracy. Our methodology makes as few assumptions as possible, and is explicit about the assumptions that are made. We also combine and average multiple data inputs where appropriate to reduce the likelihood of aberrant results.

Finally, we view the exchange of expert reports that has been undertaken over the course of nearly two years as an additional set of checks and balances that should, in theory, promote good analyses and discourage bad analyses. We have demonstrated a willingness to consider and adopt reasonable critiques to our model presented in that process, such that our updated methodology has been improved by this process.

⁷ 207 N.J. Super. 388 (Law Div. 1984) at 453.

2.3 CATEGORIES OF AFFORDABLE HOUSING OBLIGATIONS

The Supreme Court's Mount Laurel V decision interpreted the Appellate Division decision on the gap period as creating a new category of Present Need and affirmed that decision on this basis. The decision provides further guidance on the gap period and the relevant time periods and definitions for the current cycle of affordable housing obligations. Those categories are defined and calculated throughout the sections of this report as follows:

- *Prospective Need* projects future housing need over the period from July 1, 2015 to June 30, 2025. The Fair Housing Act defines Prospective Need as a projection based on development and growth which is “reasonably likely to occur” in a region or municipality.⁸ The Mount Laurel V decision affirms that Prospective Need is “forward-looking” and “predictive,” and therefore cannot be applied retroactively to the gap period.⁹ While Prospective Need in Round 1 and Round 2 covered a six year period, the Fair Housing Act has since been amended to a ten year period, resulting in the July 1, 2015 – June 30, 2025 definition utilized in our methodology.¹⁰
- *Traditional Present Need* quantifies deficient housing units occupied by LMI households as of July 1, 2015. This date aligns with the start of the Prospective Need period. The Mount Laurel V decision recognizes that this “traditional” Present Need category differs from the Gap Present Need and Prospective Need in that it is based on housing units, rather than households.¹¹

⁸ The “Definitions” section of the Fair Housing Act reads as follows regarding Prospective Need:

Prospective need means a projection of housing needs **based on development and growth which is reasonably likely to occur** in a region or municipality...

[N.J.S.A. 52:27D-304(j) (bold added)]

⁹ The Supreme Court writes:

Prospective need is **forward looking**. It is **predictive** -- a projection of future need. The statutory language was not designed to account for past periods of time when performing a calculation of anticipated housing need for low- and moderate-income households.

[Mount Laurel V, at 526-527 (bold added)]

¹⁰ The FHA now states in Section 307, (which sets for the duties of COAH) that it is the duty of the Council to:

Adopt criteria and guidelines for...municipal determination of its present and prospective fair share of the housing need in a given region **which shall be computed for a 10 year-period**.

[N.J.S.A. 52:27D-307(c)(1) (bold added)]

¹¹ The Supreme Court writes regarding Present Need:

- *Gap Present Need* quantifies households formed during the gap period that still “need affordable housing today.” Consistent with the Supreme Court’s placement of this obligation as a component of the Present Need rather than the Prospective Need, this need is evaluated as of July 1, 2015, matching the date on which the traditional component of the Present Need is estimated. This date also aligns with the start of the Prospective Need period. The definition and implementation of the Gap Present Need is based on the Supreme Court’s guidance in Mount Laurel V.
- *Prior Round (1987-1999)* reports the obligation by municipality for the 1987-1999 period as calculated by COAH in Round 2. The Mount Laurel IV decision states that it “does not eradicate” the “unfulfilled” portion of these obligations.¹² However, reliable information is not available on a uniform statewide basis as to municipal activity, adjustments and credits applicable to fulfilling that obligation since that time. Therefore, this analysis reports the initial obligation as originally assigned, and municipalities can demonstrate these applicable adjustments, activity and credits on a case-by-case basis in their efforts to secure approvals of their affordable housing plans. Because the unfulfilled portion of this obligation is unknown due to this missing information, this category of obligation is excluded from the subsequent adjustments to municipal allocations for changes in housing supply and allocation caps. It is anticipated that trial judges will consider what each municipality presents in support of its claim for adjustments and credits.

The Supreme Court in Mount Laurel V recognizes that the structure of obligations set forth above leads to some degree of “double-counting” of the same LMI households in multiple categories of need. The Supreme Court specifically directs that the Gap Present Need methodology “avoid double counting” those households already captured in the traditional

Importantly, it has not been used as an assessment based on household need for affordable housing...the focus of “present need” has been on ‘the actual number of deficient housing units occupied by low- and moderate-income households’...Estimating existing deficient units is a snapshot of current need within a municipality.

[Mount Laurel V, at 527 (emphasis in original)]

¹² With respect to the prior rounds, the Supreme Court writes:

...our decision today does not eradicate the prior round obligations; municipalities are expected to fulfill those obligations. As such, prior unfulfilled housing obligations should be the starting point for a determination of a municipality’s fair share responsibility. Cf. In re Adoption of N.J.A.C. 5:96 & 5:97, supra, 416 N.J. Super. at 498-500 (approving, as starting point, imposition of “the same prior round obligations [COAH] had established as the second round obligations in 1993”).

[Mount Laurel IV, at 30 (underscore in original)]

Present Need category.¹³ Other double counting issues emerge, for example, among projected future demolitions of currently deficient units. These adjustments are undertaken within the respective categories of calculations, such that the resulting allocations can be appropriately aggregated to represent the municipal fair share obligations.

Importantly, the “compliance period” for municipalities to satisfy need generated under all of these categories is July 1, 2015 to June 30, 2025, matching the ten year period defined in the Fair Housing Act. Therefore, changes in housing supply projected to take place over that time (defined in this report as “secondary sources”) are relevant to the satisfaction of the Present Need and Gap Present Need that existed as of July 1, 2015, in addition to the Prospective Need that is projected over the ten year period. Similarly, allocation caps are applicable to consolidated fair share obligations over the ten year period, rather than separately applied to individual components of the need.

2.4 METHODOLOGY OVERVIEW

Our methodology involves several large-scale steps, which define the chapters of the report to follow. These sections are comprised of a number of sub-steps in executing the calculations, which are detailed throughout the report. The Appendices then report results by municipality for each of the 565 municipalities in New Jersey.

The methodology proceeds in seven sections:

Define the Regions (Section 3)

Section 3 investigates whether there is strong reason, based on changed circumstances, to adjust the six regions that have been used to group New Jersey’s 21 counties since Round 2 in 1994. We conclude that while other permutations may be plausible, the Prior Round methodologies and FHA do not provide a clear standard by which regional definitions should be adjusted.

Absent a compelling rationale for change, the regional definitions are maintained unadjusted for this analysis.

¹³ With respect to this double-counting, the Supreme Court writes:

The trial courts must take care to ensure that the present need is not calculated in a way that includes persons who are deceased, who are income-ineligible or otherwise are no longer eligible for affordable housing, **or whose households may be already captured through the historic practice of surveying for deficient housing units** within the municipality.

[Mount Laurel V, at 531 (bold added)]

Calculate Prospective Need by Region (Section 4)

Section 4 calculates the Prospective Need by region. Prospective Need represents an estimate of the anticipated need for affordable housing units over a forward-looking period, based on “development and growth that is reasonably likely to occur.” The Prospective Need period is ten years, covering July 1, 2015 through June 30, 2025.

The determination of regional Prospective Need involves four major steps:

- First, we estimate the population growth for each region over the 2015-2025 Prospective Need period;
- Next, the projected increase in population is translated into an increase in households (which represents the base unit for housing need) over the 2015-2025 period;
- Then, the proportion of households qualifying as LMI at the beginning and end of the Prospective Need period is estimated; and
- Finally, we remove from these totals for 2015 and 2025 those LMI households who do not represent an affordable housing need due to their significant housing assets.

This process yields estimates of LMI housing need at the start (2015) and end (2025) of the Prospective Need period. The 2015 estimate is subtracted from the 2025 estimate to yield the incremental difference, which represents the Prospective Need for each region.

Based on this calculation, the statewide Prospective Need is 64,844 units.

Calculate Traditional Present Need (Section 5)

Section 5 calculates the traditional Present Need by municipality. As a result of the Mount Laurel V decision, the Present Need for Round 3 has two components:

1. The “traditional” Present Need comprised of deficient housing units occupied by LMI households as of July 1, 2015 (quantified in this section), and
2. The “gap” Present Need comprised of the housing need from households formed during the 1999-2015 gap period that remains unmet as of July 1, 2015 (quantified in Section 6).

The traditional Present Need is estimated utilizing the most up to date available data in a three-step process:

- First, surrogate measures are utilized to estimate the level of inadequate housing in each municipality;

- Next, we account for the overlap between each measure of deficiency to avoid double-counting, yielding an estimate of unique deficient housing units by municipality; and
- Finally, the proportion of those unique deficient units occupied by LMI households is estimated.

Since the most recent available data does not align with the July 1, 2015 date on which the Present Need is defined, it is necessary to extrapolate the estimate forward to produce an estimate of the Present Need as of this date. This is done by estimating for each municipality the deficient units occupied by LMI households in 2000 (in the same manner described above) to determine an annualized trend in Present Need. That trend is extrapolated forward to yield the Present Need for each municipality as of July 1, 2015.

The statewide traditional Present Need is 59,208 units.

Calculate Gap Present Need by Region (Section 6)

Section 6 calculates the Gap Present Need by region. The definition and implementation of this calculation is based on the Supreme Court's Mount Laurel V decision, which directs the courts to modify the traditional definition of Present Need to include a component capturing households formed during the gap period that "need affordable housing today." The Gap Present Need is defined as of July 1, 2015, matching the date as of which the traditional Present Need is quantified and on which the Prospective Need period begins.

Our method implements the Mount Laurel V directive by first calculating the growth in households over the 1999 - 2015 gap period, and then removing from that pool of incremental households those that are not LMI, those that do not have an "unmet need" for affordable housing as of July 1, 2015, and those already captured in the traditional Present Need calculation. This process involves five major steps:

- First, we determine the incremental growth in households over the 1999-2015 period;
- Next, we deduct from the incremental growth those households that do not currently qualify as LMI;
- Next, we deduct those households that live in affordable housing that is not overcrowded as of the end of the gap period, and accordingly no longer have an unmet housing need;
- Then, we deduct those households that have significant housing assets and thus do not represent an affordable housing need; and

- Finally, we deduct households that are already captured in the traditional Present Need due to the deficiency of their unit in order to avoid double-counting.

The remaining need represents those households added during that gap period that still “need affordable housing” as of July 1, 2015, which comprises the regional Gap Present Need.

Based on this calculation, the statewide Gap Present Need is 39,014 units.

Allocate Regional Need to Municipalities (Section 7)

Section 7 calculates the allocation share of regional need for each municipality. These proportional shares are applied to the regional Prospective Need and Gap Present Need to determine the initial allocation for each municipality in each of those categories.

The regional allocation share for each municipality is determined utilizing the most up to date and appropriate data sources in a three-step process:

- First, we determine the qualifying urban aid municipalities and remove them from this portion of the calculation (as their allocation is zero);
- Next, we calculate two “responsibility” factors (employment level and employment growth), which estimate the contribution of each municipality to regional need; and
- Finally, we calculate two “capacity” factors (municipal income and developable land), which estimate the ability of each municipality to absorb regional need.

Municipal shares as a proportion of the region for each of these responsibility and capacity metrics are averaged to yield a single allocation share for each municipality. These shares are then applied to the regional Prospective Need calculated in Section 4 and the regional Gap Present Need calculated in Section 6 to yield the allocation for each municipality in these categories.

Together, the sum of each municipality’s allocation in each region totals the regional Prospective Need and the regional Gap Present Need. Following this allocation, the initial need of each municipality has been calculated for each of the three categories: Prospective Need, traditional Present Need, and Gap Present Need.

Adjust for Secondary Sources of Affordable Housing Supply (Section 8)

Section 8 adjusts for anticipated changes in affordable housing supply over the ten-year period. These “secondary source” adjustments account for the natural evolution of the housing stock over time due to market-based factors.

This step reflects the fact that affordable housing is provided not only through dedicated planning and zoning policy, but also through changes in housing value and income (and thus affordability) over time. Said another way, much of the housing currently occupied by LMI households was not originally built as “affordable housing.”

As in the Prior Round methodologies, trends in market-based activity are analyzed and extrapolated forward to yield an estimate of future supply changes over the ten-year period. Estimates are developed for three sources:

- Demolitions of existing structures, which reduce the supply of affordable housing;
- Residential conversions, which on net are estimated to increase the supply of affordable housing; and
- Filtering of the housing stock, which on net is estimated to increase the supply of affordable housing.

These three estimates are summed to yield a net effect from secondary sources of supply for each municipality. This net change in supply is applied to the initial Prospective Need, Present Need, and Gap Present Need for each municipality to yield an adjusted need in each category.

Since this process may yield a negative need for some municipalities (which cannot be assigned an allocation below zero), a regional allocation of additional units below this “zero bound” is undertaken to ensure that the methodology aligns aggregate municipal need with the estimated changes in affordable housing supply. Said another way, if the affordable housing anticipated to be generated by secondary sources in any municipality exceeds the allocation of need to that municipality, the additional housing supply nonetheless reduces the regional affordable housing need, and therefore is accounted for within the regional calculation.

Based on this calculation, the statewide reduction in affordable housing need due to anticipated supply increases is 25,645 units.

Determine Municipal Obligations (Section 9)

Section 9 reconciles the allocation of Prospective Need, Present Need, and Gap Present Need yielded by the previous sections with additional adjustments required by the relevant statutes and Court decisions to arrive at an initial summary obligation for each municipality.

The Prior Round methodologies and the FHA define two caps which are applied to municipal housing allocations:

- The “20 percent cap,” which limits a municipality’s “new construction” obligation to 20% of its existing occupied housing stock; and

- The “1,000-unit cap,” which limits a municipality’s fair share of housing units to 1,000 units.

Further, the Supreme Court stated that its Mount Laurel IV decision “does not eradicate” unfulfilled Prior Round (1987 – 1999) obligations, which serve as “the starting point for the determination of a municipality’s fair share responsibility” within the current cycle. Since reliable data does not exist on a uniform statewide basis to define the extent to which those obligations have been met, those obligations are presented as initially assigned to municipalities in Round 2, without accounting for any applicable adjustments, housing activity or credits.

This initial Prior Round obligation is then summed with the adjusted and capped Present Need, Gap Present Need and Prospective Need to yield an initial summary obligation for each municipality. Municipalities can then reduce that obligation by demonstrating applicable adjustments, housing activity and credits on a case-by-case basis in their efforts to secure approvals of their affordable housing plans.

Based on these calculations, the initial statewide obligation is:

- *85,853 units for the Prior Round (1987-1999) obligation;*
- *36,611 units for the traditional component of the Present Need;*
- *33,250 units for the Gap Present Need; and*
- *47,766 units for the Prospective Need.*

3.0 DEFINING HOUSING REGIONS

SUMMARY

Section 3 investigates whether there is strong reason, based on changed circumstances, to adjust the six regions that have been used to group New Jersey's 21 counties since Round 2 in 1994. We conclude that while other permutations may be plausible, the Prior Round methodologies and FHA do not provide a clear standard by which regional definitions should be adjusted.

Absent a compelling rationale for change, the regional definitions are maintained unadjusted for this analysis.

Housing regions are the geographic unit for many of the calculations that ultimately result in a fair share obligation for each of New Jersey's 565 municipalities. Regional calculations sum to, rather than derive from, statewide calculations. In other words, there is no statewide calculation of affordable housing need – there is only a series of regional calculations, which can be summed to produce a statewide result.

While the Prior Round methodologies are clear about the importance of the housing regions, they are less clear as to the standards by which regions should be defined. The Fair Housing Act defines "Housing Region" as follows:

"Housing region" means a geographic area of not less than two nor more than four contiguous, whole counties which exhibit significant social, economic and income similarities, and which constitute to the greatest extent practicable the primary metropolitan statistical areas as last defined by the United States Census Bureau prior to the effective date of P.L.1985, c. 222 (C.52:27D-301 et al.).

[N.J.S.A. 52:27D-304 b.]

Under the "Definitions" section the Round 2 rules adopt the definition of "Housing Region" found in the FHA and quoted above.¹⁴

This definition offers no clear guidance as to a statistical standard that can be applied to determine a single "best" distribution of counties into regions. Primary Metropolitan Statistical Areas (PMSA's) are specifically referenced as a point of consideration, as well as the more subjective concept of "significant social, economic and income similarities." The Round 2

¹⁴ N.J.A.C 5:93-1.3

methodology identifies journey-to-work data as a relevant indicator related to this standard and we have analyzed the journey-to-work with updated data, as reported below.¹⁵ However, the Round 2 methodology concludes its description of the county sorting process by stating that subjective factors were also used:

After including certain judgmental decisions regarding the size of a region and its capacity to handle need, as well as the necessary inclusion in each region of at least one central city, the journey-to-work region takes the following form...

[26 NJ. Reg. 2316]

The housing region definitions adopted in Round 2 were an alteration of those adopted in Round 1 (with Sussex moving from Region 2 to Region 1, Warren from Region 3 to Region 2, and Mercer from Region 5 to Region 4). The housing regions as defined in Round 2 have been maintained by COAH in each attempt at promulgating Round 3 rules. The Round 2 house region definitions are shown in Table 3.1 below.

TABLE 3.1: REGIONAL COUNTY GROUPINGS ADOPTED IN THE ROUND 2 METHODOLOGY

Region	Counties
1	Bergen, Hudson, Passaic, Sussex
2	Essex, Morris, Union, Warren
3	Hunterdon, Middlesex, Somerset
4	Mercer, Monmouth, Ocean
5	Burlington, Camden, Gloucester
6	Atlantic, Cape May, Cumberland, Salem

¹⁵ 26 NJ. Reg. 2315-2316

3.1 DEFINITION FACTORS

The basic premise, set forth repeatedly in earlier rounds, is that employment drives much of the need for affordable housing. Accordingly, employment (and employment centers) within a region creates the need for affordable housing that needs to be met within that region. The Round 2 methodology uses journey-to-work data on the origin and destination of work trips from the 1990 Census to help define appropriate regional groupings. Since that time, a more robust data set of live-work relationships between various counties has been developed by the U.S. Census Bureau through its Longitudinal Employer Household Dynamics (LEHD) program.

The LEHD program includes collaboration between the federal Census Bureau and 49 states under the Local Employment Dynamics (LED) Partnership.¹⁶ Under this program, states share Unemployment Insurance earnings data and Quarterly Census of Employment and Wages data with the Census Bureau, which combines these administrative data with its own administrative inputs and data from censuses and surveys. These inputs yield detailed statistics on employment, earnings and job flows at a variety of geographic levels. This data set, which was unavailable during the Round 2 period, represents the most updated and appropriate data set for evaluating the live-work relationships between counties.

A matrix of live-work relationships between each of New Jersey's 21 counties as of the year 2013 was developed from the publicly available LODES (LEHD Origin-Destination Employment Statistics) database. Workers are sorted based on the location of their "primary job," defined as "the job that earned the individual the most money," since a worker's primary job is more likely than ancillary jobs to drive their choice of residential location. Next, the category of highest earners are removed, since the focus of the regional definition is in this instance the provision of affordable housing for low and moderate income workers.¹⁷ Finally, only workers who both live and work in New Jersey are considered, since no possible regional definition will capture those workers who live or work in another state in the same region.¹⁸

This data matrix can then be used to calculate the proportion of low and moderate income New Jersey workers residing in each region who also work in the same region. Results based on the Round 2 regional definitions are shown below in Table 3.2. Proportions range from 61% to 76% in each region, and average 69% statewide.

¹⁶ Massachusetts does not participate in the program, and is thus not represented in the otherwise comprehensive data set.

¹⁷ LODES data divides earners into three income categories, with the highest earners earning greater than \$3,333 per month, or \$40,000 per year. While this income category does not precisely match the LMI thresholds in New Jersey (which vary by region and household size), removing this category provides a more accurate proxy for LMI commuting patterns than an analysis that includes all earners.

¹⁸ It is worth noting that a significant portion of New Jersey employees and employed residents are cross-state commuters, particularly in the counties that are part of the New York and Philadelphia metro areas. Conceptually, these cross-state commuters fall outside of the linkages between localized employment and housing that define much of the fair share calculation.

TABLE 3.2: LIVE/WORK PROPORTIONS FOR LOW AND MODERATE WAGE EARNERS BY HOUSING REGION, 2013

Region	Counties	NJ Workers Residing and Working in Region	NJ Workers Residing in Region	Live & Work Proportion
1	Bergen, Hudson, Passaic, Sussex	257,000	363,000	71%
2	Essex, Morris, Union, Warren	215,000	338,000	64%
3	Hunterdon, Middlesex, Somerset	133,000	217,000	61%
4	Mercer, Monmouth, Ocean	190,000	273,000	70%
5	Burlington, Camden, Gloucester	176,000	231,000	76%
6	Atlantic, Cape May, Cumberland, Salem	97,000	129,000	76%
State		1,068,000	1,550,000	69%

The statewide live-work percentage yielded by this combination of regions is not the highest of any possible permutation identified by ESI's statistical analysis. However, alternate combinations produce only incremental changes (not larger than 1-2 percent) in the statewide live-work proportion. Some of these combinations do so by increasing live-work proportions in some regions while reducing it in others, while other combinations alter the balance of overall population and economic activity by clustering more large counties together. Thus, while alternate possible combinations were identified based on this metric, their incremental magnitude and the distributional challenges they present suggest that none is a clear improvement relative to the current definitions.

Further, it is unclear from the text of the FHA that live-work combinations are the primary metric by which regional definitions should be constructed. While the Round 2 methodology clearly conducts a similar analysis, it just as clearly applies additional "judgmental decisions." Further, no references to live-work data appear in the FHA definition, and this approach represents an indirect and incomplete measure of "social, economic and income similarities."

PMSA Definitions

The additional factor referenced in the FHA is the defined PMSA issued by the Census Bureau. PMSAs represent clusters of counties which should form the basis of housing regions "to the greatest extent practicable." However, PMSA's have been discontinued as a regional grouping by the Census Bureau, with the last set of definitions issued in 1999. Table 3.3 below shows the PMSA's into which New Jersey counties were divided in those definitions.

TABLE 3.3: NEW JERSEY COUNTIES BY PMSA DEFINITIONS FROM U.S. CENSUS BUREAU (1999)

PMSA	New Jersey Counties
Bergen-Passaic	Bergen, Passaic
Jersey City	Hudson
Middlesex-Somerset-Hunterdon	Hunterdon, Middlesex, Somerset
Monmouth-Ocean	Monmouth, Ocean
Newark	Essex, Morris, Sussex, Union, Warren
Trenton	Mercer
Atlantic-Cape May	Atlantic, Cape May
Philadelphia (PA)	Burlington, Camden, Gloucester, Salem
Vineland-Millville-Bridgeton	Cumberland

A 2005 Bulletin from the Federal Office of Management and Budget (OMB) to Executive Departments explains the evolution of statistical area definitions as follows:

The terms “Consolidated Metropolitan Statistical Area” and “Primary Metropolitan Statistical Areas” are now obsolete...A Metropolitan Division is most generally comparable in concept, and equivalent to, the now obsolete Primary Metropolitan Statistical Area.

[OMB, *Update of Statistical Definitions and Guidance on their Usage*, Feb 22, 2005]¹⁹

Therefore, Table 3.4 shows the Metropolitan Divisions into which New Jersey counties are assigned (last defined in 2013).

¹⁹ Bulletin 05-02, *Update of Statistical Area Definitions and Guidance on their Usage*, Office of Management and Budget, February 22, 2005. Available online at: <https://www.whitehouse.gov/omb/bulletins_fy05_b05-02>

TABLE 3.4: NEW JERSEY COUNTIES BY METROPOLITAN DIVISION DEFINITIONS FROM U.S. CENSUS BUREAU (2013)

Metropolitan Areas	New Jersey Counties
Allentown-Bethlehem-Easton (PA)	Warren
Atlantic City-Hammonton	Atlantic
Camden	Burlington, Camden, Gloucester
Newark	Essex, Hunterdon, Morris, Somerset, Sussex, Union
New York-Jersey City-White Plains (NY/NJ)	Bergen, Hudson, Middlesex, Monmouth, Ocean, Passaic
Ocean City	Cape May
Trenton	Mercer
Vineland-Bridgeton	Cumberland
Wilmington (DE)	Salem

A review of these tables shows the challenge in executing the goal of following “to the greatest extent practicable” the PMSA definitions in defining housing regions. First, PMSA’s no longer exist, and groupings have changed significantly from PMSAs to Metropolitan Divisions for New Jersey’s counties. Second, the constraint imposed by the FHA to create groupings of “not less than two nor more than four contiguous, whole counties” must be balanced with PMSA definitions that include three single counties and a group of five counties, or Metropolitan Area definitions that contain six single counties and two groupings of six counties. Assigning these single counties to other natural “clusters,” and breaking up the large groups, creates a chain of impacts throughout the regions regardless how it is executed. Broadly speaking, the Round 2 housing region definitions do maintain the major PMSA clusters intact, and where they do not, presumably the directive to follow PMSA definitions has been balanced against the directive to define regions “which exhibit significant social, economic and income similarities.”

3.2 REGIONAL DEFINITIONS

The standards set forth in the FHA and the Prior Round methodologies do not present an objective standard by which to judge optimal housing regions. Live-work data is clearly considered a factor, as are the former PMSA definitions from the Census Bureau, but each are balanced with what the methodology terms “judgmental” factors. The regional definitions utilized in Round 2 follow neither the optimal live-work permutations nor the PMSA clusters exactly, but are nonetheless broadly in line with groupings suggested by each of those standards. Further, it is not clear what objective metric might better suit the FHA’s standard of “significant social, economic and income similarities.” In the absence of such an alternate standard, this analysis maintains the regional groupings as defined in the Round 2 methodology.

4.0 PROSPECTIVE NEED BY REGION

SUMMARY

Section 4 calculates the Prospective Need by region. Prospective Need represents an estimate of the anticipated need for affordable housing units over a forward-looking period, based on “development and growth that is reasonably likely to occur.” The Prospective Need period is ten years, covering July 1, 2015 through June 30, 2025.

The determination of regional Prospective Need involves four major steps:

- First, we estimate the population growth for each region over the 2015-2025 Prospective Need period;
- Next, the projected increase in population is translated into an increase in households (which represents the base unit for housing need) over the 2015-2025 period;
- Then, the proportion of households qualifying as LMI at the beginning and end of the Prospective Need period is estimated; and
- Finally, we remove from these totals for 2015 and 2025 those LMI households who do not represent an affordable housing need due to their significant housing assets.

This process yields estimates of LMI housing need at the start (2015) and end (2025) of the Prospective Need period. The 2015 estimate is subtracted from the 2025 estimate to yield the incremental difference, which represents the Prospective Need for each region.

Based on this calculation, the statewide Prospective Need is 64,844 units.

Prospective Need represents an estimate of the anticipated need for affordable housing units over a forward-looking ten-year period. This estimate is developed in a process that involves four major steps: (i) defining reasonable estimates of population growth, (ii) translating population estimates into households, (iii) estimating the proportion of households qualifying as LMI, and (iv) removing those LMI households that do not need affordable housing. The incremental change between the estimate of LMI housing need at the beginning and end of the ten-year period within each region represents the regional Prospective Need. This need is later allocated to municipalities within each region (see Section 7).

Prospective Need is by definition and design forward-looking. The FHA and COAH's Round 2 regulations define Prospective Need as "a projection of housing needs based on development and growth which is reasonably likely to occur."²⁰ Developing such an estimate, therefore, requires a series of projections about the growth and changes in composition of the population of each region over a ten-year period. The section that follows explains each projection and assumption employed in the context of relevant precedent and case law, and also checks the reasonableness of these projections against observed population, household and income trends and benchmarks for New Jersey.

The procedure proceeds in six steps to yield an estimate of regional Prospective Need, as shown in Section 4.6:

1. First, we estimate the projected population increase over the 2015-2025 Prospective Need period (Section 4.1).
2. Next, we estimate the increase in the population living in households by estimating and deducting the group quarters (*i.e.* non-household) population at the beginning and end of the Prospective Need period (Section 4.2).

²⁰ The full definition in the FHA reads as follows (N.J.S.A 52:27D-304(j)):

j. "Prospective need" means a projection of housing needs based on development and growth which is reasonably likely to occur in a region or a municipality, as the case may be, as a result of actual determination of public and private entities. In determining prospective need, consideration shall be given to approvals of development applications, real property transfers and economic projections prepared by the State Planning Commission established by sections 1 through 12 of P.L.1985, c. 398 (C.52:18A-196 et seq.).

The State Planning Commission has not prepared the economic projections referenced in the FHA. Perhaps for this reason, COAH's Round 2 methodology utilizes only the former part of this passage in its definition of Prospective Need in Round 2, which reads:

"Prospective need" means a projection of low and moderate income housing needs based on development and growth which is reasonably likely to occur in a region or municipality. See N.J.S.A. 52:27D-304(j).

[26 NJ. Reg. 2316]

3. Next, we estimate the number of households associated with that population by estimating the headship rate (*i.e.* average household size) at the beginning and end of the Prospective Need period (Section 4.3).
4. Next, we estimate the growth in low- or moderate-income (LMI) households by estimating the proportion of households at the beginning and end of the Prospective Need period that are LMI (Section 4.4).
5. Finally, we remove those LMI households at the beginning and end of the Prospective Need period who do not need affordable housing due to their significant housing assets (Section 4.5).

The difference in this LMI housing need at the end (2025) and start (2015) of the period is the Prospective Need for each region.

4.1 POPULATION PROJECTIONS

The first step of the Prospective Need calculation is to project the increase in the state's population over the 2015-2025 period. This is accomplished by utilizing forecasts from the New Jersey Department of Labor and Workforce Development to estimate population growth over the ten-year period, and applying that growth to the most up to date estimates of the state's population as of July 1, 2015.

The Fair Housing Act and COAH's Round 2 regulations define prospective need as a “projection of housing need based on development and growth which is reasonably likely to occur” over the forward-facing ten-year period. Accordingly, projections of the population growth over the 2015-2025 period are a crucial foundation for developing future affordable housing need estimates in the steps that follow. Population estimates for the year 2025 are developed within this analysis by applying the forecasted growth yielded by the average of two forecast models produced by the New Jersey Department of Labor and Workforce Development (NJLWD) to the most up to date population estimates for the 2015 starting point produced by the Census Bureau.

Prior Round population projections are based on models developed by the NJLWD. Every other year, the NJLWD produces a twenty-year forecast of population growth using four different models (“Economic Demographic,” “Historical Migration,” “Net Migration” and “Linear Regression”). Projections start in the most recent year for which population estimates from the Census are available and project population in five-year increments. The most recent set of projections available cover 2014-2034, using the original Census population estimate for 2014 (which has since been revised by the Census Bureau) and offering projections for 2019, 2024, 2029 and 2034.

The Round 1 methodology utilized population projections from the NJLWD Historical Migration model, while the Round 2 methodology averaged statewide population projections from the

Historical Migration and Economic Demographic models, and then adjusted the share of that population growth applied to each county using a proprietary model from the Center for Urban Policy Research (CUPR) at Rutgers.²¹ The Round 2 methodology explains its decision to average outputs of the two projection models by noting that “Retrospectively, averaging has given the most accurate results over time.”²² As suggested by this passage, it is useful to take the past performance of projection models relative to observed population growth as a consideration in setting appropriate future population projections.

4.1.1 HISTORIC POPULATION PROJECTIONS

Comparisons of historic population projections with observed population growth reveal that NJLWD’s models have consistently and significantly over-estimated population growth over the past two decades.

NJLWD has provided ESI with a time series of the past seven twenty-year population projections yielded by each of its four models. NJLWD’s website also provides a document titled *Methodology – The Projection Models* which describes the assumptions underlying each model.²³ Assumptions regarding base population, fertility and mortality, cohort aging, and migration of the population 65 and older are identical in the Economic Demographic and Historical Migration models. They differ in their treatment of migration of persons under 65 years old. NJLWD’s methodology explains the difference as follows (in its description of the Historical Migration model relative to the Economic Demographic):

Rather than inferring migration under age 65 by economic factors, the Historical Migration Model applies the past net migration rates directly to the population distributed at each projection interval.

[NJLWD, “Methodology – The Projection Models”]

Within the methodology summary, NJLWD states its rationale for providing projections from both of these models:

²¹ Recent response reports of Fair Share Housing Center (FSHC) expert Dr. David Kinsey have noted that “Since 1985, NJDOL has designated its Economic-Demographic Model as its ‘preferred’ model” (*Response to Econsult and Powell Reports on Fair Share Housing Obligations*, May 2016, p. 16). Notably, this 1985 designation was prior to COAH’s Round 1 and Round 2 methodology, which either utilized a different model entirely (in the case of Round 1) or utilized a combination of models (in the case of Round 2). It is therefore clear that COAH did not consider this “preferred” designation definitive in developing an appropriate population projection for use in the fair share methodology.

²² 26 NJ. Reg. 2347

²³ Available online at: <<http://lwd.dol.state.nj.us/labor/lpa/dmograph/lfproj/method22.doc>>

The only difference between the Historical Migration Model and the Economic-Demographic Model is the migration assumptions. **The projected population from these two models may be used as a range for possible population change in the future.**

[NJLWD, “Methodology – The Projection Models,” bold added]

Using the data set provided by NJLWD, it is possible to identify 14 unique five-year projection periods from which compound annual growth rates (CAG) projected by the NJLWD can be compared to observed Census data for most or all of those 14 periods (see Table 4.1).²⁴ Across this time period, bi-annual projections from both the Economic Demographic and Historical Migration models have consistently overstated future population growth over the time period analyzed. In 12 of the 14 five-year periods, both models overstated the observed growth.

On average, projections from the Economic Demographic model have overstated population growth observed in the Census by 81%, projections from the Historical Migration model by 91%, and the average of the two models by 86%. Projections for the Historical Migration model from the 2008, 2010 and 2012 forecasts (as well as the 2014 forecast, as discussed below) have been slightly more accurate than those from the Economic Demographic model.

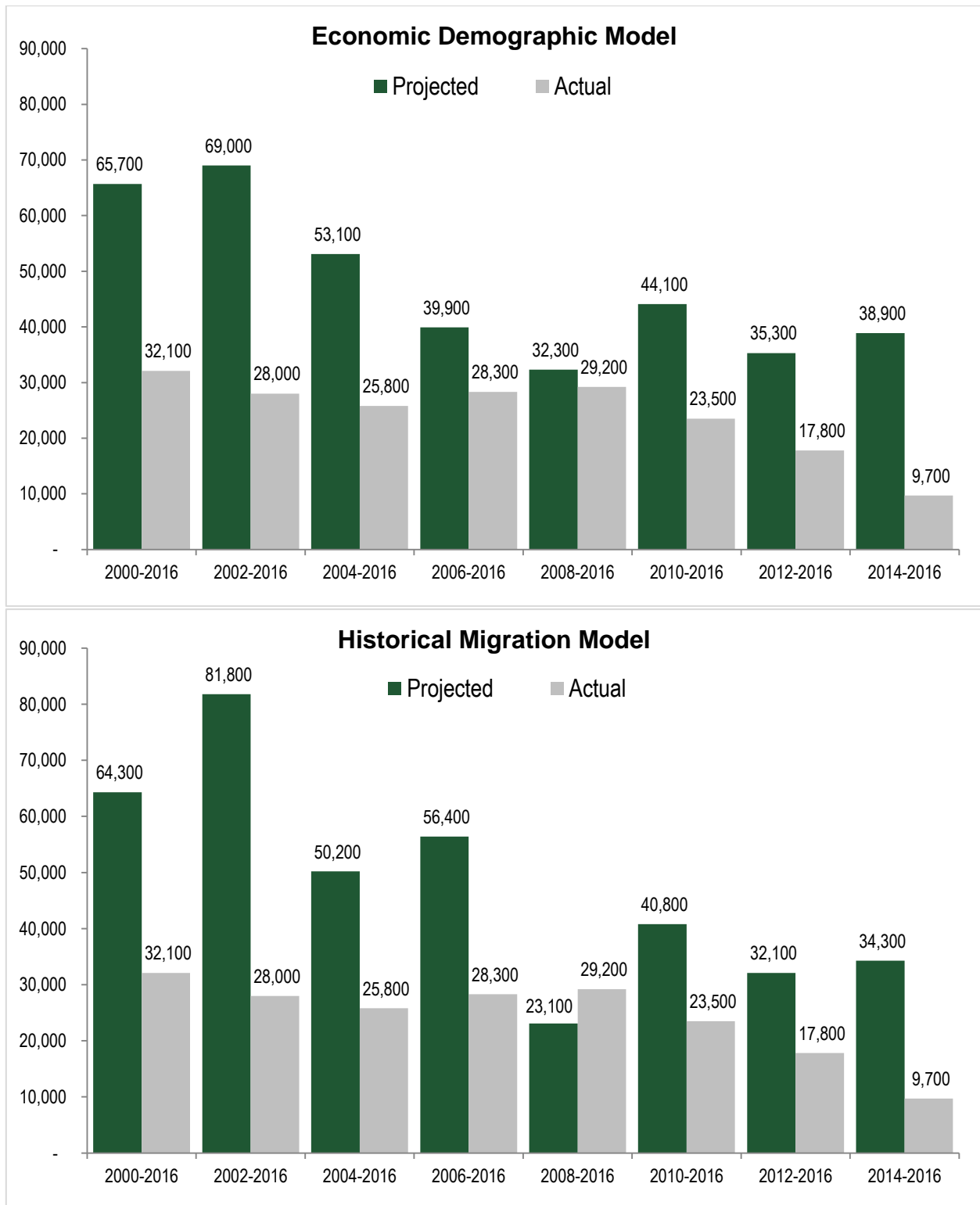
²⁴ Compound annual growth rates are preferred in this comparison to raw population estimates because the Census Bureau frequently “re-bases” prior population estimates, and does not hold population levels consistent across decennial Census periods. Compound annual growth rates provide a common benchmark of projection accuracy given the best information available at the time (*i.e.* not “penalizing” a projection for retroactive changes to the base year population) and allow for a consistent data set to be constructed across decennial Census periods. They also allow for a comparison of annualized growth rates for time periods with portions yet to be completed.

TABLE 4.1: STATEWIDE POPULATION PROJECTIONS: NJLWD MODELS VS. OBSERVED CENSUS POPULATION ESTIMATES

Projection Base Year	Projection Period	Census Estimates		Economic Demographic (ED)		Historical Migration (HM)		Averaged (ED & HM)	
		Comparable Time Period	CAG	CAG	CAG vs. Census	CAG	CAG vs. Census	CAG	CAG vs. Census
2000	2000-2005	2000-2005	0.52%	0.74%	43%	0.68%	31%	0.71%	37%
2000	2005-2010	2005-2010	0.34%	0.72%	111%	0.68%	97%	0.70%	104%
2000	2010-2015	2010-2015	0.30%	0.74%	147%	0.78%	161%	0.76%	154%
2002	2002-2007	2002-2007	0.29%	0.84%	190%	0.93%	218%	0.89%	204%
2002	2007-2012	2007-2012	0.44%	0.72%	63%	0.88%	98%	0.80%	81%
2002	2012-2015	2012-2015	0.23%	0.72%	208%	0.89%	281%	0.80%	244%
2004	2004-2009	2004-2009	0.28%	0.50%	78%	0.60%	116%	0.55%	97%
2004	2009-2014	2009-2014	0.38%	0.63%	67%	0.59%	55%	0.61%	61%
2006	2006-2011	2006-2011	0.41%	0.35%	(15%)	0.70%	72%	0.52%	29%
2006	2011-2016	2011-2016	0.23%	0.56%	139%	0.57%	143%	0.56%	141%
2008	2008-2013	2008-2013	0.42%	0.32%	(23%)	0.27%	(36%)	0.30%	(30%)
2008	2013-2018	2013-2016	0.17%	0.44%	159%	0.25%	49%	0.35%	105%
2010	2010-2015	2010-2015	0.30%	0.50%	67%	0.44%	49%	0.47%	58%
2012	2012-2017	2012-2016	0.20%	0.39%	97%	0.36%	79%	0.38%	88%
AVG			0.32%	0.58%	81%	0.61%	91%	0.60%	86%

Another way to evaluate forecast accuracy is to compare forecasts of annual population growth from the base year to the most recent year for which Census data is available (in this case 2016). This approach in effect asks what NJLWD's model forecasted for the year 2016 at various points in time, and compares those forecasts to the growth actually observed over that interim period.²⁵ Each of the past eight Economic Demographic forecasts and seven of the past eight Historical Migration forecasts overstated the population growth between the base year and 2016, relative to annual growth observed in the Census (see Figure 4.1).

²⁵ In cases where forecasts in five-year increments did not include the year 2016 directly, forecasts for 2016 were interpolated by applying an even annual growth rate from the closest forecast year before and after 2016 (for example, 1/5 of the growth between a 2015 forecast and a 2020 forecast). This matches the interpolation approach described below for projecting population across the Prospective Need period.

FIGURE 4.1: ANNUALIZED GROWTH THROUGH 2016: NJLWD MODELS VS. OBSERVED CENSUS POPULATION ESTIMATES

The significant overstatement of growth in the NJLWD's historic population forecasts are a concern in generating an accurate Prospective Need estimate, since population growth (translated into household growth) is ultimately the driver of incremental affordable housing need in the fair share methodology. Naturally, future population growth is unknown, and no projection approach is perfect, but it is necessary to arrive at a realistic estimate to proceed with this calculation.

As shown in Figure 4.1, the actual population growth from 2014-2016 (as reported by the Census Bureau) has been materially below the most recent projections from both the Economic Demographic and Historical Migration models. It would be possible to incorporate this observed information to adjust the population growth forecasted in the NJLWD models over the 2015-2025 period.

One option, which was undertaken by COAH in its un-adopted Round 3 methodology in 2014, would be to use the observed rate of growth to calibrate forecasted growth in future years. That methodology compared annual residential certificates of occupancy from 2011-2013 to the household projections obtained from applying headship rates to the Economic Demographic population forecast from that period, and then applied a downward adjustment to reflect this differential to the population forecasts both for the observed years and for the forecasts for the Prospective Need period (2014-2024).²⁶ A similar approach could be developed using forecasted and observed population growth for 2015 and 2016, which would yield a significant downward adjustment, since observed growth for these years has been well below expectations.²⁷

Another option would be to leave future forecasted growth unadjusted, but to incorporate observed population data for the first year of the Prospective Need period (July 1, 2015 to July 1, 2016). Incorporating the observed population growth of 9,048 for the first year and applying the average annual forecasted growth for the remainder of the period (2016-2025) would reduce the ten-year population growth forecast described below by about 26,000 people, or 2,600 per year. This adjustment would be consistent with established fair share methodology principles, since it would incorporate the most up to date information in a reasonable and uniform manner.

²⁶ This procedure is described as follows in the Technical Appendices to COAH's un-adopted 2014 methodology (at pages 10-11):

Residential certificates of occupancy (households) rendered for the years 2011, 2012, and 2013 were extended to 2014 and then from 2014 to 2024. Their totals were compared to the totals rendered by applying headship rates to the population projections of the Economic Demographic Model. From 2009 to 2014 they were 60 percent of model projections; from 2014 to 2024 they were 80 percent of model projections. Households projected from 2009 to 2014 and from 2014 to 2024 were adjusted downward by altering the population projections by about 30 percent (2010-2015) and 15 percent (2015-2025) respectively. Population was adjusted rather than households so as not to interfere with the Fair Share household calculations discussed below.

²⁷ Note that population growth for 2016, the first year of the Prospective Need period, is 9,048 according to the latest Census estimates. These updated estimates also indicate that neighboring states New York and Pennsylvania lost population in 2016.

This analysis follows the Round 2 approach of averaging the output of the Historic Migration and Economic Demographic models without any further adjustment to the forecasts of statewide population growth over the 2015-2025 period. While historically averaging the two models appears to produce a similar over-estimate of population as using the “preferred” Economic Demographic model alone, the averaged output of the two models yields a forecast slightly below the growth rate of the Economic Demographic model alone within the current projection period. In addition to following the Prior Round, this approach is supported by the NJLWD’s recommendation that “these two models may be used as a range for possible population change in the future.” This approach also aligns the base year of observed population (2015) with the start of the Prospective Need period, the end of the “gap period,” and with other components of the calculation, which are predominantly available as of 2015.

4.1.2 CURRENT POPULATION PROJECTIONS

The most recent projections from the Economic Demographic and Historical Migration model are averaged to define the population growth over the 2015-2025 period. This growth is then applied to the most up to date population estimates for 2015 to define the population forecast for 2025.

Current population projections from NJLWD have a base year of 2014 and provide projections in five-year increments through 2034. For the purpose of the Prospective Need calculation, it is necessary to interpolate the forecasts for 2014, 2019, 2024 and 2029 to the interim years (2015 and 2025) using a midpoint approach. In the case of the Economic Demographic model, which is issued by county and age cohort for each five-year increment, projections are interpolated to yield results for 2015 and 2025 by annualizing the population growth increment for each county and age cohort combination and applying the appropriate increment (for example, 1/5 of the projected growth from 2024 to 2029 is applied to the 2024 projection to interpolate the 2025 projections for each county and cohort). In the case of the Historical Migration projection, which is currently only provided on a statewide level by NJLWD, the annualized approach is applied statewide (for example 1/5 of the population change from 2024 to 2029 is applied to the 2024 projection to interpolate the 2025 projection). Averaged growth from the two forecast models over the 2015-2025 period is 359,010 (see Table 4.2 and Figure 4.2).

TABLE 4.2: NJLWD STATEWIDE POPULATION PROJECTIONS

NJLWD Model	2014	2015 (interpolated)	2019	2024	2025 (interpolated)	2029	Growth 2015-2025
Economic Demographic	8,938,200	8,977,100	9,132,700	9,338,000	9,376,640	9,531,200	399,540
Historical Migration	8,938,200	8,972,520	9,109,800	9,263,100	9,291,000	9,402,600	318,480
Averaged	8,938,200	8,974,810	9,121,250	9,300,550	9,333,820	9,466,900	359,010

FIGURE 4.2: NJLWD ANNUALIZED GROWTH FORECASTS

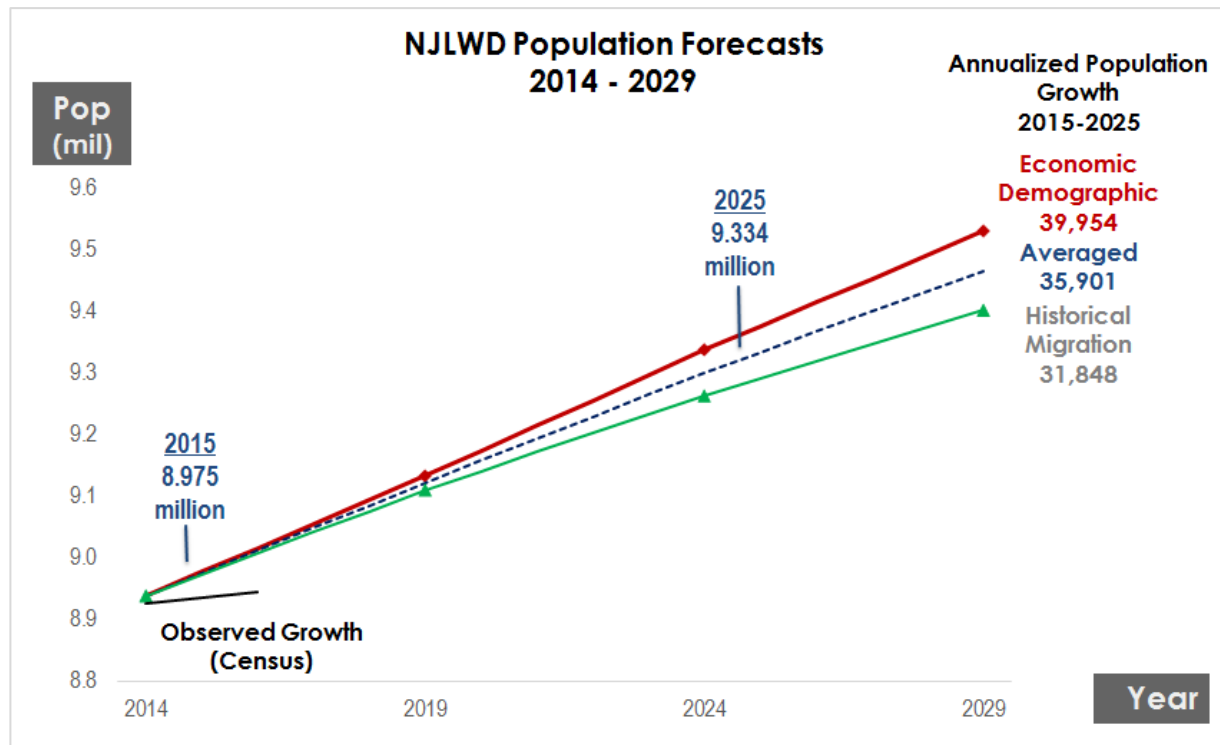
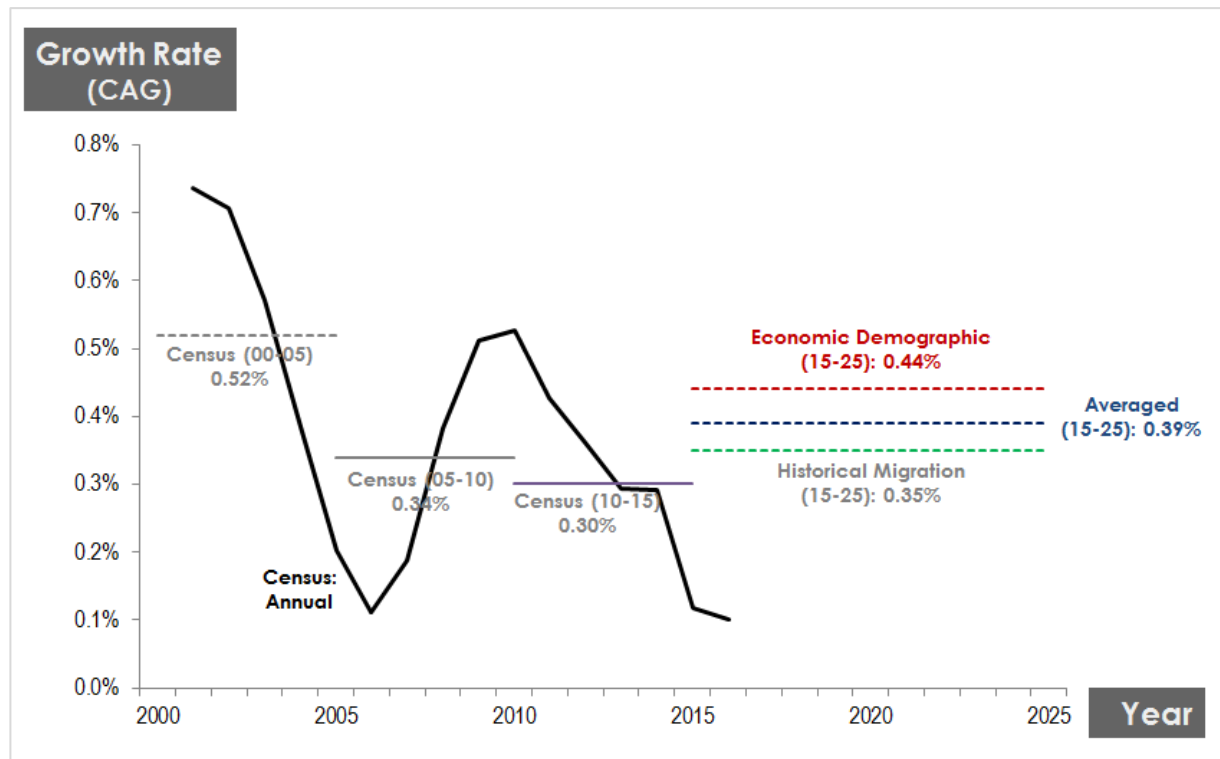


Figure 4.2 above shows the annualized population growth for the period under each model and the averaged output, while Figure 4.3 below compares the annual statewide population growth trend from 2000-2015 (as reported by the Census Bureau) with the forecasted annualized growth over the 2015 – 2025 Prospective Need period in compound annual growth (CAG) terms. In each case, forecasted growth is above recent observed trends.

FIGURE 4.3: STATEWIDE OBSERVED POPULATION GROWTH AND NJLWD PROJECTIONS

The averaged interpolated statewide projection from the two models is then translated into an age cohort and county distribution. Since only the Economic Demographic model produces a forecast of population by age and county, the population distribution from this model is applied to the statewide population estimate.²⁸ This process yields a forecasted growth increment for each cohort for the 2015-2025 period that sums to the statewide forecasted growth of 359,010.

Importantly, population forecasts for 2015 (the start of the prospective need period) differ from the most recent Census Bureau estimates of both the level and distribution of population. To account for this differential, the incremental growth estimates described above are applied to the most up to date estimate of the population in each county and age cohort as of July 1, 2015.²⁹

²⁸ Mathematically, this is accomplished by calculating the share of statewide population in each of the 168 age and county cohorts within the Economic Demographic forecast results, and applying those shares to the averaged statewide population from the Economic Demographic and Historical Migration models. While this calculation produces 168 results, it is performed as a single calculation and executes a singular and straightforward mathematical process (applying only available population distribution to the best available population projection).

²⁹ Failing to adjust the population forecast for the difference between observed and forecasted populations at the 2015 start date produces a forecast of population growth over the 2015-2025 Prospective Need period that deviates from the output of the forecast model utilized. For example, the population projection in FSHC expert Dr. David Kinsey's May 2016 methodology report purports to utilize the NJDOL's Economic Demographic Model, which as of that writing forecasted population growth of "39,012 persons per year" according to Dr. Kinsey's own analysis (p.30). Despite this, Dr. Kinsey's methodology forecasted a population growth of

The latest Census Bureau population estimates by county were released in March 2017, and indicate that the statewide population as of July 1, 2016 was 8,944,469.³⁰ In addition to supplying 2016 estimates, this data release included downward revisions to prior Census Bureau estimates of July 1 population from 2010-2015. The July 1, 2015 population estimate is 8,935,421, a revision from the original estimate of 8,958,013 reflected in 2015 American Community Survey (ACS) data.

To account for this differential, the distribution of population reflected in ACS 2015 is adjusted to match the revised Census Bureau statewide estimate of the 2015 population on a county by county basis (the most detailed level at which revised estimates for 2015 are available). A correction ratio is developed for each county to reflect the population revision from the latest estimates, and that ratio is applied equally across all age cohorts, which in effect maintains the same proportional distribution across the eight age cohorts for each county, and aligns the total population for each county with the most up to date estimates. This process yields the most up to date and accurate estimate of the population total and distribution as of July 1, 2015.

Finally, the forecasted incremental growth for the 2015-2025 period for each county and age cohort is applied to this corrected 2015 population base to yield a revised forecast of population. This method maintains the incremental growth level derived from the average of the Economic Demographic and Historical Migration models, while matching the July 1, 2015 population with the most recent observed Census Bureau data. Projected population growth by region and statewide for the 2015-2025 period is shown in Table 4.3.

TABLE 4.3: PROJECTED POPULATION GROWTH 2015-2025 BY REGION AND STATEWIDE

Region	Population 2015	Projected Population 2025	Projected Increase	Projected Growth %
1	2,261,558	2,377,356	115,798	5.1%
2	1,953,478	2,024,303	70,825	3.6%
3	1,294,484	1,370,722	76,238	5.9%
4	1,586,765	1,656,770	70,005	4.4%
5	1,252,076	1,277,530	25,454	2.0%
6	587,060	587,749	689	0.1%
State	8,935,421	9,294,431	359,010	4.0%

419,027, or 41,903 persons per year over the 2015-2025 period, due to its intermingling of the forecasted 2025 population and observed 2015 population without an appropriate adjustment. This modeling error increased the resulting forecast by nearly 2,900 persons per year above the growth projected by the forecast model Dr. Kinsey relied upon.

³⁰ These estimates are available online at: <<https://www2.census.gov/programs-surveys/popest/datasets/2010-2016/counties/totals/>>

4.2 POPULATION IN HOUSEHOLDS

The next step of the Prospective Need calculation is to estimate the increase in the subset of the total population that is living in households over the 2015-2025 period. This is accomplished by estimating and deducting the proportion of the state's population living in group quarters (i.e. the non-household population) in both 2015 and 2025. The remaining population represents the population in households at the beginning and end of the Prospective Need period.

The base unit of the calculation of affordable housing need is households, rather than total population. Translating forecasted growth in population into forecasted growth in the number of households requires first deducting the estimated “non-household” population in 2015 and 2025. This step yields the estimated “population in households” at the start and end of the Prospective Need period, which can then be translated into the estimated number of households.

The population of “non-householders” are those that the Census Bureau classifies as living in “group quarters.” These group quarters include correctional facilities, nursing homes, college dormitories, military quarters, mental hospitals, and other such group facilities. Each person in the state of New Jersey is classified by the Census Bureau as living in either a household or in group quarters. Therefore, by definition, deducting the population in group quarters from the total population yields the population in households.

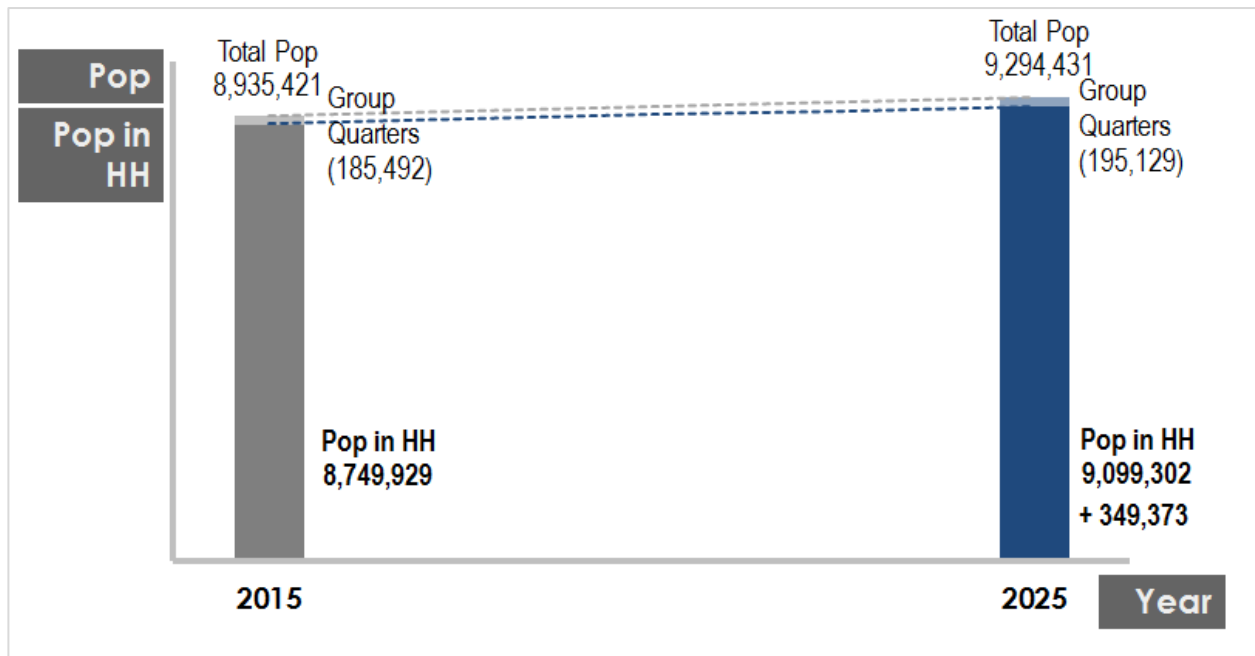
The group quarters population is most accurately reported at the county and age cohort level in the decennial Census. Therefore, the proportion of the population in group quarters from the 2010 Census (the most recent available) is carried forward by age cohort and county. These proportions are adjusted to reflect the most recent estimates of group quarters proportions by county, which is achieved by adjusting the countywide group quarters populations reported in the 2015 ACS for the latest revisions in countywide population (as described in Section 4.1.2) and distributing the differential in 2010 and 2015 group quarters populations in each county evenly across each age cohort.

Next, half the rate of change observed in the previous decennial Census period is applied within each age and county cohort to generate the group quarters estimate for 2025.³¹ This approach results in a relatively stable projection of the group quarters population over time, projecting modest growth in the proportion of the population in group quarters from 2.08% in 2015 to 2.10% in 2025. Accordingly, the projected increase in the population in households over the 2015--2025 period is approximately 349,400, slightly lower than the total population growth of about 359,000 (see Table 4.4 and Figure 4.4).

³¹ This approach is parallel to the projection approach used for headship rates, described more fully in Section 4.3 below.

TABLE 4.4: PROJECTED POPULATION IN HOUSEHOLDS 2015-2025 BY REGION AND STATEWIDE

Region	Population 2015	Group Quarters Rate	Population in HH 2015	Projected Population 2025	Group Quarters Rate	Population in HH 2025	Pop in HH Increase 2015-2025
1	2,261,558	1.27%	2,232,815	2,377,356	1.38%	2,344,536	111,721
2	1,953,478	2.00%	1,914,428	2,024,303	2.07%	1,982,423	67,995
3	1,294,484	3.07%	1,254,724	1,370,722	3.21%	1,326,756	72,032
4	1,586,765	1.90%	1,556,559	1,656,770	1.77%	1,627,376	70,817
5	1,252,076	1.90%	1,228,325	1,277,530	1.79%	1,254,612	26,287
6	587,060	4.09%	563,077	587,749	4.11%	563,599	522
State	8,935,421	2.08%	8,749,929	9,294,431	2.10%	9,099,302	349,373

FIGURE 4.4: STATEWIDE POPULATION IN HOUSEHOLD PROJECTION, 2015-2025

4.3 HEADSHIP RATES AND HOUSEHOLDS

The next step of the Prospective Need calculation is to estimate the increase in households over the 2015-2025 period. This is accomplished by translating the population in households forecast into an estimate of households by applying an estimated "headship rate," or average household size, for 2015 and 2025.

Households form the base unit for the estimation of incremental affordable housing need. Accordingly, estimates of growth in population in households must be translated into estimates of the volume of households. COAH's Round 2 methodology and this analysis undertake this step by developing an estimate of the "headship rate" and applying it to the projection of the population in households.

The "headship rate" is the probability that a given individual is a head of a household, or "householder." Mathematically, the headship rate is the number of households divided by the population in households. The headship rate can also be calculated and expressed as the inverse of the average household size (for example, an average household size of 4 equates to a headship rate of 25%, or 1/4). Applying headship rates to the population in households for 2015 and 2025 (as estimated in Section 4.2) yields an estimate of the number of households at the start and end of the Prospective Need period.

Updating COAH's Round 2 approach involves identifying both the appropriate estimate of current headship rates as a starting point, and the appropriate trend in headship rates to apply forward. This analysis can therefore be broken into two steps. First, the headship rates are determined as of the start of the Prospective Need period in 2015, based on most accurate available observed data. Then, headship rates are projected for the end of the period in 2025, based on COAH's Round 2 approach of incorporating prior headship rate trends.

Estimating 2015 Headship Rates

The most up to date direct data on current headship rates by county is the 2015 One-Year ACS, which reports a statewide headship rate of 36.3%. However, literature on the comparability of ACS and decennial Census data suggests systematic differences in household counts between the two data sources. Due to its more robust methodology and sampling, the household level reported in decennial Census data is generally considered more reliable where the two data sources overlap.

By definition, however, the decennial Census data cannot yield any insight on changes in the household count since 2010, meaning that the 2015 data does provide additional information, provided it can be appropriately adjusted. To correct for the mismatch in Census and ACS data,

the 2015 ACS estimates for each county and age cohort are adjusted based on the observed relationship between 2010 ACS and 2010 Census estimates.³²

ACS 2015 household estimates are based on housing unit counts from the vintage 2015 housing unit estimates released by the Census Bureau, adjusted for the vacancy rate estimated from the ACS survey data. Vintage 2016 estimates from the Census Bureau, released in May 2017, include slight revisions to these 2015 estimates by county, which indicate an increase of 102 housing units over the previous estimate.³³ A ratio is also developed for each county to reflect this revision, and is combined with the ACS/Census ratio into a single “correction ratio” for each county. This approach allows for the most reliable data source (Census) to be combined with the most up to date data source (ACS) to yield the most accurate estimate of households as of 2015.

This household estimate is then compared to the population in household calculation described above (which has similarly been adjusted to incorporate Census 2010 data and the most recent Census Bureau revisions to 2015 estimates) in order to yield the headship rate in each age cohort and county and statewide for 2015. This yields a statewide headship rate of 36.92% as of 2015.

Projecting 2025 Headship Rates

Headship rates can vary due to a variety of social, economic and demographic factors. Headship rates are positively correlated (*i.e.* increasing) with age, most notably because children are rarely the head of a household, but also generally continuing to increase throughout working years and into retirement years. A projection of future headship rates therefore must take into account the

³² This issue and the associated research were first identified by FSHC expert Daniel McCue in his submissions in January 2016. ESI discusses the technical aspects in detail in our February 19, 2016 *Response to Comments* Report. That report and subsequent submissions adopt the corrective approach proposed by Mr. McCue, which is retained within this methodology (updated to the latest available data for 2015). Recent methodologies prepared by Dr. David Kinsey for FSHC have also adopted this approach, aligning household estimates for 2015.

³³ The vintage year refers to the most recent year of data included at the time that Census data is released, rather than the year in which it is released. Each new vintage of Census data on population and housing units includes revisions to prior years of data. Therefore, for example, the vintage 2016 data (which was released in 2017 and represents the most updated available source) also includes revisions to 2015 data, as well as prior years. The Census Bureau methodology documentation states clearly that estimates of prior years from each new vintage supersede the previous series:

With each annual release of population estimates, the Population Estimates program revises and updates the entire time series of estimates from April 1, 2010 to July 1 of the current year, which we refer to as the vintage year. We use the term “vintage” to denote an entire time series created with a consistent population starting point and methodology. The release of a new vintage of estimates supersedes any previous series and incorporates the most up-to-date input data and methodological improvements.

[U.S. Census Bureau “Methodology for the United States Population Estimates: Vintage 2016, Nation, States, Counties and Puerto Rico – April 1, 2010 to July 1, 2016]

changing age distribution of the population (notably, the New Jersey population has in aggregate been aging for years and is projected to continue to do so).

However, headship rates within age cohorts may also change moving forward for several reasons. These reasons include economic factors, such as student debt and economic challenges which have caused an uptick in the proportion of the millennial generation staying in or moving back into their parent's households. They also include long-term societal and generational trends like longer and healthier lifespans (which reduce the proportion of widows and sole householders among the elderly) and the continued increase in the age of first marriages and children. To account for these factors, many projections of headship rates at the national level incorporate trends in headship rates for age cohorts or demographic groups in developing their forecasts.³⁴

Similarly, COAH's Round 2 methodology sets forth an approach that accounts for both changes across age cohorts and trends within age cohorts in developing its projection of headship rates. It is described as follows:

Headship rates are determined by age group and county in New Jersey in 1990 and extended into the future at one-half the rate of change observed from 1980 to 1990.

[26 NJ. Reg. 2347]

Through this approach, the Round 2 methodology recognizes the importance of long-term shifts in societal preferences, health care technology, and other factors, and therefore carries them forward, while dampening the rate of change by one-half. This provides for a more conservative approach that in effect "splits the difference" between applying the trend fully and assuming no trend. Within each age cohort, the trend from the prior period is carried forward with a downward adjustment. Simultaneously, the redistribution of the population across age cohorts and counties is incorporated.

The combined ACS/Census estimate of 36.92% is used as the starting point from which the headship rate trend is applied. Due to the greater reliability of decennial Census data, the trend observed in headship rates between 2000 and 2010 is preferred as the appropriate and most

³⁴ For example, the most recent projections of household formation and growth from both the Harvard Joint Center for Housing Studies and The Urban Institute discuss the downward movement in headship rates for most demographic groups over time, and incorporate data from those trends into their forecast methodology. See:

Daniel McCue and Christopher Herbert, Harvard Joint Center for Housing Studies, *Updated Household Projections, 2015-2035: Methodology and Results* (December 2016), which states that "...rather than continuing JCHS's recent practice of holding headship rates constant, we use trended headship rates as the basis for the revised projections" (cover page).

Laurie Goldman, Rolf Pendall and Jun Zhu, The Urban Institute, *Headship and Homeownership: What Does the Future Hold* (June 2015), which states "To develop our scenarios of housing demand, we use observed households and homeownership rates by age and race from 1990, 2000 and 2007-2013, extending or replicating the cohort-specific changes in those rates to 2020 and 2030 (page 14).

statistically robust trend from which to project future changes in headship rates.³⁵ The comparison of data from one decennial Census to the next to define the trend also tracks with COAH's Round 2 approach.

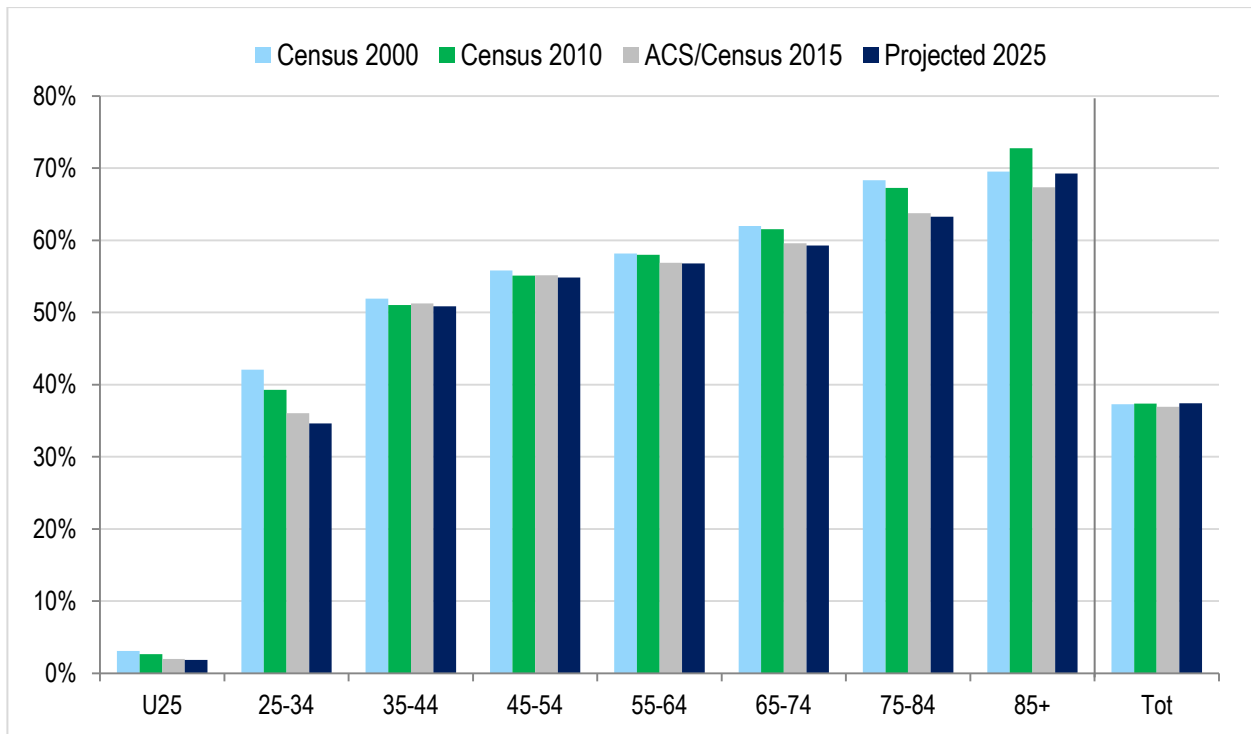
Over the 2000-2010 decennial Census period, statewide within age cohort headship rates declined for nearly every age cohort.³⁶ However, changes in the distribution of the population towards age cohorts with higher headship rates led to a slight increase in the statewide headship rate on a statewide basis over this period, from 37.28% in 2000 to 37.35% in 2010. Said another way, the greater "weighting" on older households as a result of the population aging led to a slight increase in statewide headship rate, even as nearly every age group had a lower headship rate in 2010 than in 2000.

The Round 2 methodology applies half of the rate of change observed over the previous a ten-year decennial Census period within each age cohort in each county to formulate its projection for the Prospective Need period. We follow this Prior Round method, applying half the rate of change observed between the 2000 and 2010 Census for each age and county cohort to the starting point estimate for 2015 from ACS and Census data described above. This calculation results in a headship rate projection for each of the 168 combinations of 21 counties and 8 age cohorts. No single statewide rate is applied, but instead the statewide effective rate results from aggregating the county and age cohort projections.³⁷ Figure 4.5 below shows the resulting headship rate estimates aggregated statewide by age cohort for 2025, relative to the same aggregations in the Census 2000, Census 2010 and ACS/Census 2015 data.

³⁵ It should be noted that this downward trend from Census 2000 to Census 2010 is less steep for most county and age cohort combinations than the trend yielded by including the most up to date ACS data for 2015. In this instance, the advantage of the statistical robustness of the decennial Census trend is judged to outweigh the advantage of recency gained by incorporating the most up to date data from ACS.

³⁶ Headship rates increased from 2000-2010 only among the population 85 and older, which represented only about 2% of the statewide population. Each of the seven younger age cohorts saw a decrease in headship rates over this period, as illustrated in Figure 4.5 below.

³⁷ Note that the effective rate changes due to changes in the population distribution even if the headship rate within each age cohort and county is assumed to stay flat. The only way to produce a truly constant statewide headship rate irrespective of the population distribution would be to apply a single statewide rate.

FIGURE 4.5: STATEWIDE HEADSHIP RATE BY AGE COHORT, OBSERVED AND PROJECTED

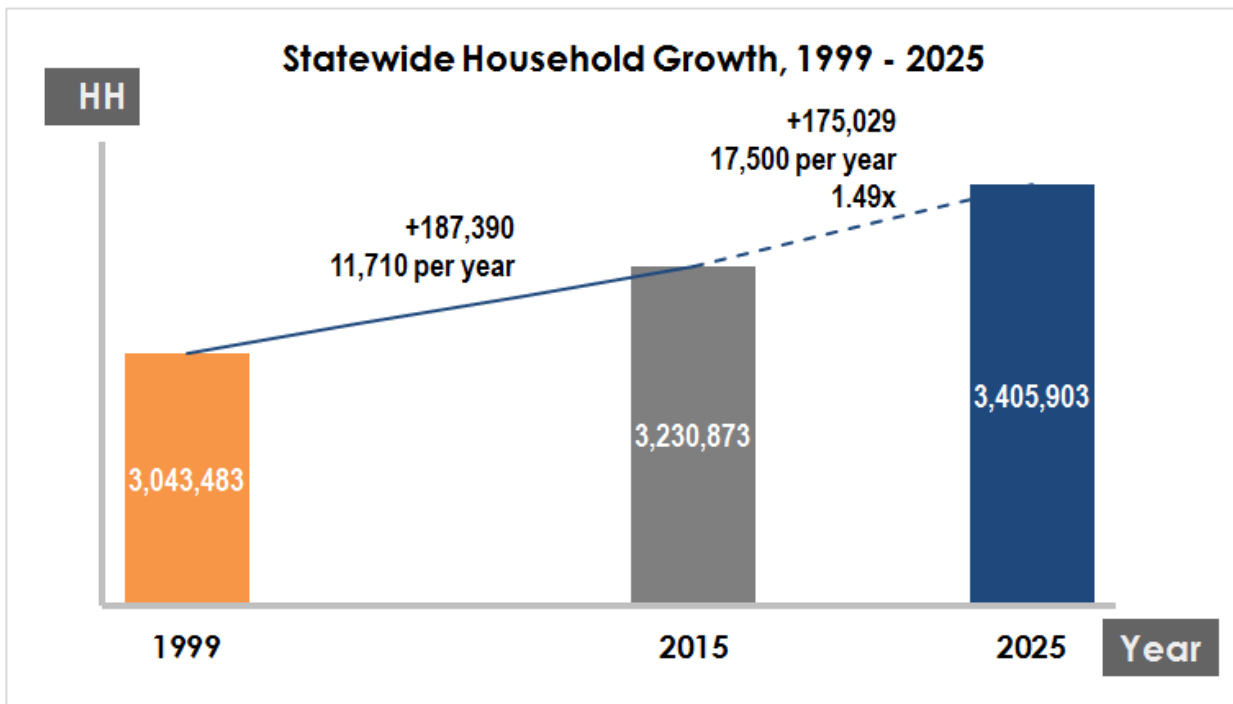
The resulting headship rates for each age cohort and county are multiplied by the projected population in households to arrive at a projection of the number of households headed by members of that age and county combination in 2025. The effective headship rate yielded by this procedure is 37.43% for 2025, up from the 36.92% statewide rate from 2015. This result indicates that the generally decreasing within-age cohort trends are outweighed by the changing distribution of the population towards the older cohorts with higher headship rates. As discussed above, this same dynamic was observed in the 2000-2010 Census period, and is anticipated to accelerate from 2015-2025 with the aging of the disproportionately large “baby boomer” generation.

Set against the population in household projections shown in Table 4.4, the projected headship rates yield an estimate of household growth by region across this period totaling approximately 175,000 statewide households (see Table 4.5).

TABLE 4.5: HEADSHIP RATES AND HOUSEHOLDS 2015-2025 BY REGION AND STATEWIDE

Region	Pop in HH 2015	Headship Rate	Households 2015	Pop in HH 2025	Headship Rate	Households 2025	HH Increase 2015-2025
1	2,232,815	36.7%	818,727	2,344,536	37.2%	872,734	54,007
2	1,914,428	36.8%	705,003	1,982,423	37.3%	739,556	34,553
3	1,254,724	35.8%	448,929	1,326,756	36.5%	484,138	35,208
4	1,556,559	37.6%	585,988	1,627,376	38.0%	619,197	33,210
5	1,228,325	37.1%	455,485	1,254,612	37.6%	471,526	16,041
6	563,077	38.5%	216,742	563,599	38.8%	218,752	2,010
State	8,749,929	36.92%	3,230,873	9,099,302	37.43%	3,405,903	175,029

The methodology described above for population projections, group quarters estimates, and headship rates are based on the approach employed by COAH in Round 2. It is also useful to examine the reasonableness of the projections that it yields relative to observed population and household growth trends in New Jersey. As detailed in Section 6, observed data is available on household growth over the gap period, the 16 years from July 1, 1999 to July 1, 2015. Over this time, the state saw an increase of 187,390 households, or 11,710 per year. Projected household growth over the Prospective Need period is 17,500 per year, nearly 1.5x the annualized observed growth from the gap period (see Figure 4.6).

FIGURE 4.6: PROJECTED STATEWIDE POPULATION AND HOUSEHOLD GROWTH RELATIVE TO PRIOR PERIOD

4.4 MEDIAN INCOME AND LMI PROPORTION

The next step in the Prospective Need calculation is to determine the increase in LMI households over the 2015-2025 period. This is accomplished by estimating the proportion of total households qualifying as LMI at the beginning and end of the Prospective Need period, and applying those proportions to the estimated number of households in 2015 and 2025 (as calculated in Section 4.3).

Since the number of households at the start and at the end of the Prospective Need period has been estimated in the prior step, this is accomplished by estimating the proportion of those households that qualify as low or moderate income at each point in time. This step yields an estimated number of LMI households at the beginning and end of the prospective period. The difference between these figures is the incremental LMI household growth.

Multiple challenges must be addressed to perform this calculation correctly. The first is properly defining the median income and the associated LMI thresholds (discussed in Section 4.4.1), while the second is accounting for changes in the population distribution over the course of the Prospective Need period relative to the LMI thresholds (discussed in Section 4.4.2). The methodological approach employed in the Prior Round is highly problematic in both of these aspects, containing clear conceptual and statistical flaws, and failing to implement the LMI definition established in the Fair Housing Act. This analysis develops and executes a revised procedure consistent with both applicable law and statistical principles.

4.4.1 DEFINING MEDIAN INCOME

The income limits utilized in the Round 2 methodology conflict with the FHA's definition of LMI households, and suffer from severe statistical flaws that distort the results of the calculation. Accordingly, this analysis determines LMI income limits directly from observed data under the FHA definition. These limits are utilized to determine the proportion of households qualifying as LMI as of 2015.

The Fair Housing Act provides definitions of low and moderate income housing which form the textural basis for defining median income and LMI thresholds in the calculation of affordable housing obligations. The FHA sets forth a specific definition of what constitutes an LMI household, in addition to providing guidance on what constitutes housing affordable to such a household. The FHA defines moderate income housing as follows:³⁸

³⁸ The discussion below focuses on the definition of “moderate income housing,” since the threshold for this group forms the upper bound on the statistical LMI definition. The definition of “low income housing” is parallel in construction and in concept to the definition of moderate income. The income threshold for low income housing is simply set at “50% or less of the median,” rather than “more than 50% but less than 80% of the median” for moderate income housing (N.J.S.A. 52:27D-304 c).

“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% but less than 80% of the median gross household income for households of the same size within the region in which the housing is located.**

[N.J.S.A. 52:27D-304(d), emphasis added]

This definition establishes two standards: an “income standard” to determine whether households qualify as moderate-income (and therefore LMI), and an “affordability standard” to determine whether a unit is affordable to such a household. The definition plainly specifies the “income standard” by which moderate income households are defined as “households with a gross household income equal to more than 50% but less than 80% of the median gross household income for households of the same size within the region in which the housing is located.”

Prior Round methodologies determined regional median incomes for the purpose of income qualification according to the procedures employed by the federal Department of Housing and Urban Development (HUD). However, the FHA definition above references the use of HUD standards, or other recognized standards, with respect to “home ownership and rental costs.” This represents the “affordability standard” within the definition of moderate income housing, which does not inform whether a household qualifies as LMI, but rather the appropriate housing for households that do qualify. While the income percentage relative to median income is specified clearly by the FHA, no specific data source for the income standard is identified in the definition.³⁹

An analysis of household income definitions and data, undertaken below, demonstrates that COAH’s definition and calculation of LMI households conflicts with the clear statutory standard. Specifically, the Round 2 procedure does not in fact properly identify “households with a gross household income equal to more than 50% but less than 80% of the median gross household income for households of the same size within the region in which the housing is located” as required by the FHA. Given this conflict, our methodology implements the statutory standard.

The LMI standard utilized in the Round 2 methodology is based on a transformation of income thresholds defined by the HUD. HUD defines median family income, rather than household

³⁹ Note that while FSHC’s critiques of ESI’s methodology claim that income thresholds must rely on HUD or “other recognized standards,” this language in the FHA refers to standards relating to the affordability of a unit, rather than the income-eligibility of the households. Indeed, in prior analyses, FSHC expert Dr. Kinsey appropriately defined low and moderate income households under the FHA in the following passage, which makes no reference to “other recognized standards”:

The Fair Housing Act defines low and moderate income households as households with gross household incomes, respectively, of 50 percent or less and between 50%-80% of the regional household median income adjusted for household size. N.J.S.A. 52:27D-304 c. and d

[Kinsey/FSHC July 2014 Prospective Need report, page 2, footnote 3]

income, for a family of four in each county (based in some cases on aggregations of data including other counties or even other states). The Round 2 methodology then multiplies this figure by the number of households in each county, sums this number with the parallel number from the other counties in the region, and divides the total by the total number of households in each region. This process produces what the Round 2 methodology calls “the regional weighted average of median income for a household of four” rather than a true median.⁴⁰ This estimated median for a family of four is then adjusted based on a “factor,” or multiplier, supplied by HUD to adjust median income for household sizes smaller and larger than four without incorporated any observed data on households of any other size.⁴¹

The LMI threshold for the purpose of estimating affordable housing need is then calculated as 80% of this adjusted estimate of the median for each household size. This threshold is then compared to household income data from the ACS to estimate the proportion of LMI households.

Serious statistical problems arise from this methodology. These include the intermixing and comparison of non-like data sources (family and household income), use of out of state data, improper averaging of medians, and most importantly, failure to use observed data for any household size other than four persons. As reviewed below, these statistical flaws result in calculated “median incomes” by region and household size that diverge significantly from observed median incomes in ACS data.

Statistical Flaw: Intermixing of Data Sources

The method described above intermixes non-like data sources by defining income thresholds for LMI households through a different statistical measure than it uses to assess whether households qualify as LMI. First, a HUD standard, which uses median *family* income, is used to establish the income threshold for LMI households. Then, the median *household* income of New Jersey’s households is used to determine the proportion qualifying as LMI. These measures are drawn from distinct pools of the population, as only a portion of households are defined as families within ACS data (notably excluded single person households) and these pools therefore have distinct medians.⁴²

Due to differentials in the pools from which they are drawn, median family income is significantly higher on a statewide basis than median household income. According to ACS 2015 1-Year data,

⁴⁰ 26 NJ. Reg. 2332

⁴¹ For example, the factor is 0.9 for a family of three, meaning that the median income threshold is set to 90% of the median income defined for a family of four. See the bottom row of Table 4.6 for the full list of factors applied.

⁴² In testimony related to this issue, Dr. Kinsey has referenced HUD’s definition of households as inclusive of single persons, a group excluded from the ACS family definition. This HUD definition is irrelevant in this context, since HUD’s calculation of the median is drawn from the ACS-reported family income, which uses the ACS family definition including considerably fewer households.

New Jersey's median family income was \$90,245 in 2015, 25% higher than the state's median household income of \$72,222. This overstated median translates into an overstated LMI threshold, under which additional households would be found to qualify as LMI. This statistical mismatch does not accurately identify the proportion of households below 80% of the regional household income, as specified in the FHA.

Statistical Flaw: Use of Out of State and Out of County Data

While HUD produces income data for each county, these results are often drawn from income data for multiple counties within an area. In these instances, reported income levels will be identical for multiple counties, even though observed incomes in the ACS (whether household income or family income) naturally vary between counties. For example, HUD's "Income Limits Documentation System" reports identical median incomes for Essex, Morris, Sussex and Union counties.⁴³ It notes for each county that it is "part of the Newark, NJ HUD Metro FMRA Area" consisting of the four counties listed above (which span housing regions 1 and 2), and that "all information presented here applies to all of the Newark, NJ HUD Metro FMR area."

This problem is compounded for the four counties in southern New Jersey that are part of the Philadelphia-Wilmington-Camden Metropolitan Statistical Area (MSA) (Burlington, Camden and Gloucester counties in region 5 and Salem County in region 6). HUD reports identical income data for each of these counties, and notes that they are "part of the Philadelphia-Camden-Wilmington, PA-NJ-DE-MD MSA" and that "all information presented here pertains to all" of that MSA. In practice, this means that income data from any of these four counties are drawn not only from families from other counties, but indeed from data on family incomes in other states (Pennsylvania, Delaware and Maryland).

Further, due to the composition of the Philadelphia-Camden-Wilmington MSA, the vast majority of this data used to define income limits in New Jersey is drawn from outside of the state. For instance, Burlington, Camden and Gloucester counties comprise the entirety of housing region 5, and each are assigned identical data from the full MSA. The combined population of these three counties is approximately 1.25 million – about 20% of the total MSA population of approximately 6.1 million. This means that most of the data used to define income limits in this region comes from outside of the housing region, in plain contradiction to the FHA standard, and indeed from outside of New Jersey.

Statistical Flaw: Averaging of Medians

Next, COAH averages these county level medians provided by HUD to calculate a median for the region. As a matter of mathematics, the median for a region is not the weighted average of

⁴³ See: <<https://www.huduser.gov/portal/datasets/il.html>>

medians for component counties of the region, but rather a distinct result that can only be calculated through direct analysis of the distribution of incomes within the entire region. In other words, COAH's method of calculating region-wide medians does not necessarily result in the correct median for the region.

Statistical Flaw: Application of Adjustment “Factors” by HH Size Rather than Observed Data

The most problematic statistical issue in the methodology used to specify the LMI threshold is the “factors” applied to adjust the threshold up (for household sizes above four) and down (for household sizes below four). These factors are utilized in place of observed data for every household size other than four persons. Unfortunately, the factors do not reflect the actual relationships between median household incomes for various household sizes within the observed data. Table 4.6 below shows the median income by household size and region used by COAH to compute LMI thresholds in 2014, while Table 4.7 shows observed median income by household size and region as reported in 2014 One-Year ACS data.⁴⁴

⁴⁴ The analysis below utilizes data from 2014, the last year for which COAH published income limits. The statistical issues identified and demonstrated for 2014 also apply to 2015 (the base year of the Prospective Need period) if income limits are updated for 2015 utilizing this framework, as has been done by Dr. David Kinsey in his recent methodology reports for FSHC.

TABLE 4.6: COAH-CALCULATED MEDIAN INCOME BY HOUSEHOLD SIZE AND REGION, 2014

Region	Household Size ⁴⁵							
	1	2	3	4	5	6	7	8+
1	\$59,095	\$67,538	\$75,980	\$84,422	\$91,176	\$97,930	\$104,683	\$111,437
2	\$63,430	\$72,492	\$81,553	\$90,614	\$97,864	\$105,113	\$112,362	\$119,611
3	\$73,500	\$84,000	\$94,500	\$105,000	\$113,400	\$121,800	\$130,200	\$138,600
4	\$64,830	\$74,091	\$83,353	\$92,614	\$100,023	\$107,432	\$114,841	\$122,250
5	\$57,050	\$65,200	\$73,350	\$81,500	\$88,020	\$94,540	\$101,060	\$107,580
6	\$51,085	\$58,383	\$65,681	\$72,979	\$78,817	\$84,656	\$90,494	\$96,332
Factor	0.7	0.8	0.9	1	1.08	1.16	1.24	1.32

TABLE 4.7: OBSERVED MEDIAN HOUSEHOLD INCOME BY HOUSEHOLD SIZE BY REGION, 2014 ACS

Region	Household Size						
	1	2	3	4	5	6	7+ ⁴⁶
1	\$35,150	\$75,420	\$85,300	\$100,000	\$94,400	\$103,400	\$98,200
2	\$34,000	\$78,400	\$90,000	\$107,500	\$103,100	\$96,400	\$92,000
3	\$44,400	\$85,900	\$100,500	\$127,000	\$120,400	\$150,000	\$82,020
4	\$32,400	\$78,400	\$97,290	\$109,660	\$120,000	\$101,004	\$99,600
5	\$31,200	\$76,800	\$96,600	\$112,900	\$97,700	\$102,500	\$111,200
6	\$25,000	\$61,200	\$67,500	\$86,200	\$69,900	\$49,500	\$72,600

The COAH calculation implies, for example that one-person households have a median income 7/8 as high as that two-person households (since the median calculation is to multiply the four-person household benchmark by 0.7 for a one-person household and by 0.8 for a two-person household). ACS data, however, shows that median household incomes for two-person households were in fact more than twice as high as that of one-person households in every region in New Jersey in 2014.⁴⁷ As a result, estimated median incomes for one-person households in every region using the COAH calculation are well above (in some cases nearly

⁴⁵ We note that COAH's published income limits refer to "persons" rather than "household size." Since the affordable housing eligibility limits in the FHA are defined relative to household size, and this definition is incorporated into this methodology and the associated ACS data used for analysis, the term "household size" is used throughout this section for consistency.

⁴⁶ Due to sample size limitations for households of 8 persons or larger at the county level, LMI calculations from ACS data throughout this section aggregate all households of 7 persons or larger into one category.

⁴⁷ This likely reflects that many two-person households have dual earners, and that two-person households may be correlated with other markers of higher earnings, such as age or marital status. Regardless of the causal mechanism, it is clearly observed in ACS data.

double) the actual median income for one-person households in those regions. Conversely, observed median incomes do not always rise linearly with increasing household size (as assumed by the “factors” approach). The estimated medians resulting from the COAH calculation for large households are well above the observed median income for those household sizes in most regions, but below the actual median income for households of two to four persons. Figure 4.7 below shows this mismatch for Region 1.

FIGURE 4.7: COMPARATIVE 2014 MEDIAN INCOME CALCULATIONS BY HOUSEHOLD SIZE, REGION 1

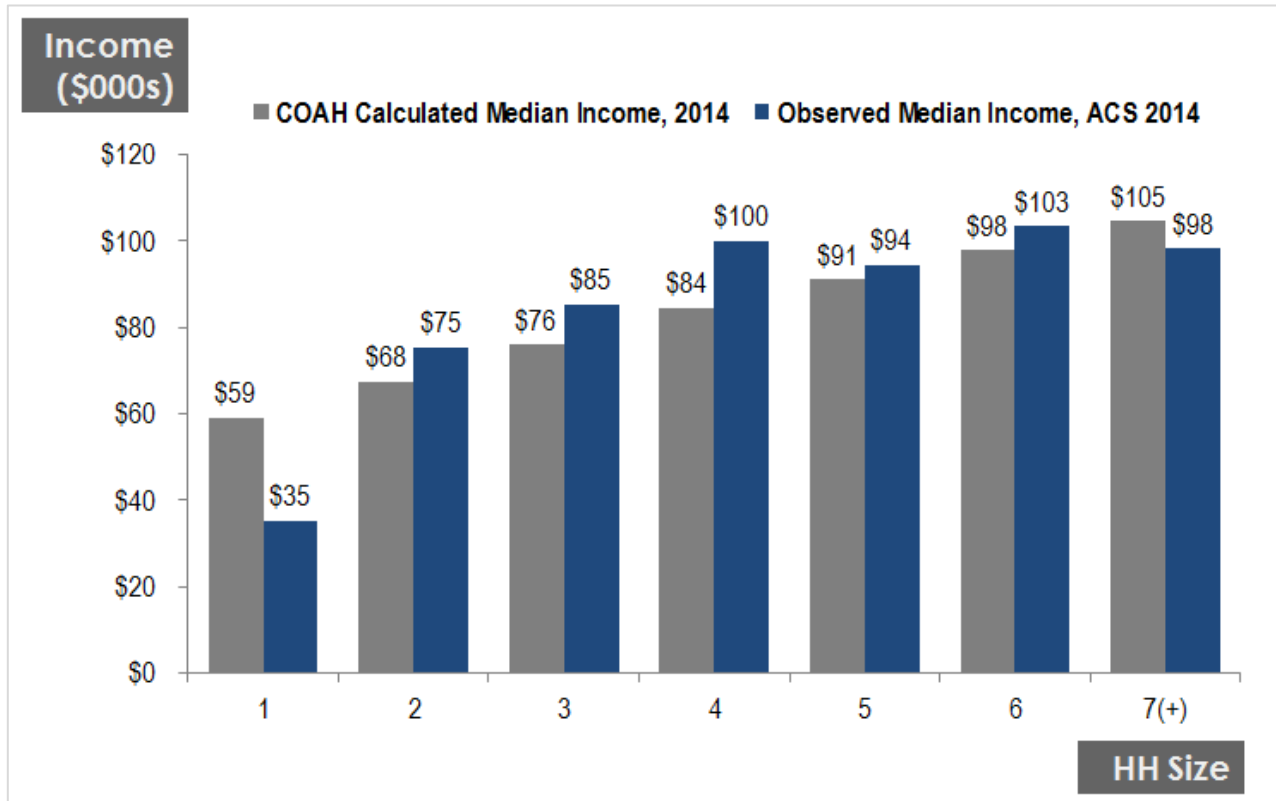


Table 4.8 shows that as a result of these definitional issues, observed ACS data indicates that more than 70% of one-person households in each region had a household income below the COAH-calculated median for 2014. Statewide, 52.2% percent of households had incomes lower than the COAH-calculated median for their household size for 2014, which of course violates the statistical definition of a median. This flawed median thereby produces a flawed calculation of LMI households based on income thresholds set at 80% of that median.

**TABLE 4.8: PROPORTION OF HOUSEHOLDS BELOW COAH CALCULATED MEDIAN INCOME
BY HOUSEHOLD SIZE BY REGION AND STATEWIDE, 2014**

Region	State	Household Size							
		1	2	3	4	5	6	7	8+
1	51.4%	70.1%	44.9%	45.3%	42.3%	48.7%	46.5%	52.2%	66.3%
2	53.6%	75.4%	46.2%	45.5%	40.3%	47.4%	50.6%	62.7%	57.5%
3	52.2%	73.4%	49.2%	45.6%	38.5%	46.4%	43.8%	81.9%	65.5%
4	53.2%	76.1%	47.4%	41.8%	40.9%	41.2%	53.9%	57.4%	59.5%
5	48.5%	75.5%	42.3%	36.5%	32.6%	42.4%	45.3%	45.0%	33.3%
6	55.4%	75.6%	47.4%	49.1%	40.9%	57.5%	62.1%	73.2%	37.0%
State	52.2%	74.0%	46.1%	43.8%	39.6%	46.4%	49.3%	60.8%	57.4%

**TABLE 4.9: PROPORTION OF HOUSEHOLDS BELOW COAH CALCULATED LMI THRESHOLD
BY HOUSEHOLD SIZE BY REGION AND STATEWIDE, 2014**

Region	State	Household Size							
		1	2	3	4	5	6	7	8+
1	42.4%	60.9%	36.1%	37.3%	33.3%	38.3%	34.9%	50.5%	41.0%
2	44.4%	66.2%	37.1%	35.5%	31.4%	38.6%	48.2%	44.3%	55.0%
3	42.5%	63.2%	39.4%	36.6%	29.1%	36.0%	34.4%	72.3%	55.6%
4	42.9%	67.3%	35.7%	30.9%	30.8%	33.1%	41.9%	52.4%	45.1%
5	39.2%	66.4%	33.5%	26.3%	24.5%	31.9%	31.1%	39.4%	25.7%
6	46.2%	68.1%	36.4%	37.5%	34.6%	48.4%	60.2%	62.2%	35.6%
State	42.7%	64.9%	36.3%	34.2%	30.6%	36.8%	39.8%	52.6%	45.2%

As shown in Table 4.9, 65% of one-person households statewide had incomes below the COAH-calculated LMI threshold for their household size (which are shown in Table 4.10 below) in 2014. By contrast, far less than 40% of households with 2-5 people were below the COAH calculated threshold. Statewide, 42.7% of households were estimated to be LMI under this method in 2014, which follows directly from the 52.2% of households that are (incorrectly) estimated to be below the median income (see Figures 4.8 and 4.9).

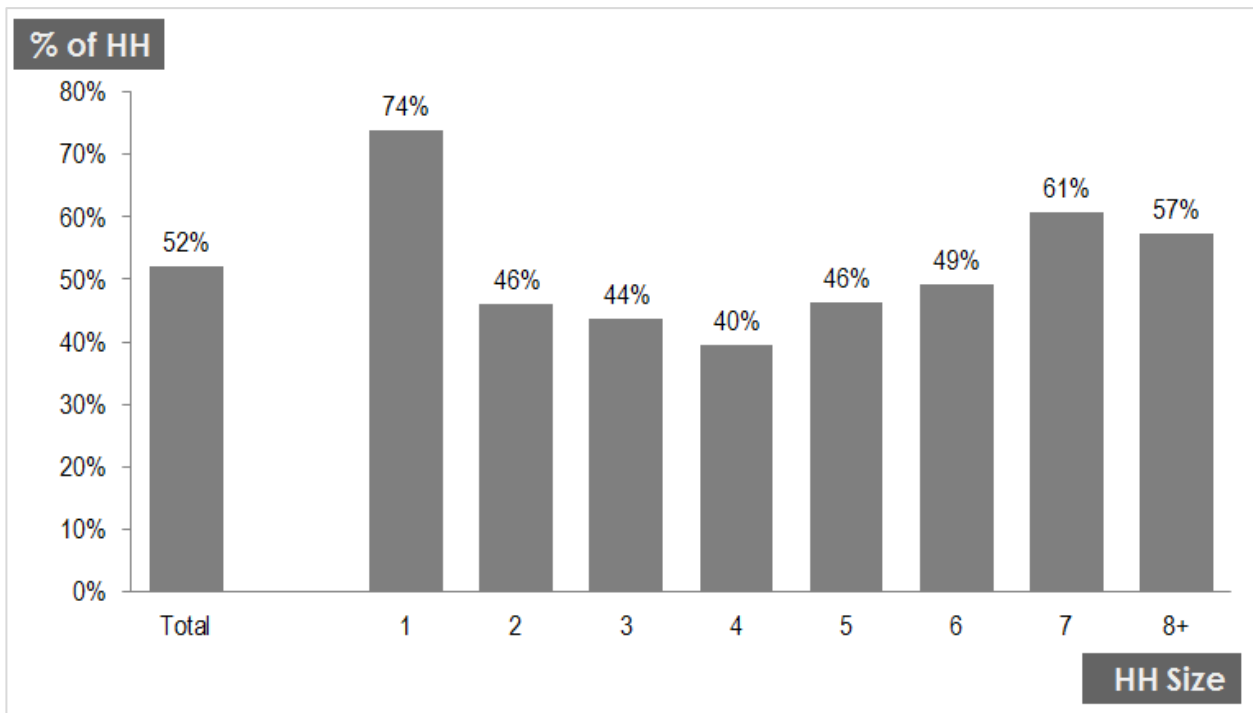
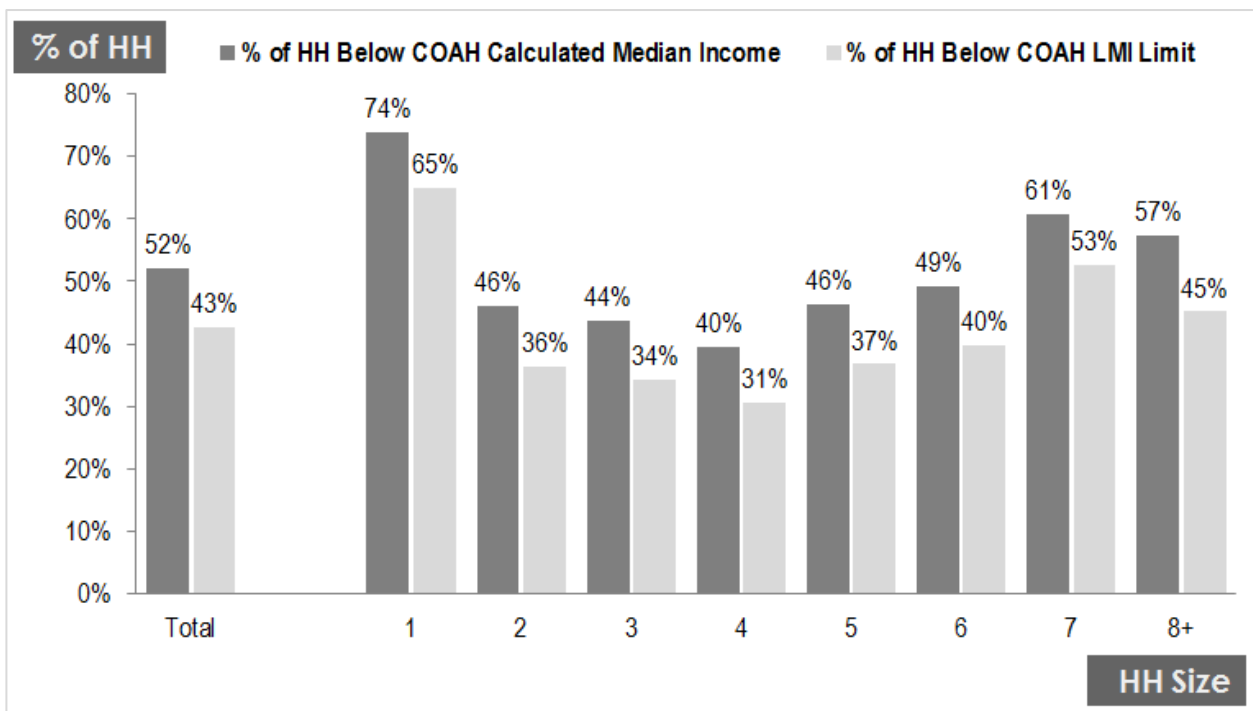
FIGURE 4.8: PROPORTION OF HOUSEHOLDS BELOW COAH-CALCULATED MEDIAN INCOME, 2014**FIGURE 4.9: PROPORTION OF HOUSEHOLDS BELOW COAH-CALCULATED MEDIAN INCOME AND COAH LMI LIMIT, 2014**

TABLE 4.10: COAH-CALCULATED LMI THRESHOLD BY HOUSEHOLD SIZE AND REGION, 2014

Region	Household Size							
	1	2	3	4	5	6	7	8+
1	\$47,276	\$54,030	\$60,784	\$67,538	\$72,941	\$78,344	\$83,747	\$89,150
2	\$50,744	\$57,993	\$65,242	\$72,492	\$78,291	\$84,090	\$89,890	\$95,689
3	\$58,800	\$67,200	\$75,600	\$84,000	\$90,720	\$97,440	\$104,160	\$110,880
4	\$51,864	\$59,273	\$66,682	\$74,091	\$80,018	\$85,946	\$91,873	\$97,800
5	\$45,640	\$52,160	\$58,680	\$65,200	\$70,416	\$75,632	\$80,848	\$86,064
6	\$40,868	\$46,707	\$52,545	\$58,383	\$63,054	\$67,725	\$72,395	\$77,066
Factor	0.7	0.8	0.9	1	1.08	1.16	1.24	1.32

This definitional problem is not simply a statistical one. As discussed above, the FHA defines moderate income housing as “reserved for occupancy by households with a gross household income ... less than 80% of the median regional gross household income for households of the same size within the region in which the housing is located.” The COAH-calculated thresholds plainly fail to satisfy that standard. For example:

- The observed regional median income for three-person households in Region 1 was \$85,300 in 2014 according to ACS (as shown in Table 4.7), and 80% of that amount is \$68,240. A three-person household in Region 1 with a household income of \$65,000 thus earns less than 80% of the regional median income but nonetheless is excluded from the projection of regional need under the COAH threshold, which incorrectly sets the LMI threshold for three-person households in Region 1 at \$60,784 (as shown in Table 4.10).
- By contrast, a one-person household in Region 1 with a household income of \$45,000 (well above the observed median income for one-person households in Region 1 of \$35,150 shown in Table 4.7) is considered LMI using the COAH threshold, which sets the LMI threshold at \$47,276.⁴⁸ This LMI threshold is well above the observed median income, rather than 80% below it due to the incorrectly specified median in the COAH calculation.

⁴⁸ Note that this threshold, set at 80% of the COAH calculated median, is well above the observed median. This incorrect specification produces the determination that the majority of one-person households are LMI, which is definitionally incorrect under the FHA.

Defining Median Incomes Directly from Observed Data

The solution to this definitional problem is straightforward – to follow the language of the FHA by calculating median household incomes directly from ACS household income data for each household size and region. This approach eliminates the mismatch between family and household incomes, eliminates the need for county data to be weighted to a regional average, and eliminates the flawed household size factors by using observed data for each household size to calculate a unique median. LMI thresholds can then be set at 80% of this median household income for each household size by region, in keeping with the FHA definition. Table 4.11 shows the resulting LMI income thresholds for each region and household size of applying this procedure using ACS 2015 data.⁴⁹

TABLE 4.11: MEDIAN INCOME AND LMI INCOME THRESHOLDS BY REGION AND HOUSEHOLD SIZE, 2015 ACS PUMS

Region	Income	1	2	3	4	5	6	7+
1	Median	\$35,000	\$77,700	\$91,000	\$105,520	\$94,700	\$90,120	\$113,000
	LMI (80%)	\$28,000	\$62,160	\$72,800	\$84,416	\$75,760	\$72,096	\$90,400
2	Median	\$35,000	\$73,500	\$90,000	\$112,000	\$109,000	\$91,000	\$95,400
	LMI (80%)	\$28,000	\$58,800	\$72,000	\$89,600	\$87,200	\$72,800	\$76,320
3	Median	\$40,000	\$85,000	\$105,000	\$124,000	\$111,200	\$129,990	\$169,500
	LMI (80%)	\$32,000	\$68,000	\$84,000	\$99,200	\$88,960	\$103,992	\$135,600
4	Median	\$35,000	\$76,700	\$100,000	\$118,700	\$117,000	\$108,600	\$81,000
	LMI (80%)	\$28,000	\$61,360	\$80,000	\$94,960	\$93,600	\$86,880	\$64,800
5	Median	\$35,100	\$75,000	\$96,800	\$104,860	\$101,800	\$95,000	\$91,330
	LMI (80%)	\$28,080	\$60,000	\$77,440	\$83,888	\$81,440	\$76,000	\$73,064
6	Median	\$28,800	\$60,300	\$75,000	\$71,900	\$72,000	\$105,800	\$59,700
	LMI (80%)	\$23,040	\$48,240	\$60,000	\$57,520	\$57,600	\$84,640	\$47,760

Public Use Micro Sample (PUMS) data from the 2015 ACS is then used to estimate the proportion of households that are LMI for each household size and region (see Table 4.12). These proportions are near, but not identical to, 40% in each region and household size.

⁴⁹ As described above, comparisons of COAH calculated medians and LMI thresholds and observed medians and thresholds shown above utilize 2014 data, to provide an apples to apples comparison of the most recent income limits published by COAH. For the purposes of calculating Gap Present Need and Prospective Need, **2015** data is utilized to align with the July 1, 2015 date which represents the endpoint of the gap period and beginning of the Prospective Need period. Statistically, this same technique can be applied to 2014 ACS data (as was done in prior iterations of ESI's methodology prior to the release of 2015 data).

TABLE 4.12: PROPORTION OF HOUSEHOLDS BELOW LMI THRESHOLD BY REGION AND HOUSEHOLD SIZE, 2015 ACS PUMS

Region	Household Size						
	1	2	3	4	5	6	7+
1	43.4%	39.7%	40.2%	37.4%	37.6%	44.9%	40.5%
2	42.2%	39.6%	41.7%	40.5%	40.0%	39.7%	39.2%
3	40.9%	38.9%	36.8%	38.0%	35.7%	35.5%	42.7%
4	41.8%	38.7%	36.9%	38.0%	35.6%	37.0%	40.6%
5	40.1%	37.9%	38.4%	35.2%	36.6%	35.6%	32.2%
6	41.7%	35.7%	42.1%	42.1%	39.9%	38.6%	40.4%

4.4.2 CALCULATING LMI HOUSEHOLDS

Next, the proportion of households qualifying as LMI (calculated above) is applied to the estimated number of households as of 2015 and 2025. This yields an estimated number of LMI households at the beginning and end of the period. The difference between these figures for each region is the incremental LMI household growth over the Prospective Need period.

To perform this calculation, it is necessary to translate the projections of total households in 2015 and 2025 in each region (which are originally calculated in age cohorts) into an estimated distribution by household size.⁵⁰ The LMI proportions (which are calculated by household size and region based on the statutory definition) can then be applied directly to this estimated household distribution.

This step begins with the estimated population in households and total households for each county as of 2015 calculated in Sections 4.2 and 4.3. The distribution of household sizes must by definition be consistent with these estimates. Therefore, we model the distribution of these household sizes by calculating the distribution that a) yields the correct number of households, and b) is most similar to the distribution of household sizes observed in the 2010 decennial Census for each county. This step is undertaken by using the “Solver” function in Microsoft Excel. This tool is commonly used in economic modeling, and other software packages would return the same result, since the process follows a defined mathematical rule.⁵¹ This same process is

⁵⁰ The “distribution” of household sizes throughout this section refers to the proportion of households in a county that are one-person households, two-person households, and so on up to households of seven persons or more. This distribution by definition sums to 100% of households.

⁵¹ The analysis applies a commonly used “least squares” standard which minimizes the sum of squared residual differences between the two distributions by household size. Accordingly, the process is reproducible, and any software package will yield the same unique optimal solution.

repeated to estimate the household distribution for 2025 (based on the estimates of population in households and total households as of that year developed in Sections 4.2 and 4.3).⁵²

This procedure based on household size can reasonably apply the LMI proportions from the beginning of the Prospective Need forward to the end of the Prospective Need because proportions are calculated for the same groups as the definition of the median income (by household size and region). Changes in the median caused by an increase or decrease in incomes in New Jersey are thus “built-in” to the metric, because those changes will cause a corresponding increase or decrease in the median income level. As a result, absent a change in the distribution of incomes, the proportion of households within a given household size and region will stay consistent.⁵³ This self-correcting feature is in contrast to COAH’s Round 2 methodology, which by its construction ignores important changes in the median income driven by demographics. The application of LMI proportions by region and household size, rather than by county and age, also greatly improves major sample size concerns inherent in updating COAH’s method with the most recent data.

Statistical Flaw: Ignores Changes in the Median Income Driven by Demographics

The Round 2 methodology, by its construction, did not account for accompanying changes in the median income as the demographics of a region changed. The Prior Round method projects future income levels by “carrying forward the income characteristics of all households...by age cohorts”.⁵⁴ In the context of the methodology, this means that the estimated proportion of households that are LMI by age cohort and county at the beginning of the Prospective Need period is carried forward to the end of the period, at which time the relative proportions of those age and county cohorts in the state’s population is projected to have changed. This is not a

⁵² It should be noted that given the established projections of households, variance in the distribution of those households by household size has little impact on the estimated number of LMI households in a region. This is the case because median income and the resultant LMI thresholds are set uniquely by household size and region, and as a result LMI rates are close to 40% for each household size (as shown in Table 4.12). This means that applying the LMI rates from the current distribution would produce nearly the same result in terms of estimated LMI households as under the re-estimated distribution. This step of re-estimating the distribution is undertaken primarily to maintain internal consistency with the headship rate and population in households estimates used, even though its impact on the overall number of LMI households is minor.

⁵³ It is of course possible for the distribution of income within a population to change (independent of the income level). However, the Round 2 methodology makes no attempt to project such change. Further, the LMI proportions derived from 80% of the median income using the ACS (shown in Table 4.12) illustrate that the proportion of those households in the “income band” between 80-100% (the relevant proportion to the calculation of LMI households) is currently near 10% for all household sizes, yielding the 39.96% statewide LMI proportion. Said another way the gap between the 50% of the population below the median income and the 40% of the population below the LMI threshold does not suggest any unusual distribution of income. Therefore, no change in distribution is assumed in this procedure.

⁵⁴ 26 NJ. Reg. 2347

mathematically sound approach for projecting county, regional or statewide incomes *relative to the median*.⁵⁵

Said another way, it may be reasonable to project that New Jersey's households will get poorer based on demographic changes (due to the aging of the disproportionately large baby boomer cohort). It does not follow from that circumstance, however, that New Jersey's households would be getting poorer *relative to the median* – since by definition, the median income itself is a statistical result of the income conditions of New Jersey's households. As the state's households get richer or poorer, due to demographics, economics, or other factors, the median household income by definition tracks that change. A change in incomes relative to the median would only be caused by changes in the *distribution* of incomes.⁵⁶ In a state with an aging population, applying the income shift caused by demographic changes without accounting for the accompanying effects on the median income is a clear mathematical flaw that will result in an overestimate of the LMI proportion of the population at the end of the Prospective Need period.

The same principle that has been described with respect to population aging and its impact on the median also applies to changes in the distribution of population and households within a region comprised of counties of varying wealth levels. For example, in a region where the population of a wealthy county (relative to the regional median) is projected to increase as a proportion of the regional population, the Round 2 methodology would conclude that the region would have fewer LMI households, since the relatively low LMI proportions from that county would be applied to a proportionally larger base of households. While it is true that aggregate wealth of a region would be increasing in this circumstance, this would not necessarily lead to changes in LMI rates relative to the median for that region, since the median incomes in the various household bands would rise to account for the wealthier population, an effect missed by the Round 2 methodology. To account for this, we aggregate households by household size at the regional level and apply the LMI proportion regionally, rather than applying proportions by county.

Statistical Flaw: Insufficient Sample Size

Another important reason to apply the LMI proportion by region and household size rather than county and age cohort is to increase the sample size of data observations from which these proportions are derived. The 2015 ACS PUMS data has 32,946 household records across the state of New Jersey for which a household income can be observed and the household can therefore be classified as LMI or non-LMI. While this statewide sample size is robust, rates are

⁵⁵ This statistical effect, manifested at the national level, is the subject of a recent article in "The Economist" magazine entitled *Silver-Haired in Clover: How Demography Distorts Household Income Statistics* (May 7, 2016).

⁵⁶ By way of example, if all households in the state were to uniformly see their income reduced by 2%, the state's median income would drop by 2%. However, the income threshold defining LMI at 80% of the median would also drop by 2% and the proportion of households that are LMI would remain identical (since household incomes would drop by the same amount as the threshold). A drop in median income therefore does not automatically imply an increase in the LMI proportion.

calculated and applied by subset, and the population is not evenly distributed across these subsets. The relevant consideration is therefore the sufficiency of the sample size across these smaller groups (or “cells” in the population matrix).

Our method divides the statewide population into 42 such cells, based on the 6 housing regions multiplied by the 7 different household sizes (as shown in Table 4.12 above). The average sample size is therefore 784 household observations per cell. The smallest sample (households of 7+ in region 6) is 27 observations, while the sample size exceeds 1,000 observations in 14 cells. LMI proportions are determined from these observations in each cell, and are then assumed to be applicable to all households within that cell.

By contrast, the Round 2 method divides the statewide population into 168 such cells, based on the 21 counties multiplied by 8 different age brackets. The inclusion of four times more cells has a corresponding effect on the average sample size with the 2015 ACS PUMS, which averages 196 observations per cell. For counties and age brackets with fewer households, the sample sizes of observations are insufficient to derive reliable LMI proportions. For example, there is an age and county combination with only 1 observation (Under 25 households in Cape May) and 7 cells with less than 10 observations. Proportions drawn from these insufficient samples are then assumed to represent the LMI status of hundreds or thousands of households across the population, further undermining the reliability of these calculations.

Results

As described above, our method applies observed LMI proportions by region and household size to the estimated volume of households in 2015 and 2025. The results of this procedure are shown for each region and statewide for 2015 and 2025 in Table 4.13. The statewide effective LMI rates yielded by this procedure are 39.52% for 2015 and 39.56% for 2025.⁵⁷

⁵⁷ Rates at the region and statewide level are referred to as “effective rates” because they are not calculated directly. Rather, they are “resultants” of directly applying LMI rates by region and household size to the incremental household growth in each of the 42 region and household size combinations. Effective rates by region and statewide are an aggregation of these results, and region and statewide effective rates would shift slightly given a different distribution of the incremental population growth.

TABLE 4.13: PROJECTED LMI HOUSEHOLDS BY REGION AND STATEWIDE, 2015 AND 2025

Region	Total Households 2015	Effective LMI Rate 2015	LMI Households 2015	Total Households 2025	Effective LMI Rate 2025	LMI Households 2025
1	818,727	40.3%	330,262	872,734	40.4%	352,543
2	705,003	40.8%	287,716	739,556	40.8%	301,909
3	448,929	38.5%	172,908	484,138	38.6%	186,780
4	585,988	38.9%	227,723	619,197	38.9%	240,877
5	455,485	37.8%	172,250	471,526	37.9%	178,523
6	216,742	39.7%	85,940	218,752	39.6%	86,733
State	3,230,873	39.52%	1,276,799	3,405,903	39.56%	1,347,366

The resulting estimate of incremental LMI household growth over the Prospective Need period is shown in Table 4.14 and Figure 4.10. Statewide, LMI households are projected to increase by approximately 70,600 from 1,276,800 in 2015 to 1,347,400 in 2025.

TABLE 4.14: PROJECTED CHANGES IN LMI HOUSEHOLDS 2015-2025 BY REGION AND STATEWIDE

Region	LMI Households 2015	LMI Households 2025	LMI HH Increase 2015-2025	Total HH Increase, 2015-2025	Effective LMI Rate, HH Increase
1	330,262	352,543	22,281	54,007	41.3%
2	287,716	301,909	14,193	34,553	41.1%
3	172,908	186,780	13,872	35,208	39.4%
4	227,723	240,877	13,154	33,210	39.6%
5	172,250	178,523	6,273	16,041	39.1%
6	85,940	86,733	793	2,010	39.5%
State	1,276,799	1,347,366	70,566	175,029	40.32%

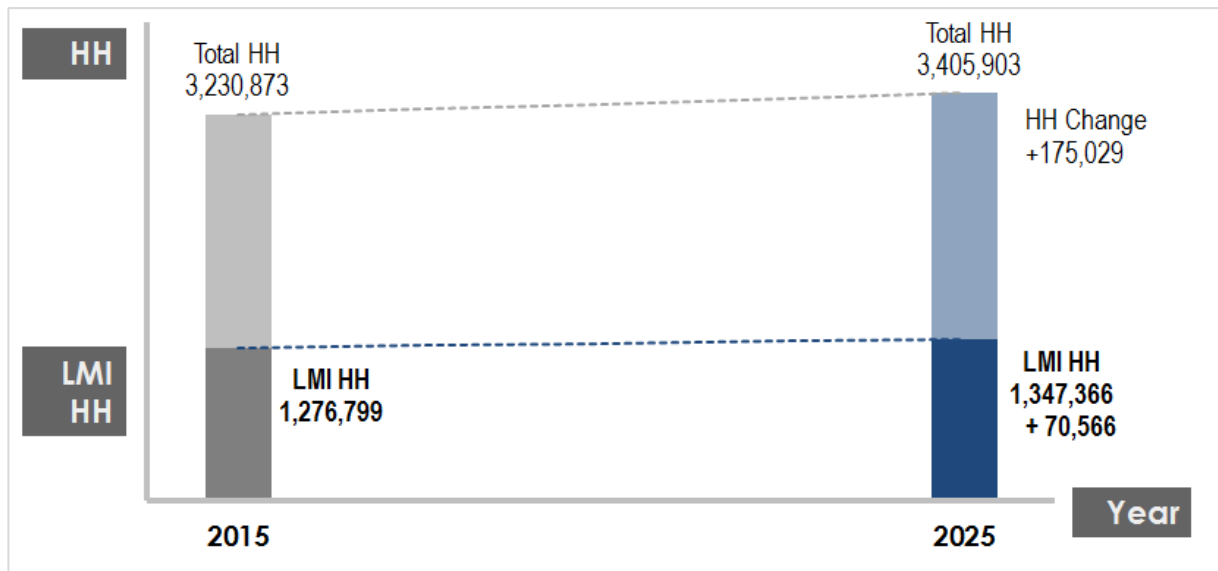
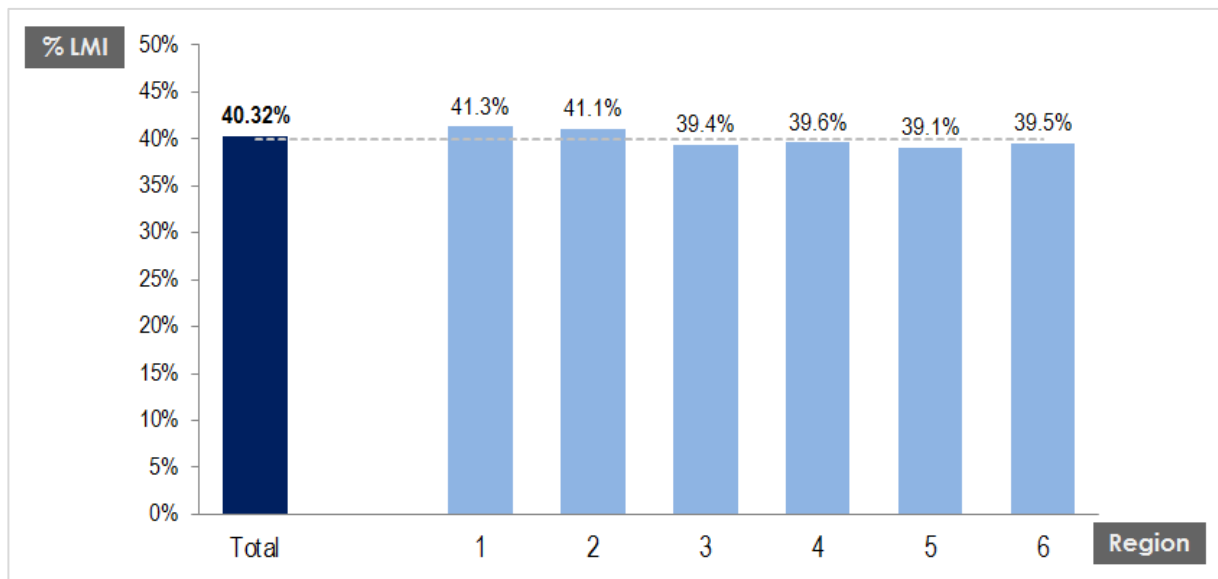
FIGURE 4.10: PROJECTED INCREMENTAL GROWTH IN STATEWIDE LMI HOUSEHOLDS, 2015 – 2025

Figure 4.11 shows the effective LMI rate among the incremental households projected to be added to each region and to the state over the Prospective Need period. As shown in Table 4.14 above, the total household increase of 175,029 over this period is estimated to yield an increase in LMI households of 70,566, for an effective LMI rate of 40.32%. By contrast, failing to account for changes in the median income driven by demographic changes can produce effective LMI rates that deviate widely from the 40% benchmark.

FIGURE 4.11: EFFECTIVE LMI RATE AMONG INCREMENTAL HOUSEHOLDS 2015-2025, BY REGION AND STATEWIDE

Contrary to some critiques of ESI's methodology, this rate is not artificially set at 40%, but instead varies by region and household size. That the statewide result is close to 40% is representative of the fact that observed data on households between 80% and 100% of the median income (*i.e.* those below the median but above the LMI threshold) aligns relatively closely with the predicted result.⁵⁸

It is worth noting, however, that this approach produces a similar mathematical result to an approach that simply assumes that the statewide or regional rate will remain the same at the beginning and end of the Prospective Need period. This "flat line" approach by definition matches the effective LMI rate with the observed rate at the beginning of the period. COAH's 2008 Round 3 methodology as well as its un-adopted 2014 Round 3 methodology each implemented versions of this approach. The 2014 appendix describes this procedure as follows:

According to these procedures, low- and moderate-income households represent 40.622 percent of all households in the state. **If 40.622 percent of the households New Jersey is expected to add between 2014 and 2024 similarly qualify for affordable housing**, Rutgers' projections imply that 62,582 additional households will qualify for affordable housing over the 10 year period.

[COAH un-adopted 2014 Methodology, Appendix C, at 52 (bold added)]

By assuming that incremental households will "similarly qualify" as existing households, this methodology implements an effective rate identical to the current observed rate (in this case, 40.622%). This result is in stark contrast to the widely varying effective LMI rates that COAH would have achieved by attempting to replicate its Round 2 methodology given the significant change in the demographic makeup of the state by 2008 and 2014.⁵⁹ While this approach lacks the mathematical precision of our preferred approach described above, it does represent an appropriate alternative method that produces a reasonable result consistent with mathematical expectations.

⁵⁸ It is worth noting that FSHC's 2014 comments on COAH's proposed (unadopted) Third Round Regulations affirm the reasonableness of this result:

COAH determined that low and moderate income households represent 40.622% of all households in New Jersey....this is intuitively correct, as the income definitions for these is those with incomes less than 80% of the median, *i.e.* 40% of the total, and reasonable. No change is recommended.

[FSHC Comments on N.J.A.C 5:98 and 5:99, August 1, 2014, Comment 58, p. 20]

⁵⁹ Recent methodologies submitted by FSHC expert Dr. David Kinsey, which seek to update the Round 2 approach for the 2015 to 2025 period, produce an effective LMI rate among incremental households of more than 2/3 over the 2015-2025 Prospective Need period. The effective LMI rate produced by Dr. Kinsey's May 2016 methodology submitted in Mercer County ranges as high as 95% for Region 6, and is 67% for Region 1.

4.5 SIGNIFICANT HOUSING ASSETS

The final step in the Prospective Need calculation is to deduct those LMI households who do not represent a housing need due to their significant housing assets. This is accomplished by estimating and deducting the proportion of LMI households with significant housing assets in both 2015 and 2025. The remaining households represent the increase in LMI housing need from 2015 to 2025, which equates to the Prospective Need for each region.

COAH has historically recognized a difference in its Prospective Need methodology between the anticipated additional volume of LMI households and the anticipated need for affordable housing. Each prior iteration of COAH's Third Round rules includes an "asset test" within the Prospective Need calculation that removes from the need those LMI households that own their own home free and clear of a mortgage, provided that the home is valued above COAH's regional asset limit and that their remaining housing costs are not excessive.

The asset test is most likely to arise for elderly households, who may have had the ability to pay off their mortgage during their working years. In their retirement years, these households may naturally see their annual incomes fall, and therefore will be identified as LMI through an income qualification methodology alone. However, in these instances the households are self-evidently not in need of affordable housing, because the standard ensures that they already live in housing affordable to them (which they also own). This component is particularly relevant for the current Prospective Need period given the large volume of baby boomer households anticipated to reach retirement age over the 2015-2025 period.

In making this deduction in its Round 3 methods, COAH clearly defines these households as outside of the affordable housing "need." In addressing this step in the first iteration of Round 3, COAH specifically reasons that these households "will not need affordable housing provided to them" despite their income qualification because they have "owned property in which they will both live and be able to afford":

Households that qualify for affordable housing by income but are likely to have significant assets in the form of owned property that is both fully paid off and affordable at just under 40 percent of income (38 percent) are eliminated from this group....This eliminates from the count those households that will have paid-down assets in the form of **owned property in which they will both live and be able to afford**. This reflects the reality that a share of those who qualify by income in the future will have paid off property that they can afford and **will not need affordable housing provided to them**.

[5:94 COAH Third Round Rules (2004), Appendix A, at 79 (bold added)]

As noted in Section 2.1, Mount Laurel V specifically references the flexibility of trial court judges to incorporate Round 3 methodologies that have not been invalidated by the courts:

...the Court also referenced aspects or portions of the failed Third Round rules that had not been invalidated by the courts in prior reviews. Mount Laurel IV, *supra* 221 N.J. at 30-33. Examples were listed for illumination but **without limitation to the discretion being afforded to the trial courts.**

[Mount Laurel V, at 525 (bold added)]

Importantly, this directive was articulated with respect to the full fair share methodology, and not confined to guidance on the gap period. The “asset test” is an aspect of the Third Round Rules in which COAH has outlined a clear conceptual justification in relation to the need and applied the calculation consistently across multiple iterations of the methodology.⁶⁰

A two-part standard is developed to apply the asset test to incremental households qualifying as LMI, based on the calculation executed by COAH in Round 3. 2015 ACS PUMS data is utilized to determine the proportion of LMI households for each region and household size that:

- a) Own a primary residence valued at or above the regional asset limit published by COAH for 2014 (the latest year for which this data is published) the with no mortgage; and
- b) Pay less than 38% of eligible monthly income on housing costs.⁶¹

⁶⁰ It is worth noting that prior iterations of the Round 3 rules (both the “Growth Share” versions struck down by the Courts and the un-adopted 2014 iteration) included a calculation of additional Prospective Need generated by the population in group quarters as well as an estimate of the impact of vacancy in the housing stock on the need, components which were not included in the Round 1 or Round 2 procedures. Neither of these components were considered appropriate for inclusion in this methodology for the reasons detailed below.

Group Quarters: The population in group quarters includes many residents in transitional phases. Over a ten-year period, there will no doubt be considerable churn between the household and group quarters populations among specific individuals, who enter and exit universities, correctional facilities, military quarters, etc. as their life circumstances change. The proportional approach to estimating the population in households described above includes both sides of this equation, implicitly assuming that the population entering and exiting group quarters stays in balance as a proportion of the population for each age group and county. Therefore, this process is already accounted for in the household estimates that form the basis of the Prospective Need calculation. With respect to a potential increase in the group quarters population itself, it is unclear how such a change may translate into affordable housing need within the fair share process. For example, an increase in the population of institutional groups like college students or service members generates additional need for lodging that is addressed by those institutions, rather than through the fair share process.

Vacancy: While vacancy is certainly a well-understood component of housing markets, it relates to housing supply, rather than the volume of households projected to be in need of affordable housing (*i.e.* demand). Indeed, the potential for the vacant stock to return to occupancy may also be thought of as a source of affordable housing supply, though this is outside of the COAH methodology. Vacancy is an issue that may merit consideration elsewhere in the fair share process, but does not impact the growth in household need that forms the basis of the Prospective Need calculation.

⁶¹ This 38 percent standard also appears in the UHAC, which sets forth the conditions under which income-eligible households may be denied a certificate of eligibility for affordable housing due to their significant housing assets.

If the applicant household owns a primary residence with no mortgage on the property valued at or above the regional asset limit as published annually by COAH, **a certificate of eligibility shall be denied by the**

It should be noted that eligible income includes imputed income from real estate assets (which is calculated using the yield on a money market account as a proxy interest rate) as well as income from non-real estate assets such as savings and investments (stocks, bonds, mutual funds, etc.). However, while annual income from these assets is considered, the balance of these assets themselves is not. Those elderly households that had the opportunity to pay off their mortgages during their working years could potentially also have significant non-real estate assets in the form of these investment vehicles that are outside the consideration of this calculation approach. In this respect, the calculation as executed is conservative in its quantification of household assets relative to the standard it seeks to implement due to the lack of available data.

As with LMI rates, these proportions of households with significant assets by region and household size are applied to the estimates of LMI households as of 2015 and 2025 (as calculated in Section 4.4.2). Those LMI households with significant assets are removed from the need for both 2015 and 2025, and a new growth increment by region is calculated for the 2015-2025 period.

The results of this calculation are shown in Table 4.15 and Figure 4.12. Approximately 101,400 LMI households are removed due to the significant asset test in 2015 (about 8% of the total), and approximately 107,200 LMI households are removed due to the asset test in 2025. LMI housing need is estimated to increase by approximately 64,800 over the Prospective Need period, slightly lower than the total growth in LMI households of around 70,500 shown in Table 4.14 above.

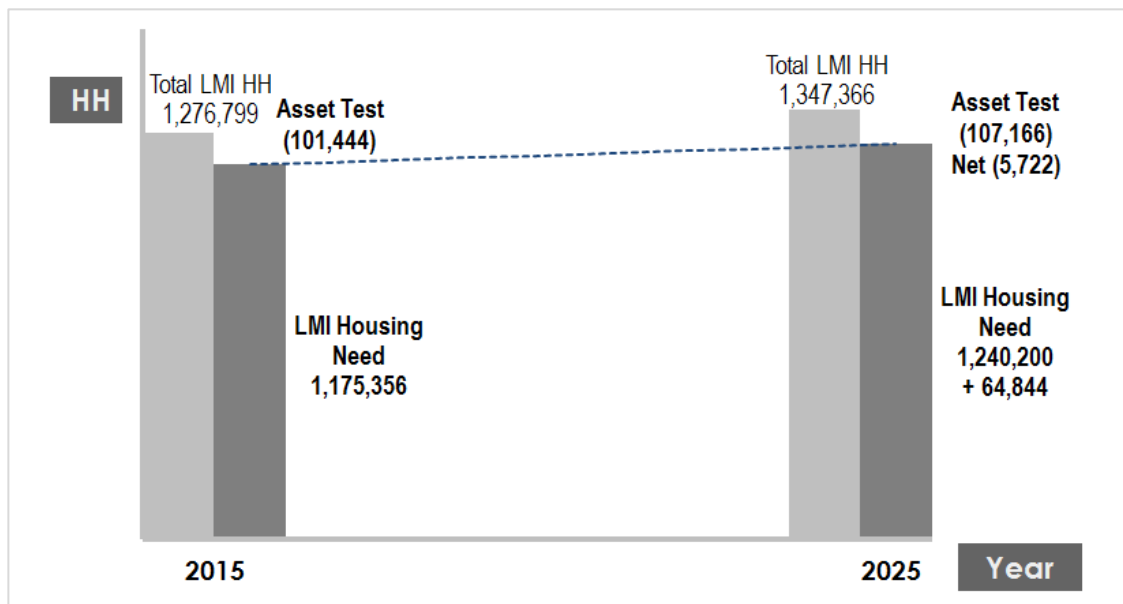
administrative agent, unless the applicant's existing monthly housing costs (including principal, interest, taxes, homeowner and private mortgage insurance, and condominium and homeowner association fees as applicable) exceed 38 percent of the household's eligible monthly income.

[N.J.A.C. 5:80-26.16(b)3 (bold added)]

The UHAC later sets forth the categories that are included in "eligible" monthly income under this standard (see: N.J.A.C. 5:80-26.16). While it is conceivable that other standards could be developed to meet these objectives, the UHAC definitions appear to be consistent with those utilized by COAH in each iteration of Round 3, and are adopted within this methodology.

TABLE 4.15: HOUSEHOLDS WITH SIGNIFICANT REAL ESTATE ASSETS 2015-2025 BY REGION AND STATEWIDE

Region	LMI Households 2015	HH with Significant Assets 2015	LMI Housing Need 2015	LMI Households 2025	HH with Significant Assets 2025	LMI Housing Need 2025	LMI Housing Need Increase 2015-2025
1	330,262	(21,075)	309,187	352,543	(22,584)	329,959	20,772
2	287,716	(18,049)	269,667	301,909	(18,894)	283,014	13,348
3	172,908	(20,252)	152,656	186,780	(21,785)	164,996	12,339
4	227,723	(22,456)	205,267	240,877	(23,781)	217,096	11,829
5	172,250	(13,076)	159,174	178,523	(13,538)	164,985	5,811
6	85,940	(6,535)	79,405	86,733	(6,583)	80,150	745
State	1,276,799	(101,444)	1,175,356	1,347,366	(107,166)	1,240,200	64,844

FIGURE 4.12: PROJECTED INCREMENTAL GROWTH IN LMI HOUSING NEED, 2015 – 2025

4.6 PROSPECTIVE NEED BY REGION RESULTS

The steps above yield the increase in LMI housing need for the 2015-2025 Prospective Need period by region. Regional Prospective Need is calculated as the incremental difference between LMI housing need at the start of the Prospective Need period in 2015 and the end of the Prospective Need period in 2025. Table 4.16 below shows Prospective Need by region and statewide. The statewide Prospective Need for the 2015-2025 period totals 64,844.

TABLE 4.16: PROSPECTIVE NEED BY REGION AND STATEWIDE, 2015-2025

Region	LMI Housing Need 2015	LMI Housing Need 2025	Regional Prospective Need
1	309,187	329,959	20,772
2	269,667	283,014	13,348
3	152,656	164,996	12,339
4	205,267	217,096	11,829
5	159,174	164,985	5,811
6	79,405	80,150	745
State	1,175,356	1,240,200	64,844

It should be noted that the Round 2 methodology added an additional step to the calculation of regional Prospective Need not undertaken in Round 1, which was a re-allocation of projected need for LMI households under the age of 65 between the regions. This step is the only cross-regional calculation in the entire methodology, and merits further discussion.

The rationale set forth in the Round 2 methodology for the re-allocation of prospective need for households where the householder is under 65, but not those where the householder is over 65, is as follows:

Growth in the working-age component of low and moderate income households was assigned to regions where jobs previously grew. On the other hand, growth in the elderly and presumably non-working population was retained in the original region where this growth took place. This procedure creates a demand to house low and moderate income families of working age in locations where jobs grew and a similar demand to house the elderly where their growth occurred naturally.

[26 NJ. Reg. 2347]

Thus, the goal of the re-allocation of Prospective Need for householders under 65 is to match need with locations “where jobs grew.” To do so, employment is not measured directly, but

instead a proxy metric of the growth in non-residential property valuation (also called “ratables”) from the prior period (in this case 1980 to 1990 is used).

This procedure is problematic on a number of levels:

- First, it seeks to determine where jobs grew in the past in order to allocate future affordable housing needs. The more relevant metric for determining future affordable housing need is the employment change over the Prospective Need period, which may not be correlated with changes by region over the prior period.
- Second, projected changes in future employment by location are already built into the population model. The Economic Demographic population projection model from the NJLWD explicitly uses employment forecasts as the driver of net migration, and therefore population growth, by county. While the Economic Demographic model is averaged with the Historic Migration model to determine the overall population base (as described in Section 4.1), the distribution of population by county for 2025 is drawn directly from the Economic Demographic model, and then re-based to the averaged population estimate. Thus, anticipated employment growth by region is already included in the projections of populations and households by region.
- Further, the regions themselves are defined in part by the live-work relationships within their borders, as described in Section 3.1. This process ensures that the majority of in-state commuters working in each region live in that region as well (approximately 68% statewide, based on 2013 data). Therefore, it is unclear why re-allocation between the regions is necessary.
- 65 is not necessarily the end of “working age,” and seniors do not necessarily “age in place.” The 1983 Social Security Amendments phased in an increase in the full retirement age to 67, citing “improvements in the health of older people and increases in average life expectancy.”⁶² Further, LMI retirees do not necessarily stay in their original locations. Many move to take advantage of lower costs of living or communities geared towards their needs. Some regions of the state may have a positive or negative “net migration” from this group.
- Finally, as described at length in Section 7.2 in the context of the municipal allocation formula, the proxy measure for employment growth (non-residential property value) utilized in Round 2 is deeply flawed, and demonstrably does not follow observed trends in employment change at a regional level.

For these reasons, we follow the Round 1 methodology and do not re-allocate Prospective Need between the regions for householders under 65.

⁶² As reported by the Social Security Administration, available online at: <<https://www.ssa.gov/planners/retire/ageincrease.html>>

5.0 TRADITIONAL PRESENT NEED

SUMMARY

Section 5 calculates the traditional Present Need by municipality. As a result of the Mount Laurel V decision, the Present Need for Round 3 has two components:

1. The “traditional” Present Need comprised of deficient housing units occupied by LMI households as of July 1, 2015 (quantified in this section), and
2. The “gap” Present Need comprised of the housing need from households formed during the 1999-2015 gap period that remains unmet as of July 1, 2015 (quantified in Section 6).

The traditional Present Need is estimated utilizing the most up to date available data in a three-step process:

- First, surrogate measures are utilized to estimate the level of inadequate housing in each municipality;
- Next, we account for the overlap between each measure of deficiency to avoid double-counting, yielding an estimate of unique deficient housing units by municipality; and
- Finally, the proportion of those unique deficient units occupied by LMI households is estimated.

Since the most recent available data does not align with the July 1, 2015 date on which the Present Need is defined, it is necessary to extrapolate the estimate forward to produce an estimate of the Present Need as of this date. This is done by estimating for each municipality the deficient units occupied by LMI households in 2000 (in the same manner described above) to determine an annualized trend in Present Need. That trend is extrapolated forward to yield the Present Need for each municipality as of July 1, 2015.

The statewide traditional Present Need is 59,208 units.

The first component of the Present Need represents an estimate of the current stock of deficient housing within each municipality occupied by low and moderate income households as of the start of the Prospective Need period (July 1, 2015). This category has in the past been referred to as “indigenous need” or “rehabilitation share.” We use the term “traditional present need” to distinguish it from the Gap Present Need category within the current methodology and from the Re-allocated Present Need category calculated in Round 1 and Round 2.

Unlike Prospective Need and Gap Present Need, for which the base unit is households (*i.e.* people), the base unit for Present Need is occupied housing units (*i.e.* structures). The procedure described below identifies indicators of housing deficiency, and accounts for overlap between those deficiencies in the same unit, and then applies the estimated proportion of LMI households currently occupying those deficient units. The result of this calculation is an estimate of units, rather than households. Importantly, the analysis estimates only deficient units occupied by LMI households. Therefore, for example, housing that is deficient but vacant is excluded.

Present Need is not estimated on a forward-looking basis, but rather is an estimate of current conditions at a fixed point in time. As such, Present Need is best estimated as of the start of the Prospective Need period. Synchronizing the calculation of Present Need and Prospective Need avoids either a period during which additional Present Need may accumulate prior to the start of the period, or an overlap during which additional LMI households who live in deficient housing units would be counted in both Present Need and Prospective Need. Therefore, the Present Need estimate is calculated as of July 1, 2015, matching the start of the Prospective Need period. This date also represents the end point of the Gap Present Need period, which as explained in Section 6 is also a point in time analysis as of that date.

The methodology employed in Rounds 1 and 2 first estimates Present Need on a municipal basis. However, after this initial calculation, the proportion of housing stock estimated to be deficient in each region was identified, and each municipality’s “indigenous” Present Need was capped at that proportion of its municipal housing stock. The remaining Present Need units were pooled regionally and distributed to municipalities based on allocation factors that were similar to those employed in the municipal allocation of regional Prospective Need (see Section 7), similarly excluding qualifying urban aid municipalities. This obligation is referred to in Rounds 1 and 2 as “Re-Allocated Present Need,” with total Present Need for each municipality comprised of the sum of “Indigenous Need” and “Re-Allocated Present Need.”⁶³

COAH’s Round 3 methodologies published in 2004, 2008 and 2014 each eliminated the calculation of Re-Allocated Present Need, and instead simply adopted the estimate of deficient units occupied by LMI households within each municipality as that municipality’s Present Need (prior to any applicable adjustments or obligation caps). This change in methodology was challenged, but specifically upheld by the Appellate Court decisions, which struck down both iterations of the “Growth Share” methodology in 2007 and 2010, and the 2013 Supreme Court

⁶³ See: 26 NJ. Reg. 2317-2319

decision affirming the Appellate Court. The Supreme Court's 2015 decision explains the Court's current position on Re-Allocated Present Need in its discussion of principles that the trial courts should follow in implementing its decision:

...the Appellate Division twice addressed the Third Round Rules' elimination of the reallocation of excess present need and found it permissible under both the FHA and Mount Laurel II...and this Court "substantially affirmed" that opinion. The Mount Laurel judges may proceed on this basis when reviewing the plans of municipalities.

[Mount Laurel IV, at 30-31 (underscore in original)]

The procedure described below adopts the Round 3 approach, explicitly authorized by the Supreme Court in Mount Laurel IV, of maintaining estimated Present Need within each municipality, rather than re-allocating a portion of it within the region.⁶⁴

The procedure occurs in four steps, which are described in turn in the section that follows, to yield an estimate of Present Need by municipality summarized in Section 5.5 and shown in full in Appendix A:

1. First, we identify three surrogate measures of inadequate housing, and determine the current magnitude of each deficiency by municipality using the most recent available data (Section 5.1).
2. Next, we adjust for the overlap between surrogates of deficiency (which may occur in the same unit) to arrive at a unique deficient unit estimate by municipality (Section 5.2).
3. Then, we apply the proportion of unique deficient units estimated to be occupied by LMI households to yield an estimate of unique, deficient LMI units by municipality (Section 5.3).
4. Finally, the calculation is extended to the July 1, 2015 date by repeating the entire procedure to determine Present Need as of the year 2000. An annualized growth trend is determined for each municipality by comparing the most recent Present Need to the Present Need as of 2000. That growth trend is applied from the most recent estimate to extrapolate an estimate of Present Need for each municipality as of July 1, 2015 (Section 5.4).

⁶⁴ Nothing herein is intended to preclude a municipality from conducting an appropriate housing survey to demonstrate that the actual Present Need for their municipality differs from the estimate of Present Need presented in this analysis.

5.1 MEASURES OF DEFICIENT HOUSING

The first step of the Present Need calculation is to identify and quantify deficient housing units in each municipality. This is accomplished by developing proxy indicators of housing deficiency, and evaluating their incidence in each municipality using Census Bureau data.

Since housing sufficiency cannot be evaluated on an individualized basis, surrogate measures of housing deficiency available on a uniform basis must be chosen. The Round 2 methodology utilizes seven proxies tracked in Census data, and classified units as deficient if they were identified in two or more of the surrogate measures.⁶⁵ COAH's 2004 Round 3 methodology replaces these indicators with three proxies, two of which are measured directly (units with inadequate plumbing facilities and units with inadequate kitchen facilities) and one of which combines two of the prior measures (units built before a given date with 1.01 or more persons per room, *i.e.* “old and overcrowded”). Under this approach, identification of a unit on any one of the three surrogates results in that unit being classified as deficient.⁶⁶

This change in methodology was challenged, and was specifically approved by the 2007 Appellate Division decision that rejected the overall “Growth Share” approach. That decision writes, with respect to Present Need (called “rehabilitation share” in this iteration):

Because the third round methodology captures a newer overcrowded unit in the rehabilitation share if it lacks plumbing or kitchen facilities, and the other previously-used surrogates are unavailable in the current Census data, COAH's new approach as to overcrowded units is neither arbitrary nor irrational.

[In re Adoption of N.J.A.C 5:94 & 5:95, 390 N.J. Super. 1]

In Mount Laurel IV, the Supreme Court specifically noted that the Appellate Division had “approved” this approach:

⁶⁵ The proxy measures are: (1) units built prior to 1940; (2) overcrowded units, that is, units having 1.01 or more persons per room; (3) inadequate plumbing; (4) inadequate kitchen facilities; (5) inadequate heating fuel, that is, no fuel at all or using coal or wood; (6) inadequate sewer services; and (7) inadequate water supply. [Reproduced from In re Adoption of N.J.A.C 5:94 & 5:95, 390 N.J. Super 1. See also: 26 NJ Reg. 2345 for description in Round 2 methodology]

⁶⁶ Note that the third surrogate (“old and overcrowded”) itself requires two different conditions to be present in the same unit; once that estimate has been developed, however, the third surrogate is treated as a single condition.

...the Appellate Division also approved a methodology for identifying substandard housing units that used “fewer surrogates [or indicators] to approximate the number of deficient or dilapidated housing units...the Appellate Court acknowledged a change in the available United States Census data that triggered the reduction in indicators and **found that COAH did not abuse its discretion in reducing the number of factors from seven to three.** That, like the previously mentioned areas left to COAH’s discretion, and others not directly precluded by the Appellate Court’s decision or ours remain legitimate considerations for the Mount Laurel judges when evaluating the constitutionality and reasonableness of the plans they are called upon to review.

[Mount Laurel IV, at 33 (bold added)]

Accordingly, we adopt the Round 3 approach specifically identified as permissible by the courts with respect to the surrogate indicators of housing deficiency.

Indicators of inadequate plumbing facilities and inadequate kitchen facilities are left unchanged from the Round 3 (and indeed the Round 2) methodology. With respect to old and overcrowded housing, the age of a structure is grouped by the Census into ten-year bands by year built (*i.e.* 1930-1939, 1940-1949, etc.). Despite the court’s acceptance of a pre-1940 cutoff date, we use a definition of 50 years from the point of the calculation as the definition of old housing units, as was done in the 2008 iteration of the Round 3 rules and the un-adopted 2014 Round 3 rules for COAH.⁶⁷ We do so primarily because it strains the definition of the term “old” to fail to update the cut-off point used to define it. The age of a structure is not an indicator of deficiency by itself; instead, units identified as both old AND overcrowded (as defined by more than 1 person per room) are considered deficient within this procedure.

The most up to date data source available for this calculation is the 2011-2015 American Community Survey (ACS) from the U.S. Census Bureau. The five-year ACS provides estimates of a variety of metrics needed to estimate the surrogates and some of their inter-relationships at the municipal level. To determine the inter-relationship between certain indicators (as is necessary to properly account for units with multiple deficiencies), it is necessary to utilize the Public Use Micro Sample (PUMS) from the 2011-2015 ACS, a data set which provides users with the ability to develop custom “cross-tabs” showing the inter-relationships between multiple survey questions. The PUMS represents approximately five percent of the total population. Due to the geographic classification of the data and the imperative of sufficient sample size, it is necessary

⁶⁷ The Round 2 methodology pertaining to need as of 1993 identified housing build prior to 1940 as old, explaining that “this pre-World War II cutoff is the classic differentiation point of new versus old housing in the literature” (26 NJ. Reg. 2345). It also makes reference to units that are “more than 50 years old,” which corresponds with the age of units built prior to 1940 in the Census 1990 dataset used in the calculation. COAH’s 2004 Round 3 Present Need methodology approved by the court maintained this 1940 cutoff point, suggesting that “old” housing was defined not simply by the age of a structure, but by this pre-war/post-war distinction, which may also be associated with new building techniques and materials relevant to the soundness of a unit. By contrast, COAH’s 2008 Round 3 methodology relied on Census 2000 data and defined old housing at built before 1950, *i.e.* 50 years from the point of observation. Similarly, the 2014 un-adopted Round 3 methodology for COAH relies on 2008-2012 five-year ACS data and defines old units as built prior to 1960, *i.e.* 50 years from the midpoint of the observation data utilized.

to calculate relationships from the PUMS at the county level and apply those relationships back to known counts of deficient units by municipality from the full ACS.⁶⁸

It is important to note that the data in the 2011-2015 ACS is effectively drawn in even increments across the five-year span it represents. While a portion of the data included is from 2015, the “midpoint” of the data sample is 2013. Therefore, Present Need estimates arising from this data set are best thought of as being calculated “as of” July 1, 2013, rather than 2015.⁶⁹ This distinction is relevant for the extrapolation calculation performed in Section 5.4 below, which estimates need as of July 1, 2015.

5.2 UNIQUE DEFICIENT UNITS

The next step of the Present Need calculation is account for the overlap among the measures of deficiency in order to arrive at an estimate of “unique” deficient units in each municipalities. This is accomplished by observing the rates of incidence of each potential combination of deficiencies, and deducting these “overlaps” to yield an estimate of unique deficient units.

The three surrogates of housing deficiency identified in Section 5.1 are not mutually exclusive, meaning that the same housing unit could suffer from multiple deficiencies. Therefore, to develop an estimate of the total number of deficient units in each municipality, reported figures from ACS for each surrogate cannot be summed together without accounting for the overlap between surrogacy measures. Accounting for this overlap allows for an estimate of unique, deficient units in each municipality to be developed.⁷⁰ We have estimated unique overlap proportions for each of the potential combinations of deficiencies, and direct municipal data is utilized to the greatest extent possible.

The procedure begins with the total count of occupied units lacking adequate plumbing facilities by municipality, drawn directly from the 2011-2015 ACS. Second, the proportion of units that are

⁶⁸ Note that the most recent decennial Census (Census 2010) no longer includes the “long-form” questions necessary to perform this analysis. The Census is instead now “short-form” only, with “long-form” questions appearing in the ACS.

⁶⁹ Note that ACS also produces one-year data for 2015, which provide information as of 2015. This data source is relied on extensively in the Prospective Need and Gap Present Need calculations. However, the sample size of this data source is insufficient to accurately calculate Present Need on a municipal basis, as is required for this step of the calculation.

⁷⁰ Previous methodologies using the three surrogate factors adopted in this procedure (specifically the un-adopted 2014 Round 3 rules for COAH and the 2015 calculation by Dr. David Kinsey for FSHC) developed estimates of the proportion of deteriorated units with multiple deficiencies within each county. This proportion was then applied globally within each county to the sum of deficiencies identified using the surrogates in each municipality to produce an estimate of unique deficient units. This approach lacks precision with regard to the type of deficiency identified and the likelihood of overlap. For example, units with inadequate plumbing may have a greater or lesser likelihood to have additional deficiencies than the average deficient unit, or certain municipalities may have a greater proportion of overlapping deficiencies than others within the same county. Further, this approach incorrectly applies a reduction for overlap in instances where deficient units have only been identified in one of the three surrogates, and therefore by definition the overlap is zero.

both old and crowded is determined by municipality, deducting those old and crowded units that also have inadequate plumbing (and have thus already been accounted for). The ACS provides municipal level data on occupants per room, year built and plumbing conditions within the same “cross-tab” table. However, the cut-off date for unit construction within this table set is “before 1950,” which differs from the standard for old housing used in this analysis. Nonetheless, this table yields the best estimate of old and overcrowded units built before 1950, which would otherwise have to be estimated through proxies and ratio analysis, and additionally allows for an accounting of the overlap with inadequate plumbing units.

An additional estimate of crowded units built since 1950 but old as of July 1, 2013 (the midpoint in the 2011-2015 five year ACS dataset) is needed. Applying the 50 year standard, this requires identifying units built between 1950 and July 1, 1963 (net of those with inadequate plumbing, which are already accounted for independent of the age of the unit). The first step in developing this estimate is to calculate the proportion of units built after 1949 in each municipality that are also crowded and have complete plumbing (from the same ACS table). This proportion can then be applied to the recorded total number of current units in each municipality that were built between 1950 and 1959, and 35% of the recorded units built between 1960 and 1969 (the proportion of the 1960 to 1969 time period that occurred prior to July 1, 1963). This procedure yields a municipal-level estimate of the number of occupied units built within the 1950 to 1963 period that are overcrowded (meaning that they qualify as deficient) but have adequate plumbing (meaning that they are not double counted). This figure is then summed with the counts of units without adequate plumbing and crowded units built prior to 1950 with adequate plumbing to yield a non-overlapped estimate of two of the three measures of deficiency using only municipal data.

Next, the number of occupied units with inadequate kitchen facilities is identified from the ACS by municipality. Data is not available from the ACS, however, on the overlap between those units with deficient kitchens and those units previous identified as having deficient plumbing or being old and crowded. Therefore, an analysis is performed using the 5 percent PUMS from the 2011-2015 ACS to determine, among the units that have inadequate kitchens in each county, the proportion that have neither of the other two deficiency indicators. That proportion (which is calculated for each county) is multiplied by the number of occupied units with deficient kitchens in each municipality. This yields an estimate of units with deficient kitchens “only” (*i.e.* without the other indicators of deficiency) in each municipality.

Last, these three non-overlapping sets of figures are summed to yield an estimate of unique non-overlapped deficient units by municipality. Table 5.1 below shows the resulting estimates, summed at the region and statewide level (see Appendix A for figures by municipality). Statewide, approximately 86,700 unique deficient units are identified.

TABLE 5.1: ESTIMATE OF UNIQUE DEFICIENT OCCUPIED HOUSING UNITS BY REGION AND STATEWIDE, ACS 2011-2015

Region	Inadequate Plumbing	Pre-1963 and Crowded (w/ adequate plumbing)	Inadequate Kitchen (only)	Unique Deficient Units
1	3,054	24,373	4,857	32,284
2	3,504	16,038	4,944	24,486
3	1,212	6,556	1,735	9,503
4	1,810	4,509	2,879	9,198
5	1,064	3,093	2,298	6,455
6	944	2,790	1,084	4,818
State	11,588	57,359	17,797	86,744

5.3 LMI PROPORTION

The next step of the Present Need calculation is to estimate the proportion of deficient units occupied by LMI households. This is accomplished by observing the proportion of households living in deficient units that qualify as LMI based on the income thresholds specified in the FHA and utilized throughout this analysis.

Estimating the LMI proportion requires cross-referencing the unique deficient housing units identified above with the household size and income characteristics of the occupants. These characteristics are then cross-referenced with regional LMI income thresholds by household size matching those specified in the FHA and used in the Prospective Need and Gap Present Need calculations (and discussed at length in Section 4.4).

This procedure requires the use of the PUMS from the 2011-15 ACS, and is calculated for each county.⁷¹ Income limits are calculated uniquely for each region and year, to ensure that household income reported in the 2011-2015 PUMS data is compared to the applicable household income threshold for that year and region. These county proportions are then applied back to the estimate of unique deficient units for each municipality to yield an estimate of unique deficient LMI units. Table 5.2 summarizes the estimates at the regional and statewide level (see Appendix A for figures by municipality). On a statewide basis, approximately 2/3 of unique deficient units (67%) are estimated to be occupied by LMI households, yielding a statewide estimate of unique deficient LMI units of approximately 58,300.

⁷¹ Note that this procedure estimates the LMI proportion only of those households occupying deficient housing, not of all households within the county. Therefore, while income thresholds match those utilized in the Prospective Need and Gap Present Need calculations, results by county differ from those yielded by analyzing all households for the determination of those proportions in other calculations. Not surprisingly, the LMI proportions are generally higher among those households living in deficient housing than among all households.

TABLE 5.2: ESTIMATED UNIQUE DEFICIENT OCCUPIED LMI HOUSING UNITS BY REGION AND STATEWIDE

Region	Unique Deficient Units (2011-2015)	Est. LMI Proportion	Unique Deficient LMI Units (2011-2015)
1	32,284	67.0%	21,645
2	24,486	69.2%	16,946
3	9,503	65.5%	6,225
4	9,198	64.2%	5,908
5	6,455	63.4%	4,094
6	4,818	71.5%	3,443
State	86,744	67.2%	58,261

5.4 EXTRAPOLATION OF PRESENT NEED

The final step of the Present Need calculation is to extrapolate municipal estimates to July 1, 2015, the date on which the Prospective Need period begins and the 1999-2015 gap period ends. This is accomplished by estimating the Present Need as of 2000 in order to determine the annual trend in Present Need for each municipality from 2000-2013. This trend is then applied to extrapolate 2013 estimates to the year 2015.

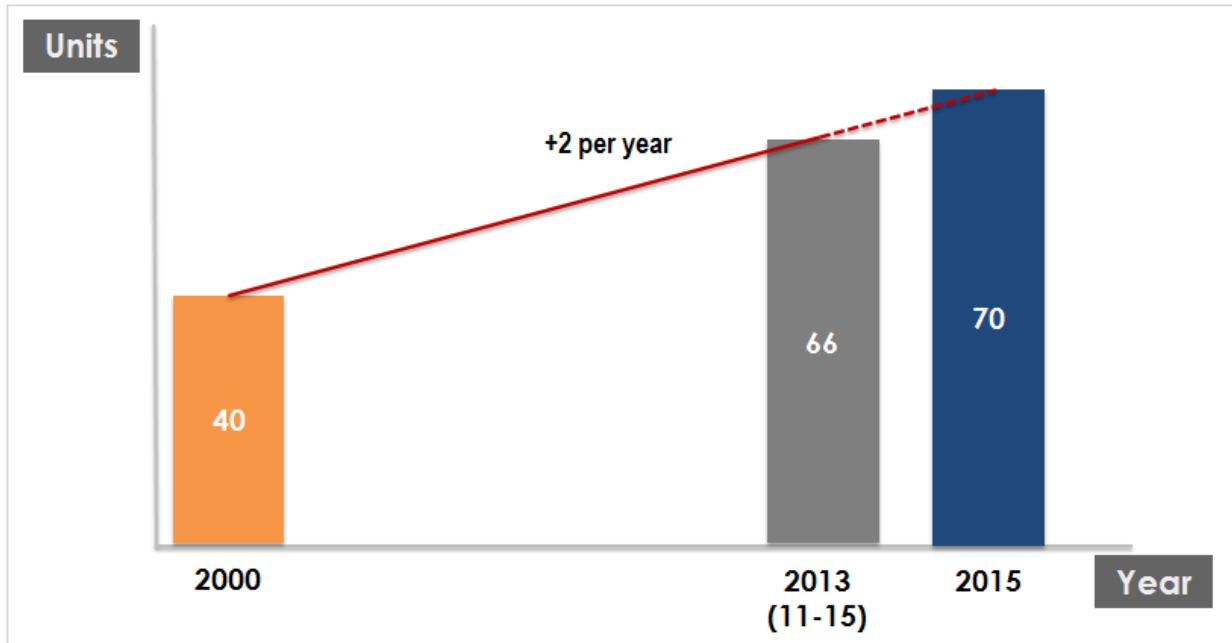
As discussed in Section 5.1, the most recent available data on housing deficiency is best understood as representing deficiency “as of” July 1, 2013. Therefore, the Present Need estimate must be extrapolated forward from 2013 to 2015 in order to match the start date of the Prospective Need period. We use the trend in LMI deficient units from 2000-2013 to estimate the annual change for each municipality from the prior period, then apply that trend forward to extrapolate 2013 results to estimates as of July 1, 2015.⁷²

We estimate unique LMI deficient units for each municipality in 2000 using data from Census 2000 and a parallel procedure to the one described above using ACS 2011-2015. The resulting estimate for each municipality for 2000 is then compared with the midpoint 2013 estimate to calculate a net change (which may be positive or negative). This net change is annualized over

⁷² The un-adopted 2014 Round 3 methodology for COAH extrapolated a Present Need estimate drawn from the 2008-2012 ACS to 2014 (the start of the Prospective Need period within that analysis) by calculating the unique LMI deficient units as a proportion of occupied housing stock for each municipality as of 2010, and applying that proportion to the occupied housing stock as of 2014. This approach effectively ties the extrapolation of Present Need to increases in housing stock in the interim years, which is somewhat flawed as a proxy for changes in deficient housing because new units created in the interim years are highly unlikely to be deficient. Meanwhile, older existing units may become deficient within the interim years, or deficient units may be remediated or demolished in that time. As a result, net LMI deficient units within a municipality may increase or decrease over the time period, independent of net change in the housing stock.

the 13 year period. Two years of this annualized trend are then applied to the current estimate for each municipality to extrapolate an estimate of Present Need from the 2013 estimate to 2015 (see Figure 5.1).

FIGURE 5.1: EXTRAPOLATION OF PRESENT NEED FOR A SAMPLE MUNICIPALITY



5.4.1 DEFICIENT UNITS IN 2000

To estimate the Present Need as of 2000, a parallel methodology to the calculation described in Section 5.2 is applied using Census 2000 data.

The aim of this calculation is define the number of deficient units that existed in each municipality *in 2000*, rather than the number of *currently* deficient units that existed and were deficient as of 2000. To do so, definitions of inadequate plumbing and inadequate kitchen conditions as reported in Census 2000 are identical to those used in the current calculation. For old and crowded housing, the threshold that defines an “old” housing unit is those units constructed pre-1950, maintaining the consistent standard of 50 years from the point of observation.⁷³

⁷³ Maintaining the pre-1963 standard from the 2011-2015 ACS calculation would identify as “old” units that were 37 to 49 years old as of 2000. While Dr. David Kinsey’s 2016 analysis for FSHC claims that such an approach evaluates a “consistent pool” of housing over the two periods, the natural churn of the housing stock means that units will exit the pool over time, but by definition additional units prior to a fixed cut-off date cannot be added. Therefore, this fixed date approach by definition evaluates a declining pool of housing, corrupting the attempt to accurately gauge the trend. By contrast, maintaining the 50 year standard from the point

Census 2000 data provides direct cross-tabs of occupants per room and plumbing conditions by age of housing, with housing divided into pre-1950 and post-1950. It is therefore possible to identify old and crowded units by municipality directly in this data set, and to produce a non-overlapped count of units with deficient plumbing and those that are old and overcrowded.

As in the 2011-15 procedure, the count of occupied units with inadequate kitchen facilities within each municipality is then adjusted by the proportion of units with inadequate kitchens within each county that have no other deficiency indicators (as identified in the PUMS data from the 2000 Census). This calculation produces an estimate of inadequate kitchen units net of any overlap with the prior deficiency indicators, meaning the categories can be summed to produce an estimate of unique deficient units by municipality. This estimate is then multiplied by the proportion of unique deficient units identified as being occupied by LMI households in each county, as identified in PUMS data based on LMI income thresholds by household size from Census 2000 data (described in more detail in Section 4.4).

The results of this calculation are shown by region and statewide in Table 5.3, and municipal level estimates are shown in Appendix A. The statewide estimate of deficient LMI units as of 2000 is approximately 52,400, about 5,900 less than the estimate from ACS 2011-15 data, indicating that housing deficiency in units occupied by LMI households has increased somewhat over this period.

TABLE 5.3: ESTIMATED UNIQUE DEFICIENT OCCUPIED LMI HOUSING UNITS BY REGION AND STATEWIDE, AS OF 2000

Region	Inadequate Plumbing	Pre-1950 and Crowded (w/ adequate plumbing)	Inadequate Kitchen (only)	Unique Deficient Units	Est LMI Proportion	Unique Deficient LMI Units
1	5,785	24,784	2,852	33,421	63.1%	21,079
2	4,795	15,002	2,500	22,297	69.1%	15,403
3	1,529	4,289	995	6,813	67.7%	4,609
4	1,891	4,102	1,055	7,048	66.0%	4,654
5	1,643	3,258	1,022	5,923	71.1%	4,213
6	887	2,312	856	4,055	59.9%	2,428
State	16,530	53,747	9,280	79,557	65.8%	52,386

of measurement allows the pool of potentially deficient units to both contract (via demolition) and expand (via units that cross the 50 year threshold and become old in the interim years).

5.4.2 TREND IN DEFICIENT UNITS

Next, the current (2013) and past (2000) estimates of LMI deficient units are compared to develop annualized trend based on the incremental change in units between the 2000 and 2013 estimates.

This calculation is conducted for each municipality, and the trend established can be either positive or negative depending on the direction of the incremental change observed over this time period. This incremental change is annualized to produce a yearly increment that can be extrapolated forward to 2015.

Table 5.4 shows the results of this calculation at the regional level, which reflects a sum of the municipal incremental net changes. Statewide, the net change is an increase of approximately 450 units per year.

TABLE 5.4: ANNUALIZED NET CHANGE IN UNIQUE DEFICIENT LMI UNITS BY REGION AND STATEWIDE

Region	Unique Deficient LMI Units, 2000 Census	Unique Deficient LMI Units 2011-15 ACS	Net Change	Annualized Net Change
1	21,079	21,645	566	44
2	15,403	16,946	1,543	119
3	4,609	6,225	1,616	124
4	4,654	5,908	1,254	96
5	4,213	4,094	(119)	(9)
6	2,428	3,443	1,015	78
State	52,386	58,261	5,875	452

5.5 PRESENT NEED RESULTS

Finally, the annualized trend developed for each municipality in Section 5.4.2 is multiplied by two years to estimate the incremental change in LMI deficient units by municipality from 2013 to 2015. This increment is then applied to the municipal LMI deficient unit estimate from the 2011-2015 ACS (from Section 5.3) to yield estimated Present Need by municipality as of July 1, 2015.

The results of this calculation at the region and statewide level are shown below in Table 5.5, and results by municipality are shown in Appendix A.⁷⁴ Statewide Present Need as of 2015 is estimated at 59,208 units.

TABLE 5.5: ESTIMATED PRESENT NEED BY REGION AND STATEWIDE, 2015

Region	Unique Deficient LMI Units 2011-15 ACS	Extrapolated Net Change (2 years)	Present Need, 2015
1	21,645	92	21,737
2	16,946	247	17,193
3	6,225	259	6,484
4	5,908	198	6,106
5	4,094	(8)	4,086
6	3,443	159	3,602
State	58,261	947	59,208

⁷⁴ Note that regional numbers are a product of the sum of municipalities. The sum of incremental change for all municipalities varies slightly from the incremental change estimated at the regional level due to rounding and also because municipal Present Need estimates are bounded at zero by definition. In cases where the incremental trend yields a negative Present Need for an individual municipality, it is replaced with a zero.

6.0 GAP PRESENT NEED BY REGION

SUMMARY

Section 6 calculates the Gap Present Need by region. The definition and implementation of this calculation is based on the Supreme Court's Mount Laurel V decision, which directs the courts to modify the traditional definition of Present Need to include a component capturing households formed during the gap period that "need affordable housing today." The Gap Present Need is defined as of July 1, 2015, matching the date as of which the traditional Present Need is quantified and on which the Prospective Need period begins.

Our method implements the Mount Laurel V directive by first calculating the growth in households over the 1999 - 2015 gap period, and then removing from that pool of incremental households those that are not LMI, those that do not have an "unmet need" for affordable housing as of July 1, 2015, and those already captured in the traditional Present Need calculation. This process involves five major steps:

- First, we determine the incremental growth in households over the 1999-2015 period;
- Next, we deduct from the incremental growth those households that do not currently qualify as LMI;
- Next, we deduct those households that live in affordable housing that is not overcrowded as of the end of the gap period, and accordingly no longer have an unmet housing need;
- Then, we deduct those households that have significant housing assets and thus do not represent an affordable housing need; and
- Finally, we deduct households that are already captured in the traditional Present Need due to the deficiency of their unit in order to avoid double-counting.

The remaining need represents those households added during that gap period that still "need affordable housing" as of July 1, 2015, which comprises the regional Gap Present Need.

Based on this calculation, the statewide Gap Present Need is 39,014 units.

Mount Laurel V directs that the Present Need includes two components: the traditional Present Need quantifying LMI households in deficient units as of July, 1 2015 (addressed in Section 5) and the newly defined component quantifying remaining unmet need from gap period households as of July 1, 2015. This decision resolved a disputed issue in defining Round 3 Obligations after the Court declared COAH moribund. Mount Laurel IV did not specifically address the issue of the “gap period” between the conclusion of Round 2 in 1999 and the present day, during which period COAH failed to adopt and successfully implement affordable housing obligations, and expert methodologies had differed on if and how to capture it.

In February 2016, the Ocean County trial court included the gap period as a “separate and discrete component of a municipality’s fair share need” for Round 3.⁷⁵ In July 2016, the Appellate Division⁷⁶ reversed this decision, ruling that the gap period obligation does not represent a “separate and discrete” component of need and cannot be captured with a “retroactive” prospective need methodology under the FHA.⁷⁷ In January 2017, the Supreme Court’s Mount Laurel V decision clearly affirmed the Appellate Division decision on both of these points, situating the gap period obligation as a component of the Present Need.

The Supreme Court was explicit as to its affirmation of the Appellate Division’s judgment with respect to where gap period need should be situated within the Round 3 obligation:

What separated the trial court and Appellate Division panel in this matter is how to account for need arising during the gap period....

We agree with the Appellate Division that the category of present need offers the better approach to capturing the need that must be addressed.

[Mount Laurel V, at 522, 529 (bold added)]

⁷⁵ Ocean County Trial Court Feb 18, 2016 opinion, at 3

⁷⁶ In Re Declaratory Judgement Actions filed by Various Municipalities, County of Ocean, Pursuant to the Supreme Court’s Decision in In Re Adoption of N.J.A.C. 5:96, 221 N.J. 1 (2015).

⁷⁷ On these points, Mount Laurel V cites to and summarizes the Appellate Court decision as follows:

In reversing the trial court’s determination on the issue framed in that manner, the appellate panel stated that “the FHA does not require a municipality to retroactively calculate a new ‘separate and discrete’ affordable housing obligation arising during the gap period (Id. at 267.) The panel pointed to language of the FHA that prevents a retroactive calculation of “prospective need,” which, the panel explained, is statutorily defined to be a forward-looking projection of household growth.

[Mount Laurel V, at 519-520]

Notably, in response to this Appellate Division decision, FSHC expert Dr. David Kinsey submitted an “Identified Present Need” methodology to the trial court in South Brunswick in July 2016. This methodology significantly revised the gap period approach submitted by Dr. Kinsey in Ocean County, illustrating his recognition of the significance of the Appellate Division’s decision and the inclusion of the gap period within the Present Need component, rather than as a component of the Prospective Need.

Prospective need is **forward looking. It is predictive -- a projection of future need.** The statutory language was not designed to account for past periods of time when performing a calculation of anticipated housing need for low- and moderate-income households.

[Mount Laurel V, at 526-527 (bold added)]

The placement of the gap period within the Present Need is consistent with the Court's focus on the current housing circumstances of incremental households added during the gap period, framing the relevant analytic question not as the volume of affordable housing need generated over the gap period, but rather as the portion of that need that still exists as of today.

The court further added its own direct guidance on the conceptual and methodological bases for experts and trial courts to quantify this need.

It is not for us, as an appellate court, to reconcile untested expert reports. That is a job for the trial courts. But, **we can refine the guidance provided to the courts in approaching the quantification of municipal fair share obligations** under competing analyses of experts to be subjected to examination, as necessary.

[Mount Laurel V, at 528 (bold added)]

Four important principles emerge from this guidance with respect to the method for quantifying the Gap Present Need, which are detailed below:

- Gap Present Need households must have been added during the gap period and currently exist in New Jersey;
- Gap Present Need households must currently have an identifiable need for affordable housing;
- Gap Present Need households must not be captured within the traditional Present Need category;
- The Gap Present Need calculation requires a modified methodology appropriate for current circumstances.

Gap Need households must have been added during the gap period and currently exist in New Jersey.

In defining the households that the calculation is intended to capture, Mount Laurel V refers to “existing households, formed during the gap period” and cautions against including “persons now deceased” or those not “situated in New Jersey” (529-530). Incremental household growth as an initial basis for the calculation of need is a well-defined concept within the fair share process.

Since observed data exists for the 1999 starting point and 2015 ending point, it is straightforward to determine the incremental growth in households over that time period. This framework ensures that all included households exist in New Jersey as of July 1, 2015.

Gap Present Need households must currently have an identifiable need for affordable housing.

The Mount Laurel V guidance defines the Gap Present Need component in terms of the portion of households added during the gap period who “need affordable housing today.” In addition to determining whether these households qualify as LMI as of the end of the gap period, responding to this guidance requires a methodology that incorporates information on the current housing circumstances of New Jersey’s households.

While leaving the specific definitions of these characteristics to the experts and the trial courts, the Supreme Court at several points within its guidance specifies the current nature of the housing need. At various points, the Gap Present Need is defined not in terms of all households qualifying as LMI added during the period, but rather those that “continue to be an identifiable category of housing need,” “need affordable housing today,” or whose need “remains unmet today”:

Only present need was regarded as having the potential to capture pent-up housing need that arose during the sixteen-plus years of the gap period and that **continues to be an identifiable category of housing need** that experts could flesh out.

Present need can and should be similarly applied, when, as here, we must be concerned about existing households, formed during the gap period, **that need affordable housing today.**

...providing a fair estimate of the need that arose during the gap period and **remains unmet today.**

[Mount Laurel V, at 526, 529, footnote 8 (bold added)]

In affirming the Appellate Court decision, Mount Laurel V also references the Appellate Court’s use of the phrase “identifiable housing need characteristics” to describe this concept. In each of these instances, the Supreme Court clearly envisions a methodological approach that evaluates not only the income-eligibility of households added during the gap period, but their current housing circumstances. Such a step is inherent in determining which of these households have an identifiable need for affordable housing that currently remains unmet. In addition, the Court clearly intended to provide flexibility to figure out the specific attributes defining this category of need.

Despite the novel nature of this component of the need, there are certain established principles and guidelines within the fair share process that help inform the execution of this step.

Importantly, it is well-established within prior methodologies that not all low- or moderate-income (LMI) households represent a housing need that results in municipal obligations within the fair share process. The historic adjustments to the Prospective Need (such as the application of secondary sources and the significant housing asset test discussed below) differ in their specifics but are conceptually parallel to the “identifiable need characteristics” referenced by the Court in Mount Laurel V to assess what portion of incremental LMI households represent a “housing need” as of the end of the gap period.

The application of secondary sources recognizes that while the demand for affordable housing was growing over time, so too was the supply. To the extent that market-based forces were generating additional housing units affordable to LMI households over the Prospective Need period, a portion of housing need would be satisfied. COAH’s 2004 Third Round Rules describe this process as follows:

From future low- and moderate-income housing units by region is subtracted secondary sources of supply, also by region...Secondary sources are subtracted from overall demand to **determine an adjusted projection of future need** for each region.

[5:94 COAH Third Round Rules (2004), Appendix A, at 80 (bold added)]

Here, COAH’s use of the term “need” relates to the portion of LMI households whose housing needs remain unaddressed after considering other relevant factors. This process plainly recognizes that private sector housing market activity is a legitimate redress for affordable housing need.⁷⁸ As discussed elsewhere within this report, a retroactive analysis can more accurately assess the impacts of housing supply changes by directly observing the current housing circumstances of LMI households, rather than by estimating supply changes, and is therefore utilized in this calculation rather than the traditional secondary source estimates. Nonetheless, the conceptual distinction between the incremental volume of LMI households and the housing need is the same.

In addition, each prior iteration of COAH’s Third Round Rules includes an “asset test” to determine the proportion of LMI households that have significant housing assets. The rationale for this step is described by COAH as follows in the 2004 and 2008 methodologies:

⁷⁸ As discussed elsewhere within this report, a retroactive analysis can more accurately assess the impacts of housing supply changes by directly observing the current housing circumstances of LMI households, rather than by estimating supply changes. This approach is therefore utilized in this calculation rather than the traditional secondary source estimates, which represent an inferior approach when such observed data exists. Nonetheless, the conceptual distinction between the incremental volume of LMI households and the housing need is the same.

...(the asset test) reflects the reality **that a share of those who qualify by income** in the future will have paid off property that they can afford and **will not need affordable housing provided to them.**

[5:94 COAH Third Round Rules (2004), Appendix A, at 79 (bold added)]

To **refine this number and further identify households in need of affordable housing**, this methodology then removes qualifying households likely to have significant assets...

[5:97 COAH Third Round Rules (2008) Technical Appendix at 94 (bold added)]

Once again, the term “housing need” is plainly used by COAH to refer not to all incremental LMI households, but rather to the subset of those households that will require “affordable housing provided to them.” The guidance on gap period methodology set forth by the Supreme Court in Mount Laurel V is fully consistent with this concept. More narrowly, such an asset test can be directly applied within the Gap Present Need methodology to remove these households that, by COAH’s rationale, do not currently have an affordable housing need.

Gap Present Need households must not be captured within the traditional Present Need category.

Mount Laurel V is clear that households in the newly defined category must be unique from those already represented in the traditional Present Need calculation. The decision references the common intent to “avoid double counting” (30), and later states explicitly that:

The trial courts must take care to ensure that the present need is not calculated in a way that includes persons who are deceased, who are income-ineligible or otherwise are no longer eligible for affordable housing, **or whose households may be already captured through the historic practice of surveying for deficient housing units** within the municipality.

[Mount Laurel V, at 531 (bold added)]

This step of the gap calculation can be achieved by relying on established methods within the Present Need calculation. Indicators of housing deficiency applied in Section 5 can be evaluated on a regional level with 2015 data to establish the proportion of households that would otherwise be included in the Gap Present Need but have already been accounted for in the traditional Present Need calculation.

The passage cited above is also clear that these duplicated households should be deducted from the newly defined Gap Present Need component, rather than the traditional Present Need category, ensuring that the traditional Present Need category still represents the deficient housing units within a municipality occupied by LMI households at a fixed point in time.

The Gap Present Need calculation requires a modified methodology appropriate for current circumstances.

Finally, several aspects of the Mount Laurel V decision make plain that the Supreme Court envisioned the establishment of a modified methodology to appropriately address the circumstances presented by the gap period within the Round 3 obligation, rather than a recreation of previous COAH approaches (including the “Prior-Cycle Prospective Need” approach implemented by COAH in Round 2). Mount Laurel V:

- Referenced the unique “circumstances” of the gap period as requiring a “modified approach” to the calculation, rather than a recreation of prior methods;
- Explicitly left to trial courts and experts the determination of the specific “identifiable housing need characteristics” that define the need that exists today;
- Acknowledged, but did not adopt or require COAH’s Round 2 Prior-Cycle Prospective Need calculation as a means to quantify need arising from a prior time period;
- Situated the gap period calculation within the Present Need component, and not the Prospective Need component, of the overall fair share methodology.

The significance of each of these aspects is reviewed briefly below.

Redefinition under “Current Circumstances”

The Supreme Court is clear in Mount Laurel V that a “modified” definition of Present Need arises from the necessity of “current circumstances” brought on by the “failure of COAH to perform its required mission”:

We now hold that a form of present-need analysis under the Fair Housing Act, N.J.S.A. 52:27D-301 to -329 (FHA) -- **redefined** to include a component premised on a calculation of those low- and moderate-income New Jersey households, newly formed since 1999, that presently exist and are entitled to their opportunity of access to affordable housing -- provides the appropriate approach to addressing statewide and regional need.

Our modification of the previous definition of a present-need analysis is essential in order to **address the failure of COAH** to perform its required mission, in connection with a constitutional obligation...The prior understanding of present need was limited...that previous definition would fail to ensure compliance with the *Mount Laurel* doctrine under present circumstances...We hold that, **under the current circumstances**, the present-need analysis must be expanded to guarantee municipal compliance with the *Mount Laurel* doctrine. We authorize contested matters of municipal obligation to be resolved **using a modified approach** to present need...

[Mount Laurel V, at 513-514 (bold added)]

This guidance necessarily implies a unique methodological approach that does not simply replicate prior methodologies, since those prior methodologies did not address the unique circumstances of this period, and did not address the “redefined” and “modified” category of affordable housing need.

The Court’s focus on “current circumstances,” as well as its observation that the expanded present need calculation addresses need emerging from the years in which “COAH was unable to promulgate valid Third Round Rules” (521), also implies that the methodology developed to address the gap component also does not necessarily need to be replicable in future rounds. Said another way, the Court’s decision does not add a new component to all future fair share calculations, but rather to the current one.

The Role of Experts in Determining “Identifiable Housing Need Characteristics”

Although the Mount Laurel V decision describes in several places the type of households that this calculation is intended to capture through the Gap Present Need category, it explicitly does not define the precise characteristics that define this need, leaving that process to the respective experts and the trial courts. Rather, it envisioned experts presenting such characteristics to the trial courts for the purpose of estimating the portion of the need that “remains unmet today”:

In quoting this language from the Appellate Division’s decision, this Court is not adopting any particular party’s expert’s opinion on such characteristics, which are a matter of dispute. Rather, we find the phrase useful only to describe the practice in which **the experts will have to engage to convince the trial courts as to what characteristics should be included when providing a fair estimate of the need** that arose during the gap period and remains unmet today.

[Mount Laurel V, at Footnote 8 (bold added)]

Plainly, the Court does not consider the methodological approach to quantifying gap need to be a settled matter based on the Prior Round methods. Rather, the Court sets an analytical task of determining what need arising from the gap period “remains unmet today,” a task that necessarily considers in some fashion the current housing circumstances of these households to determine if such a need still exists. The decision gives experts and the trial courts discretion in developing a modified approach to do so consistent with the court’s guidance. Accordingly, the methodological approach undertaken must necessarily depart from the traditional methodologies for calculating Prospective Need and the traditional Present Need, which do not address the circumstances and analytic goals described by the Court.

COAH's Prior-Cycle Prospective Need Methodology

The Supreme Court and Appellate Division make reference to COAH's Round 2 methodology in support of the use of backward-facing analytic techniques within the fair share calculation. Plainly, the Court was well aware of the existence of this methodology when it fashioned its decision. Yet, the Supreme Court in Mount Laurel V says only that the court "acknowledge(s) the past practice of COAH as a matter of historical record."

Notably, however, the Second Round housing obligation calculations were adjusted to incorporate some **retroactivity in analytic application**.⁽⁷⁾ Those actions by COAH, as separately described in footnote seven, were never challenged by municipalities at the time, presumably because the retroactive adjustments worked to the municipalities' advantage. However, the validity of those adjustments is not conceded by the municipalities in this action to be a sound basis for utilizing a similar retroactivity analysis in respect of the gap period. **We acknowledge the past practice of COAH as a matter of historical record.**

⁽⁷⁾ The Second Round Rules also added a new component to a municipality's fair share obligation called "prior cycle prospective need," N.J.A.C. 5:93-1.3, by which COAH recalculated the First Round's prospective need to comport with actual household growth during the First Round using the 1990 Census data, resulting in truer and lower assessments of need, N.J.A.C. 5:93-2.8(a)...

[Mount Laurel V, at 528, footnote 7 (bold added)]

Plainly, the Court was aware of this potential approach, and could have easily required such an approach. Instead, the Court chose not to endorse or require this method, but rather to establish new guidance for a "modified" calculation appropriate to the "unique circumstances" of the gap period.

COAH's prior-cycle prospective need methodology is a "recalculation" that in effect asks what Prospective Need would have been calculated as for a particular time period given observed information, which naturally differs from earlier projections. Conceptually and analytically, this task is not parallel to the task set forth by the Supreme Court with respect to the gap period, which is to determine the portion of need, from households formed during the period in which COAH failed to promulgate rules, that "remains unmet as of today." Answering this question requires a different analytic approach than recreating what obligations would have been assigned under a Prospective Need methodology.⁷⁹

⁷⁹ It is also important to note that the circumstances, available data, and applicable legal guidance were all notably different when COAH implemented this approach in 1993-1994 than they are today. First, in 1993 COAH had calculated and assigned obligations that were sustained by the courts for the Round 1 period which were recalculated through the Prior Cycle-Prospective Need method. No comparable assigned and sustained obligations for the gap period currently exist. Second, COAH lacked the data on actual housing circumstances of households at the conclusion of Round 1 in 1993 since annual ACS data was not yet available, meaning that an accurate point in time analysis may not have been logistically possible. Third, the Supreme Court had not directed COAH to focus on the current circumstances of households, as they have done in Mount Laurel V.

Placement within the Present Need

Finally, the Supreme Court's affirmation of the Appellate Division in its placement of the gap period within the Present Need is consistent with its modification of this category and redefinition of the analytical task in quantifying it. At various points in Mount Laurel V, the Gap Present Need is defined not in terms of all households qualifying as LMI during the period, but rather those that "continue to be an identifiable category of housing need" (526), "need affordable housing today" (529), or whose need "remains unmet today" (footnote 8). Clearly, the Court is concerned not with need that may have existed retrospectively or prospectively, but with need that is current, or "present."

This distinction demonstrates the insufficiency in current circumstance of the retroactive "Prior-Cycle Prospective Need" recalculation of Round 1 obligations undertaken by COAH in Round 2, which failed to consider the current housing circumstances of households emerging during Round 1 as of the start of Round 2. Situating the gap period obligation within Present Need rather than Prospective Need is not merely a semantic distinction, but consistent with the Court's clear directive that the current housing circumstances of gap period households are a relevant consideration as to whether they are part of the affordable housing need.⁸⁰

Thus, the Mount Laurel V decision clearly envisions the development of a new approach to capture the newly defined category of need and does not consider prior methods sufficient to capture the need under the unique circumstances associated with the gap period. This analysis

⁸⁰ Notably, FSHC recognized the significance of this distinction in the wake of Appellate Division's decision, writing to the Court in South Brunswick:

The Appellate Division's direction to include "identified low- and moderate-income households formed during the gap period in need of affordable housing" in the present need is consistent with both the statutory and constitutional framework establishing present need. **Admittedly the calculation required to effectuate the Appellate Division's direction differs from that calculation previously used by COAH.** That difference stems from the Appellate Division's overturning COAH's past practices as to prospective need, stating that COAH's inclusion of gap periods in every prior version of its proposed or adopted rules as a component of prospective need "is at odds with the plain meaning of the [FHA]." Slip op. at 34. **Since the Appellate Division has rejected a significant plank of COAH's overall regulatory framework, necessarily, as the Appellate Division understood, there must be corresponding changes to the present need framework in order to adequately capture gap period need.** These changes are consistent with the FHA, and perhaps most importantly for these purposes the Appellate Division's interpretation of the FHA, and thus trial courts must follow the Appellate Division's direction.

[Correspondence from Kevin Walsh to Judge Wolfson, dated July 21, 2016, p. 4 (bold added)]

Despite this acknowledgment (and the accompanying submission of a revised "Identified Present Need" methodology by FSHC expert Dr. David Kinsey in South Brunswick) the gap period methodology submitted by Dr. Kinsey in Mercer County in April 2017 in the wake of the Supreme Court's decision affirming the Appellate Division on these points asserted that Mount Laurel V "did not reverse or modify the instructions from Mount Laurel IV, and thus the prior round methodology must be used to calculate Gap Present Need" (9). Dr. Kinsey's methodology in April 2017 was indistinguishable in substance from the "Prior-Cycle Prospective Need" method he submitted in Ocean County in March 2016 in response to the Ocean County trial court decision reversed by the higher courts.

details such an approach, which first determines the growth in households over the gap period, and then removes from that pool of incremental households those that are not LMI or do not have an “unmet need” as of July 1, 2015.

The procedure is executed in five steps, which detail the specific calculations undertaken and results of the application of each of these standards on the calculated Gap Present Need:

1. Gap Present Need households must have been added during the gap period and currently exist in New Jersey. Therefore, Section 6.1 determines the incremental growth in households over the 1999-2015 gap period.
2. Gap Present Need households must currently have an identifiable need for affordable housing, one component of which is qualification as low- or moderate-income (LMI). Therefore, Section 6.2 estimates the proportion of incremental households that currently qualify as LMI and deducts those households that are not currently LMI.
3. Next, Section 6.3 estimates and deducts the proportion incremental gap period households qualifying as LMI that already live in affordable housing as of the end of the gap period, and accordingly no longer have an unmet housing need.
4. Next, Section 6.4 estimates and deducts the portion of remaining households that have significant housing assets and thus do not have a need for affordable housing.
5. Gap Present Need households must not be represented within the traditional quantification of the Present Need. Therefore, Section 6.5 estimates and then deducts the proportion of remaining households that are already represented in the traditional Present Need calculation due to the deficiency of their housing unit.

6.1 INCREMENTAL HOUSEHOLD GROWTH

The first step of the Gap Present Need calculation is to determine the increase in households over the gap period. This is accomplished by subtracting the households in existence as of July 1, 1999 from the households in existence as of July 1, 2015.

In defining the households that the calculation is intended to capture, Mount Laurel V refers in multiple places to households that “formed during the gap period.” Since the gap period has already taken place, it is possible to use observed data to estimate the growth in households that took place over the period from July 1, 1999 to June 30, 2015, rather than to rely on projections.

For the forward-facing estimate of Prospective Need, available forecasts project *population* growth, which then must be converted in *household* growth through a multi-step process (as set forth in Section 4). A similar process is utilized to estimate households in 1999, a year for which population data is available but household information is not (requiring the use of Census 2000

data as a proxy). For 2015, by contrast, more direct data is available on households, which can be used to develop estimates without the use of population estimates. However, adjustments to directly reported ACS data are still required to correct for statistical issues and incorporate the most up to date available data.

Section 6.1.1 below details the calculation of households as of July 1, 1999 and Section 6.1.2 details the calculation of households as of July 1, 2015. The difference between the two estimates represents the incremental household growth of the gap period.

6.1.1 1999 HOUSEHOLDS

No single, reliable data source provides household estimates for 1999. Therefore, the volume and distribution of households in 1999 is estimated through a three step process, relying on a mix of data sources from the Census Bureau:

1. Determine population as of July 1, 1999, based on intercensal population estimates from the Census Bureau;
2. Determine the “Population in Households” as of July 1, 1999 by subtracting the population in “Group Quarters”, based on the proportions reflected in the 2000 Census; and
3. Apply a “Headship Rate” to determine the number of households arising from the population in households as of July 1, 1999, also based on the proportions reflected in the 2000 Census.

Population

Intercensal population estimates from the Census Bureau provide the most accurate estimate of the July 1, 1999 population. These estimates indicate that the statewide population was 8,359,592, and provide the distribution of that population by county and age cohort.⁸¹

Group Quarters

Next, the population in group quarters is removed from the total population to yield the population in households. This is a step that has traditionally been undertaken within the fair share methodology, which utilizes households (rather than population) as the base unit for defining housing need. Persons in group quarters include those in correctional facilities, nursing homes, college dormitories, military quarters, or other such group facilities. The group quarters population

⁸¹ Note that the 1999 Intercensal estimates used reflect the most up to date time series, as revised by the U.S. Census Bureau after the 2000 Census, rather than as originally released.

rate is currently reported within the ACS on an annual basis, but group quarters rates by county and age cohort are considered most accurate within the decennial Census (as noted in Section 4.2).

ACS data is not available for 1999, which predates the annual release of this data by several years. Therefore, the proportion of the population reported to be in group quarters within each county and age cohort within the 2000 Census is applied directly to the population distribution for 1999. This method yields an estimated statewide group quarters population of 193,378. Deducting this figure from the 1999 total population estimate yields a statewide “population in households” estimate of 8,166,214, which is arrayed by county and age cohort within the methodology.

Headship Rate

To determine the number of households as of July 1, 1999, the population in households estimate is translated into a household estimate by applying a “headship rate” by county and age cohort. The headship rate is the proportion of individuals that are the head of a household, and is calculated mathematically by dividing the number of households by the population in households.⁸² In the absence of ACS data for 1999, this proportion is again drawn from Census 2000 data, arrayed by county and age cohort. Headship rates are applied to the population in households to yield estimated households by county and age cohort. This calculation results in an estimate of 3,043,483 statewide households as of 1999 (see Table 6.1).⁸³

⁸² Thus, a population of 100 people with 40 households will have a headship rate of 40%. This is also the inverse of the average households size (in this case, $100/40 = 2.5$, which $= 1/0.4$). See Section 4.3 for further explanation.

⁸³ Note that this household estimate out of a population in households of 8,116,214 implies a statewide headship rate of 37.27%. This rate differs very slightly from the statewide headship rate of 37.28% observed in the 2000 Census because the headship rate is applied by county and age cohort rather than statewide. While rates within each cohort are not adjusted, the distribution of population in households between the 168 cohorts is slightly different in 1999 than in 2000 (as reflected in the 1999 Intercensal Population Estimates), resulting in a slightly different weighted average statewide. More broadly, this reflects the fact that the statewide headship is a result rather than an input within the fair share methodology, and there are in fact 168 different headship rates utilized within the calculation.

TABLE 6.1: 1999 HOUSEHOLD ESTIMATES BY REGION AND STATEWIDE

Region	Total Population 1999	Group Quarters Population 1999	Population in HH 1999	Headship Rate 1999	Households 1999
1	2,115,099	(32,174)	2,082,925	37.04%	771,598
2	1,878,737	(40,947)	1,837,790	36.71%	674,567
3	1,156,672	(29,321)	1,127,351	36.72%	413,929
4	1,463,253	(38,687)	1,424,566	38.28%	545,363
5	1,182,488	(29,665)	1,152,823	37.17%	428,478
6	563,343	(22,584)	540,759	38.75%	209,548
State	8,359,592	193,378	8,166,214	37.27%	3,043,483

6.1.2 2015 HOUSEHOLDS

Next, an estimate for the volume of households as of July 1, 2015 is needed. The household estimate for 1999 is then subtracted from the household estimate as of 2015 to determine household growth over the gap period.

An estimate of households as of July 1, 2015 has already been undertaken within the Prospective Need calculation (Section 4.3), since this date represents the starting point of the Prospective Need period as well as the end point of the Gap Period. Briefly, while the most recent estimate of statewide households as of this date comes from the 2015 ACS (which reports a statewide household estimate of 3,187,963), adjustments are required to this estimate to address comparability issues between decennial Census and ACS data with respect to household estimates and to incorporate the most recent revisions to housing unit counts issued by the Census Bureau.⁸⁴

This procedure yields an estimate of 3,230,873 households statewide as of 2015, an increase of approximately 43,000 households (or 1.3%) from the direct ACS estimate of 3,187,963 (see Table 6.2).

⁸⁴ These adjustments, originally proposed by FSHC expert Daniel McCue and also adopted by Dr. David Kinsey in his recent methodology reports for FSHC, are detailed in Section 4.3.

TABLE 6.2: REVISED 2015 HOUSEHOLD ESTIMATE, STATEWIDE AND BY REGION

Region	ACS 2015 HH Estimate	Revised 2015 HH Estimate	Revision (%)
1	802,682	818,727	2.0%
2	689,202	705,003	2.3%
3	445,110	448,929	0.9%
4	584,827	585,988	0.2%
5	452,494	455,485	0.7%
6	213,648	216,742	1.4%
State	3,187,963	3,230,873	1.3%

The differential between household estimates for 1999 and 2015 represents the incremental growth in households over the gap period. This incremental household growth approach is based on the households in existence within the state and within each region as of the beginning and end of the gap period. Since it estimates households in existence as of July 1, 2015, it excludes those households that may have formed during the gap period and then moved out of the state, died, or otherwise unformed during the period. It therefore implements the Supreme Court's directive in Mount Laurel V to identify the number of households "newly formed since 1999, that presently exist" (513). On a statewide basis, incremental household growth is estimated at 187,390 households (see Table 6.3).

TABLE 6.3: INCREMENTAL GROWTH IN HOUSEHOLDS 1999-2015 BY REGION AND STATEWIDE

Region	Households 1999	Households 2015	HH Increase 1999-2015
1	771,598	818,727	47,129
2	674,567	705,003	30,436
3	413,929	448,929	35,000
4	545,363	585,988	40,624
5	428,478	455,485	27,007
6	209,548	216,742	7,194
State	3,043,483	3,230,873	187,390

6.2 LMI PROPORTION

The next step of the Gap Present Need calculation is to determine how many of the incremental households added during the gap period are LMI as of the end of the period. This is accomplished by estimating the LMI proportion as of July 1, 2015 for each region and household size, and applying those proportions to the total household growth for each region and household size.

As described in Section 6.0, Mount Laurel V requires a determination of which gap period households “need affordable housing today” (529) and also cautions trial courts to avoid including any households that are “income-ineligible” (531) within the calculation. This step in the calculation therefore removes from the need those incremental gap period households that do not qualify as LMI. Subsequent steps remove those households that do qualify as LMI but do not currently have a housing need or are already captured in the traditional Present Need calculation.

Our definition and analysis of LMI households follows the methodology applied in our Prospective Need and Present Need analysis, which measures LMI households based on the median household income for each household size in each region, consistent with the language of the Fair Housing Act. This definition and methodology are discussed in greater detail in Section 4.4 of this report (in the context of the Prospective Need methodology).

Briefly, median household incomes are defined by household size and region through observed data from the 2015 ACS One-Year Public Use Micro Sample (PUMS). This not only represents the most up to date data source, but also aligns with the end date of the gap period on June 30, 2015, since the middle of the year represents the midpoint of annualized 2015 data. The LMI threshold is then set at 80% of this observed median income by household size and region. Table 6.4 below shows the median and LMI threshold incomes yielded by this procedure. These thresholds are identical to those used in the Prospective Need analysis (and shown in Table 4.11).

TABLE 6.4: MEDIAN INCOME AND LMI INCOME THRESHOLDS BY REGION AND HOUSEHOLD SIZE, 2015 ACS PUMS

Region	Income	1	2	3	4	5	6	7+
1	Median	\$35,000	\$77,700	\$91,000	\$105,520	\$94,700	\$90,120	\$113,000
	LMI (80%)	\$28,000	\$62,160	\$72,800	\$84,416	\$75,760	\$72,096	\$90,400
2	Median	\$35,000	\$73,500	\$90,000	\$112,000	\$109,000	\$91,000	\$95,400
	LMI (80%)	\$28,000	\$58,800	\$72,000	\$89,600	\$87,200	\$72,800	\$76,320
3	Median	\$40,000	\$85,000	\$105,000	\$124,000	\$111,200	\$129,990	\$169,500
	LMI (80%)	\$32,000	\$68,000	\$84,000	\$99,200	\$88,960	\$103,992	\$135,600
4	Median	\$35,000	\$76,700	\$100,000	\$118,700	\$117,000	\$108,600	\$81,000
	LMI (80%)	\$28,000	\$61,360	\$80,000	\$94,960	\$93,600	\$86,880	\$64,800
5	Median	\$35,100	\$75,000	\$96,800	\$104,860	\$101,800	\$95,000	\$91,330
	LMI (80%)	\$28,080	\$60,000	\$77,440	\$83,888	\$81,440	\$76,000	\$73,064
6	Median	\$28,800	\$60,300	\$75,000	\$71,900	\$72,000	\$105,800	\$59,700
	LMI (80%)	\$23,040	\$48,240	\$60,000	\$57,520	\$57,600	\$84,640	\$47,760

Observed household incomes from this same data source are then utilized to determine the proportion of households qualifying as LMI in each region and household size. This procedure yields a unique LMI proportion for each region and household size (*i.e.* 42 different LMI rates). Each of these rates is close to, but not precisely, 40% (see Table 6.5). Again, these proportions are identical to those used in the Prospective Need analysis (and shown in Table 4.12).

TABLE 6.5: PROPORTION OF HOUSEHOLDS BELOW LMI THRESHOLD BY REGION AND HOUSEHOLD SIZE, 2015 ACS PUMS

Region	Household Size						
	1	2	3	4	5	6	7+
1	43.4%	39.7%	40.2%	37.4%	37.6%	44.9%	40.5%
2	42.2%	39.6%	41.7%	40.5%	40.0%	39.7%	39.2%
3	40.9%	38.9%	36.8%	38.0%	35.7%	35.5%	42.7%
4	41.8%	38.7%	36.9%	38.0%	35.6%	37.0%	40.6%
5	40.1%	37.9%	38.4%	35.2%	36.6%	35.6%	32.2%
6	41.7%	35.7%	42.1%	42.1%	39.9%	38.6%	40.4%

As described in more detail in Section 4.4, this procedure creates an alignment between the data sources and methods utilized to determine household incomes and the data sources and methods utilized to determine the LMI thresholds against which that income is compared. This specification also ensures that LMI households identified within the fair share methodology are those defined as LMI by the Fair Housing Act.

Next, these LMI proportions are applied to the incremental growth in households within each region and household size. As in the Prospective Need methodology, this step requires translating estimates of households in each region (originally calculated in age cohorts) into an estimated distribution by household size.⁸⁵ This calculation has already been undertaken for July 1, 2015 within the Prospective Need methodology. A parallel process is followed to estimate the distribution as of 1999. This process utilizes the population in households and total households as of 1999 estimated in Section 6.1.1, and determines the distribution of households in each county that is a) consistent with these estimates and b) most similar to the distribution of household sizes observed in the 2000 Census.⁸⁶

Households by size estimates for each county are then aggregated to the regional level for 1999 and 2015. Subtracting households in 1999 from households in 2015 yields the same statewide incremental growth in households over the gap period of 187,390 shown in Section 6.1.2, distributed by region and county (see Table 6.6).

TABLE 6.6: INCREMENTAL HOUSEHOLD GROWTH BY REGION AND HOUSEHOLD SIZE, 1999-2015

Region	Total	Household Size						
		1	2	3	4	5	6	7+
1	47,129	5,210	12,919	12,291	10,003	2,101	1,006	3,599
2	30,436	12,075	5,087	4,237	6,196	249	1,015	1,576
3	35,000	4,902	2,393	9,156	11,405	2,395	1,972	2,776
4	40,624	8,472	9,970	7,683	6,647	1,331	1,538	4,984
5	27,007	7,399	6,315	5,525	4,462	592	1,128	1,585
6	7,194	1,480	3,266	1,093	(442)	(221)	726	1,291
State	187,390	39,539	39,951	39,985	38,271	6,447	7,387	15,811

⁸⁵ The “distribution” of household sizes throughout this section again refers to the proportion of households in a county that are one person households, two person households, and so on up to households of seven persons or more. This distribution by definition sums to 100% of households.

⁸⁶ See Section 4.4.2 for further discussion of this statistical technique in the context of parallel estimates for 2015 and 2025.

Applying the LMI proportions by region and household size shown in Table 6.5 to the incremental household growth in households shown in Table 6.6 identifies those households that a) were formed during the gap period and b) currently qualify as LMI.⁸⁷ This calculation is shown in Table 6.7 below.

TABLE 6.7: INCREMENTAL HOUSEHOLDS QUALIFYING AS LMI BY REGION AND HOUSEHOLD SIZE

Region	Measure	1	2	3	4	5	6	7+
1	HH Growth	5,210	12,919	12,291	10,003	2,101	1,006	3,599
	(x) LMI Rate	43.4%	39.7%	40.2%	37.4%	37.6%	44.9%	40.5%
	(=) LMI HH	2,259	5,132	4,946	3,739	790	451	1,458
2	HH Growth	12,075	5,087	4,237	6,196	249	1,015	1,576
	(x) LMI Rate	42.2%	39.6%	41.7%	40.5%	40.0%	39.7%	39.2%
	(=) LMI HH	5,094	2,016	1,767	2,512	99	403	617
3	HH Growth	4,902	2,393	9,156	11,405	2,395	1,972	2,776
	(x) LMI Rate	40.9%	38.9%	36.8%	38.0%	35.7%	35.5%	42.7%
	(=) LMI HH	2,005	931	3,369	4,339	856	700	1,186
4	HH Growth	8,472	9,970	7,683	6,647	1,331	1,538	4,984
	(x) LMI Rate	41.8%	38.7%	36.9%	38.0%	35.6%	37.0%	40.6%
	(=) LMI HH	3,543	3,859	2,838	2,523	474	568	2,023
5	HH Growth	7,399	6,315	5,525	4,462	592	1,128	1,585
	(x) LMI Rate	40.1%	37.9%	38.4%	35.2%	36.6%	35.6%	32.2%
	(=) LMI HH	2,969	2,395	2,119	1,570	216	402	511
6	HH Growth	1,480	3,266	1,093	(442)	(221)	726	1,291
	(x) LMI Rate	41.7%	35.7%	42.1%	42.1%	39.9%	38.6%	40.4%
	(=) LMI HH	617	1,167	460	(186)	(88)	280	522

⁸⁷ It is worth noting that there is no data source available which specifically identifies only those households formed during the gap period, or could otherwise be used to isolate "incremental households" from the broader set of New Jersey households.

Accordingly, the methodology throughout this analysis relies on data from the full set of New Jersey households as of 2015, as reflected in the 2015 ACS. The proportional analysis drawn from those households, typically by region and household size, is then applied to the incremental households added during the gap period in each region and household size group. This approach implicitly assumes, in the absence of any more granular data, that the characteristics of incremental households added during the gap period for each region and household size match the characteristics of all households of the same region and household size.

The results of this calculation are then aggregated at the regional level. Statewide, approximately 73,500 incremental households are estimated to qualify as LMI. Comparing this figure to total household growth yields a statewide effective LMI rate of 39.20% (see Table 6.8).

TABLE 6.8: EFFECTIVE LMI RATES BY REGION AND STATEWIDE

Region	Incremental Household Growth, 1999-2015	Incremental HH Qualifying as LMI	Effective LMI Rate
1	47,129	18,776	39.8%
2	30,436	12,509	41.1%
3	35,000	13,386	38.2%
4	40,624	15,828	39.0%
5	27,007	10,183	37.7%
6	7,194	2,772	38.5%
State	187,390	73,453	39.20%

LMI rates at the region and statewide level are referred to as “effective rates” because they are not calculated directly. Rather, they are “resultants” of directly applying LMI rates by region and household size to the incremental household growth in each of the 42 region and household size combinations, as shown in Table 6.7. The effective rates shown in Table 6.8 by region and statewide are an aggregation of these results, and region and statewide effective rates would shift slightly given a different distribution of the incremental population growth. This is evident from the Prospective Need calculation for 2015, which applies the same LMI rates by region and household size to the full household population as of July 1, 2015 and estimates a slightly different statewide LMI rate of 39.52% (as shown in Section 4.4).

6.3 HOUSEHOLDS CURRENTLY IN AFFORDABLE HOUSING

The next step of the Gap Present Need calculation removes those LMI households who are residing in affordable housing, and therefore do not represent an affordable housing need as of the end of the gap period. This is accomplished by evaluating the housing circumstances of LMI households as of July 1, 2015, based on 2015 ACS data.

As reviewed in Section 6.0, Mount Laurel V defines the Gap Present Need not in terms of all households qualifying as LMI that were added during the gap, but rather the subset of those households that “continue to be an identifiable category of housing need” (526), “need affordable housing today” (529), or whose need “remains unmet today” (footnote 8). This step responds to that directive by identifying the share of incremental LMI households from the gap period that live in affordable housing as of the end of the gap period, and removing those households from the

calculation of need. Stated simply, these households do not “need affordable housing today” because they already live in affordable housing (as of July 1, 2015).

Section 304 of the Fair Housing Act sets forth definitions for moderate-, low- and very low-income households, and for the units that constitute appropriate housing for those households. The definitions of moderate-, low- and very low-income are parallel in their construction, with the only difference represented in the percentage of median gross household income for households of the same size within the region represented by each category.

“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% but less than 80% of the median gross household income for households of the same size within the region in which the housing is located.**

[Fair Housing Act, Section 304(d) (bold added)]

Table 6.9 shows the income bands applicable to the moderate income, low income and very low income housing within sections 304(d), 304(c) and 304(m), respectively.

TABLE 6.9: INCOME BANDS APPLYING TO MODERATE-, LOW- AND VERY LOW-INCOME HOUSEHOLDS WITHIN THE FAIR HOUSING ACT

Category	Gross HH Income Relative to Regional Median for HH of the Same Size	FHA Section
Moderate Income	“equal to more than 50% but less than 80%”	304(d)
Low Income	“equal to 50% or less”	304(c)
Very Low Income	“equal to 30% or less”	304(m)

Thus, the standards for the households for whom each category of housing is meant to be “reserved for” are clearly enumerated within the definition itself. As detailed in the LMI proportion calculation undertaken in Section 6.2, these standards can be applied by region and household size with 2015 ACS PUMS data to determine the proportion of New Jersey households in each category.

In addition to defining the income strata⁸⁸ of LMI households, these definitions set forth a rubric to determine if specific housing units are “affordable” to these households. Specifically, affordability is to be defined “according to the federal Department of Housing and Urban Development or other recognized standards for home ownership and rental costs.” HUD provides a

⁸⁸ The term “strata” is herein used for simplicity to refer collectively to the categories of moderate-income, low-income and very-low income households, which sum to the broader category of LMI households.

straightforward definition of “affordable housing” in its “Glossary of HUD Terms” that is useful for the Gap Present Need analysis.⁸⁹

AFFORDABLE HOUSING: In general, housing for which the occupant(s) is/are paying no more than 30 percent of his or her income for gross housing costs, including utilities.

[U.S. Department of Housing and Urban Development (HUD), Glossary of Terms (emphasis in original)]

This “30 percent of income” standard, including utilities, is utilized to determine the affordability thresholds for each housing strata in each region and household size.⁹⁰ Income thresholds established based on proportions (30% for very low income, 50% for low income and 80% for moderate income) are established for each unit based on unit sized standards contained in the state’s Uniform Housing Affordability Controls (UHAC).⁹¹ Each threshold is multiplied by 30 percent to determine the annual housing costs threshold for that stratum of housing. Table 6.10 below shows the establishment of these thresholds for a sample studio unit in Region 1.

⁸⁹ This glossary is published on the official HUD website at: <<https://www.huduser.gov/portal/glossary/glossary.html>>

⁹⁰ Note that some standards utilize a differentiated proportion of income for rental and owner-occupied housing. This differentiation may be relevant to evaluating the affordability of purchase prices for owner-occupied housing, where different categories of cost may apply to the initial purchase of a housing unit. However, the relevant question in this case is the current affordability of units occupied by gap period households, not the theoretical affordability of those units for purchase. Therefore, the use of equivalent standards for owners and renters, as set forth by HUD, is appropriate.

⁹¹ The standards for unit size set forth in N.J.A.C. 5:80-26.4(a) are as follows:

1. A studio shall be affordable to a one person household;
2. A one bedroom unit shall be affordable to a one and one-half person household;
3. A two bedroom unit shall be affordable to a three person household;
4. A three bedroom unit shall be affordable to a four and one-half person household; and
5. A four bedroom unit shall be affordable to a six person household

Notably this UHAC standard is intended to implement income limits which included fixed multiplication factors for household sizes greater or less than four persons. Thus, the standard set forth intends for a four bedroom unit to be compared to a higher income threshold (for a six person household) than a three bedroom unit (for a four and half person household). However, as described in Section 4.4, observed data on incomes by region and household size do not always align with that expectation. Accordingly, as unit sizes get larger, this methodology applies the highest applicable regional median income for a household of the referenced size or smaller. For example, if median income for four person households within a region is higher than for six person households, a four bedroom unit is evaluated against this four person median, since in practice a four person household could comfortably fit within the larger unit.

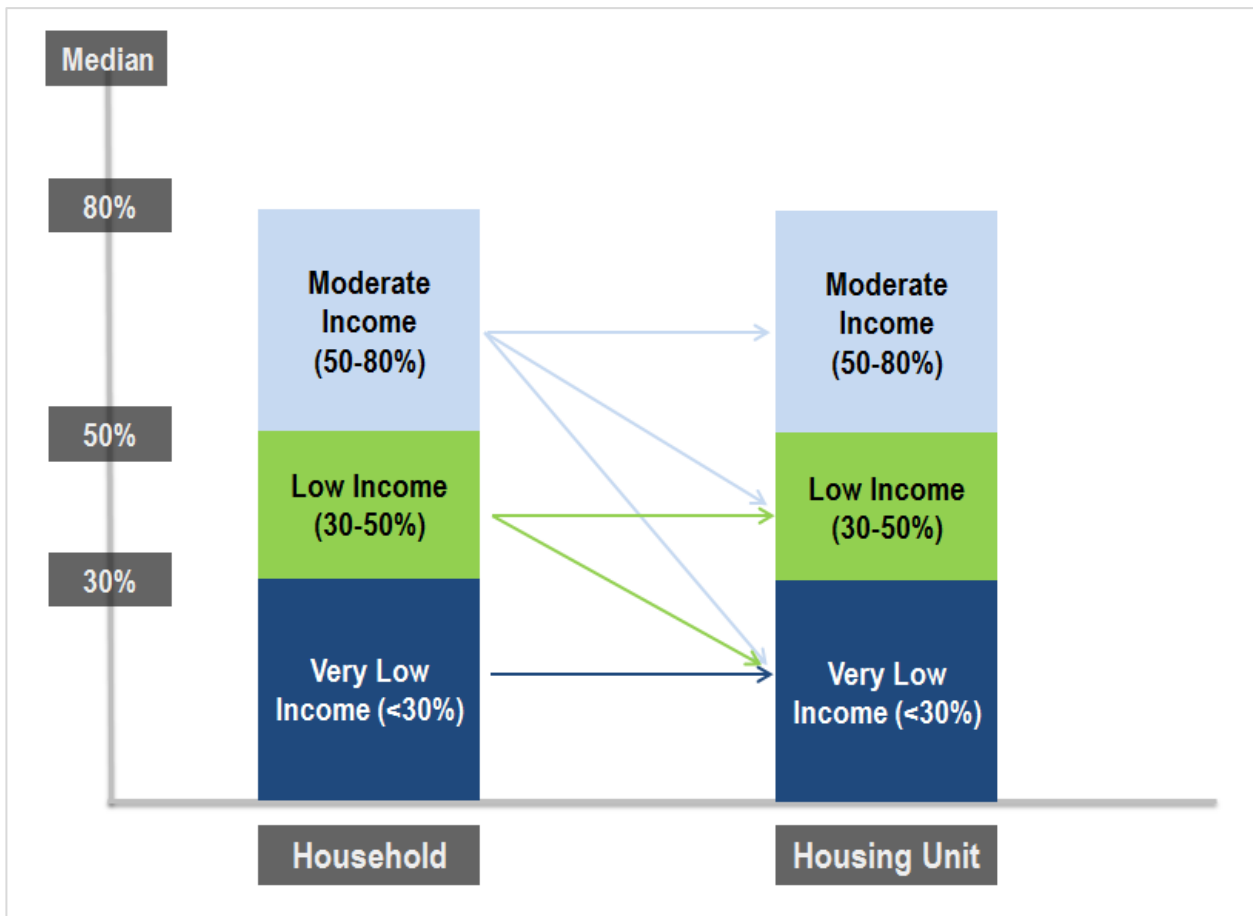
TABLE 6.10: INCOME AND AFFORDABILITY THRESHOLDS FOR STUDIO UNIT IN REGION 1

Category	Input	Very Low Income (30%)	Low Income (50%)	Moderate Income (80%)
Unit Size	Studio			
Relevant HH Size	1 person			
Regional Median Income for Relevant HH Size	\$35,000			
Income Threshold by Strata		\$10,500	\$17,500	\$28,000
Housing Cost Threshold by Strata (30%)		\$3,150	\$5,250	\$8,400

Next, observed data from the 2015 ACS PUMS on the reported housing costs for these units are compared to these thresholds.⁹² This process determines whether the housing costs for a given unit fall within the allowable limits for each of the three housing strata (or whether the housing costs exceed all three limits, in which case the unit is not considered affordable).

Thus, for each entry in the PUMS database including an LMI household, a field is generated for both the income status of the household (moderate, low, or very low-income household) and for the affordability status of the unit they are occupying (moderate, low or very low-income housing). These entries are then cross-referenced to the proportion of those LMI households who are living in a housing unit that is affordable to their strata (or to a lower strata, in which case the unit is by definition affordable to their strata as well). This “matching” process is illustrated in Figure 6.1.

⁹² For rental units, gross rent as reported in ACS is used to represent housing costs, while for owner occupied units, Selected Monthly Owner Costs (SMOC), a composite measure of housing costs produced within the ACS, is used. Both measures include utilities.

FIGURE 6.1: COMPARISON OF HOUSEHOLD INCOME STRATA AND HOUSING UNIT AFFORDABILITY

An adjustment is made to this match between households and housing units to account for potential overcrowding. Within COAH's traditional Present Need methodology, housing units are defined as "overcrowded" if they are occupied by more than 1.01 persons per room.⁹³ In instances where a household is occupying a unit affordable to its strata but has more than 1.01 occupants per room, that household is flagged as "overcrowded," and the household is not considered to be occupying an appropriate unit (and therefore remains in the housing need). This prevents LMI households from being considered to have their housing need satisfied because they have reduced housing costs by occupying an overcrowded unit.

The observed proportion of LMI households in each region and household size that are living in a unit affordable to their strata and are not overcrowded is then applied to the base of incremental households over the gap period qualifying as LMI (as calculated in Section 6.2).

⁹³ This overcrowding by itself is not considered a source of housing deficiency within the Present Need calculation. However, a housing unit that is considered both old (based on its date of construction) and overcrowded is considered to be deficient, and included in the Present Need if occupied by an LMI household.

Table 6.11 below shows the results of this calculation aggregated by region and statewide. On a statewide basis, 40.8% of these households are determined to be living in a unit affordable to their strata and not overcrowded. Removing this segment from the initial base of group of approximately 73,500 incremental gap period households qualifying as LMI yields an initial group of households with an identified housing need of approximately 43,500.

TABLE 6.11: INCREMENTAL HH QUALIFYING AS LMI NOT LIVING IN UNITS AFFORDABLE TO THEIR INCOME STRATA

Region	Incremental HH Qualifying as LMI	% of Incremental HH in Units Affordable to Strata + not Crowded	Households Removed from the Need	Incremental HH LMI with Identified Need (Initial)
1	18,776	31.4%	(5,887)	12,889
2	12,509	41.7%	(5,213)	7,296
3	13,386	36.1%	(4,826)	8,560
4	15,828	48.4%	(7,659)	8,169
5	10,183	52.8%	(5,378)	4,805
6	2,772	35.6%	(986)	1,786
State	73,453	40.8%	(29,948)	43,504

As discussed in Section 6.0, COAH has consistently recognized through the application of secondary sources that changes in the affordable housing stock supplied through the private market are a legitimate means through which affordable housing need can be satisfied. Prospectively, this is achieved through projections of various market forces over the ten-year compliance period (as described in Section 8). In the case of a point in time calculation, which evaluates remaining need as of a fixed date for which data is available (July 1, 2015), the accuracy of this calculation is enhanced by simply evaluating observed data on the housing circumstances of New Jersey's LMI households (as is done in the procedure undertaken above). This approach by definition incorporates market-based changes in housing supply relevant to those households into the calculation, thereby eliminating the need for a separate secondary source analysis for this period.

Concerns have been raised that this step may result in a “double counting” of otherwise creditable units produced by municipalities over the gap period, since regulated affordable units produced by municipalities as part of the compliance process are one means by which gap households may have found affordable housing prior to July 1, 2015. This concern does not bear on the quantification of Gap Present Need as defined by the Supreme Court in Mount Laurel V. The dictate of that decision was to quantify the “unmet need” remaining from the gap period, and those gap period households living in municipally produced affordable housing are plainly not a

part of that need. Accordingly, this potential issue is more appropriately situated within the municipal compliance process rather than within the quantification of the need.

In addition, available data suggests that the proportion of gap period households fitting this description is likely to be quite small. LMI households can achieve affordable housing through a broad range of mechanisms, including both market-based components (such as units built as market rate that become affordable over time) and non-market factors (including housing voucher and public housing programs in addition to deed restricted housing). A relatively small proportion of New Jersey's total housing stock was added over the gap period through any such mechanisms, suggesting that the vast majority of affordable housing predates this period.⁹⁴

In addition, the vast majority of deed-restricted housing assigned during this gap period is likely to have been filled by households other than those captured in the Gap Present Need calculation. Section 6.2 of this report quantifies the volume of incremental gap period households qualifying as LMI at approximately 73,500. These households are a subset of the full pool of New Jersey's LMI households of 1,276,800 as of July 1, 2015 (as calculated in Section 4.4). Accordingly, if the incremental gap period households are proportionally represented in the deed-restricted affordable housing units produced during the gap, they would occupy just 5.8% of units produced over this period.

Further, due to the nature of the deed-restricted affordable housing process, it is likely that incremental gap period households are in fact under-represented in these units relative to the 5.8% benchmark. First, there is the logistical matter of availability, which dictates that incremental gap period households cannot be assigned a deed-restricted unit that came into existence before the household came into existence in the state.⁹⁵ Second, there is the matter of priority. Many deed-restricted units are assigned based on a waiting list, and new households as a group are likely to be lower than existing households on those lists. Due to these two factors, it is likely that the actual proportion of incremental gap period households occupying deed-restricted units produced during the gap period is less than the 5.8% benchmark based on their representation in the overall pool of LMI households as of 2015.

⁹⁴ Residential certificates of occupancy for the calendar year 2000-2015 period, which aligns closely with the gap period, total approximately 330,000, representing just over 10% of the existing statewide housing stock of 3.2 million occupied units as of 2015.

⁹⁵ By way of example, if a housing unit was assigned in 2005, it was not available at that time to all of the incremental households added between 2005 and 2015.

6.4 HOUSEHOLDS WITH SIGNIFICANT HOUSING ASSETS

The next step of the Gap Present Need calculation removes those remaining LMI households who have significant housing assets, and therefore do not represent an affordable housing need as of the end of the gap period. This is accomplished by evaluating the housing assets and costs for these households as of July 1, 2015, based on 2015 ACS data.

As previously explained, each iteration of COAH's Round 3 methodology implements an "asset test" to identify and remove from the need those households that have fully paid off owned property above a regional asset limit, provided that they do not have excessive housing costs.⁹⁶ Incorporating this step implements the Supreme Court's guidance in Mount Laurel V to identify only those households that "need affordable housing today." Households with significant assets who do not "need affordable housing provided to them" (as per COAH's Round 3 methodology) do not have an "unmet need" for affordable housing as stipulated in Mount Laurel V. It is worth reiterating that the Supreme Court in Mount Laurel IV and Mount Laurel V specifically cited the flexibility of trial court judges to incorporate procedures from Round 3 that had not been specifically invalidated by the courts.

The asset test calculation in this procedure is undertaken by region and household size using 2015 ACS PUMS data in an identical manner to the calculation described within the Prospective Need component of this analysis (Section 4.5). Those households that will be removed in this step are those that have significant assets and pay less than 38% of their income for housing, but are not living in housing affordable to their strata (as defined in the prior step). In practice, this represents a smaller portion of households than the application of the asset test to the full LMI population, because many homeowners with assets may already be identified as occupying affordable housing by the process undertaken in Section 6.3.⁹⁷

⁹⁶ As previously referenced, this procedure is described as follows:

Households that qualify for affordable housing by income but are likely to have significant assets In the form of owned property that is both fully paid off and affordable at just under 40 percent of income (38 percent) are eliminated from this group....This eliminates from the count those households that will have paid-down assets in the form of **owned property in which they will both live and be able to afford**. This reflects the reality that a share of those who qualify by income in the future will have paid off property that they can afford and **will not need affordable housing provided to them**.

[5:94 COAH Third Round Rules (2004), Appendix A p. 79, bold added]

⁹⁷ Each step in the Gap Present Need calculation is performed sequentially, such that only households still identified as having an "unmet need" in prior steps are evaluated. This sequencing means that the proportions calculated in this analysis for these individual components are not those that would be arrived at if evaluating the full set of New Jersey's LMI households. In this instance, the standards, techniques and data sources are identical between the Prospective Need and Gap Present Need calculations, but resulting proportions differ because a different pool of households is considered. The incidence rate of households with significant assets is far lower among this remaining pool of LMI households than among the LMI population as a whole (where the rate is close to 8%, as reflected in Section 4.5). This differential emerges because households living in affordable housing, which include the vast majority of households with significant assets, have already been excluded in the prior step.

Table 6.12 shows the proportion of incremental households that qualify as LMI meeting this definition, aggregated by region and statewide. On a statewide basis, about 1% of remaining incremental households fall into this category. Therefore, this step removes approximately 500 households from the group of gap period households with identifiable housing needs, bringing the total (through this step) to approximately 43,000.

TABLE 6.12: INCREMENTAL HOUSEHOLDS QUALIFYING AS LMI WITH SIGNIFICANT HOUSING ASSETS

Region	Incremental HH LMI with Identified Need (Initial)	% not Living in Affordable Housing but with Significant Assets	HH with Assets Removed from the Need	Incremental HH LMI with Identified Need (Adjusted)
1	12,889	0.8%	(100)	12,789
2	7,296	0.9%	(66)	7,230
3	8,560	1.8%	(158)	8,402
4	8,169	0.8%	(68)	8,101
5	4,805	0.5%	(25)	4,780
6	1,786	2.8%	(51)	1,735
State	43,504	1.1%	(467)	43,037

6.5 HOUSEHOLDS CAPTURED WITHIN THE TRADITIONAL PRESENT NEED

The final step of the Gap Present Need calculation removes those LMI households with a current housing need who are already captured within the traditional Present Need, and would therefore otherwise be double-counted within the Round 3 obligation. This is accomplished by applying the traditional Present Need criteria (as described in Section 5) to these households, and removing from the Gap Present Need those living in deficient units as of July 1, 2015.

The instance of double-counting within the Gap Present Need and traditional Present Need arises due to the unique circumstances of the gap period. While Prospective Need arises from growth from 2015-2025 and is therefore by its nature distinct from the traditional Present Need captured as of July 1, 2015, Gap Present Need households are quantified as of the same July 1, 2015 date as the traditional Present Need, resulting in double counting. Specifically, those incremental households added during the gap period that as of July 1, 2015 qualify as LMI, are living in deficient units, live in housing that is not affordable and do not possess significant housing assets will be included in both the Present Need and the Gap Present Need as calculated to this point. Thus, the final step in determining additive need arising from this period is to remove the proportion of remaining LMI households with identifiable housing needs that live in deficient units and are thus already accounted for in the fair share need.

Mount Laurel V explicitly addresses the duplication of households between the two components of the Present Need. This overlap was discussed in each of ESI's analyses of the gap period prior to the Supreme Court's decision as a factor that must be accounted for if a reliable and accurate aggregate fair share calculation is to be assembled. The Supreme Court indicates its agreement with this notion in the Mount Laurel V decision through its caution to "avoid double-counting" (30) and its explicit direction to trial courts to ensure that the Gap Present Need is not "calculated in a way that includes" those households already captured in the traditional Present Need category:

The trial courts must take care to ensure that the present need is not calculated in a way that includes persons who are deceased, who are income-ineligible or otherwise are no longer eligible for affordable housing, **or whose households may be already captured through the historic practice of surveying for deficient housing units** within the municipality.

[Mount Laurel V, p. 531, bold added]

In addition, Mount Laurel V clearly envisions a deduction of these double-counted units from the Gap Present Need calculation, rather than from the traditional Present Need category. The passage above states plainly that the newly defined category of need emerging from that decision (*i.e.* Gap Present Need) must ensure that it does not capture those households already included in the Present Need.

We use the 2015 ACS PUMS dataset to measure the three surrogates of housing deficiencies defined by COAH in Round 3 and utilized within the Present Need calculation undertaken in Section 5 (units with inadequate plumbing facilities, units with inadequate kitchen facilities, and units that are both old and overcrowded). Identification of a unit on any one of the three surrogates results in that unit being classified as deficient. ACS 2015 PUMS data is utilized to specify the proportion of households that had previously been identified as having an identifiable housing need (*i.e.* those incremental gap households qualifying as LMI that are not living in affordable housing and do not possess significant assets) that are living in deficient housing by region and household size.

Table 6.13 shows the proportion of incremental households that qualify as LMI meeting this definition, aggregated by region and statewide. On a statewide basis, 9.3% of incremental households that remain after the prior steps fall into this category.⁹⁸ Therefore, this step removes about 4,000 households from the group of gap period households with identifiable housing need, bringing the total to approximately 39,000.

⁹⁸ It should be noted that the incidence rate of housing deficiency is observed to be somewhat higher among this group of LMI households than among the LMI population as a whole, where the rate is closer to 5%. This differential is not surprising, however, when considering that overcrowding is one of the dimensions under which households are determined not to be living in suitable affordable housing within the test applied in Section 6.3. Naturally, overcrowded households are also more likely to be in units identified as deficient due to age and overcrowding than the average LMI household.

TABLE 6.13: INCREMENTAL HOUSEHOLDS QUALIFYING AS LMI ALREADY CAPTURED WITHIN THE PRESENT NEED

Region	Incremental HH LMI with Identified Need (previous)	% with Identifiable Housing Need in Deficient Units	Overlap with Present Need Removed from the Need	Incremental HH LMI with Identified Need (Adjusted)
1	12,789	12.1%	(1,554)	11,235
2	7,230	9.5%	(685)	6,545
3	8,402	10.3%	(869)	7,533
4	8,101	5.6%	(452)	7,649
5	4,780	7.5%	(357)	4,423
6	1,735	6.2%	(107)	1,628
State	43,037	9.3%	(4,023)	39,014

Absent this adjustment, LMI households living in deficient units are double-counted in the Present Need and Gap Present Need. This is the case even if the household resides in a qualifying urban aid municipality (QUAM) which receives no municipal level allocation of Gap Present Need (see Section 7.1) because the Gap Present Need calculation is conducted at the regional level and then subsequently allocated to municipalities. This means that Gap Present Need is generated regionally, rather than municipally.

Within this structure, a gap period LMI household with an identified need living in deficient housing within a qualifying urban aid municipality will yield both a Present Need within their home municipality and a Gap Present Need within their region. This Gap Present Need will then be allocated to a different municipality within the region (by definition, since their home municipality does not participate in this allocation). While this LMI household is therefore not double-counted within the obligation of their home municipality, the same household is counted in both the Present Need and Gap Present Need within the region in which they reside. This double-count necessitates the overlap calculation undertaken above to implement the guidance in Mount Laurel V. Therefore, it is not appropriate to make an adjustment to the above overlap calculation to account for gap LMI households residing in QUAMs, since these households are double-counted from a regional perspective in the same manner as households in other municipalities.

6.6 GAP PRESENT NEED BY REGION RESULTS

The Gap Present Need approach set forth in this section is necessarily novel, in response to the unique circumstances and instructions of the Supreme Court in Mount Laurel V, but is as consistent as possible with familiar principles and standards. Table 6.14 and Figure 6.2 below summarize the resulting Gap Present Need by region and statewide.

As shown below, the methodology first establishes the incremental growth in households over the gap period (Section 6.1), then deducts from that increment those households that do not qualify as LMI (Section 6.2), those LMI households currently living in affordable housing that is not overcrowded (Section 6.3), those remaining LMI households with significant housing assets (Section 6.4) and those remaining LMI households living in deficient units and thus already captured in the traditional Present Need (Section 6.5). The remaining households comprise the Gap Present Need for each region, which totals 39,014 statewide (see Table 6.14).

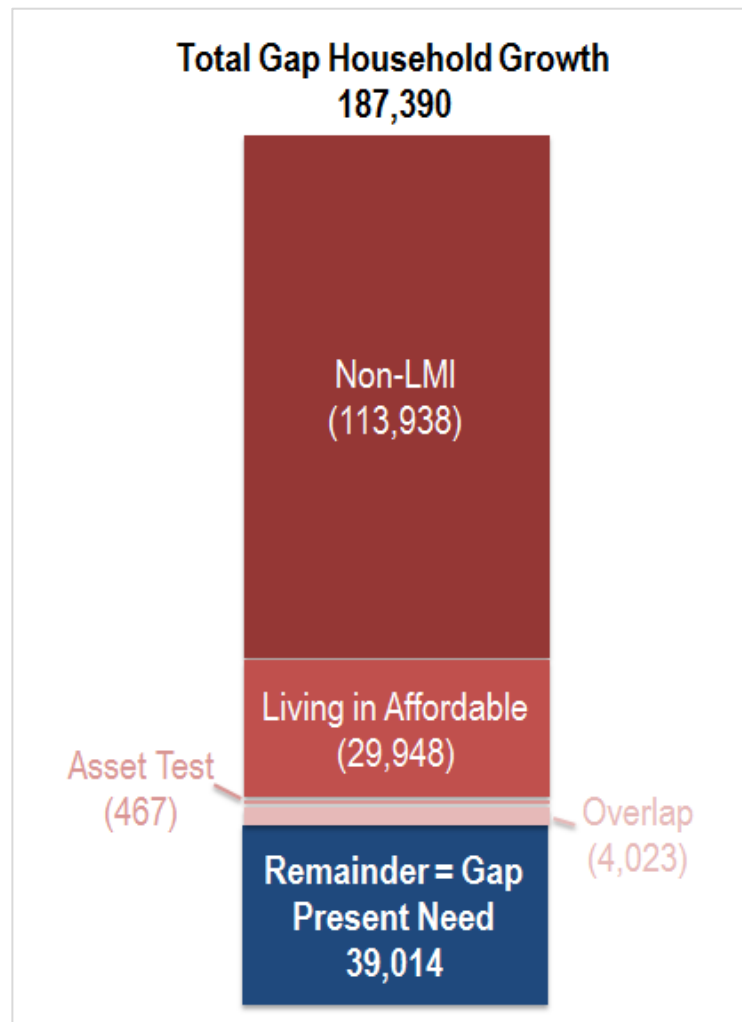
These steps are undertaken sequentially, meaning that only those households remaining in the “pool” of those with an unmet need according to prior steps are evaluated in each subsequent step. Therefore, both the proportions reflected in each sub-section and the volume of gap households removed at each step reflected below are contingent upon the full sequence of calculations, and would change given a different ordering or series of steps.⁹⁹

⁹⁹ Note that mathematically, performing the full sequence of steps in a different order would ultimately identify the same households and thus produce the same results, although the proportion and volume of households removed at each step would differ.

TABLE 6.14: SUMMARY OF GAP PRESENT NEED CALCULATION BY REGION AND STATEWIDE

Region	Incremental HH Growth (1999 – 2015)	HH not Qualifying as LMI	LMI HH Living in Affordable Housing	Remaining LMI HH with Significant Assets	Remaining LMI HH Captured in Present Need (Deficient Units)	Gap Present Need
1	47,129	(28,353)	(5,887)	(100)	(1,554)	11,235
2	30,436	(17,927)	(5,213)	(66)	(685)	6,545
3	35,000	(21,614)	(4,826)	(158)	(869)	7,533
4	40,624	(24,797)	(7,659)	(68)	(452)	7,649
5	27,007	(16,824)	(5,378)	(25)	(357)	4,423
6	7,194	(4,423)	(986)	(51)	(107)	1,628
State	187,390	(113,938)	(29,948)	(467)	(4,023)	39,014

FIGURE 6.2: STATEWIDE SUMMARY OF GAP PRESENT NEED CALCULATION



The process described above represents the regional calculation of the Gap Present Need. As previously noted, Mount Laurel V instructs trial courts to quantify an additional component of the Present Need, and provides guidance as to the execution of the calculation, but also leaves flexibility in its precise definition. Our analysis by necessity develops a unique approach, responsive to the unique circumstances of the gap period and the guidance of the Supreme Court. However, it is as consistent as possible with relevant principles and standards.

Notably, the affordability component of the methodology developed in Section 6.3 does not directly consider the proportion of income that any individual incremental gap period household is spending on housing relative to an allowable threshold. Accordingly, it is consistent with decades of careful consideration by the Courts and COAH, all of which have rejected the expansion of fair share obligations to include households purely due to their “cost-burden” status as reflected in their housing costs as a proportion of income.¹⁰⁰

It should also be noted that in addition to the three categories of incremental households that qualify as LMI that are not included in the need within this methodology (households currently in affordable housing and not crowded, households with significant housing assets, and households already captured in the Present Need), there are other household types comprising the Gap Present Need within this methodology that could plausibly be excluded from the need under the guidance set forth in Mount Laurel V. These households, which are discussed briefly in turn below, include:

- Households in crowded but not old housing;
- Households with accumulated savings;
- Household attrition over the 2015 – 2025 compliance period;
- Households that choose urban life to suburban life and are willing to spend a larger percentage of their income on housing; and
- Seniors who prefer to age in place.

¹⁰⁰ This principle was specifically affirmed by the Supreme Court in Mount Laurel IV, in which the court writes (as part of its identification of principles that trial courts “can and should follow” in implementing the Round 3 methodology):

Fifth, in addressing the first iteration of the Third Round Rules, the Appellate Division also approved the “exclu[sion of] the cost-burdened poor from the present need or rehabilitation share calculation.” In re Adoption of N.J.A.C. 5:94 & 5:95, *supra*, 390 N.J. Super. at 36. In doing so, the appellate panel noted that the pre-FHA courts also had allowed the exclusion of the “cost-burdened poor” from the fair share formula. *Id.* at 35 (citing AMG Realty, *supra*, 207 N.J. Super. at 422-23). The court found that COAH’s decision to exclude the cost-burdened poor was a permissible exercise of discretion. *Id.* at 36.

[Mount Laurel IV, at 32-33 (underscore in original)]

Households in Crowded but not Old Housing

Overcrowded housing is not defined by COAH as an indicator of deficiency by itself within the Present Need calculation. Instead, a unit is considered deficient only if it is occupied by more than one person per room and is considered old (*i.e.* constructed more than 50 years from the point of evaluation). The overcrowding standard developed within Section 6.3 of this analysis considers the number of persons per room in isolation from the age of the unit, and defines a household as overcrowded if it has more than 1.01 occupants per room.¹⁰¹ Therefore, some portion of those incremental gap households defined as “in need” due to the deficiency (rather than cost) of their housing in fact live in units that are overcrowded but not old, and therefore would not be considered deficient under COAH’s traditional Present Need standard.

Households with Accumulated Savings

The asset test undertaken in Section 6.4 of this analysis removes from the need those LMI households that have paid off their mortgages and do not spend a disproportionate amount of income on housing, as they do not represent housing need. However, these are not the only households that have additional assets that may not be reflected in their annual income. Retiree households (which represent an increasingly large share of the state population with the aging of the baby boomer generation) may have accumulated savings through any of a number of savings mechanisms. These mechanisms (in addition to pensions and social security payments) may yield annual income streams small enough to qualify these households as LMI. However, this LMI calculation does not consider the balance of these savings assets that fall outside of “annual income.” Households may be in the process of paying down mortgages which they are financially equipped to pay, or may have sufficient savings to purchase an adequate unit through the private market. In these instances, the households may not represent an identifiable housing need, even if currently living in a unit that is not identified as affordable to their strata through an income-based calculation. This concept was clearly articulated by Judge Serpentelli in the *AMG Realty* decision as part of the rationale for the exclusion of cost-burdened households from the quantification of the need.¹⁰²

¹⁰¹ This differential standard is appropriate in this instance, because the goal is not to identify the deficiency of the housing unit, but rather evaluate the housing unit and occupying household with respect to affordability. The purpose of this adjustment is to remove from the calculation of those incremental households that qualify as LMI living in appropriate affordable housing (and therefore no longer having an identifiable housing need) those households that may have chosen a crowded unit due to affordability concerns.

¹⁰² *AMG Realty Co vs. Warren Twp* reads (at 423):

Fourth, it must be recognized that many people of retirement age have developed substantial assets which allows them to acquire homes. However, based upon their reported income, they could nonetheless fall into the category of financial need at least within the Mount Laurel II definition.

Household Attrition over the 2015 – 2025 Compliance Period

Consistent with the guidance in Mount Laurel V, the incremental household growth method implemented in this section ensures that all households included in the Gap Present Need calculation are alive, reside within New Jersey, qualify as LMI, and are otherwise eligible for affordable housing as of 2015.¹⁰³ However, this approach is purely a “point in time” analysis as of the start of the 2015 – 2025 compliance period. Such a point in time analysis does not ensure that these households will remain alive, located in New Jersey, and eligible for affordable housing across the time period in which the Gap Present Need is to be met. In fact, it is a statistical certainty that as of this writing in fall 2017, attrition among this group of Gap Present Need households has already begun, through death, out of state moves, changes in income qualification, etc. Since the 1999 – 2015 gap period has concluded, new households can no longer enter this stock of Gap Present Need households. Instead, this stock only decreases through the attrition described above. The rate of this attrition is unclear, but its existence is clear, and is unaccounted for in the fair share framework.

Households Choosing to Spend A Larger Percentage of their Income on Housing

Further, as a practical matter it is important to consider the evolving preferences of households over time with respect to where they want to locate. Demographic and economic experts have written extensively in recent years about the recent reversal of the population and economic growth trends from suburbanization to urbanization. For example, the Bloustein School of Planning and Public Policy at Rutgers has documented the population shifts associated with New Jersey’s “new post suburban demographic normal.”¹⁰⁴ This urbanization is widely acknowledged to be driven in part by the preferences of the millennial generation, who appear willing to pay a premium for the economic and cultural opportunities associated with living in dense urban areas, but there is no practical way to identify these households. If they could be identified, it is unclear that such households would in fact represent a housing “need” in the fair share context (in that they may be happy with their current housing circumstances). Further, it is unclear that if deed-restricted housing were made available to these households in non-urban locations (as would be

¹⁰³ The Mount Laurel V decision cautions trial courts to take care to ensure that all households included in the calculation are “presently existing” in New Jersey and to exclude those that are “deceased, who are income-ineligible or otherwise are no longer eligible for affordable housing” (531).

¹⁰⁴ See for example James Hughes and Joseph Seneca’s report *The Receding Metropolitan Perimeter: A New Postsuburban Demographic Normal* and e-book *New Jersey’s Postsuburban Economy*, which reads in the Preface (p. XII):

But the baby boom will soon be yesterday’s workforce. Tomorrow’s workforce will be dominated by a new, expansive generation comprising echo boomers and millennials. Such young creatives—who came of age in the present-day, advanced digital-technology world—currently do not find the car-culture suburbs in which they grew up an attractive place to live, work, or play. Already the locational preferences of corporate America are changing in parallel. Density, walkability, public transit, work-life balance, and urban amenities have grown significantly as quality-of-life locational attractions. Suddenly, New Jersey’s greatest core advantage in the late twentieth century—a suburban-dominated, automobile-dependent economy and lifestyle—is regarded as a disadvantage.

dictated by the municipal allocation factors embedded in the fair share formula, which exclude urban aid municipalities) that those households would be interested in such a unit, and would be willing to bear the considerable financial and transition costs associated with moving.

Seniors Who Prefer to Age in Place

Other LMI households may choose to reside in housing that is technically unaffordable, particularly senior households, given the phenomenon of seniors who tend to prefer to age in place. Again, there is no way to measure how many households fall into this category and therefore do not need a deed-restricted affordable unit constructed for them.

Although it would be reasonable to add additional components to the gap period calculation based on households that may not represent an affordable housing need for the reasons detailed above, these household types are not deducted from the Gap Present Need within this analysis. Challenges exist in the precise quantification of their magnitude, due to either data or conceptual issues.

In addition, this analysis does not re-allocate Gap Present Need between regions for households under 65. Such a step is problematic within the Prospective Need analysis (as described in Section 4.6), and it has even greater flaws if applied retrospectively within the Gap Present Need methodology.

- While such a step may claim a basis in COAH's Round 2 "Prior-Cycle Prospective Need" methodology, such a claim would be erroneous. COAH's Round 1 method did not undertake this re-allocation, and there is no indication that the re-calculation of Round 1 obligations undertaken in Round 2 (which used Census population data to "dampen the prior projection by 48 percent") inserts this step.¹⁰⁵
- More importantly, attempts to apply this adjustment to Gap Present Need have severe conceptual flaws. While the reallocation attempts to better reflect future housing demand prospectively by aligning it with employment growth rather than population growth, gap period calculations are based on growth that has already occurred, and need that exists as of 2015. The reallocation of this need (setting aside the measurement issue discussed in Section 4.6) artificially moves existing unmet need to other areas of the state, complicating the ability of the identified households to benefit from it.

¹⁰⁵ See: 26 NJ. Reg. 2348

7.0 MUNICIPAL ALLOCATION OF REGIONAL NEED

SUMMARY

Section 7 calculates the allocation share of regional need for each municipality. These proportional shares are applied to the regional Prospective Need and Gap Present Need to determine the initial allocation for each municipality in each of those categories.

The regional allocation share for each municipality is determined utilizing the most up to date and appropriate data sources in a three-step process:

- First, we determine the qualifying urban aid municipalities and remove them from this portion of the calculation (as their allocation is zero);
- Next, we calculate two “responsibility” factors (employment level and employment growth), which estimate the contribution of each municipality to regional need; and
- Finally, we calculate two “capacity” factors (municipal income and developable land), which estimate the ability of each municipality to absorb regional need.

Municipal shares as a proportion of the region for each of these responsibility and capacity metrics are averaged to yield a single allocation share for each municipality. These shares are then applied to the regional Prospective Need calculated in Section 4 and the regional Gap Present Need calculated in Section 6 to yield the allocation for each municipality in these categories.

Together, the sum of each municipality’s allocation in each region totals the regional Prospective Need and the regional Gap Present Need. Following this allocation, the initial need of each municipality has been calculated for each of the three categories: Prospective Need, traditional Present Need, and Gap Present Need.

This section translates the regional Prospective Need and Gap Present Need (calculated in Section 4 and Section 6, respectively) into initial obligations for each municipality.

This process begins with the municipal allocation formula described in this section, which allocates the full quantity of need identified in each region among the municipalities within that region. This calculation yields initial municipal Prospective Need and Gap Present Need obligations. Adjustments to those obligations, along with traditional Present Need obligations, are then undertaken in subsequent sections.

The procedure used to complete municipal allocation proceeds in four steps:

1. First, qualifying urban aid municipalities are identified and excluded from the remainder of the calculation, as they have no allocation of regional need under the Prior Round methodologies (Section 7.1).
2. Next, measures of municipal “responsibility” for affordable housing need are defined and calculated for each municipality as a share of their region (Section 7.2).
3. Then, measures of municipal “capacity” for affordable housing need are defined and calculated for each municipality as a share of their region (Section 7.3).
4. Finally, the resulting regional shares on each measure are averaged for each municipality to produce a total obligation share as a proportion of regional need. Those shares are set against total regional Prospective Need and Gap Present Need (as determined in Sections 4 and 6), to arrive at initial municipal allocations in these categories (Section 7.4).

7.1 URBAN AID MUNICIPALITIES

The first step in the municipal allocation formula is to remove qualifying urban aid municipalities, which do not participate in the allocation of regional need. This is accomplished by evaluating every state-designated urban aid municipality against a multi-part standard to determine which qualify for removal from the allocation of regional need.

The Round 1 and Round 2 methodologies each establish a category of “selected” municipalities that are excluded from responsibility for Prospective Need and Re-Allocated Present Need. These municipalities are those that are designated “urban aid” by the State, and also meet one of three criteria (specified below) related to the level of existing LMI housing deficiency, population density, and available land within the municipality. A majority of the state-designated urban aid municipalities typically qualify under one or more of these standards (for example, 45 municipalities qualified in Round 2) and are therefore excluded from Prospective Need and Re-Allocated Present Need obligations. We follow this approach and exclude qualifying urban aid municipalities from the allocation of Prospective Need and Gap Present Need.

The qualifying urban aid standards from the Round 2 methodology are applied, unadjusted, in this analysis. This approach applies the following three standards to each of the municipalities on the most recent State urban aid list (in this case, FY 2018) and excludes from the allocation factors municipalities meeting any of the standards:

1. A level of existing LMI housing deficiency exceeding average LMI housing deficiency for the region in which they are located (as determined by the Present Need calculation described in Section 5 and shown in Appendix A); OR
2. A population density greater than 10,000 persons per square mile (as measured by a comparison of 2015 municipal population from the American Community Survey and municipal land area as reported by the New Jersey Department of Community Affairs); OR
3. A population density of 6,000 to 10,000 persons per square mile AND less than 5 percent of vacant, non-farm municipal land as measured by the average of the proportion of land valuation and the proportion of total parcels represented by vacant parcels (as reported by the New Jersey Department of Community Affairs for 2015).

There are 60 municipalities on the State's urban aid list for FY 2018.¹⁰⁶ Forty-eight of these municipalities are determined to be "qualifying" and are thus exempted from any Prospective Need and Gap Present Need allocation. Table 7.1 shows the qualification factors for each of the 60 urban aid municipalities, and Table 7.2 lists the 48 qualifying urban aid municipalities excluded from the municipal allocation of regional Prospective Need and Gap Present Need.

¹⁰⁶ Available from the New Jersey Department of Community Affairs website at:
<<http://www.nj.gov/dca/divisions/dlgs/resources/stateaidinfo.shtml>>

TABLE 7.1: QUALIFICATION FACTORS FOR URBAN AID MUNICIPALITIES

Municipality	County	Region	Housing Deficiency > Region	Pop Density 10,000+ per Sq Mile	Pop Density 6,000 – 10,000 & Vacant Land <5%	Qualifying
Asbury Park city	Monmouth	4	Y	Y	N	Y
Atlantic City city	Atlantic	6	Y	N	N	Y
Bayonne city	Hudson	1	N	Y	N	Y
Belleville township	Essex	2	Y	Y	N	Y
Bergenfield borough	Bergen	1	N	N	Y	Y
Bloomfield township	Essex	2	N	N	Y	Y
Brick township	Ocean	4	N	N	N	N
Bridgeton city	Cumberland	6	Y	N	N	Y
Camden city	Camden	5	Y	N	N	Y
Carteret borough	Middlesex	3	Y	N	N	Y
City of Orange township	Essex	2	Y	Y	N	Y
Clifton city	Passaic	1	Y	N	Y	Y
East Orange city	Essex	2	Y	Y	N	Y
Elizabeth city	Union	2	Y	Y	N	Y
Garfield city	Bergen	1	N	Y	N	Y
Glassboro borough	Gloucester	5	Y	N	N	Y
Gloucester township	Camden	5	N	N	N	N
Gloucester City city	Camden	5	N	N	N	N
Hackensack city	Bergen	1	N	Y	N	Y
Hillside township	Union	2	N	N	Y	Y
Hoboken city	Hudson	1	N	Y	N	Y
Irvington township	Essex	2	Y	Y	N	Y
Jersey City city	Hudson	1	Y	Y	N	Y
Kearny town	Hudson	1	N	N	N	N
Lakewood township	Ocean	4	Y	N	N	Y
Lindenwold borough	Camden	5	Y	N	N	Y
Lodi borough	Bergen	1	N	Y	N	Y
Long Branch city	Monmouth	4	Y	N	N	Y
Millville city	Cumberland	6	N	N	N	N
Monroe township	Gloucester	5	Y	N	N	Y
Montclair township	Essex	2	N	N	Y	Y
Mount Holly township	Burlington	5	N	N	N	N

Municipality	County	Region	Housing Deficiency > Region	Pop Density 10,000+ per Sq Mile	Pop Density 6,000 – 10,000 & Vacant Land <5%	Qualifying
Neptune township	Monmouth	4	Y	N	N	Y
Neptune City borough	Monmouth	4	N	N	N	N
Newark city	Essex	2	Y	Y	N	Y
New Brunswick city	Middlesex	3	Y	Y	N	Y
North Bergen township	Hudson	1	Y	Y	N	Y
Nutley township	Essex	2	N	N	Y	Y
Old Bridge township	Middlesex	3	N	N	N	N
Passaic city	Passaic	1	Y	Y	N	Y
Paterson city	Passaic	1	Y	Y	N	Y
Pemberton township	Burlington	5	N	N	N	N
Pennsauken township	Camden	5	Y	N	N	Y
Penns Grove borough	Salem	6	Y	N	N	Y
Perth Amboy city	Middlesex	3	Y	Y	N	Y
Phillipsburg town	Warren	2	Y	N	N	Y
Plainfield city	Union	2	Y	N	Y	Y
Pleasantville city	Atlantic	6	Y	N	N	Y
Rahway city	Union	2	N	N	Y	Y
Roselle borough	Union	2	Y	N	Y	Y
Salem city	Salem	6	N	N	N	N
Trenton city	Mercer	4	Y	Y	N	Y
Union City city	Hudson	1	Y	Y	N	Y
Vineland city	Cumberland	6	Y	N	N	Y
Weehawken township	Hudson	1	Y	Y	N	Y
West New York town	Hudson	1	Y	Y	N	Y
Willingboro township	Burlington	5	N	N	N	N
Winslow township	Camden	5	N	N	N	N
Woodbridge township	Middlesex	3	Y	N	N	Y
Woodbury city	Gloucester	5	Y	N	N	Y

TABLE 7.2: LIST OF QUALIFYING URBAN AID MUNICIPALITIES

Municipality	County	Region	Municipality	County	Region
Asbury Park city	Monmouth	4	Monroe township	Gloucester	5
Atlantic City city	Atlantic	6	Montclair township	Essex	2
Bayonne city	Hudson	1	Neptune township	Monmouth	4
Belleville township	Essex	2	Newark city	Essex	2
Bergenfield borough	Bergen	1	New Brunswick city	Middlesex	3
Bloomfield township	Essex	2	North Bergen township	Hudson	1
Bridgeton city	Cumberland	6	Nutley township	Essex	2
Camden city	Camden	5	Passaic city	Passaic	1
Carteret borough	Middlesex	3	Paterson city	Passaic	1
City of Orange township	Essex	2	Pennsauken township	Camden	5
Clifton city	Passaic	1	Penns Grove borough	Salem	6
East Orange city	Essex	2	Perth Amboy city	Middlesex	3
Elizabeth city	Union	2	Phillipsburg town	Warren	2
Garfield city	Bergen	1	Plainfield city	Union	2
Glassboro borough	Gloucester	5	Pleasantville city	Atlantic	6
Hackensack city	Bergen	1	Rahway city	Union	2
Hillside township	Union	2	Roselle borough	Union	2
Hoboken city	Hudson	1	Trenton city	Mercer	4
Irvington township	Essex	2	Union City city	Hudson	1
Jersey City city	Hudson	1	Vineland city	Cumberland	6
Lakewood township	Ocean	4	Weehawken township	Hudson	1
Lindenwold borough	Camden	5	West New York town	Hudson	1
Lodi borough	Bergen	1	Woodbridge township	Middlesex	3
Long Branch city	Monmouth	4	Woodbury city	Gloucester	5

Qualifying urban aid municipalities are not included in the municipal share calculations for each region, in accordance with the methodology utilized in Round 2:

Only those municipalities designated here-in to receive re-allocated present need and prospective need shall be included in the housing region totals...for the purpose of distributing need.

[26 NJ. Reg. 2318]

Mechanically, this means that the denominator for the regional share calculated for each municipality for each factor discussed below is the sum total of all non-urban aid municipalities only within the region. This ensures that the allocation percentages for each municipality within a given region add up to 100%.

We note that the term “urban aid” does not appear in the Fair Housing Act, and both the exclusion of urban municipalities and the standards by which they are excluded are regulatory standards developed as part of the Prior Round methodologies. The rationale for this exclusion is set forth in the Round 1 methodology:

Neither prospective need nor re-allocated present need are directed to Urban Aid municipalities which have the characteristics of older core areas to avoid reconcentration of low and moderate income families in these fiscally/economically stressed locations.

[18 NJ. Reg. 1136]

It is unclear if the standards chosen in the Prior Round methodologies in fact accomplish that goal. Specifically, they appear to reflect a dated conception (understandably, given that Round 1 and Round 2 were created in 1986 and 1994, respectively) of housing capacity and demand dynamics. As evidenced by recent population growth in urban areas throughout the state, density and a lack of vacant land are not necessarily impediments to housing unit growth. Indeed, housing demand is often higher in dense, amenity rich areas. For a nearby example, one need look no farther than downtown Manhattan, where vacant land is non-existent, population density is at a national peak, and yet housing demand and supply continue to rise. Said another way, the consideration of available vacant land implicitly assumes that New Jersey’s residents, LMI and otherwise, are interested only in housing that is built “out” rather than built “up.” This assumption does not appear to be supported by recent population and housing trends in the state. For example, a recent study by the Bloustein School of Planning and Public Policy at Rutgers found that from 2010 to 2013, the population of the regional core of eight urban counties in northern New Jersey and New York grew at more than twice the rate of the suburban ring of the region.¹⁰⁷

However, the population and housing dynamics described above certainly do not apply to all urban aid municipalities within the state, and certainly cases of fiscal and economic stress remain. A more appropriate set of standards might seek to distinguish those factors by looking at fiscal and economic conditions within urban aid municipalities, and potentially metrics related to prior growth in population and/or housing units.

¹⁰⁷ See: *The Receding Metropolitan Perimeter: A New Post-Suburban Demographic Normal*, Bloustein School of Planning and Public Policy at Rutgers, available at: <<http://bloustein.rutgers.edu/new-rutgers-regional-report-compares-population-shifts-following-major-economic-changes/>>

7.2 RESPONSIBILITY FACTORS

The next step in the municipal allocation formula is to define and calculate municipal “responsibility” factors, which estimate the contribution of each municipality to the regional need. This is accomplished by calculating both the level of employment and recent change in employment for each municipality utilizing Census Bureau data.

The municipal allocation formula for the distribution of regional prospective need in the Prior Rounds has relied on a mix of “responsibility” and “capacity” factors. The premise of the responsibility factors is defined as follows in the Round 1 methodology:

These factors...represent measures of *responsibility*, i.e. the labor force drawn to the municipality needing housing.

[18 NJ. Reg. 1136 (emphasis in original)]

The apparent intent of this step is to build into the municipal allocation formula consideration for the proportion of regional employment and/or employment growth attributable to each municipality. The Round 1 methodology accomplishes this aim directly; the two responsibility factors in the municipal allocation formula are employment change shares, measured as the “regressed covered employment change” within each municipality from 1977-84 as a share of regional employment change, and employment shares, measured as the 1984 covered employment in each municipality as a share of the regional employment.

While the conceptual basis for utilizing employment and employment change shares is clear, COAH determined that the covered employment data utilized in Round 1 proved problematic. As discussed below, concerns arose regarding municipal level data for firms with multiple worksites (where reported employment may have listed all employees at the “headquarters” location rather than their actual worksite) as well as employment within zip codes covering multiple municipalities (where employees may not have been assigned to the proper municipality). This direct measure of employment was therefore replaced with a surrogate measure of equalized nonresidential property valuation.

Unfortunately, this property valuation measure has major flaws as a surrogate for employment. Changes in non-residential property valuation for a municipality may in some cases reflect changes in employment within that municipality (for example, the construction of a new office building on a vacant lot would increase both employment and property valuation). However, there are many counter-examples where property valuation is disconnected from employment levels. For example, a property may change from a use with high employment intensity to a use with low employment intensity (or vice versa) without materially changing the property valuation. In fact, a non-residential property can switch between vacancy and occupancy, potentially with major employment impacts, without materially changing valuation.

In addition, valuation changes may have little connection with the activity at the site. In areas with strong real estate markets, valuation is likely to increase due to strong market conditions regardless of the employment patterns within the municipality, while weak real estate markets may produce decreases or moderate increase in valuation even when employment is growing. Additionally, many large employers hold property that is exempt from local property tax (such as educational institutions, hospitals, religious uses, governments, etc.). In these instances, there is no incentive for local governments to carefully and regularly assess these property values. Finally, the method implicitly assumes that properties are revalued regularly, consistently and uniformly in New Jersey. In practice, these valuations take place at different times in different locations across the state, meaning that data at any given point in time is not truly comparable.

It is straightforward to evaluate the accuracy of non-residential valuation change as a proxy for employment growth at the regional level by simply comparing observed changes in valuation (reported by NJ Department of Community Affairs) relative to observed changes in employment growth (as reported by the federal Bureau of Labor Statistics).¹⁰⁸ A comparison of the shares of valuation change and employment change for each region over the 1990 – 2015 period reveals stark differences between observed employment trends and the trends revealed by the surrogate measure of non-residential valuation (see Table 7.3).

TABLE 7.3: NON-RESIDENTIAL VALUATION CHANGE VS. EMPLOYMENT CHANGE BY REGION 1990 – 2015

Region	Non-Residential Valuation Change 1990-2015 (\$B) (DCA)	% of Statewide Change 1990 - 2015	Employment Change 1990-2015 (BLS)	% of Statewide Change 1990-2015
1	\$27.0	28.3%	(322)	(0.1%)
2	\$18.1	19.0%	(25,958)	(9.2%)
3	\$16.7	17.6%	111,923	39.9%
4	\$18.6	19.6%	130,058	46.3%
5	\$9.4	9.9%	70,062	25.0%
6	\$5.4	5.6%	(5,116)	(1.8%)
State	\$95.2	100%	280,647	100%

Regions 1 and 2, which are located in northern New Jersey and include large parts of the New York metropolitan area, collectively represent nearly 50% of the non-residential valuation growth over the period. Yet these regions have experienced negative employment change over this time.

¹⁰⁸ Valuation change by region is drawn from the calculations of Dr. David Kinsey for FSHC based on DCA data. Employment counts represent Total Covered employment reported in the BLS Quarterly Census of Employment and Wages (QCEW), using the annual averages for 1990 and 2015.

Plainly, this valuation change has not served as an accurate surrogate for employment growth on a regional basis. The radical misalignment of employment and valuation growth at the regional level strongly suggests that this metric is an inaccurate surrogate at the municipal level as well.

Fortunately, data on employment by municipality with a consistent time series back to 2002 is now available through the Local Employment Dynamics (LED) Partnership program of the Census Bureau (as described in Section 3.1). Based on a combination of state and federal administrative data and data from census and surveys, the Census Bureau reports detailed statistics on employment at a variety of geographic levels, including municipalities. This data source, which was not available in the Round 2 methodology, allows for the use of direct employment data as originally envisioned in the Round 1 methodology, replacing the flawed proxy of non-residential valuation growth. While “covered employment” reported by the State of New Jersey (the measure which raised concerns in Round 1) is used by the Census Bureau as one of the inputs in this calculation, changes in data reporting and methodology have been made which address both the “headquarters” and zip code location problems identified after the Round 1 methodology:

- Bureau of Labor Statistics (BLS) reporting now includes a “Multiple Worksites Reporting Form,” which specifically asks employers to distinguish their employees by worksite.¹⁰⁹ This addresses the Round 1 concern of employers with multiple sites listing all employees at the headquarters location.
- The Census Bureau geocodes each address to a unique latitude and longitude coordinate.¹¹⁰ This spatial approach (as opposed to relying purely on mailing addresses) ensures that each location is correctly matched to a municipality.

The Census Bureau also undertakes certain statistical processes in the production of public data to ensure the confidentiality of individual businesses and workers. The Census Bureau reports that this process is called “synthetic data” and produces results that are “statistically analogous to actual worker counts and locations but not exact.”¹¹¹ For the purpose of determining municipal shares of regional employment, our methodology averages multiple years to mitigate any potential impact of these “statistically analogous” counts by municipality. Specifically, the current level of employment is drawn from an average of the last three years of available data (2013-2015), while the prior level used to extrapolate the change is drawn from the first three years of available data (2002-2004) within the data set. This blended approach provides an effective eleven-year period from which to calculate employment change.

¹⁰⁹ See information online from the Bureau of Labor Statistics at: < <https://www.bls.gov/cew/cewmwr00.htm>> and <https://www.bls.gov/cew/forms/mwr_nj.pdf>

¹¹⁰ See: Lars Vilhuber and Kevin McKinney, U.S. Census Bureau, *LEHD Infrastructure Files in the Census RDC – Overview*, June 2014, at Chapter 8 entitled “Geo-coded Address List (GAL)” <<https://www2.census.gov/ces/wp/2014/CES-WP-14-26.pdf>>

¹¹¹ See: US Census Bureau, *OnTheMap Help and Documentation: Confidentiality Protection*. <https://lehd.ces.census.gov/applications/help/onthemap.html#!confidentiality_protection>

The Round 1 methodology uses both the level of employment and the change in employment over a prior period within the allocation formulas for Re-Allocated Present Need and Prospective Need. The Round 2 methodology, by contrast, utilizes the level of employment in the allocation formula for Re-Allocated Present Need, and the change in employment for Prospective Need. Our approach utilizes the same allocation formula for Gap Present Need and Prospective Need, and follows the Round 1 method both in its use of direct employment data and in its use of both the level and change in employment as allocation factors.

7.2.1 EMPLOYMENT LEVEL

Employment data by municipality for 2013-2015 is drawn from the LEHD Origin-Destination Employment Statistics (LODES) dataset publicly available from the Census Bureau. As in Section 3.1, “primary jobs” held by New Jersey residents are considered, since they represent the drivers of housing need. These averaged municipal employment counts are then aggregated by region to produce a regional total. The employment share for each municipality is simply the proportion of aggregate regional employment within each municipality based on the averaged 2013-2015 primary jobs data.¹¹²

7.2.2 CHANGE IN EMPLOYMENT

The same LODES dataset is also utilized to determine each municipality’s share of regional change in employment over the prior period. Since a continuous data set is available back to 2002, that year is set as the beginning of the prior period. Employment change for each municipality is calculated by subtracting the 2002-2004 averaged employment level from the 2013-2015 averaged employment level.

One challenge in calculating employment change is that net employment for some municipalities is negative across the prior period. Since the municipal allocation formula ultimately averages shares of the region across the four allocation factors, a negative result in one of the four will result in a negative overall allocation for a municipality, which is statistically problematic. To address this issue, employment change is aggregated regionally only for those municipalities that have observed employment growth, and shares of regional growth are calculated for those municipalities only (ensuring that the regional share sums to 100%). Municipalities with negative job growth are assigned a 0% share for this metric.¹¹³

¹¹² Appendix B contains shares by municipality for this factor, as well as the three other municipal factors described below.

¹¹³ It is worth re-iterating that qualifying urban aid municipalities are excluded from both the numerator and the denominator of all regional share calculations. In the case of employment growth, the combination of the exclusion of these municipalities and the share of zero assigned to those municipalities with negative job growth may result in relatively high shares for those municipalities with positive job growth in low-growth regions.

7.3 CAPACITY FACTORS

The next step in the municipal allocation formula is to define and calculate municipal “capacity” factors, which estimate ability of each municipality to absorb regional need. This is accomplished through a calculation of municipal incomes relative to regional incomes, and through a parcel-based geo-spatial analysis of developable land in each municipality.

The premise of capacity factors is defined as follows in the Round 1 methodology:

...represent measures of *capacity*, i.e. the physical and fiscal capacity to absorb and provide for such housing.

[18 NJ. Reg. 1136, emphasis in original]

In both the Round 1 and Round 2 methodologies, as well as the un-adopted 2014 Round 3, the “fiscal capacity” was evaluated based on municipal income levels, while the “physical capacity” was based on an analysis of land that can accommodate development. These measures are retained in this procedure and calculated as described below.

7.3.1 AGGREGATE INCOME DIFFERENCE

Municipal income share was evaluated in Round 2 through a complicated procedure that utilized two different metrics with respect to “income differences” between a municipality and a “regional income floor.” This procedure replaced a more straightforward calculation of the municipal share of aggregate regional income that was utilized in Round 1. The rationale for this change is described as follows:

This procedure replaces the unaltered share of aggregate income (from Round 1) that tended to give large middle-class municipalities an overabundance of low- and moderate-income housing need because they had a lot of households with reasonably healthy incomes. This new procedure employs not income but income differences...It is believed that this procedure achieves both equity and more incisive income targeting.

[26 NJ. Reg. 2346-2347]

The Round 2 methodology determines a regional income difference share for each municipality based on the average of the following two measures:

- a. Municipal share of the regional sum of the differences between median 1993 municipal household income and an income floor (\$100 below the lowest average household income in the region), and

- b. Municipal share of the regional sum of the differences between median 1993 municipal household incomes and an income floor (\$100 below the lowest 1993 median household income in the region) weighted by the number of households in the municipality.

[26 NJ. Reg. 2346]

Conceptually, averaging an unweighted measure of income differences with a measure of income differences weighted by population may be reasonable. However, as executed in Round 2, each component has a major mathematical flaw requiring adjustment.

The first income difference calculation in Round 2 compares the *median* income for a given municipality to a regional income floor based on *average* income. While the procedure is intended to produce a positive result¹¹⁴ for all participating municipalities,¹¹⁵ it is possible for a comparison of a median income with a regional floor based on average income to produce a negative result, which would be problematic for translating the income share average to the regional allocation formula. This negativity can occur because a municipal median can, as a statistical matter, be lower than the lowest average income for any municipality in the region. This negative effect does in fact appear in the 2011-2015 data prior to the removal of qualifying urban aid municipalities from the calculation. In addition, it is questionable whether the comparison of a median to an average is statistically valid for the purposes of determining income differences.

- To correct this deficiency, the *median* income for each municipality is compared to a regional floor set \$100 below the lowest *median* income in the region in this procedure, using median income by municipality from the 2011-2015 Five-Year ACS.

The second income difference calculation in Round 2 compares the median income for a given municipality to a regional income floor based on median income, and then weights those difference by the number of households in each region to determine the regional income pool from which income share is calculated. However, this weighting procedure does not constitute a statistically valid use of a difference in medians.¹¹⁶ By contrast, weighing the difference in average (*i.e.* mean) income by the number of households produces a statistically valid estimate of

¹¹⁴ Endnote 19 in the Round 2 methodology explains that the placement of an income floor \$100 below the lowest municipal income in the region is done “to ensure that all pool numbers on this variable are positive” (26 NJ. Reg. 2353).

¹¹⁵ In addition to excluded qualifying urban aid municipalities, three municipalities (Walpack Township in Sussex County and Pine Valley Borough and Tavistock Borough in Camden County) have insufficient population for a median or average income to be generated in the ACS data. These municipalities are removed from the calculation and assigned an income share of zero to avoid adverse effects on the regional floor and regional differences calculations.

¹¹⁶ This is the case because the median is, in statistical terms, a non-parametric measure, meaning that it does not imply a normal distribution around it. As a result, the median cannot be accurately applied to the full household population of a municipality, since (unlike the mean) the median by itself provides no information as to the level or distribution of income in those households.

aggregate income differences attributable to the total household population of each municipality.¹¹⁷

- To correct this deficiency, the *average* (i.e. mean) income for each municipality is compared to a regional floor set \$100 below the lowest *average* (mean) income in the region in this procedure, with the difference weighted by the number of households in each municipality. Average income and the number of households by municipality are drawn from the 2011-2015 Five-Year ACS.

7.3.2 DEVELOPABLE LAND

The second responsibility factor utilized has traditionally been the proportion of regional undeveloped land in each municipality “that can accommodate development.”¹¹⁸ This calculation involves a number of steps to account not only for the acreage of undeveloped land, but for various environmental and planning constraints on that available acreage. This procedure is undertaken in order to be “sensitive to the State Planning Commission’s goals for each Planning Area,”¹¹⁹ and to account for applicable environmental designations in arriving at an estimate through a uniform statewide methodology of the proportion of regional undeveloped land that “can accommodate development” in each municipality.

The first step in this process is to utilize tax assessment data by parcel to determine the potentially developable acreage by parcel in each municipality. This data is available on a uniform basis through the state’s MOD-IV property tax system. Parcel classifications within MOD-IV are utilized to determine which parcels may be developable, and the acreage of those parcels.¹²⁰ Non-developable parcels are excluded from further analysis at this stage.¹²¹ The potentially developable parcels as determined by the MOD-IV data were then joined to a parcel shapefile for

¹¹⁷ This is the case because the mean is in itself derived from the aggregate household wealth of the municipality (mean household income = aggregate household income / households).

¹¹⁸ 26 NJ. Reg. 2346.

¹¹⁹ *Ibid.*

¹²⁰ The MOD-IV data and the parcel shapefiles were downloaded from the New Jersey Geographic Information Network (NJGIN). It is available online at: <https://njgin.state.nj.us/NJ_NJGINExplorer/IW.jsp?DLayer=Parcels%20by%20County/Muni>

¹²¹ Properties were coded as potentially developable if:

- a) their property classification is 1 (Vacant Land), 3A (Non-Qualified Farm), or 3B (Farm Qualified); OR
- b) their property classification is 2 (Residential -four families or less), 4A (Commercial), 4B (Industrial), or 4C (Apartment) AND the “improvement value” for the parcel is 0.

Properties that are subject to an abatement and/or PILOT are in the MOD IV data twice – once for the parcel itself and a second time for the exempt structure. The parcel is usually coded as having an improvement value of “0” when in fact it does have an improvement on it and is not therefore vacant. The entry for the building can be identified as having “BLDG” or “X” in the qualifier code. These parcels were dropped from the analysis.

each county. Importantly, the only parcel characteristics utilized in this analysis are the parcel size, and whether it is currently vacant or whether there is an improvement on it. Therefore, while individual assessors may vary between jurisdictions, differences between assessors should not lead to differences in data relevant for this analysis, enhancing its reliability across jurisdictions.

Next, these parcels are overlaid with official State geographic information system (GIS) layers to account for various environmental restrictions, and to classify parcel according to state planning designation. In instances where the environmentally sensitive lands overlapped with the potentially developable parcels, the land area that was considered to be environmentally sensitive was removed from the developable parcels.¹²² The next step determined which planning area each parcel is located in.¹²³ This procedure yields an estimate of qualified developable acreage for each municipality classified by state planning designation (including environmental designations in the Pinelands, Meadowlands and Highlands areas).

The final step is to apply a weighting to undeveloped acreage in each planning area to account for the degree to which that area can accommodate development. We replicate the Round 2 methodology in assigning weights of 0 for acreage in planning designations not conducive to development, 0.5 for acreage in planning designations that are somewhat conducive to development and 1 for acreage in planning designations that are conducive to development.

Importantly, the Highlands Water Protection and Planning Act passed in 2004 defines a new “Highlands Region.”¹²⁴ Municipalities in this region may participate in the Highlands Plan Conformance Process by submitting a petition of plan conformance to the Highlands Council.¹²⁵ This Highlands designation did not exist at the time the Round 2 methodology was developed, and therefore requires the development of a new approach in keeping with the principles of the weighting scheme developed in Round 2.

The Highlands Region is divided into the “Highlands Preservation Area” and “Highlands Planning Area.” We assign a weight of 0 to the Highlands Preservation Area, which is afforded a strong

¹²² The land that was considered environmentally constrained includes 300 foot C1 stream buffers, 50 foot C2 stream buffers, wetlands, surface water, land preserved by State and County Government, state and local parks, preserved Farms and preserved land managed by non-profits and local governments. This is the same suite of environmentally sensitive lands uses that are used by NJDEP as part of their wastewater estimator model.

¹²³ Official State Plan geographic layers are available on the website of the New Jersey State Department of Planning. These layers are reflective of the most recent approved state plan, adopted and released on March 1, 2001 by the New Jersey Department of State, Office of Planning Advocacy.

¹²⁴ N.J.S.A. 13:20-1 et seq.

¹²⁵ As of August 2016, 60 of the 88 municipalities in the Highlands area are considered to be “participating” in the Highlands Plan Conformance Process, based on their submission of a Petition for Plan Conformance to the Highlands Council. The latest Plan Conformance Petition Status was provided by the Highlands Council. It is available online at: http://www.highlands.state.nj.us/njhighlands/news/brochures/fact_sheet_11x17.pdf
Reliance upon this list as the most up to date data source for this analysis does not preclude a municipality from providing local information demonstrating that it is participating in the process in their efforts to secure approvals of their affordable housing plans.

preservation policy by the Act. Acreage within the Planning Area have overlapping classifications within both the State Plan (under the same classification system as the remainder of the state) and under the Highlands Act.¹²⁶

- For those municipalities declining to participate in the Highland Plan Conformance process area, the State Plan designations are utilized unadjusted.
- For those municipalities participating in the process, they are assigned the lesser of the weighted acreage from the State Plan designations or from Highlands Planning Area 4 (“Existing Community Zone”) at a weight of 0.5 (matching the weighting assigned to similar zones in the Pinelands under the Round 2 method).

This process ensures that no municipality can be assigned a greater weight due to their Highlands designation than they would under the traditional state plan, and further that no municipality can be assigned a greater weight due to its participation in the Highlands Plan Conformance Process than it would have been assigned absent that participation.

Developable acreage in each planning designation is then multiplied by the weight assigned to that planning designation, and summed to yield a total estimate of weighted developable acreage for each municipality. Results for each municipality are summed into regional totals, and shares of the regional total are computed for each municipality in each region. This proportion represents the developable land factor for each municipality in the municipal allocation formula.

Notably, our reliance on property assessment data as the basis of the developable land analysis differs somewhat from the methodology employed by COAH in Round 2. That methodology undertook this calculation in part by using aerial imagery from the New Jersey Department of Environmental Protection (DEP) to approximate the availability of undeveloped land. This statewide Land Use/Land Cover (LULC) dataset is produced through the interpretation and classification of color infrared digital imagery into land use/land cover categories, which was then matched to a similar weighting scheme by acre to the one described above. The use of parcel based data rather than aerial imagery enhances the accuracy and reliability of the calculation for a number of reasons:

First, the minimum mapping unit (MMU), or the smallest feature that can be reliably delineated on a map through the aerial methodology, is one acre. If a feature is smaller than one acre, it will not show up as a separate feature but rather as part of a larger feature. Moreover, it is difficult using aerial photography to distinguish between less-intensive land use types. Identifying potentially developable land by parcel rather than by aerial imagery addresses this issue by allowing the exclusion of non-developable parcels from the analysis.

¹²⁶ We also understand that the Highlands Council has provided a build out analysis to Highlands municipalities, and that there is litigation about the role this analysis should play in determining the fair share number for a Highlands municipality. Because the legal matter is not settled, we have not incorporated the build out analysis in our methodology.

Second, no up to date analysis of aerial imagery is readily available for use in the analysis. The Round 2 methodology relies on analysis prepared for COAH by the Department of Environment Resources at Rutgers University using photoimagery as of March 1991. While the New Jersey Department of Environmental Protection has made imagery from 2012 available on its website, the most recent available analysis of aerial imagery was undertaken by researchers at Rutgers and Rowan Universities in 2010 and relies on imagery taken in 2007.¹²⁷ This imagery is therefore eight years out of date from the conclusion of the gap period and start of the Prospective Need period, and by definition ignores all development that has taken place in the 2007-2015 period, biasing the calculations against municipalities that have undertaken recent development.

In addition, this analysis has significant limitations. Authors John Hasse and Richard Lathrop candidly acknowledge in their report that “there are errors of both omission and commission in the data set (as with any photo-interpretation and LULC mapping enterprise).”¹²⁸ Elsewhere, they list a number of omissions from their analysis that lead them to conclude that “it is likely that there is actually somewhat less land available” than reported in their calculations.¹²⁹

Finally, the publicly available information from Rutgers/Rowan does not detail the process of incorporating different categories of the LULC data into the analysis in a manner that can be replicated or checked for accuracy. This methodology is therefore a “black box” which, in contrast to the Round 2 analysis commissioned by COAH, was undertaken independently of the fair share process. Adopting calculations which we can neither verify nor replicate would violate core methodological principles of transparency and reliability (as described in Section 2.2).

In sum, this data set is neither the most up to date nor the most reliable approach to the calculation. Accordingly, we have developed an alternative calculation that relies on up to date and transparent data, assumptions and calculations.

¹²⁷ John Hasse and Richard Lathrop, *Changing Landscapes in the Garden State: Urban Growth and Open Space Loss in NJ 1986 thru 2007* (2010), available at: <<http://gis.rowan.edu/projects/luc/changinglandscapes2010.pdf>>

¹²⁸ At page 24, Hasse and Lathrop write:

For the purposes of this report, the area totals are reported in acres out to the ones place. We recognize that there are errors of both omission and commission in this data set (as with any photo-interpretation and LULC mapping exercise) and thus reported acreages should be treated as estimates and not “absolute” amounts. As the metadata does not include a qualitative assessment of error, nor have we undertaken an independent assessment, it is difficult to determine what the errors bars around any LULC acreage figure or error bar should be.

¹²⁹ At pages 20-21, Hasse and Lathrop write:

While this model provides a reasonable estimate of remaining available lands, it has limitations and should only be taken as approximate. It is likely that there is actually somewhat less land available due to incomplete open space inventories, privately held land trusts, and other constraints on a given property’s developability such as zoning, lot configuration and road access in addition to larger buffers around wetlands and habitat of significant value.

We note that even though we follow the Round 2 method in including this factor, we find the notion of vacant, undeveloped land as the measure of capacity not fully convincing. Repurposing existing non-residential buildings, or demolishing underutilized structures and building more densely is a common approach to housing development, and that possibility is ignored in the Round 2 methodology. The implicit result of this approach is to bias development towards suburban green field locations.

7.4 MUNICIPAL SHARE OF REGIONAL NEED

Finally, the regional shares by municipality of the two responsibility factors and two capacity factors described above are averaged together to yield a share of regional Prospective Need and Gap Present Need for each municipality.¹³⁰ Municipal shares within each region sum to 100 percent.

These shares are then set against the regional Prospective Need as determined in Section 4 to yield the initial Prospective Need allocation for each municipality, and against regional Gap Present Need as determined in Section 6 to yield the initial Gap Present Need for each municipality.¹³¹ Table 7.4 illustrates the mechanics of this calculation for a hypothetical municipality in Region 1. Full results by municipality are shown in Appendix B.

TABLE 7.4: SAMPLE MUNICIPAL ALLOCATION CALCULATION

Muni	Reg	Regional Gap Present Need	Regional Prospective Need	Employment Level Share	Employment Change Share	Income Differences Share	Developable Land Share	Averaged Share	Allocated Gap Present Need	Allocated Prospective Need
abc	1	11,235	20,772	1.50%	1.75%	2.25%	2.50%	2.00%	225	415

¹³⁰ As described in Section 7.1, this share is zero for qualifying urban aid municipalities, which are not included in the regional share calculation.

¹³¹ The sum of municipalities will vary incrementally from the regional Prospective Need and Gap Present Need due to rounding (since a municipality cannot be assigned a fractional portion of a unit).

8.0 SECONDARY SOURCES OF AFFORDABLE HOUSING SUPPLY

SUMMARY

Section 8 adjusts for anticipated changes in affordable housing supply over the ten-year period. These “secondary source” adjustments account for the natural evolution of the housing stock over time due to market-based factors.

This step reflects the fact that affordable housing is provided not only through dedicated planning and zoning policy, but also through changes in housing value and income (and thus affordability) over time. Said another way, much of the housing currently occupied by LMI households was not originally built as “affordable housing.”

As in the Prior Round methodologies, trends in market-based activity are analyzed and extrapolated forward to yield an estimate of future supply changes over the ten-year period. Estimates are developed for three sources:

- Demolitions of existing structures, which reduce the supply of affordable housing;
- Residential conversions, which on net are estimated to increase the supply of affordable housing; and
- Filtering of the housing stock, which on net is estimated to increase the supply of affordable housing.

These three estimates are summed to yield a net effect from secondary sources of supply for each municipality. This net change in supply is applied to the initial Prospective Need, Present Need, and Gap Present Need for each municipality to yield an adjusted need in each category.

Since this process may yield a negative need for some municipalities (which cannot be assigned an allocation below zero), a regional allocation of additional units below this “zero bound” is undertaken to ensure that the methodology aligns aggregate municipal need with the estimated changes in affordable housing supply. Said another way, if the affordable housing anticipated to be generated by secondary sources in any municipality exceeds the allocation of need to that municipality, the additional housing supply nonetheless reduces the regional affordable housing need, and therefore is accounted for within the regional calculation.

Based on this calculation, the statewide reduction in affordable housing need due to anticipated supply increases is 25,645 units.

The adjustment for secondary sources of affordable housing supply within the fair share calculation reflects the fact that the stock of affordable housing does not stay static absent the planning and zoning efforts of municipalities. As a result, the LMI housing need identified in the Prospective Need, Present Need and Gap Present Need calculations will in part be answered by market driven changes in supply. The projected magnitude of these changes on affordable housing supply is therefore estimated over a ten-year period, and adjustments to affordable housing need are made accordingly. Three sources of market-based supply changes (referred to collectively as the “secondary sources”) are estimated:¹³²

1. Demolitions: Existing housing structures are at times demolished. To the extent that those units were previously occupied by LMI households and were not deficient (in which case they would already be captured within the traditional Present Need calculation), these demolitions reduce the affordable housing supply, and therefore add to affordable housing need (Section 8.1).
2. Residential Conversions: Existing residential structures can also be converted to yield a greater or lesser number of housing units. A portion of these changes impact the supply of affordable housing units. This impact may be positive or negative for a given geography, although it is typically positive, implying that conversions on net create additional supply, and therefore reduce the affordable housing need (Section 8.2).
3. Filtering: Finally, existing housing stock changes value over time through depreciation or appreciation and real estate market forces. These changes can make existing units newly available or unavailable to LMI households, thus altering affordable housing supply. This estimate is the net difference between units filtering “down to” and “up from” the affordable housing category, and may be positive or negative for a given geography. A positive filtering estimate (*i.e.* more units filtering down than up) implies an increase in affordable housing supply and reduces affordable housing need (Section 8.3).

Estimates in each category are summed for each municipality to yield a calculation of net impact from secondary sources.¹³³ This net figure may increase or decrease need for a given municipality. As in the Round 2 methodology, this adjustment is set against the initially calculated and allocated Prospective Need, Present Need and Gap Present Need. Further, an additional procedure is added to ensure that supply changes from secondary sources for municipalities with no need are allocated within the housing region, aligning the net effect of secondary source adjustments with the net difference between housing need and supply changes as intended.

¹³² Note that the Round 2 methodology includes a fourth source of market-based affordable housing supply, “spontaneous rehabilitation,” which estimates investments by private property owners to upgrade existing deficient units. The methodology and justification for estimating this category is questionable in its accuracy, and it was not included in the un-adopted 2014 Round 3 methodology. It has been omitted from this analysis.

¹³³ Nothing herein is intended to preclude a municipality from using local data and information to demonstrate that secondary source adjustments for their municipality differ from those set forth in this analysis, which by necessity must be based upon data that is uniformly available on a statewide basis.

8.1 DEMOLITIONS

The first secondary source of housing supply change is demolitions of existing structures. To the extent that demolished units were previously occupied by LMI households and were not deficient (in which case they would already be captured within the traditional Present Need calculation), these demolitions reduce the affordable housing supply, and therefore increases affordable housing need.

An estimate of demolitions of LMI housing units has been included as a secondary source of affordable housing supply in each iteration of the fair share methodology. The Round 2 methodology draws on data from the NJ Department of Community Affairs (DCA) for the prior period to develop an annualized estimate of demolition activity by municipality. This estimate is utilized to project future demolition levels. An estimate is then developed of the proportion of these demolitions impacting LMI housing supply.

This procedure updates this approach by using additional data to refine the estimate of the proportion of demolitions impacting LMI housing supply. Further, it makes an adjustment to exclude demolitions of deficient units occupied by an LMI household. Since those units are already identified and included in the Present Need calculation, including them in the secondary source adjustments as increasing need is a clear instance of double-counting.¹³⁴

First, historic data on demolitions by municipality, as reported by DCA, are analyzed for the 2000 to 2014 time period. An average is calculated excluding the years 2012 and 2013, which saw unusual demolition activity due to Super Storm Sandy and thus are not predictive of future demolition levels. This annualized trend is then projected out over a ten year period to estimate future demolition levels.

Next, the LMI proportion of these demolitions is estimated. The American Housing Survey, which was used as a data source in secondary source calculations in the Round 2 methodology, provides a breakout of national demolitions by two factors relevant to this calculation: the occupancy status of the unit, and in the case of occupied demolitions, the income level of the occupant. For a demolition to count as reducing the amount of affordable housing, the unit must be 1) occupied, and 2) occupied by a LMI household. Our analysis therefore uses the national proportion of demolitions of occupied (rather than vacant or seasonal) units, drawn from an average of the last six iterations of the Components of Inventory Change (CINCH) report issued from 2003-2013.¹³⁵ The same data set is used to estimate the proportion of occupied demolished units that were occupied by an LMI household.¹³⁶ According to the averaged CINCH data, 52% of

¹³⁴ In effect the same deficient unit is counted twice, once when it is identified as LMI deficient and once when it is estimated to be demolished. In reality that demolition does not create additional need, since that same unit has already been identified as in need of replacement or rehabilitation in the Present Need calculation.

¹³⁵ This report is issued by the federal Department of Housing and Urban Development (HUD) based on American Housing Survey data. The reports are available online at: <<https://www.huduser.gov/portal/datasets/cinch.html>>

¹³⁶ This proportion is estimated by aggregating the bottom three income bands provided in the survey results, which collectively capture all households below \$50,000 in income.

demolished units are occupied, and 78% of those units are low income, yielding an estimate that 41% of demolitions are LMI occupied units. This proportion is applied to the total demolitions projection.

Further, the CINCH surveys identify the proportion of housing with severe and moderate problems. This is used as a proxy for the proportion of demolished units that have markers of deficiency, and thus have already been captured in the Present Need estimate. The averaged proportion across the surveys (9%) is multiplied by the estimate of LMI occupied demolitions, and the resulting total is netted out of the estimate to yield an estimate of occupied, non-deficient LMI demolitions.

Table 8.1 shows the result of this demolitions estimate by region and statewide (see Appendix C for estimates by municipality). Statewide, LMI demolitions are anticipated to subtract approximately 18,300 sound affordable units, increasing affordable housing need.

TABLE 8.1: LMI OCCUPIED NON-DEFICIENT DEMOLITIONS BY REGION AND STATEWIDE

Region	Annualized Demolitions, 2000-2011 & 2014	Projected Residential Demolitions (10 year)	LMI Occupied (40.9%)	LMI Occupied and Deficient (9.2%)	LMI Occupied non-Deficient Demolitions
1	1,000	9,995	4,088	(374)	3,714
2	996	9,963	4,074	(373)	3,696
3	314	3,138	1,283	(118)	1,165
4	1,099	10,992	4,495	(412)	4,086
5	511	5,108	2,089	(191)	1,896
6	1,003	10,032	4,103	(376)	3,728
State	4,923	49,230	20,133	(1,844)	18,285

8.2 RESIDENTIAL CONVERSIONS

The second secondary source of housing supply change is residential conversions. Existing structures can also be converted to yield a greater or lesser number of housing units, impacting affordable housing supply. This impact may be positive or negative for a given geography, although it is typically positive, implying that conversions on net create additional supply, and therefore reduce affordable housing need.

An estimate of residential conversions, which captures the net effect of residential structures splitting into more units or consolidating into fewer units, has been included as a secondary source of affordable housing supply in each iteration of the fair share methodology. Since direct data on this activity is unavailable, the methodology employed in Round 1 and Round 2 estimates

residential conversions by taking the net change in regional housing stock over a prior period, accounting for construction and demolition activity, and estimating conversions to be responsible for the remaining unexplained change.¹³⁷ This activity is then allocated to municipalities based on a proxy measure of multi-family housing, and an estimate of the proportion of these conversions impacting the LMI housing supply is applied.

This procedure follows the structure from Round 2, updating data sources as necessary. Change in the residential housing stock is calculated between 2000 and 2015 using Census Bureau data at the county level, and then aggregated to the housing regions.¹³⁸ Demolitions are drawn from the DCA at the municipal level. Residential certificates of occupancy (COs) for this period (as reported by DCA) are used rather than residential building permits as the most reliable measure of supply additions due to construction activity.¹³⁹ Both construction and demolition activity are summed to the regional level, and the net difference is then compared to the net difference in housing units. As in the Round 2 approach, the remaining difference in housing supply unexplained by construction or demolitions is assumed to be the result of housing conversions.¹⁴⁰ The resulting estimate from this period is annualized and applied to the ten year prospective need period.

Certificate of occupancy data is used in place of building permit data utilized in Round 2 due to its greater accuracy as a measure of construction activity over a given time period. COs represent completed, rather than intended, construction activity, and thus more effectively explain observed changes in housing units over a given time period. Generally, building permits exceed certificates of occupancy, because not all intended construction ultimately results in a completed unit, or units may be permitted within the observed time period, but completed outside of it. For this reason, building permits for a given period are generally higher than COs. Within the framework of the calculation, this is problematic in instances where permits do not result in a new unit, because no change in housing occurs, but the calculation nonetheless attributes the creation of a housing unit to construction activity.

¹³⁷ Expressed mathematically, in Round 2: Residential Conversions = (Change in Housing Units) – (Building Permits) + (Demolitions)

¹³⁸ For the year 2000, the decennial Census estimate as of April 1, 2000 is utilized. For 2015, the vintage 2016 Census housing units estimates for July 1, 2015 are utilized. Therefore, the observation period reflects 15.25 years, which is addressed by incorporating 75% of construction and demolition data for 2000 (to estimate the period from April – December) and by utilizing January to June data only for 2015.

¹³⁹ Certified units serve as a more reliable metric for completed residential construction activity than building permits, since the volume of building permits issued for construction commencement diverge from the volume of completed units in a given year for any of a number of reasons (projects completed in a subsequent year, projects never completed, etc.).

¹⁴⁰ Notably, while demolitions calculation described in Section 8.1 excludes the years 2012 and 2013 to avoid incorporating the unusual events of Superstorm Sandy into the projection method, such an exclusion is not appropriate here based on the framework of the calculation. Since the goal of this procedure is to identify the “residual” in the observed change in housing units not explained by demolitions or construction, utilizing the observed housing unit change while adjusting the actual demolitions total corrupts this exercise. In this instance, demolition activity from this period does not serve as a prediction of future activity, but rather an offset to observed housing unit and CO growth that must be accounted for as it occurred in order for the residual calculation to function properly.

Importantly, conversion data was not centrally tracked and reported by DCA until 1995.¹⁴¹ Accordingly, this data source was not available to COAH in developing the Round 2 methodology. Since this data is now available on a uniform basis from a state source and represents the most accurate measure of the impact of construction activity on housing supply, it is adopted in place of building permits within our methodology.

While certificate of occupancy data represents the most appropriate source for completed construction activity on a statewide basis, CO data may be problematic for Region 1, and in particular Hudson County. Data reported by DCA during the period April 2000 to June 2015 observation period indicates that in Region 1, the ratio between certificates of occupancy (for completed units) and building permits (issued at the start of the construction process) is 62.3%, well below the 90.0% ratio observed for the same time period in the other five regions of the state. Therefore, construction activity for Region 1 is estimated by applying the ratio between COs and building permits observed elsewhere in the state (87.7%) to the volume of building permits over the time period to yield a corrected estimate of completed construction activity for Region 1.¹⁴²

Next, the net regional conversions estimate is shared to municipalities within each region. The Round 2 methodology asserts that “residential conversion is highly correlated with the presence of two- to four-family housing units” and therefore allocates conversions to municipalities based on their proportion of regional two- to four-family housing units.¹⁴³ This procedure repeats that methodology utilizing 2011-2015 ACS data on municipal housing stock.¹⁴⁴

Finally, an estimate must be developed as to the proportion of these conversions that are affordable to LMI households. The Round 2 methodology asserts that “on a percentage basis, a greater share of residential conversion units flows to the low-and moderate-income population

¹⁴¹ Dr. David Kinsey's September 2015 *Response to NJLM Export Reports* states in footnote 17 on page 12:

Note that the New Jersey Department of Community Affairs did not begin to collect and publish municipal level monthly and annual data on residential certificates of occupancy until 1995, when it first published its monthly and annual The New Jersey Construction Reporter.

¹⁴² Note that this adjustment is conservative to the extent that the observed ratio of COs to building permits may reflect a greater volume of permitted projects that are ultimately discontinued in Region 1 relative to other regions, in addition to potential data reporting issues. The application of a lower CO to building permit ratio (or use of the unadjusted figure) would result in a lower estimate of construction activity, and thus a higher residual in observed units attributable to conversions.

¹⁴³ 26 N.J. Reg. 2320

¹⁴⁴ Notably, this procedure is only conceptually applicable where residential conversions are calculated to add housing supply on net, as envisioned by COAH in Round 2. If conversions are estimated to be negative (a result that can be achieved through the improper use of building permit rather than CO data as the measure of construction activity), this allocation factor would assign reductions in housing supply to precisely those municipalities that COAH believed are adding supply through conversions. This illogical result illustrates the deficiencies of following procedures of the Round 2 methodology mechanically without considering whether the procedure aligns with COAH's intent and produces a reasonable result.

than to the population as a whole.”¹⁴⁵ However, it does not specify how this proportion is estimated within the calculation. For this procedure, 120% of the proportion of households qualifying as LMI within each county is applied to the estimate of residential conversions for each municipality to yield an estimate of LMI residential conversions.¹⁴⁶

Table 8.2 shows the result of this net LMI residential conversions estimate by region and statewide (see Appendix C for estimates by municipality). Statewide, residential conversions are projected to add approximately 6,300 affordable units from 2015 to 2025, reducing affordable housing need.

TABLE 8.2: LMI RESIDENTIAL CONVERSIONS BY REGION AND STATEWIDE

Region	Est. Residential Conversions, 2000-2015	Projected Residential Conversions, 2015-2025	Effective LMI Rate	Projected LMI Residential Conversions, 2015-2025
1	248	163	47.9%	78
2	5,370	3,521	55.0%	1,936
3	5,354	3,511	47.3%	1,661
4	4,987	3,270	46.6%	1,525
5	684	449	46.2%	207
6	2,965	1,944	47.0%	913
State	19,608	12,858	49.2%	6,320

8.3 FILTERING

The final secondary source of housing supply change is filtering. Existing housing stock changes value over time through depreciation or appreciation and real estate market forces, which make units newly available or unavailable to LMI households. The net effect of these changes may be positive or negative for a given geography, though filtering is widely recognized as the most important source of affordable housing to low-income households, meaning that filtering typically increases the affordable housing supply, and therefore reduces affordable housing need.

¹⁴⁵ 26 NJ. Reg. 2349

¹⁴⁶ This assumption mirrors a similar calculation that is enumerated in the Round 2 methodology with respect to demolitions. Like demolitions, residential conversions are likely to disproportionately impact LMI households, since such conversions generally create multiple smaller (and therefore less expensive) units out of larger units.

Filtering of affordable housing stock occurs when housing becomes newly accessible (“filtering down”) or inaccessible (“filtering up”) to LMI households. While the fair share obligation process envisions zoning for and building affordable housing, most of the housing affordable to LMI households in New Jersey was originally market rate housing that has become part of the affordable housing supply over time through downward filtering, and not housing specifically built for the affordable market. The 1990 analysis of filtering entitled *New Jersey and Other Locations: The Filtering Process for a Source of Housing for Low-Income Households* prepared by Anthony Downs of the Brookings Institution for COAH (which is specifically cited by the Appellate Division in its 2006 decision on filtering methodology) begins as follows:

Throughout U.S. history, including at the present moment, **most housing occupied by low-income households has not been directly subsidized** by any federal or government assistance. Rather, **it has consisted of privately built, privately owned units**. This housing was not occupied by low-income households when it was first built. It came into occupancy by such households **though a process within housing units known as “filtering” or “trickling down.”**

[Anthony Downs *New Jersey and Other Locations: The Filtering Process for a Source of Housing for Low-Income Households* report for COAH (bold added)]¹⁴⁷

Downward filtering occurs because housing ages, the design and style of the house falls out of fashion, and because neighborhoods fall out of favor. As housing units age, deteriorate, and become outdated, they move down the “quality ladder.” Higher income households, attempting to maintain their desired housing quality, often move into high-quality new construction rather than rehabilitate their current unit, which can require significant investment to achieve the same quality as new construction.¹⁴⁸ The departure of these households frees up existing units up for medium, moderate, and then low income households.¹⁴⁹

¹⁴⁷ See also: Stuart Rosenthal, *Are Private Markets and Filtering a Viable Source of Low Income Housing? Estimates from a “Repeat Income” Model*, American Economic Review (2014), which finds:

“Filtering has long been considered the primary mechanism by which markets supply low-income housing... the nation’s housing stock filters down at a rate of roughly 1.9 percent per year in real terms.”

And: Richard Harris, *The Rise of Filtering Down: The American Housing Market Transformed, 1915–1929*. Social Science History 37(4), 515-549 (2013), who writes:

“The bottom third of families or thereabouts—reasonable people can disagree about the exact proportion — are accommodated through the process that housing experts know as “filtering”... By default and to some extent by the design of policy makers, it has long been the process that has delivered shelter to tens of millions of North Americans”

¹⁴⁸ O’Sullivan, A. (2009). *Urban Economics* (7th ed.). Boston: McGraw-Hill Irwin.

Kim, Chung & Blanco (2012). *The Suburbanization of Decline: Filtering, Neighborhoods and Housing Market Dynamics*. Original Source: Milis, E., & Hamilton, B. (1989). *Urban economics*. Glenview, IL: Scott, Foresman.

¹⁴⁹ It is worth noting that there are exceptions to this simple model of filtering. For example, high income households might be incentivized to restore and maintain very amenity-rich, high-end units, as these units are less likely to effectively filter to lower income populations until housing supply increases sufficiently to absorb this increase in value. Source: O’Sullivan, A. (2009). *Urban economics* (7th ed.).

Upward filtering occurs because a location has become more valuable, and is sometimes referred to as “gentrification.” Across the overall housing market, downward filtering is more common than upward filtering.¹⁵⁰

Filtering occurs when new market rate housing is being constructed faster than the number of households is increasing. The newly constructed housing in excess of household growth frees up existing units for occupancy by other households. In basic economic terms, the supply of housing has increased, and so prices will decrease on existing houses, and some existing units will become affordable. Indeed, every new market rate unit in excess of household growth means an existing unit ultimately becomes affordable, as once all the non-LMI households have housing, the owners of other housing units will have to lower their prices until an LMI household can afford it, or the unit will go vacant. Historically, relying on data from the Census Bureau utilized in prior steps of the calculation, we observed significantly more new housing stock than household growth from April 2000 (the date of the decennial Census) to July 1, 2015 (see Table 8.3).

TABLE 8.3: NEW JERSEY HOUSING MARKET FACTS, 2000 – 2015

Category	Value
Increase in Housing Stock	283,431
New households	166,228
Surplus of new housing construction	117,203

8.3.1 COURT GUIDANCE ON FILTERING

Filtering estimates in the Round 1 and Round 2 methodology were based on longitudinal data from the American Housing Survey. Specific units were tracked across a given time period, and the net difference between housing units filtering down and filtering up from the affordable housing categories were measured, annualized, and used to estimate future filtering effects. A similar methodology was included in the 2004 Round 3 methodology, and was rejected by the Appellate Division in 2007. With respect to filtering, that decision held:

¹⁵⁰ See, e.g. Stuart S. Rosenthal, *Old homes, externalities, and poor neighborhoods A model of urban decline and renewal*, Journal of Urban Economics 63 (2008), p. 823. According to Bier in *Moving Up, Filtering Down: Metropolitan Housing Dynamics and Public Policy* (2001), annual housing construction typically exceeds household growth. As discussed later in this section, downward filtering will occur when new housing construction outstrips household growth.

We conclude that the COAH premise, that housing is filtering down to low and moderate income households, lacks support in the record.

[In re Adoption of N.J.A.C. 5:94 and 5:95, 390 N.J. Super. 1]

Importantly, that decision with respect to filtering was limited to the methodology employed by COAH for the 2004 estimates:

We do not invalidate the use of filtering as a secondary source...if the data and methodology have a rational basis, then COAH remains free to incorporate filtering and other secondary sources in to the overall calculation of statewide housing need.

[Id.]

The Court further pointed to five conditions, put forth by Anthony Downs, a housing economist at The Brookings Institution, which it suggested must be satisfied for filtering to occur:

“(1) an overall housing surplus; (2) a surplus of new housing construction over new household formation; (3) no major non-price barriers, such as discrimination, that limit mobility among low-income households; (4) moderate operating costs for newly built units; and (5) a limited number of poor households.”

[Id. at 5801-03]

We do not necessarily agree with these factors as they relate to the calculation of filtering within this context, but we nevertheless analyze whether the conditions have been satisfied:

- 1) There are approximately 275,000 non-seasonal vacant units in New Jersey, according to the 2015 ACS, which means that there is a surplus of housing.
- 2) From 2000-2015, there was a surplus of new housing construction over new household formation, of more than 117,000 units, as illustrated in Table 8.3. Historically, new units exceeded population growth, and there is no reason to expect that they will not continue to do so over the 2015-2025 period.
- 3) There is no measure to indicate that there are major non-price barriers that limit low-income household mobility. However, COAH did undertake an analysis in 2004 to assess this question. Applying COAH’s approach, we find no non-price barrier, because the non-white population (as a percentage of the municipality) increased in 500 of New Jersey’s 565 municipalities between Census 2000 and Census 2010.
- 4) New units are expected to have moderate operating costs because they require relatively little maintenance, and are constructed with modern, efficient appliances and HVAC

systems. There is no evidence that newly built units have anything other than moderate operating costs.

- 5) As indicated in Section 4.4, the number of LMI households is expected to grow approximately in proportion to the population.

Thus, we conclude that these five criteria will likely be satisfied.

8.3.2 FILTERING MODEL

Subsequent to the 2007 Appellate Division decision, COAH engaged Econsult Corporation to create a new filtering methodology based on housing transaction data and a more sophisticated econometric approach for the 2008 Round 3 rules.¹⁵¹ The Appellate Division rejected the overall “Growth Share” approach in 2010, but did not specifically address the filtering component.¹⁵²

The current filtering calculation is an econometric approach based on housing transaction data, and focusing specifically on filtering with respect to affordability for an LMI household.

We follow a three-step process to estimate filtering:

1. We use a data set of all housing transactions in New Jersey from 2000-2014 which measures which units became affordable or unaffordable to LMI households.
2. We then create a model, based on historic filtering measured in step 1, to determine the probability of filtering based on geographical characteristics.
3. We apply the model from step 2 to the municipalities to estimate filtering for 2015-2025 on a municipal level.

Each step is described in detail below.

1 – Identify units that filtered historically

A unit filters up or down if the value of the house rises above LMI affordability or falls below LMI affordability, respectively. Our data include all owner-occupied housing transactions in New Jersey between 2000 and 2014. From these transactions, we identify houses that sell more than

¹⁵¹ New Jersey Council on Affordable Housing: Task 2 – Estimating the Degree to which Filtering is a Secondary Source of Affordable Housing, Econsult Corporation, 2007.

¹⁵² Both COAH's un-adopted 2014 Round 3 methodology and Dr. Kinsey's 2015 methodology for FSHC utilized annualized results from Econsult Corporation's 2007 analysis.

once, and use the prices of the two sales, compared to income limits, as the basis for our analysis of filtering. Directly comparing sales of the same unit over time, as opposed to comparing overall transactions by geographic conditions, controls for variation in building stock, and quality, and allows us to identify specifically when units cross between affordable and not affordable to LMI households.

For each region, for each year, we calculate the annual amount an LMI household can afford to pay for housing, based on regional income limits. For owner occupied units, this calculation requires annualizing the sales price of a unit into an ‘annual cost of ownership’. We calculate the annual cost of ownership based on mortgage interest rates, insurance costs, property tax rates, and the price of a housing unit. We use the return from the 10 year T-bill plus 100 basis points to estimate an interest cost, based on 100 percent of the purchase price. We combine this with effective property tax rates for each municipality, as well as costs for both homeowners insurance and private mortgage insurance (PMI), based on New Jersey-specific estimates.¹⁵³

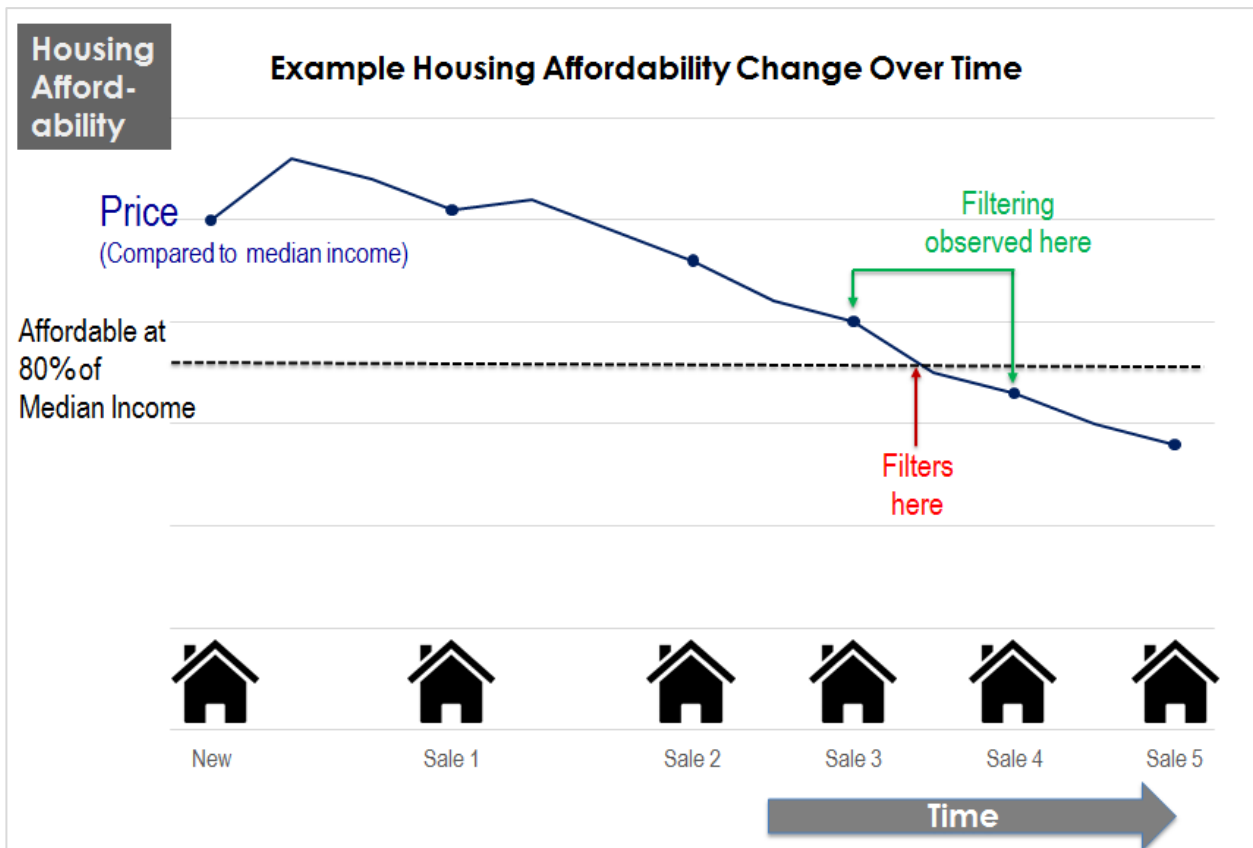
These factors are summed to calculate the annual cost associated with the sales price of units in our data.¹⁵⁴ If this annual cost is less than 28% of the LMI income threshold for the region, the unit is considered affordable.¹⁵⁵ In paired transactions, a unit that was affordable in the first transaction and was not affordable in the second transaction filtered up. Conversely, a unit that was not affordable in the first transaction and was affordable in the second transaction filtered down. Figure 8.1 below shows a hypothetical house that has sold several times within the observation period, and illustrates how filtering would be observed under this approach.

¹⁵³ Effective property tax rates were provided by State of New Jersey Department of Treasury, Government Records Access Unit. PMI is estimated at an annual rate of 0.78% of the estimated mortgage amount, based on NJ DCA’s affordable unit calculator, while homeowners insurance is estimated in the amount of \$981, based on the analysis of national insurance industry data from 2012 by Jeffery Chu (2015). The interest rate tracks the costs of a 5/1 hybrid mortgage (a 30-year mortgage with interest rates fixed for the first five years and adjustable once per year thereafter) used by many homeowners to lower housing expenditures.

¹⁵⁴ The results of this calculation track closely with ownership costs as reported in the ACS PUMS data. The median annual owner cost estimated using this method on the observed transactions is \$26,802, while the median annual owner costs for all occupied units according to 2014 PUMS data for New Jersey is \$25,188.

¹⁵⁵ Standards for what percent of income a household can afford to pay for housing (excluding utilities) vary from 28 percent of income to 31 percent and greater. We have conservatively used a value of 28 percent of income, resulting in a potential expenditure at the low end of what could be paid by a LMI household. Further, we have compared the potential expenditure against interest costs assuming the buyer borrows 100 percent of the purchase price. Since the buyer will likely borrow less than the full amount of the cost, this assumption increases interest costs relative to what a LMI household would actually have to pay. Similarly, many borrowers do not need PMI, but we have assumed PMI payments as well. Principal costs are not included, as these are not costs in the sense that interest and taxes are costs, since principal payments represent savings to the household. We note that this definition of housing costs treats owner-occupied units equivalently to rental housing.

FIGURE 8.1: EXAMPLE OF OBSERVED HISTORICAL FILTERING



Note that filtering among paired sales does not represent all filtering because not all houses have sold twice during the sample period, and rental units are not included. The filtering directly observed in paired sales forms the basis for constructing a statistical model for the determination of filtering of all housing units.

2 – Filtering Model

The filtering model is a statistical relationship between the characteristics of a community and the likelihood that a unit will filter up, down or not at all.¹⁵⁶ The characteristics of the community include the density of the community, how built out the community is, the community size, the stage of the housing cycle, recent growth in the housing stock, household income, median sales price, and a county-specific fixed effect.

¹⁵⁶ This method builds upon Somerville, C. Tsuriel, and Christopher J. Mayer, *Government Regulation and Changes in the Affordable Housing Stock*, FRBNY Economic Policy Review, June 2003.

The filtering model is based on a multinomial logit regression. The dependent variable, filtering, can take one of three outcomes: filtered up, filtered down, or did not filter. The multinomial logit regression assesses the relative likelihood that the paired housing transactions of a unit will take one of these three outcomes, given the independent variables shown below.

TABLE 8.4: INDEPENDENT VARIABLES USED IN MULTINOMIAL LOGIT REGRESSION

Variable	Definition	Source
HGrowth00to14	Change in housing stock from 2000 to 2014, per municipality	US Census
hhmedinc	Median Household Income, per census tract	US Census
hhmedincsquared	Squared median income term	US Census
Hunits	Number of Housing Units, per municipality	US Census
medianmunisalesprice	Median value of a sale in the municipality	SRIA
medianpricesquared	Squared median sales value	SRIA
density	Density of municipality housing stock	US Census
pctbuiltout	Percent of estimated "Build Out" limit, per municipality	Econsult Solutions
NJpricepctchg	Change in real estate prices in the State of New Jersey	FHFA
NJsquaredpricepctchg	Squared real estate price term	FHFA
county	County geographic fixed effect	NJ COAH

We estimate the model using annual data from 2000 to 2014. For home sales occurring in years without corresponding census data, linear interpolations of the variables are used. Due to the low volatility in the census variables used here (over short-term horizons) linear interpolation is appropriate. The model establishes the outcome of "did not filter" as the base outcome: likelihoods of filtering up or down are expressed relative to the likelihood of not filtering. Coefficients from the multinomial logit regression are expressed as the change in the likelihood of an outcome (with respect to the base outcome), given a unit change in the predictor variable, holding all other variables constant (expressed in log-odd terms).

In terms of magnitude, multinomial logit results are not easy to directly translate, as they are expressed in log-odd terms. Using post-estimation functions, these results can be interpreted as a system of effects on the net probability of either filtering up or down. Results from these post-estimation techniques are discussed below.

3 – Forecasting

To forecast results from the multinomial logit regression, we must create future values for the independent variables used in the regression model, including changes in house and apartment prices, the number of units that will be available to transact, and changes in income, and then apply the parameter estimates.

Prices for owner occupied housing and rental housing move together over the long run, but can diverge in the short run. Owner-occupied housing values are more volatile, and our analysis incorporates housing cycle considerations.¹⁵⁷ We use an average annual growth rate of 4 percent over the next ten years.¹⁵⁸ In order to capture the nonlinear movement of prices during that time, we employ an ARIMA regression procedure using historic data from the Federal Housing Finance Agency (FHFA) on owner occupied housing prices dating back to 1975. Rental prices, however, are not anticipated to follow the same cyclical trajectory, as data on average rental rates in New Jersey show a significantly steadier trend than in single family home prices. Because of this, filtering forecasts for apartments are modeled on a smooth trajectory of rental rates. Because cities and urban areas, where much of the rental stock is concentrated, have generally experienced relatively stronger growth than suburban and rural areas in the past, we use an average annual growth rate in rent of 4.5 percent.

The number of units available to filter also varies between owner occupied units and rental units.¹⁵⁹ We base the number of owner-occupied units that could potentially filter on an analysis of historic sales volume in New Jersey from 2000 to 2014 to movements in real estate prices. Using this relationship, we forecast the number of single family home sales (and which are therefore available to filter) that will occur in each year. For apartments, we first account for rent controlled units that cannot be expected to behave as though they are market units. There are approximately 100 municipalities with some form of rent control, covering a significant portion of the rental stock in those municipalities. The restrictions imposed by rent control suppress the likelihood of filtering up, and, because the rents are often already below market, they are not anticipated to filter down. Accordingly, the number of units estimated to be under rent control in each applicable municipality is removed from the stock of rental units. The multinomial logit model used to calculate the probability of filtering is based on fifteen years of sales data; the number of sales represented in that data (approximately two million) is approximately equal to the stock of owner occupied houses in New Jersey. Because of this, we assume that the entirety of the rental stock, not covered by rent control, will be available to filter every fifteen years.¹⁶⁰

¹⁵⁷ Federal Housing Finance Agency, *House Price Index*.

¹⁵⁸ Historic rates from 1975-2015 show an average growth rate of approximately 5.3 percent, and rates from 2000-2015 show an average growth rate of approximately 3.5 percent.

¹⁵⁹ Note that net filtering for a unit cannot be greater than one for any given unit, even if the units itself filters up and down multiple times.

¹⁶⁰ This is likely very conservative, due to the short-term nature of leases.

Accordingly, we estimate that two thirds of the non-rent controlled rental stock will be available to filter over the next ten years. Income is anticipated to grow at 2% per year. Municipal density, and percent built out are anticipated to remain at their 2015 levels.

The final step is to apply the parameter estimates from the model in step 2 to the estimated independent variable values for each municipality. We convert the coefficients from the model into aggregate percent probabilities of filtering up or down for each municipality, given the level of the independent variables for each year. This percent is then applied to the base of sales and rentals as described above.¹⁶¹ This approach yields an estimate of upward and downward filtering. This number is aggregated for each municipality, and the difference between the two represents the net number of units estimated to be added to or removed from the stock of affordable housing over the 2015 to 2025 period.

Table 8.5 shows the result of the net filtering estimate on the anticipated supply of affordable housing in each region and statewide. Statewide, downward filtering is anticipated to add approximately 135,500 units of affordable housing supply from 2015 to 2025, while upward filtering is anticipated to reduce affordable housing supply by approximately 97,900. Therefore, net filtering is anticipated to increase affordable housing supply by approximately 37,600 units, reducing affordable housing need.

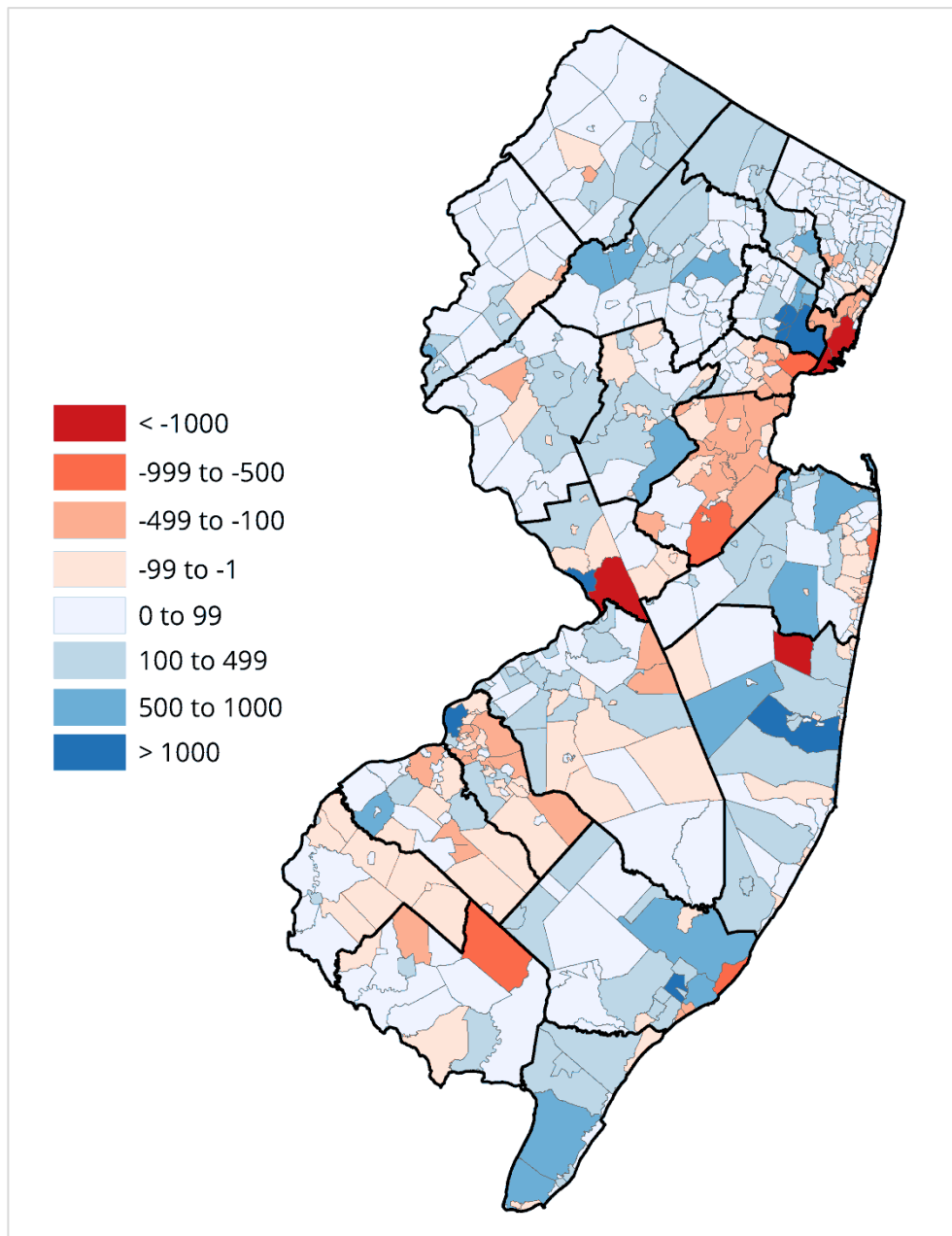
TABLE 8.5: NET FILTERING OF AFFORDABLE HOUSING BY REGION AND STATEWIDE

Region	Units Filtering Down	Units Filtering Up	Net Filtering (Supply Change)
1	19,121	16,852	2,269
2	30,621	13,249	17,372
3	15,429	15,306	123
4	28,124	20,347	7,777
5	25,088	21,624	3,464
6	17,132	10,533	6,599
State	135,515	97,911	37,604

¹⁶¹ With a large enough number of iterations (such as the total number of sales and rental units in a geography), the probability of an event converges on the percent of the population which that probability applies to.

Figure 8.2 below shows net filtering results by municipality, which are listed in Appendix C. Municipalities shown in blue have net downward filtering (increasing in affordable housing supply) while municipalities in red have net upward filtering (decreasing affordable housing supply), with darker shades representing higher volumes. Spatial patterns projected by the model follow broadly understood trends in New Jersey's housing markets in recent years, with upward filtering projected in areas like Hudson and Middlesex counties that have seen pronounced growth in housing prices, and downward filtering observed across lower growth areas of the state such as the northwestern and southeastern portions.

FIGURE 8.2: ESTIMATED NET FILTERING BY MUNICIPALITY, 2015-2025



8.4 ALLOCATION OF SECONDARY SOURCES

Once estimates of changes in affordable housing supply due to demolitions, conversions and filtering have been estimated for 2015-2025, they are aggregated and applied to adjust the initial municipal allocations. COAH's Round 2 methodology states that "reductions apply to housing need no matter how the need was generated."¹⁶² In the context of the Round 2 method, this refers not only to both Present Need and Prospective Need, but also to Re-Allocated Present Need (a category that is no longer calculated within the methodology) and to Prior-Cycle Prospective Need. The directive in Mount Laurel V to place the newly defined Gap Present Need as an additional component of Present Need clearly indicates that it is subject to this same adjustment process, as an integrated component of the broader fair share allocation.¹⁶³

In addition, the Round 2 methodology is explicit that, in contrast to the municipal allocation process described in Section 7, "in the reductions of increases to housing need due to secondary supply and demand, all municipalities, including Urban Aid locations, participate."¹⁶⁴ This approach is consistent with the policy allowing Present Need obligations to be addressed either through rehabilitation of deficient units or creation of new units.¹⁶⁵

The net anticipated change from secondary sources is derived by summing the anticipated changes from demolitions, conversions and filtering for each municipality. This sum is expressed in terms of its impact on affordable housing need, meaning that an anticipated net increase in supply will yield a negative number (reducing need) while an anticipated net decrease in supply will yield a positive number (increasing need). This net impact is applied against the municipal allocations calculated in previous chapters in the following sequence:

¹⁶² 26 NJ. Reg. 2348.

¹⁶³ Importantly, as discussed in Section 6, secondary source changes from the 1999-2015 gap period itself are not appropriate to apply, because the point in time nature of the Gap Present Need approach reflects the changes in market conditions over the prior period in the housing circumstances of LMI households as of July 1, 2015. By contrast, future changes in housing supply anticipated over the 2015-2025 are relevant to the satisfaction of that need that remains unmet as of July 1, 2015.

¹⁶⁴ 26 NJ. Reg. 2348.

It should be noted that while qualifying urban aid municipalities do not receive any allocation of the regional Gap Present Need or Prospective Need, it is possible for those municipalities to have a Secondary Source adjustment that adds to these categories in cases where the secondary sources are estimated (on net) to reduce the future affordable housing supply in those municipalities. In the Round 2 methodology, secondary source adjustments for urban aid municipalities were applied "before these areas send excess need to the re-allocation pool" (26 NJ. Reg. 2348), meaning that these adjustments were reflected in the regional Re-Allocated Present Need calculation, which yielded a new construction obligation. Since the Re-Allocated Present Need calculation has been eliminated, it is appropriate in keeping with the Prior Round method for the secondary source adjustments to be reflected in the new construction obligation within the current methodology. Since the current methodology initially applies these adjustments in the municipality in which they are estimated to occur, they are applied equally to urban aid municipalities.

¹⁶⁵ It is important to note that the majority of units are identified as deficient in the Present Need calculation due not to inadequate plumbing or kitchen facilities but due to their designation as "old and overcrowded." While the creation of a new unit does not address the integrity of a structurally deficient unit, it can alleviate the overcrowding of units. Further, any addition to supply creates effects down the chain of the housing market that may eventually allow the deficient unit to be replaced or demolished.

- First, municipal Prospective Need is adjusted to reflect an increase or decrease in need based on projected secondary supply changes.
- In cases where these adjustments bring Prospective Need to zero, remaining adjustments are made to Gap Present Need.
- In cases where these adjustments bring Gap Present Need to zero, or for urban aid municipalities that have zero Prospective Need or Gap Present Need allocation, remaining adjustments are made to Present Need.

It is possible for a municipality to have a downward secondary source adjustment that is larger than the sum of Prospective Need, Gap Present Need and Present Need for that municipality. A strict application of secondary sources to such a municipality would result in a *negative* need allocation. In the Round 2 methodology, these units below the “zero bound” for a municipality are simply dropped from the methodology and left unaccounted for. From the perspective of the municipality below the zero bound, whether these units are otherwise accounted for is immaterial, since its need is already zero. However, from the perspective of the region, failing to account for these units creates a mismatch between the identified regional affordable housing need and regional affordable housing supply provided through market-based forces.

This mismatch between affordable housing need and supply is problematic because need is calculated regionally, meaning that LMI household growth anticipated in one county (or in one municipality) spills over into another for the purpose of estimating housing need. Conceptually, the secondary source adjustments partially offset this need, recognizing that a portion of the incremental LMI household population that has been estimated will be housed in units created by the market forces enumerated within the calculation. Logically, this is still true in cases where the municipality has no allocated need – an additional unit created in that municipality still provides housing for an LMI household, thereby reducing by one the housing need for the region.

Absent an additional step in the procedure, this adjustment is not accounted for properly and regional need is thus improperly inflated. This “zero bound” flaw can theoretically produce a circumstance in which the net effect of secondary source adjustments which collectively add to affordable housing supply is to *increase* rather than *reduce* aggregate municipal affordable housing need. Notably, COAH’s Round 3 methodologies in 2004 and 2008 did not encounter this problem, because secondary sources were applied at the regional level. This approach by definition aligned the anticipated regional effect of secondary sources with their impact on regional affordable housing need.

To correct for this occurrence, additional anticipated supply increases that are beyond the municipal “zero bound” are summed for each region. These additional secondary source adjustments for each region are then allocated to municipalities in proportion to the share of total

regional Prospective Need, Gap Present Need and Present Need that each municipality represents.¹⁶⁶ This methodology aligns aggregate municipal need with the increment between changes in LMI housing need and affordable housing supply, as intended.

An alternative approach to address this mismatch would be to follow the Round 2 methodology strictly in applying the secondary source adjustments against all categories of need, which in this instance would include unmet need from the Prior Rounds (1987-1999). The Supreme Court directed in Mount Laurel IV that the unmet portion of this need (originally assigned by COAH in Round 2) is not eradicated and serves as the “starting point” for Round 3 municipal obligations (as discussed further in Section 9 of this report). In accordance with COAH’s prior practice and its clear statement that “reductions apply to housing need no matter how the need was generated,” anticipated housing supply changes could be applied to satisfy this remaining need.

This procedure is not applied within our methodology due to the lack of reliable, accurate and uniform statewide information on the applicable adjustments, housing activity and credits for each municipality. Historically, COAH has attempted to track information on adjustments, activity and credits for each municipality through its “CTM” online unit monitoring program. Results from this data set, updated through July 20, 2015, were provided to ESI by the Department of Community Affairs (as the successor custodian for this information) for consideration in this analysis. Unfortunately, this data source does not appear to be either comprehensive or reliable at this time. We understand from DCA that the data is self-reported by municipalities, and is not subject to any systematic auditing process. This understanding is confirmed by a publicly-released version of results from this program dated March 1, 2011, which includes the disclaimer: “Inclusion of an affordable housing program or project in this report does not certify that the units exist and/or meet COAH’s criteria for credit.”¹⁶⁷ In addition to the potential for incorrectly reported units, there is also the potential for unreported activity. The 2011 dataset, for example, omits roughly 100 municipalities entirely. The extent to which those values are an accurate reflection of municipalities that have not completed a single unit or are simply a result of the failure of those municipalities to report completions through the CTM system is unknowable at this time.

While Prior Round obligations as initially assigned are known, a reliable calculation of the “unfulfilled” portion for each municipality is not possible on a uniform basis. Without these adjustments, the extent to which remaining need against which anticipated supply changes can be applied is unclear, again frustrating the alignment of municipal and regional need. However, it would be possible to apply this approach to any given municipality that can demonstrate these adjustments through the compliance process, since this framework (unlike the methodology

¹⁶⁶ For example, suppose the sum of Prospective Need, Gap Present Need, and Present Need for a municipality represents 1% of the aggregate need for the region, and that the “pool” of Remaining Secondary Source Allocation of units below the “zero bound” is 1,000 units for the region. In this case, the municipality would be allocated an adjustment of ten units to reduce allocated need (1,000 x 1%). As with the initial adjustment, this adjustment is first applied to Prospective Need, and then, in cases where Prospective Need is zero, to Gap Present Need and then to Present Need. This example is illustrated in Table 8.7 below.

¹⁶⁷ Available from the Department of Community Affairs website at:
<<http://www.nj.gov/dca/services/lps/hss/transinfo/reports/units.pdf>>

described above and implemented in this analysis) does not make the adjustments to any municipality dependent on results from other municipalities in the region.

8.5 SECONDARY SOURCE ADJUSTMENT RESULTS

Table 8.6 shows the results of these adjustments aggregated to the regional level (see Appendix C for estimates by municipality). Secondary sources are shown in terms of their change in need, meaning that an increased in anticipated affordable housing supply are shown as a negative value (reducing the need), while a decrease in anticipated affordable housing supply are shown as a positive value (increasing the need).¹⁶⁸ On net, the three secondary sources of market-based supply (Demolitions, Conversions, and Filtering) are estimated to add approximately 25,600 units of affordable housing supply over the ten-year period. Accordingly, aggregate statewide need decreases by a commensurate level to reflect adjustments for this anticipated supply.¹⁶⁹

¹⁶⁸ In the case of the allocation pool, which neither increases nor decreases the need on net, contributions to the pool are shown as a positive value, while receipts from the pool are shown as a negative value.

¹⁶⁹ Slight differences emerge due to rounding, since a municipality cannot be assigned a partial unit.

TABLE 8.6: SECONDARY SOURCE ADJUSTMENTS TO AFFORDABLE HOUSING NEED BY REGION AND STATEWIDE

Region	<u>Initial Allocation</u>			<u>Secondary Sources – Change in Need</u>			
	Initial Present Need	Allocated Gap Present Need	Allocated Prospective Need	Demolitions	Conversions	Filtering	Total
1	21,737	11,238	20,776	3,714	(78)	(2,269)	1,367
2	17,193	6,547	13,349	3,696	(1,936)	(17,372)	(15,612)
3	6,484	7,538	12,338	1,165	(1,661)	(123)	(619)
4	6,106	7,645	11,833	4,086	(1,525)	(7,777)	(5,216)
5	4,086	4,423	5,813	1,896	(207)	(3,464)	(1,775)
6	3,602	1,624	744	3,728	(913)	(6,599)	(3,784)
State	59,208	39,015	64,853	18,285	(6,320)	(37,604)	(25,639)

Region	<u>Allocation Pool</u>			<u>Adjusted Allocation</u>			
	Applied Locally	Sent to Pool	Received from Pool	Adjusted Present Need	Adjusted Gap Present Need	Adjusted Prospective Need	Aggregate Adjustment
1	1,973	606	(608)	20,394	10,634	24,079	1,365
2	(10,976)	4,636	(4,638)	8,200	5,680	7,594	(15,614)
3	526	1,145	(1,145)	5,906	7,140	12,689	(619)
4	(687)	4,529	(4,529)	4,570	6,382	9,416	(5,216)
5	(18)	1,757	(1,757)	3,052	3,523	5,973	(1,775)
6	581	4,365	(4,367)	1,148	414	631	(3,786)
State	(8,601)	17,038	(17,044)	43,270	33,773	60,382	(25,645)

Table 8.7 shows the results of the secondary source adjustment process described above for two hypothetical municipalities. Municipality A is assumed to have a secondary source adjustment greater than the sum of their total initial allocation, and thus sends units below the “zero bound” to the regional pool. Municipality B is assumed to have a secondary source adjustment less than their total initial allocation, and thus receives an allocation from the regional pool adjustment. In aggregate, the adjustment for the two municipalities matches the projected change in supply from secondary sources.

TABLE 8.7: SECONDARY SOURCE ADJUSTMENTS TO AFFORDABLE HOUSING NEED BY REGION AND STATEWIDE

Muni	<u>Initial Allocation</u>				<u>Secondary Sources – Change in Need</u>				Initial Adjusted Total Need
	Initial Present Need	Allocated Gap Present Need	Allocated Prospective Need	Total	Demolitions	Conversions	Filtering	Total	
A	20	30	50	100	10	(30)	(90)	(110)	(10)
B	20	30	50	100	20	(20)	(50)	(50)	50
A+B	40	60	100	200	30	(50)	(150)	(160)	40

Muni	<u>Allocation Pool</u>				<u>Adjusted Allocation</u>				Aggregate Adjustment
	Sent to Pool	Regional Pool	% of Regional Need	Received from Pool	Adjusted Present Need	Adjusted Gap Present Need	Adjusted Prospective Need	Total	
A	10	1,000	0%	0	0	0	0	0	(100)
B	0	1,000	1%	(10)	20	20	0	40	(60)
A+B	10			(10)	20	20	0	40	(160)

9.0 MUNICIPAL HOUSING OBLIGATIONS

SUMMARY

Section 9 reconciles the allocation of Prospective Need, Present Need, and Gap Present Need yielded by the previous sections with additional adjustments required by the relevant statutes and Court decisions to arrive at an initial summary obligation for each municipality.

The Prior Round methodologies and the FHA define two caps which are applied to municipal housing allocations:

- The “20 percent cap,” which limits a municipality’s “new construction” obligation to 20% of its existing occupied housing stock; and
- The “1,000-unit cap,” which limits a municipality’s fair share of housing units to 1,000 units.

Further, the Supreme Court stated that its Mount Laurel IV decision “does not eradicate” unfulfilled Prior Round (1987 – 1999) obligations, which serve as “the starting point for the determination of a municipality’s fair share responsibility” within the current cycle. Since reliable data does not exist on a uniform statewide basis to define the extent to which those obligations have been met, those obligations are presented as initially assigned to municipalities in Round 2, without accounting for any applicable adjustments, housing activity or credits.

This initial Prior Round obligation is then summed with the adjusted and capped Present Need, Gap Present Need and Prospective Need to yield an initial summary obligation for each municipality. Municipalities can then reduce that obligation by demonstrating applicable adjustments, housing activity and credits on a case by case basis in their efforts to secure approvals of their affordable housing plans.

Based on these calculations, the initial statewide obligation is:

- **85,853 units for the Prior Round (1987-1999) obligation;**
- **36,611 units for the traditional component of the Present Need;**
- **33,250 units for the Gap Present Need; and**
- **47,766 units for the Prospective Need.**

The affordable housing calculations described in Sections 4-8 of this report yield estimates of the need for affordable housing anticipated to emerge over the next decade (Prospective Need) and the current need (both traditional Present Need and Gap Present Need). In keeping with the dictates of the Supreme Court, the categories of Present Need, Gap Present Need and Prospective Need are calculated in a non-duplicative manner (*i.e.* accounting for potential overlaps). This means that these categories can be consolidated, and that their sum represents all identifiable housing need for the 2015-2025 period.

However, there is a distinction between affordable housing “need,” which represents identifiable LMI households in need of or anticipated to be in need of housing, and affordable housing “obligations,” which represent legal requirements placed on municipalities related to fulfilling this need. Conceptually, aggregate need should align with aggregate municipal obligations. Historically, however, need and obligations have diverged within the methodology.

One such divergence is municipal allocation caps, which are included in the Round 2 methodology and the Fair Housing Act and are applied to adjust municipal obligations. The 20% cap safeguards against a “drastic alteration” of the established pattern of a community, while the 1,000 unit cap recognizes that imposing fair share obligations on municipalities beyond what could reasonably be achieved given market considerations is impractical and warrants an adjustment. Another instance is the “carryover” of unfulfilled Prior Round obligations. Though the “carryover” obligations are not mentioned in the FHA, the Round 2 methodology carried forward Round 1 Prospective Need into the Round 2 obligation (against which appropriate activity and credits were applied). The Supreme Court stated that its Mount Laurel IV decision “does not eradicate” the unfulfilled portion of the Round 1 and Round 2 obligations, which serve as “the starting point for a determination of a municipality’s fair share responsibility” within the current cycle (30).

The core reason for this divergence is COAH’s interest in creating a system that provides compliance incentives for municipalities. While unfulfilled obligations from prior cycles do not represent additional identifiable need, ignoring them entirely would discourage municipalities from complying with legally assigned obligations. Meanwhile, assigning obligations beyond the allocation caps would frustrate the ability of municipalities to realistically comply with their assignments.

Therefore, adjustments may need to be undertaken to the Prospective Need, Present Need, and Gap Present Need assigned to municipalities in Sections 4-8 of this report to yield an appropriate municipal obligation. This section proceeds as follows to yield summary obligations for each municipality:

1. First, the categories of affordable housing obligations previously calculated are consolidated (Section 9.1);
2. Next, the municipal allocation caps are applied to adjust those consolidated obligations as warranted (Section 9.2);

3. Then, need assigned from the Prior Rounds (1987-1999) are added as an additional category of Round 3 obligations (Section 9.3); and
4. Finally, initial summary obligations are presented (Section 9.4).

9.1 CONSOLIDATED CATEGORIES OF AFFORDABLE HOUSING OBLIGATION

COAH's Round 2 methodology consolidated the categories of affordable housing obligation calculated in that round (Indigenous Present Need, Re-Allocated Present Need, Prospective Need, and Prior-Cycle Prospective Need) prior to the application of secondary sources and allocation caps.¹⁷⁰ This methodology follows the Round 2 approach with respect to the secondary sources (as described in Section 8.4) and also does so with respect to the allocation caps. This approach means that Prospective Need, Present Need and Gap Present Need all serve as components of an integrated municipal fair share calculation. Due to this interrelation, no single component can be calculated in isolation, because secondary source and allocation cap adjustments produce mathematically distinct results when applied in an integrated fashion.¹⁷¹

As described in Section 2.3:

- *Prospective Need* projects future housing need over the period from July 1, 2015 to June 30, 2025.
- *Present Need* quantifies deficient housing units occupied by LMI households as of July 1, 2015.
- *Gap Present Need* quantifies households formed during the gap period that still “need affordable housing today” (as of July 1, 2015).
- *Prior Round (1987-1999)* reports the obligation by municipality for the 1987-1999 period as calculated by COAH in Round 2.

Mount Laurel IV states that the “unfulfilled” portion of the Prior Round (1987-1999) obligations (rather than the full obligation) is carried over to be included in Round 3 obligations. Were it possible to reliably calculate this unmet obligation for each municipality, this category could be included as a fourth integrative component of the fair share, and consolidated with the other three components prior to adjustments for secondary sources and allocation caps. However, as

¹⁷⁰ See for example the “Flow Diagram for the Calculation of Low- and Moderate-Income Housing Need” presented in the Round 2 Appendix (26 N.J. Reg. 2317).

¹⁷¹ Section 9.2 contains further discussion and examples of these mathematically distinct results with respect to the allocation caps.

discussed in Section 8.4, reliable information does not exist on a statewide basis as to the degree of adjustments, activity and credits for each municipality.

Given imperfect information on the degree to which Prior Round obligations have been satisfied, it is necessary to adopt a procedure for the assignment of total municipal obligations that is “adaptive” to the receipt of further information on municipal activities. In other words, the obligation of any given municipality must be severable from those of other municipalities, allowing its obligation to be updated to incorporate the best available information on the level of adjustments, activity and credits demonstrated to the Court within the compliance process. If the Prior Round (1987-1999) need were to function as an integrated component of the need, adjustments to that need through the compliance process would alter subsequent secondary source and allocation cap results. Therefore, this procedure sets aside this category of obligations from the adjustment process, which proceeds as follows:

1. Calculate and allocate the Prospective Need, Present Need and Gap Present Need for each municipality through the procedures described in Sections 4-7 of this report.
2. Adjust the Prospective Need, Present Need and Gap Present Need for secondary sources of affordable housing supply, as described in Section 8 of this report.
3. Apply the municipal allocation caps included in the Round 2 methodology and Fair Housing Act to those adjusted Prospective Need, Present Need and Gap Present Need obligations, yielding a capped need for each municipality in each category.¹⁷²
4. Sum the Initial Prior Round Obligations (as assigned by COAH in Round 2) with capped Prospective Need, Present Need and Gap Present Need to yield the Initial Summary Obligation for each municipality.

The result yielded by this process is referred to as “Initial Summary Obligations.” This is reflective of the fact that the entirety of assigned Prior Round obligations is included, and no estimate or determination of adjustments, activity and credits for each municipality is made. Given the lack of reliable and uniform statewide data, this component is best determined on a case-by-case basis within the municipal compliance process. Within that process, municipalities would have the opportunity to demonstrate adjustments, activity and credits which would reduce their initial summary obligation.¹⁷³

¹⁷² Note that this figure will match the Prospective Need, Present Need and Gap Present Need described above for any municipality for which caps are not applicable.

¹⁷³ The Round 2 methodology describes its adjustments for “Prior Cycle Activities” and “Prior Cycle Credits” as follows: “The reduction for prior-cycle activities is subtracted from Pre-Credited Need; it cannot reduce Pre-Credited Need below zero. Any unexpended reduction is carried over to the next cycle....Prior-Cycle credits cannot reduce an obligation below zero. Unexpended credits are carried over to the next affordable housing calculation” (26 N.J. Reg. 2350). Prior-Cycle credits include “low- and moderate-income housing of adequate standard constructed subsequent to April 1, 1980.” (Ibid).

9.2 MUNICIPAL ALLOCATION CAPS

The Round 2 methodology and the Fair Housing Act require that allocation caps be applied to municipal affordable housing obligations. These caps serve different purposes articulated by the Legislature in the FHA:

1. The 20% cap applies to “new construction” need and was included in both the Round 1 and Round 2 methodologies to implement the Legislature’s desire to avoid fair share obligations resulting in “the established pattern of development in a community (being) drastically altered.”¹⁷⁴
2. The 1,000 unit cap, by contrast, applies to a municipality’s “fair share of housing units” (*i.e.* both Present and Prospective Need). This cap was enshrined legislatively to Section 307 e of the FHA in 1993 after it was invalidated as part of the Round 1 rules by the Appellate Court in 1990.¹⁷⁵ This cap reflects the Legislature’s recognition that it is impractical to assign affordable housing obligations beyond what could reasonably be achieved given market considerations. The Legislature gauged whether a municipality could create a “realistic opportunity” for more than 1,000 LMI units based on the volume of residential certificates of occupancy issued in the municipality over the previous ten years.¹⁷⁶

Caps must be applied to the relevant categories of obligation in a consolidated fashion, or they will fail to achieve their intended purpose of limiting the level of fair share obligation that any municipality is assigned.

9.2.1 20% CAP

The Round 2 methodology limits the new construction obligation for any municipality to 20 percent of its current occupied housing stock. The rationale for this cap is described as follows in the Round 2 methodology:

¹⁷⁴ N.J.S.A. 52:27D-307 c.2(b)

¹⁷⁵ 244 N.J.Super. 438, 453

¹⁷⁶ N.J.S.A 52:27D-307 e

The derivation of this limit reflects a desire by COAH not to overwhelm local communities....such that the community would experience 'drastic alteration' from these activities. 'Drastic alteration' has been defined as the doubling of a community's housing stock due to the presence of both inclusionary affordable housing and simultaneously delivered market units at a rate of 1:4.¹⁷⁷

[26 NJ. Reg. 2350]

Within COAH's Round 2 methodology, the 20% cap was not applied to individual categories of need in isolation, but instead to the aggregate new construction need for each municipality (after prior adjustments). This step is described as follows:

Community capacity is compared to municipal need for new construction and the difference, if community capacity is less than the municipal need for new construction, is the 20 percent cap

[*Ibid*]

Gap Present Need, unlike traditional Present Need (but like re-allocated Present Need from Round 2), is understood to constitute a new construction obligation, since it quantifies housing need that is related to households rather than to the inadequacy of particular housing units. Therefore, the Gap Present Need is combined with the Prospective Need (after adjustments to both for secondary sources) for the purpose of evaluating the application of the 20% cap.

We apply this consolidated methodology after developing an estimate of occupied units as of June 30, 2015 (the start of the Prospective Need period). This estimate starts with occupied units by municipality as reported in the 2011-2015 ACS. To this base, it adds certificates of occupancy and subtracts demolitions (as reported by DCA, by municipality) for a two-year period to update the estimate of occupied units to June 30, 2015.¹⁷⁸

This 2015 estimate of occupied units is then multiplied by 20%, and the result is compared to the sum of Prospective Need and Gap Present Need (adjusted for secondary sources as described in Section 8) for each municipality. Municipalities with a combined Prospective Need and Gap Present Need in excess of twenty percent of their occupied units as of 2015 have first their Prospective Need and then their Gap Present Need reduced until the sum of the two categories is equal to twenty percent of occupied units.

¹⁷⁷ It is worth noting that the referenced standard of four market rate units per one inclusionary unit is an assumption, rather than drawn from a specific data source. Data indicating a different ratio in practice would imply a different cap (for example a 5:1 ratio would imply a cap of (1/6), or 16.67%. Absent a defined data source with which to update and validate this assumption, the cap level is retained at 20% in this procedure.

¹⁷⁸ As described in Section 5, the midpoint of 2011-2015 data is July 1, 2013, meaning that its results are best interpreted as representing occupied units "as of" 2013. Accordingly, 50% of annual CO's and demolitions for 2013 are applied, as well as all COs and demolitions from 2014 and from January-June 2015.

The separate application of the 20% cap for each category of need, and the subsequent aggregation of those results, would enable a result in which a municipality is assigned more than 20% of its current occupied housing stock in new construction obligation, violating the clear intent and premise of the cap. This incorrect result would occur in every instance in which the 20% cap reduces a category of new construction obligation (either Gap Present Need or Prospective Need), and the obligation in the other new construction is non-zero.¹⁷⁹ In addition, this incorrect result will also occur in instances in which neither the Gap Present Need nor the Prospective Need in isolation triggers the 20% cap for a municipality, but the combined new construction need from these two components is greater than allowable under the 20% cap.¹⁸⁰

Table 9.1 shows the impact of the integrated application of the 20% cap on municipal new construction obligations by region and statewide. In total, 22 municipalities are impacted by this cap, reducing their aggregate obligation by 2,900 units. Full results by municipality are shown in Appendix D.

TABLE 9.1: IMPACT OF 20% CAP BY REGION AND STATEWIDE

Region	Adjusted Gap Present Need	Adjusted Prospective Need	Munis applying 20% Cap	Capped Units (20% Cap)	Revised Gap Present Need	Revised Prospective Need
1	10,634	24,079	13	(2,286)	10,279	22,148
2	5,680	7,594	1	(386)	5,680	7,208
3	7,140	12,689	2	(57)	7,140	12,632
4	6,382	9,416	3	(55)	6,379	9,364
5	3,523	5,973	3	(116)	3,510	5,870
6	414	631	0	0	414	631
State	33,773	60,382	22	(2,900)	33,402	57,853

¹⁷⁹ To use a hypothetical example for illustrative purposes, if a municipality has 100 occupied units, the 20% cap limits its total new construction obligations to 20 units. If it has an initially calculated Gap Present Need of 25 units and an initially calculated Prospective Need of 10 units, applying the cap to the Gap Present Need in isolation will reduce that need to 20 units. However, adding the 20 Gap Present Need units with the 10 units of Prospective Need will produce an aggregate new construction obligation of 30 units, above the level authorized by the 20% cap.

¹⁸⁰ Continuing the same hypothetical examples, if a municipality with 100 occupied units has a Gap Present Need of 15 units and Prospective Need of 10 units, neither need in isolation is greater than the allowable limit of 20. However, adding the two categories together will yield a new construction obligation of 25 units, above the level authorized by the 20% cap.

9.2.2 1,000 UNIT CAP

Next, the 1,000 unit cap is applied to the sum of Prospective Need, Present Need, and Gap Present Need. The legislative basis for the 1,000 unit cap is a 1993 amendment to the FHA, which states:

No municipality shall be required to address a **fair share of housing units** affordable to households with a gross household income of less than 80% of the median gross household income beyond 1,000 units within ten years.

[N.J.S.A. 52:27D-307 e. (bold added)]

The phrase “fair share” also appears earlier in Section 307 of the FHA, where COAH is given the duty to “adopt criteria and guidelines for: Municipal determination of its present and prospective fair share of the housing need in a given region...”¹⁸¹ This definition was incorporated by COAH into amendments to its Round 2 methodology,¹⁸² which applied the 1,000 unit cap against the sum of all housing obligations.¹⁸³ Accordingly, it is applied not just to “new construction” obligation categories (which are now defined as Prospective Need and Gap Present Need) but also to the traditional Present Need, which constitutes a part of “fair share” obligations.

The language setting forth the 1,000 unit cap in the FHA also specifies that the 1,000 unit cap does not apply to municipalities that have issued more than 5,000 certificates of occupancy in the preceding ten-year period, since this activity demonstrates that “it is likely” that the municipality could “create a realistic opportunity” for more than 1,000 LMI units within the ten-year period.¹⁸⁴ Pursuant to this standard, data on certificates of occupancy (as reported by DCA, by municipality) are aggregated from 2005 to 2014 to determine if any municipalities have exceeded 5,000 certificates of occupancy over the previous ten years, and are thus not eligible for application of

¹⁸¹ N.J.S.A. 52:27D-307 c.1

¹⁸² See: N.J.A.C. 5:93-14.1, which begins “No municipality shall be required to address a fair share beyond 1,000 units...”

¹⁸³ COAH’s Round 3 methodology deviated from this approach, applying the 1,000 unit cap against only Prospective Need obligations. This provision was challenged by Egg Harbor Township as part of the Appellate Court decision rejecting the “Growth Share” approach in 2010. The Appellate Court did not rule on the issue because it invalidated the regulations pursuant to which COAH defined the Round 3 obligation of the Township (this action eliminated the Round 3 obligation proposed by COAH, therefore reducing the Township’s obligation below 1,000 units and rendering the applicability of the 1,000 unit cap moot in the Court’s opinion). (416 N.J. Super. 462).

¹⁸⁴ The full relevant passage from the FHA is as follows: “Unless it is demonstrated...that it is likely that the municipality through its zoning powers could create a realistic opportunity for more than 1,000 low and moderate income units within that ten-year period. For the purposes of this section, the facts and circumstances which shall determine whether a municipality’s fair share shall exceed 1,000 units, as provided above, shall be a finding that the municipality has issued more than 5,000 certificates of occupancy for a residential period in the ten-year period preceding...” (N.J.S.A 52:27D-307(e)).

the 1,000 unit cap. Both Newark and Jersey City have issued more than 5,000 CO's and are therefore not eligible for this cap.¹⁸⁵

For the remainder of municipalities, Present Need, Gap Present Need and Prospective Need obligations are summed. This cap is applied after the 20 percent cap, meaning that the Prospective Need and Gap Present Need against which this cap is evaluated may have already been adjusted in this prior step. Municipalities with combined obligations of greater than 1,000 have first their Prospective Need, then their Gap Present Need, then finally their Present Need reduced until their total obligation from these categories sums to 1,000 units. Those municipalities with less than 1,000 units of combined obligations from these categories have no adjustments.

For those municipalities with more than 1,000 units of combined need, Prospective Need is reduced until the sum of Prospective Need and Present Need reaches 1,000 units. In cases where Present Need is greater than 1,000, this step reduces Prospective Need to zero. In those cases, Present Need is then reduced to 1,000 to yield a sum of Prospective and Present Need of 1,000 units.

Table 9.2 shows the impact of the application of the 1,000 unit cap on the sum of municipal Present and Prospective Need obligations by region and statewide. In total, 20 municipalities are impacted by this cap, reducing their aggregate obligation by approximately 16,900 units. Full results by municipality are shown in Appendix D.

TABLE 9.2: IMPACT OF 1,000 UNIT CAP BY REGION AND STATEWIDE

Region	Adjusted Present Need	Revised Gap Present Need	Revised Prospective Need	Munis applying 1,000 Unit Cap	Capped Units (1,000 Cap)	Capped Present Need	Capped Gap Present Need	Capped Prospective Need
1	20,394	10,279	22,148	9	(7,875)	16,198	10,279	18,469
2	8,200	5,680	7,208	1	(2,466)	6,027	5,680	6,915
3	5,906	7,140	12,632	6	(3,956)	5,616	7,065	9,041
4	4,570	6,379	9,364	3	(2,539)	4,570	6,302	6,902
5	3,052	3,510	5,870	1	(62)	3,052	3,510	5,808
6	1,148	414	631	0	0	1,148	414	631
State	43,270	33,402	57,853	20	(16,898)	36,611	33,250	47,766

¹⁸⁵ While the sum of Newark's Present Need, Gap Present Need and Prospective Need is zero after adjustments for secondary sources, the sum of Jersey City's Present Need, Gap Present Need and Prospective Need after adjustments for secondary sources is 6,612 units, which remains uncapped due to this provision. It is unclear if a higher cap may apply to Jersey City based on its level of growth over 10 years (in which it issued 5,523 Certificates of Occupancy), rather than no cap at all. For example, the 5,000 certificate of occupancy threshold is the basis for a determination that more than 1,000 units are "realistic," the same ratio of 5:1 would imply a cap of 1,105 (5,523 / 5).

We note that the application of the 1,000 unit cap is the subject of ongoing litigation in various municipalities. The application undertaken in this analysis is in keeping with the statutory language and COAH's prior practice, given the information available at this time. The appendices to this report supply sufficient information for the courts to accurately apply this cap to any specific municipality in a manner consistent with their legal determination.

9.3 PRIOR ROUND (1987-1999) OBLIGATIONS

The Supreme Court was explicit in Mount Laurel IV that its decision “does not eradicate...prior unfulfilled housing obligations” covering the Round 1 and Round 2 period from 1987-1999:

...our decision today does not eradicate the prior round obligations; municipalities are expected to fulfill those obligations. As such, prior unfulfilled housing obligations should be the starting point for a determination of a municipality's fair share responsibility. Cf. In re Adoption of N.J.A.C. 5:96 & 5:97, supra, 416 N.J. Super. at 498-500 (approving, as starting point, imposition of “the same prior round obligations [COAH] had established as the second round obligations in 1993”).

[Mount Laurel IV at 30 (underscore in original)]

This passage specifically references the approval of the Appellate Court in 2010 of “the same Prior Round obligations [COAH] had established in 1993”.¹⁸⁶ In that case, appellants disputed COAH's decision to maintain Prior Round housing obligations as calculated in 1993, rather than re-calculating those obligations retrospectively based on updated data, as had been done in other iterations of the methodology. The Court found as follows with respect to that issue:

COAH's rationale of providing municipalities with **predictability** and the ability to rely upon COAH's substantive certification of their prior round compliance plans constitutes a reasonable basis...

[416 N.J. Super. at 500 (emphasis added)]

The Court therefore has approved the maintenance of the Prior Round (1987-1999) obligations as calculated in 1993. While some previous iterations of the methodology have re-calculated prior cycle obligations retrospectively based on observed data on population and housing activity, such a calculation would provide no new information as to the current need for affordable housing as of 2015 or the future need for affordable housing from 2015-2025. Rather, these remaining obligations are relevant only as a representation of the degree to which municipalities have complied with the dictates legally assigned by COAH and the Courts. In other words, as of 2015 these figures represent affordable housing *obligation* rather than identifiable affordable housing *need*. As suggested by the Courts, the originally assigned Round 1 and Round 2 obligations

¹⁸⁶ 416 N.J. Super. 462

provide the municipalities with a defined and predictable target that is the appropriate standard for this purpose.

The most accurate data source for these obligations is kept by the New Jersey Department of Community Affairs and was provided to ESI for consideration in this analysis. This data set is understood to represent the most accurate current understanding of municipal Round 1 and Round 2 obligations as originally assigned in 1993. Aggregate Round 1 and Round 2 obligations sum to 85,853 statewide, differing slightly from the total of 85,964 that had been utilized by COAH in 2008.¹⁸⁷

Due to the lack of available data, this report makes no attempt to quantify the extent to which those obligations have already been fulfilled by the municipalities (as discussed in Section 8.4 and Section 9.2). Instead, municipalities would receive appropriate recognition for prior adjustments, activities and credits in their efforts to secure approvals of their affordable housing plans. This approach therefore successfully rewards municipal activity and thereby encourages compliance. However, it does not fully align the aggregate housing obligations with the aggregate identified need. Further, it means that this category of need is excluded from the consolidated adjustments for secondary sources of affordable housing and municipal allocation caps (as described in Sections 8.4 and 9.2, respectively), since the “unfulfilled portion” that would be integrated into those calculations is unknown.

Table 9.3 shows the initial Prior Round Obligation (1987-1999) by region and statewide. The statewide obligation totals 85,853 units.

TABLE 9.3: PRIOR ROUND (1987-1999) OBLIGATIONS BY REGION AND STATEWIDE

Region	Prior Round (87-99) Initial Obligation (unadjusted)
1	12,469
2	9,382
3	13,323
4	27,367
5	14,055
6	9,257
State	85,853

¹⁸⁷ We understand from DCA that these differences are attributable both to rounding practices and to the failure to recognize urban aid status for two municipalities (Wildwood City in Cape May and Penns Grove in Salem) in previously reported data. In addition, there is one municipality (Harvey Cedars in Ocean County) with a seven unit difference in reported results for which DCA cannot identify the source of the discrepancy.

9.4 INITIAL SUMMARY OBLIGATIONS

Finally, the Present Need, Gap Present Need and Prospective Need as adjusted in Section 9.2 are combined with the Prior Round Obligations (1987-1999) reported in Section 9.3 to produce the Initial Summary Obligation for each municipality. The results of this calculation are shown at the region and statewide level in Table 9.4 below. Full results by municipality are shown in Appendix E.

TABLE 9.4: INITIAL SUMMARY OBLIGATIONS BY REGION AND STATEWIDE

Region	Prior Round (87-99) Initial Obligation	Present Need	Gap Present Need	Prospective Need
1	12,469	16,198	10,279	18,469
2	9,382	6,027	5,680	6,915
3	13,323	5,616	7,065	9,041
4	27,367	4,570	6,302	6,902
5	14,055	3,052	3,510	5,808
6	9,257	1,148	414	631
State	85,853	36,611	33,250	47,766

The Initial Summary Obligation includes no estimate or determination of the level of adjustments, activity or credits applicable to each municipality. Each municipality would then have the opportunity to demonstrate this component to the Courts, thereby reducing their Initial Summary Obligation, on a case-by-case basis in their efforts to secure approvals of their affordable housing plans. This approach builds in verification and incorporation of the most up to date and reliable information on municipal activities on a case-by-case basis.

APPENDIX A: TRADITIONAL PRESENT NEED BY MUNICIPALITY

Municipality	County	Reg	Inadequate Plumbing	Pre-1963 & Crowded (w/ adequate plumbing)	Inadequate Kitchen (only)	Unique Deficient Units (2011-2015)	Est. LMI Proportion	Unique Deficient LMI Units (2011-2015)	Unique Deficient LMI Units (2000)	Annualized Net Change	Present Need (2015)
Allendale borough	Bergen	1	0	6	33	39	60.6%	24	3	1.6	27
Alpine borough	Bergen	1	0	0	0	0	60.6%	0	1	(0.1)	0
Bergenfield borough	Bergen	1	0	195	0	195	60.6%	118	136	(1.4)	115
Bogota borough	Bergen	1	12	77	10	99	60.6%	60	57	0.2	60
Carlstadt borough	Bergen	1	0	53	13	66	60.6%	40	16	1.8	44
Cliffside Park borough	Bergen	1	0	232	48	280	60.6%	170	183	(1.0)	168
Closter borough	Bergen	1	0	0	0	0	60.6%	0	18	(1.4)	0
Cresskill borough	Bergen	1	12	24	41	77	60.6%	47	20	2.1	51
Demarest borough	Bergen	1	0	1	0	1	60.6%	1	4	(0.2)	1
Dumont borough	Bergen	1	0	102	15	117	60.6%	71	24	3.6	78
East Rutherford borough	Bergen	1	39	29	43	111	60.6%	67	85	(1.4)	64
Edgewater borough	Bergen	1	25	27	29	81	60.6%	49	34	1.2	51
Elmwood Park borough	Bergen	1	36	78	0	114	60.6%	69	112	(3.3)	62
Emerson borough	Bergen	1	0	0	0	0	60.6%	0	0	0.0	0
Englewood city	Bergen	1	52	291	67	410	60.6%	248	223	1.9	252
Englewood Cliffs borough	Bergen	1	0	1	0	1	60.6%	1	5	(0.3)	0
Fair Lawn borough	Bergen	1	0	88	12	100	60.6%	61	43	1.4	64
Fairview borough	Bergen	1	30	136	24	190	60.6%	115	320	(15.8)	83
Fort Lee borough	Bergen	1	16	235	62	313	60.6%	190	151	3.0	196
Franklin Lakes borough	Bergen	1	0	2	0	2	60.6%	1	3	(0.2)	1
Garfield city	Bergen	1	9	288	71	368	60.6%	223	252	(2.2)	219
Glen Rock borough	Bergen	1	0	13	5	18	60.6%	11	8	0.2	11
Hackensack city	Bergen	1	94	382	123	599	60.6%	363	404	(3.2)	357
Harrington Park borough	Bergen	1	0	9	0	9	60.6%	5	3	0.2	5
Hasbrouck Heights borough	Bergen	1	0	113	0	113	60.6%	68	39	2.2	72
Haworth borough	Bergen	1	0	0	0	0	60.6%	0	4	(0.3)	0
Hillsdale borough	Bergen	1	13	0	10	23	60.6%	14	10	0.3	15
Ho-Ho-Kus borough	Bergen	1	0	24	0	24	60.6%	15	0	1.2	17
Leonia borough	Bergen	1	0	87	0	87	60.6%	53	63	(0.8)	51



Municipality	County	Reg	Inadequate Plumbing	Pre-1963 & Crowded (w/ adequate plumbing)	Inadequate Kitchen (only)	Unique Deficient Units (2011-2015)	Est. LMI Proportion	Unique Deficient LMI Units (2011-2015)	Unique Deficient LMI Units (2000)	Annualized Net Change	Present Need (2015)
Little Ferry borough	Bergen	1	21	85	17	123	60.6%	75	65	0.8	77
Lodi borough	Bergen	1	52	157	81	290	60.6%	176	162	1.1	178
Lyndhurst township	Bergen	1	43	139	71	253	60.6%	153	39	8.8	171
Mahwah township	Bergen	1	13	24	1	38	60.6%	23	30	(0.5)	22
Maywood borough	Bergen	1	0	62	13	75	60.6%	45	21	1.8	49
Midland Park borough	Bergen	1	0	0	15	15	60.6%	9	12	(0.2)	9
Montvale borough	Bergen	1	0	17	0	17	60.6%	10	9	0.1	10
Moonachie borough	Bergen	1	12	19	10	41	60.6%	25	6	1.5	28
New Milford borough	Bergen	1	0	87	3	90	60.6%	55	58	(0.2)	55
North Arlington borough	Bergen	1	26	59	45	130	60.6%	79	39	3.1	85
Northvale borough	Bergen	1	0	15	0	15	60.6%	9	11	(0.2)	9
Norwood borough	Bergen	1	0	7	5	12	60.6%	7	16	(0.7)	6
Oakland borough	Bergen	1	0	0	25	25	60.6%	15	13	0.2	15
Old Tappan borough	Bergen	1	0	4	7	11	60.6%	7	10	(0.2)	7
Oradell borough	Bergen	1	0	28	0	28	60.6%	17	3	1.1	19
Palisades Park borough	Bergen	1	0	132	41	173	60.6%	105	178	(5.6)	94
Paramus borough	Bergen	1	19	33	178	230	60.6%	139	40	7.6	154
Park Ridge borough	Bergen	1	26	60	48	134	60.6%	81	28	4.1	89
Ramsey borough	Bergen	1	44	16	6	66	60.6%	40	13	2.1	44
Ridgefield borough	Bergen	1	37	116	13	166	60.6%	101	57	3.4	108
Ridgefield Park village	Bergen	1	0	112	0	112	60.6%	68	105	(2.8)	62
Ridgewood village	Bergen	1	21	67	62	150	60.6%	91	59	2.5	96
River Edge borough	Bergen	1	0	45	0	45	60.6%	27	27	0.0	27
River Vale township	Bergen	1	9	3	55	67	60.6%	41	0	3.2	47
Rochelle Park township	Bergen	1	0	2	0	2	60.6%	1	23	(1.7)	0
Rockleigh borough	Bergen	1	0	0	0	0	60.6%	0	2	(0.2)	0
Rutherford borough	Bergen	1	0	175	0	175	60.6%	106	69	2.8	112
Saddle Brook township	Bergen	1	0	22	23	45	60.6%	27	33	(0.5)	26
Saddle River borough	Bergen	1	0	10	50	60	60.6%	36	10	2.0	40
South Hackensack township	Bergen	1	23	14	18	55	60.6%	33	17	1.2	35
Teaneck township	Bergen	1	16	189	52	257	60.6%	156	217	(4.7)	147

Municipality	County	Reg	Inadequate Plumbing	Pre-1963 & Crowded (w/ adequate plumbing)	Inadequate Kitchen (only)	Unique Deficient Units (2011-2015)	Est. LMI Proportion	Unique Deficient LMI Units (2011-2015)	Unique Deficient LMI Units (2000)	Annualized Net Change	Present Need (2015)
Tenaflly borough	Bergen	1	0	37	0	37	60.6%	22	46	(1.8)	18
Teterboro borough	Bergen	1	0	0	0	0	60.6%	0	0	0.0	0
Upper Saddle River borough	Bergen	1	0	19	10	29	60.6%	18	0	1.4	21
Waldwick borough	Bergen	1	39	10	31	80	60.6%	48	16	2.5	53
Wallington borough	Bergen	1	16	89	28	133	60.6%	81	70	0.8	83
Washington township	Bergen	1	0	12	0	12	60.6%	7	0	0.5	8
Westwood borough	Bergen	1	10	31	28	69	60.6%	42	32	0.8	44
Woodcliff Lake borough	Bergen	1	0	13	44	57	60.6%	35	0	2.7	40
Wood-Ridge borough	Bergen	1	0	13	0	13	60.6%	8	41	(2.5)	3
Wyckoff township	Bergen	1	0	4	51	55	60.6%	33	24	0.7	34
Bayonne city	Hudson	1	46	689	305	1,040	65.8%	684	477	15.9	716
East Newark borough	Hudson	1	15	34	8	57	65.8%	37	34	0.2	37
Guttenberg town	Hudson	1	0	93	6	99	65.8%	65	83	(1.4)	62
Harrison town	Hudson	1	43	164	44	251	65.8%	165	217	(4.0)	157
Hoboken city	Hudson	1	81	296	110	487	65.8%	320	359	(3.0)	314
Jersey City	Hudson	1	854	4,230	1,156	6,240	65.8%	4,103	4,418	(24.2)	4,055
Kearny town	Hudson	1	22	355	52	429	65.8%	282	384	(7.8)	266
North Bergen township	Hudson	1	193	856	227	1,276	65.8%	839	868	(2.2)	835
Secaucus town	Hudson	1	0	104	11	115	65.8%	76	65	0.8	78
Union City	Hudson	1	214	1,993	219	2,426	65.8%	1,595	2,270	(51.9)	1,491
Weehawken township	Hudson	1	0	259	48	307	65.8%	202	216	(1.1)	200
West New York town	Hudson	1	38	1,101	123	1,262	65.8%	830	1,425	(45.8)	738
Bloomingtondale borough	Passaic	1	0	23	0	23	73.2%	17	16	0.1	17
Clifton city	Passaic	1	105	1,364	99	1,568	73.2%	1,147	670	36.7	1,220
Haledon borough	Passaic	1	32	85	0	117	73.2%	86	72	1.1	88
Hawthorne borough	Passaic	1	0	138	23	161	73.2%	118	32	6.6	131
Little Falls township	Passaic	1	0	94	0	94	73.2%	69	16	4.1	77
North Haledon borough	Passaic	1	0	0	0	0	73.2%	0	0	0.0	0
Passaic city	Passaic	1	182	3,564	203	3,949	73.2%	2,889	2,119	59.2	3,007
Paterson city	Passaic	1	162	3,806	209	4,177	73.2%	3,056	3,039	1.3	3,059
Pompton Lakes borough	Passaic	1	0	60	0	60	73.2%	44	30	1.1	46

Municipality	County	Reg	Inadequate Plumbing	Pre-1963 & Crowded (w/ adequate plumbing)	Inadequate Kitchen (only)	Unique Deficient Units (2011-2015)	Est. LMI Proportion	Unique Deficient LMI Units (2011-2015)	Unique Deficient LMI Units (2000)	Annualized Net Change	Present Need (2015)
Prospect Park borough	Passaic	1	0	128	0	128	73.2%	94	62	2.5	99
Ringwood borough	Passaic	1	1	8	9	18	73.2%	13	29	(1.2)	11
Totowa borough	Passaic	1	19	80	13	112	73.2%	82	31	3.9	90
Wanaque borough	Passaic	1	39	0	0	39	73.2%	29	28	0.1	29
Wayne township	Passaic	1	71	103	95	269	73.2%	197	76	9.3	216
West Milford township	Passaic	1	8	30	70	108	73.2%	79	59	1.5	82
Woodland Park borough	Passaic	1	11	92	7	110	73.2%	80	18	4.8	90
Andover borough	Sussex	1	0	0	0	0	57.5%	0	0	0.0	0
Andover township	Sussex	1	9	2	15	26	57.5%	15	0	1.2	17
Branchville borough	Sussex	1	0	0	1	1	57.5%	1	0	0.1	1
Byram township	Sussex	1	4	14	11	29	57.5%	17	12	0.4	18
Frankford township	Sussex	1	27	2	9	38	57.5%	22	4	1.4	25
Franklin borough	Sussex	1	20	5	0	25	57.5%	14	13	0.1	14
Fredon township	Sussex	1	10	0	7	17	57.5%	10	0	0.8	12
Green township	Sussex	1	0	0	0	0	57.5%	0	3	(0.2)	0
Hamburg borough	Sussex	1	0	17	0	17	57.5%	10	4	0.5	11
Hampton township	Sussex	1	28	0	23	51	57.5%	29	0	2.2	33
Hardyston township	Sussex	1	11	1	23	35	57.5%	20	4	1.2	22
Hopatcong borough	Sussex	1	0	28	8	36	57.5%	21	14	0.5	22
Lafayette township	Sussex	1	0	0	0	0	57.5%	0	2	(0.2)	0
Montague township	Sussex	1	0	1	0	1	57.5%	1	7	(0.5)	0
Newton town	Sussex	1	0	32	43	75	57.5%	43	21	1.7	46
Ogdensburg borough	Sussex	1	0	1	0	1	57.5%	1	4	(0.2)	1
Sandyston township	Sussex	1	0	1	6	7	57.5%	4	2	0.2	4
Sparta township	Sussex	1	27	3	20	50	57.5%	29	8	1.6	32
Stanhope borough	Sussex	1	0	9	0	9	57.5%	5	2	0.2	5
Stillwater township	Sussex	1	0	16	0	16	57.5%	9	9	0.0	9
Sussex borough	Sussex	1	17	0	12	29	57.5%	17	21	(0.3)	16
Vernon township	Sussex	1	0	67	0	67	57.5%	38	14	1.8	42
Walpack township	Sussex	1	0	0	0	0	57.5%	0	0	0.0	0
Wantage township	Sussex	1	0	5	5	10	57.5%	6	0	0.5	7

APPENDIX B: MUNICIPAL ALLOCATION OF REGIONAL NEED

Municipality	County	Reg	Regional Gap Present Need	Regional Prospective Need	Employment Level Share	Employment Change Share	Income Difference Share	Developable Land Share	Averaged Share of Regional Need	Allocated Gap Present Need	Allocated Prospective Need
Allendale borough	Bergen	1	11,235	20,772	0.66%	0.00%	1.09%	1.00%	0.69%	77	143
Alpine borough	Bergen	1	11,235	20,772	0.07%	0.29%	0.67%	1.86%	0.72%	81	151
Bergenfield borough	Bergen	1	11,235	20,772	0.00%	0.00%	0.00%	0.00%	0.00%	0	0
Bogota borough	Bergen	1	11,235	20,772	0.18%	0.00%	0.62%	0.13%	0.23%	26	49
Carlstadt borough	Bergen	1	11,235	20,772	2.37%	0.00%	0.56%	0.10%	0.76%	85	157
Cliffside Park borough	Bergen	1	11,235	20,772	0.45%	0.00%	1.17%	0.19%	0.45%	51	94
Closter borough	Bergen	1	11,235	20,772	0.52%	0.00%	1.02%	0.88%	0.61%	68	126
Cresskill borough	Bergen	1	11,235	20,772	0.47%	1.20%	1.03%	0.55%	0.81%	91	169
Demarest borough	Bergen	1	11,235	20,772	0.13%	0.00%	1.20%	0.56%	0.47%	53	98
Dumont borough	Bergen	1	11,235	20,772	0.38%	1.45%	1.11%	0.10%	0.76%	85	158
East Rutherford borough	Bergen	1	11,235	20,772	1.72%	0.00%	0.72%	0.84%	0.82%	92	170
Edgewater borough	Bergen	1	11,235	20,772	0.82%	3.24%	1.23%	0.96%	1.56%	176	325
Elmwood Park borough	Bergen	1	11,235	20,772	1.60%	4.08%	0.92%	0.58%	1.80%	202	373
Emerson borough	Bergen	1	11,235	20,772	0.43%	0.00%	0.76%	1.91%	0.77%	87	161
Englewood city	Bergen	1	11,235	20,772	2.76%	0.17%	1.58%	1.66%	1.54%	173	321
Englewood Cliffs borough	Bergen	1	11,235	20,772	1.61%	0.00%	1.03%	1.25%	0.98%	110	203
Fair Lawn borough	Bergen	1	11,235	20,772	2.24%	0.87%	1.76%	1.11%	1.49%	168	310
Fairview borough	Bergen	1	11,235	20,772	0.43%	0.00%	0.62%	0.29%	0.34%	38	70
Fort Lee borough	Bergen	1	11,235	20,772	2.35%	0.00%	1.89%	0.47%	1.18%	132	244
Franklin Lakes borough	Bergen	1	11,235	20,772	1.27%	0.00%	1.65%	5.84%	2.19%	246	455
Garfield city	Bergen	1	11,235	20,772	0.00%	0.00%	0.00%	0.00%	0.00%	0	0
Glen Rock borough	Bergen	1	11,235	20,772	0.60%	0.00%	1.51%	0.48%	0.65%	73	134
Hackensack city	Bergen	1	11,235	20,772	0.00%	0.00%	0.00%	0.00%	0.00%	0	0
Harrington Park borough	Bergen	1	11,235	20,772	0.19%	0.36%	0.88%	1.43%	0.72%	80	149
Hasbrouck Heights borough	Bergen	1	11,235	20,772	1.17%	6.67%	0.84%	0.31%	2.25%	252	466
Haworth borough	Bergen	1	11,235	20,772	0.13%	0.16%	1.00%	0.58%	0.47%	53	97
Hillsdale borough	Bergen	1	11,235	20,772	0.37%	0.00%	0.98%	1.87%	0.80%	90	167
Ho-Ho-Kus borough	Bergen	1	11,235	20,772	0.19%	0.00%	1.12%	0.81%	0.53%	59	110
Leonia borough	Bergen	1	11,235	20,772	0.42%	0.55%	0.81%	0.13%	0.48%	54	99



Municipality	County	Reg	Regional Gap Present Need	Regional Prospective Need	Employment Level Share	Employment Change Share	Income Difference Share	Developable Land Share	Averaged Share of Regional Need	Allocated Gap Present Need	Allocated Prospective Need
Little Ferry borough	Bergen	1	11,235	20,772	0.61%	0.00%	0.67%	0.54%	0.46%	51	95
Lodi borough	Bergen	1	11,235	20,772	0.00%	0.00%	0.00%	0.00%	0.00%	0	0
Lyndhurst township	Bergen	1	11,235	20,772	2.00%	0.00%	1.03%	1.51%	1.14%	128	236
Mahwah township	Bergen	1	11,235	20,772	3.00%	0.00%	1.76%	1.45%	1.55%	174	322
Maywood borough	Bergen	1	11,235	20,772	0.56%	0.00%	0.74%	0.52%	0.45%	51	94
Midland Park borough	Bergen	1	11,235	20,772	0.59%	0.00%	0.74%	0.17%	0.37%	42	77
Montvale borough	Bergen	1	11,235	20,772	2.03%	3.57%	0.96%	3.16%	2.43%	273	505
Moonachie borough	Bergen	1	11,235	20,772	1.40%	0.00%	0.35%	0.17%	0.48%	54	100
New Milford borough	Bergen	1	11,235	20,772	0.38%	1.28%	0.96%	0.15%	0.69%	78	144
North Arlington borough	Bergen	1	11,235	20,772	0.61%	0.81%	0.83%	0.57%	0.71%	79	147
Northvale borough	Bergen	1	11,235	20,772	0.64%	0.00%	0.60%	0.32%	0.39%	44	81
Norwood borough	Bergen	1	11,235	20,772	0.33%	0.00%	0.78%	0.77%	0.47%	53	97
Oakland borough	Bergen	1	11,235	20,772	1.00%	0.00%	1.09%	0.30%	0.60%	67	124
Old Tappan borough	Bergen	1	11,235	20,772	0.34%	2.03%	0.97%	1.31%	1.16%	131	241
Oradell borough	Bergen	1	11,235	20,772	0.56%	0.00%	1.18%	0.10%	0.46%	52	96
Palisades Park borough	Bergen	1	11,235	20,772	0.56%	0.00%	0.88%	0.29%	0.43%	49	90
Paramus borough	Bergen	1	11,235	20,772	7.76%	0.00%	1.55%	3.96%	3.32%	373	689
Park Ridge borough	Bergen	1	11,235	20,772	0.65%	0.00%	0.94%	0.54%	0.53%	60	111
Ramsey borough	Bergen	1	11,235	20,772	1.82%	0.00%	1.59%	1.71%	1.28%	144	266
Ridgefield borough	Bergen	1	11,235	20,772	0.87%	0.00%	0.67%	1.04%	0.64%	72	134
Ridgefield Park village	Bergen	1	11,235	20,772	0.80%	0.00%	0.71%	0.45%	0.49%	55	101
Ridgewood village	Bergen	1	11,235	20,772	2.11%	0.29%	2.49%	1.55%	1.61%	181	334
River Edge borough	Bergen	1	11,235	20,772	0.65%	1.13%	0.99%	0.15%	0.73%	82	152
River Vale township	Bergen	1	11,235	20,772	0.28%	0.00%	1.21%	1.14%	0.66%	74	137
Rochelle Park township	Bergen	1	11,235	20,772	0.82%	0.00%	0.54%	0.13%	0.37%	42	77
Rockleigh borough	Bergen	1	11,235	20,772	0.53%	5.62%	0.68%	0.28%	1.78%	200	369
Rutherford borough	Bergen	1	11,235	20,772	1.21%	3.72%	1.14%	0.15%	1.56%	175	323
Saddle Brook township	Bergen	1	11,235	20,772	1.68%	0.00%	0.89%	0.80%	0.84%	95	175
Saddle River borough	Bergen	1	11,235	20,772	0.17%	1.14%	0.87%	4.78%	1.74%	196	362
South Hackensack township	Bergen	1	11,235	20,772	0.92%	0.00%	0.39%	0.20%	0.38%	43	79
Teaneck township	Bergen	1	11,235	20,772	3.23%	16.36%	2.06%	0.51%	5.54%	623	1,151

Municipality	County	Reg	Regional Gap Present Need	Regional Prospective Need	Employment Level Share	Employment Change Share	Income Difference Share	Developable Land Share	Averaged Share of Regional Need	Allocated Gap Present Need	Allocated Prospective Need
Tenaflly borough	Bergen	1	11,235	20,772	0.70%	0.19%	1.75%	0.82%	0.87%	97	180
Teterboro borough	Bergen	1	11,235	20,772	1.27%	2.37%	0.00%	0.02%	0.91%	103	190
Upper Saddle River borough	Bergen	1	11,235	20,772	0.88%	3.16%	1.52%	1.13%	1.67%	188	347
Waldwick borough	Bergen	1	11,235	20,772	0.52%	0.59%	0.95%	0.69%	0.69%	77	143
Wallington borough	Bergen	1	11,235	20,772	0.35%	0.00%	0.60%	0.27%	0.31%	34	64
Washington township	Bergen	1	11,235	20,772	0.34%	4.28%	1.00%	1.03%	1.66%	187	345
Westwood borough	Bergen	1	11,235	20,772	0.74%	0.00%	0.87%	0.68%	0.57%	64	119
Woodcliff Lake borough	Bergen	1	11,235	20,772	1.00%	4.26%	1.12%	2.34%	2.18%	245	453
Wood-Ridge borough	Bergen	1	11,235	20,772	0.43%	0.00%	0.79%	0.08%	0.32%	36	67
Wyckoff township	Bergen	1	11,235	20,772	0.96%	0.53%	1.69%	2.91%	1.52%	171	316
Bayonne city	Hudson	1	11,235	20,772	0.00%	0.00%	0.00%	0.00%	0.00%	0	0
East Newark borough	Hudson	1	11,235	20,772	0.03%	0.00%	0.30%	0.10%	0.11%	12	22
Guttenberg town	Hudson	1	11,235	20,772	0.19%	0.00%	0.62%	0.21%	0.25%	29	53
Harrison town	Hudson	1	11,235	20,772	0.79%	2.73%	0.64%	0.22%	1.10%	123	228
Hoboken city	Hudson	1	11,235	20,772	0.00%	0.00%	0.00%	0.00%	0.00%	0	0
Jersey City	Hudson	1	11,235	20,772	0.00%	0.00%	0.00%	0.00%	0.00%	0	0
Kearny town	Hudson	1	11,235	20,772	2.38%	0.18%	1.30%	3.97%	1.96%	220	406
North Bergen township	Hudson	1	11,235	20,772	0.00%	0.00%	0.00%	0.00%	0.00%	0	0
Secaucus town	Hudson	1	11,235	20,772	6.71%	0.00%	1.14%	0.10%	1.98%	223	412
Union City	Hudson	1	11,235	20,772	0.00%	0.00%	0.00%	0.00%	0.00%	0	0
Weehawken township	Hudson	1	11,235	20,772	0.00%	0.00%	0.00%	0.00%	0.00%	0	0
West New York town	Hudson	1	11,235	20,772	0.00%	0.00%	0.00%	0.00%	0.00%	0	0
Bloomington borough	Passaic	1	11,235	20,772	0.21%	0.08%	0.63%	0.23%	0.29%	32	60
Clifton city	Passaic	1	11,235	20,772	0.00%	0.00%	0.00%	0.00%	0.00%	0	0
Haledon borough	Passaic	1	11,235	20,772	0.24%	0.00%	0.52%	0.69%	0.36%	41	76
Hawthorne borough	Passaic	1	11,235	20,772	1.12%	0.00%	1.07%	1.47%	0.91%	103	190
Little Falls township	Passaic	1	11,235	20,772	1.16%	0.38%	0.85%	2.53%	1.23%	138	256
North Haledon borough	Passaic	1	11,235	20,772	0.29%	0.57%	0.85%	2.59%	1.07%	121	223
Passaic city	Passaic	1	11,235	20,772	0.00%	0.00%	0.00%	0.00%	0.00%	0	0
Paterson city	Passaic	1	11,235	20,772	0.00%	0.00%	0.00%	0.00%	0.00%	0	0
Pompton Lakes borough	Passaic	1	11,235	20,772	0.37%	0.04%	0.79%	1.35%	0.64%	72	132

Municipality	County	Reg	Regional Gap Present Need	Regional Prospective Need	Employment Level Share	Employment Change Share	Income Difference Share	Developable Land Share	Averaged Share of Regional Need	Allocated Gap Present Need	Allocated Prospective Need
Prospect Park borough	Passaic	1	11,235	20,772	0.09%	0.12%	0.38%	0.83%	0.35%	40	73
Ringwood borough	Passaic	1	11,235	20,772	0.38%	0.00%	1.02%	0.00%	0.35%	39	72
Totowa borough	Passaic	1	11,235	20,772	2.21%	0.00%	0.77%	3.19%	1.54%	173	320
Wanaque borough	Passaic	1	11,235	20,772	0.37%	1.00%	0.84%	0.43%	0.66%	74	137
Wayne township	Passaic	1	11,235	20,772	6.57%	0.00%	2.84%	14.62%	6.01%	675	1,248
West Milford township	Passaic	1	11,235	20,772	0.71%	0.00%	1.47%	0.00%	0.55%	61	113
Woodland Park borough	Passaic	1	11,235	20,772	0.82%	1.12%	0.77%	2.80%	1.38%	155	286
Andover borough	Sussex	1	11,235	20,772	0.03%	0.09%	0.41%	0.00%	0.13%	15	27
Andover township	Sussex	1	11,235	20,772	0.53%	4.23%	0.74%	0.00%	1.38%	155	286
Branchville borough	Sussex	1	11,235	20,772	0.28%	4.22%	0.36%	0.00%	1.21%	136	252
Byram township	Sussex	1	11,235	20,772	0.27%	2.16%	0.85%	0.00%	0.82%	92	170
Frankford township	Sussex	1	11,235	20,772	0.24%	0.00%	0.65%	0.00%	0.22%	25	46
Franklin borough	Sussex	1	11,235	20,772	0.19%	0.00%	0.42%	0.00%	0.15%	17	31
Fredon township	Sussex	1	11,235	20,772	0.14%	1.90%	0.64%	0.00%	0.67%	75	139
Green township	Sussex	1	11,235	20,772	0.07%	0.00%	0.74%	0.00%	0.20%	23	42
Hamburg borough	Sussex	1	11,235	20,772	0.13%	0.00%	0.50%	0.00%	0.16%	18	33
Hampton township	Sussex	1	11,235	20,772	0.37%	0.00%	0.56%	0.00%	0.23%	26	48
Hardyston township	Sussex	1	11,235	20,772	0.45%	3.29%	0.80%	0.00%	1.13%	127	236
Hopatcong borough	Sussex	1	11,235	20,772	0.23%	1.10%	0.89%	0.00%	0.56%	62	116
Lafayette township	Sussex	1	11,235	20,772	0.22%	1.30%	0.57%	0.00%	0.52%	59	109
Montague township	Sussex	1	11,235	20,772	0.13%	1.20%	0.39%	0.00%	0.43%	48	89
Newton town	Sussex	1	11,235	20,772	0.73%	0.00%	0.46%	0.00%	0.30%	33	61
Ogdensburg borough	Sussex	1	11,235	20,772	0.03%	0.00%	0.47%	0.00%	0.13%	14	26
Sandyston township	Sussex	1	11,235	20,772	0.09%	0.58%	0.44%	0.00%	0.28%	31	58
Sparta township	Sussex	1	11,235	20,772	1.02%	0.00%	1.68%	0.00%	0.68%	76	140
Stanhope borough	Sussex	1	11,235	20,772	0.19%	0.00%	0.52%	0.10%	0.20%	23	42
Stillwater township	Sussex	1	11,235	20,772	0.11%	0.59%	0.52%	0.00%	0.31%	34	63
Sussex borough	Sussex	1	11,235	20,772	0.08%	0.00%	0.23%	0.00%	0.08%	9	16
Vernon township	Sussex	1	11,235	20,772	0.64%	2.71%	1.21%	0.00%	1.14%	128	237
Walpack township	Sussex	1	11,235	20,772	0.00%	0.03%	0.00%	0.00%	0.01%	1	2
Wantage township	Sussex	1	11,235	20,772	0.33%	0.00%	0.84%	0.00%	0.29%	33	61

APPENDIX C: SECONDARY SOURCE ADJUSTMENTS TO MUNICIPAL ALLOCATIONS

Municipality	County	Reg	Initial Allocation			Secondary Sources – Change in Need				Allocation Pool			Adjusted Allocation		
			Initial Present Need	Allocated Gap Present Need	Allocated Prospective Need	Demo-litions	Conver-sions	Filter-ing	Total	Applied Locally	Sent to Pool	Received from Pool	Adjusted Present Need	Adjusted Gap Present Need	Adjusted Prospective Need
Allendale borough	Bergen	1	27	77	143	5	0	(9)	(4)	(4)	0	(3)	27	77	136
Alpine borough	Bergen	1	0	81	151	21	0	0	21	21	0	(3)	0	81	169
Bergenfield borough	Bergen	1	115	0	0	37	0	(85)	(48)	(48)	0	(1)	66	0	0
Bogota borough	Bergen	1	60	26	49	2	0	(79)	(77)	(77)	0	(1)	57	0	0
Carlstadt borough	Bergen	1	44	85	157	19	0	18	37	37	0	(4)	44	85	190
Cliffside Park borough	Bergen	1	168	51	94	106	(1)	(65)	40	40	0	(4)	168	51	130
Closter borough	Bergen	1	0	68	126	65	0	(9)	56	56	0	(3)	0	68	179
Cresskill borough	Bergen	1	51	91	169	29	0	(4)	25	25	0	(4)	51	91	190
Demarest borough	Bergen	1	1	53	98	38	0	0	38	38	0	(2)	1	53	134
Dumont borough	Bergen	1	78	85	158	38	0	(87)	(49)	(49)	0	(3)	78	85	106
East Rutherford borough	Bergen	1	64	92	170	11	0	(11)	0	0	0	(4)	64	92	166
Edgewater borough	Bergen	1	51	176	325	39	0	(29)	10	10	0	(6)	51	176	329
Elmwood Park borough	Bergen	1	62	202	373	12	(1)	(21)	(10)	(10)	0	(7)	62	202	356
Emerson borough	Bergen	1	0	87	161	14	0	(22)	(8)	(8)	0	(3)	0	87	150
Englewood city	Bergen	1	252	173	321	39	(1)	(160)	(122)	(122)	0	(7)	252	173	192
Englewood Cliffs borough	Bergen	1	0	110	203	69	0	0	69	69	0	(4)	0	110	268
Fair Lawn borough	Bergen	1	64	168	310	26	0	(196)	(170)	(170)	0	(4)	64	168	136
Fairview borough	Bergen	1	83	38	70	44	(1)	(28)	15	15	0	(2)	83	38	83
Fort Lee borough	Bergen	1	196	132	244	97	(1)	5	101	101	0	(7)	196	132	338
Franklin Lakes borough	Bergen	1	1	246	455	69	0	0	69	69	0	(8)	1	246	516
Garfield city	Bergen	1	219	0	0	29	(2)	100	127	127	0	(4)	219	0	123
Glen Rock borough	Bergen	1	11	73	134	6	0	(31)	(25)	(25)	0	(2)	11	73	107
Hackensack city	Bergen	1	357	0	0	64	(1)	(423)	(360)	(357)	3	0	0	0	0
Harrington Park borough	Bergen	1	5	80	149	17	0	(10)	7	7	0	(3)	5	80	153
Hasbrouck Heights borough	Bergen	1	72	252	466	22	0	(38)	(16)	(16)	0	(8)	72	252	442
Haworth borough	Bergen	1	0	53	97	14	0	(14)	0	0	0	(2)	0	53	95
Hillsdale borough	Bergen	1	15	90	167	16	0	(16)	0	0	0	(3)	15	90	164
Ho-Ho-Kus borough	Bergen	1	17	59	110	12	0	(1)	11	11	0	(2)	17	59	119
Leonora borough	Bergen	1	51	54	99	60	0	6	66	66	0	(3)	51	54	162



Municipality	County	Reg	Initial Allocation			Secondary Sources – Change in Need				Allocation Pool			Adjusted Allocation		
			Initial Present Need	Allocated Gap Present Need	Allocated Prospective Need	Demo-litions	Conver-sions	Filter-ing	Total	Applied Locally	Sent to Pool	Received from Pool	Adjusted Present Need	Adjusted Gap Present Need	Adjusted Prospective Need
Little Ferry borough	Bergen	1	77	51	95	5	0	(86)	(81)	(81)	0	(2)	77	51	12
Lodi borough	Bergen	1	178	0	0	28	(1)	128	155	155	0	(4)	178	0	151
Lyndhurst township	Bergen	1	171	128	236	14	(1)	(26)	(13)	(13)	0	(6)	171	128	217
Mahwah township	Bergen	1	22	174	322	26	0	(93)	(67)	(67)	0	(5)	22	174	250
Maywood borough	Bergen	1	49	51	94	25	0	(25)	0	0	0	(2)	49	51	92
Midland Park borough	Bergen	1	9	42	77	7	0	(3)	4	4	0	(1)	9	42	80
Montvale borough	Bergen	1	10	273	505	14	0	(2)	12	12	0	(9)	10	273	508
Moonachie borough	Bergen	1	28	54	100	5	0	(15)	(10)	(10)	0	(2)	28	54	88
New Milford borough	Bergen	1	55	78	144	21	0	(20)	1	1	0	(3)	55	78	142
North Arlington borough	Bergen	1	85	79	147	7	(1)	(30)	(24)	(24)	0	(3)	85	79	120
Northvale borough	Bergen	1	9	44	81	12	0	1	13	13	0	(2)	9	44	92
Norwood borough	Bergen	1	6	53	97	19	0	(1)	18	18	0	(2)	6	53	113
Oakland borough	Bergen	1	15	67	124	15	0	(43)	(28)	(28)	0	(2)	15	67	94
Old Tappan borough	Bergen	1	7	131	241	39	0	(1)	38	38	0	(5)	7	131	274
Oradell borough	Bergen	1	19	52	96	10	0	(35)	(25)	(25)	0	(2)	19	52	69
Palisades Park borough	Bergen	1	94	49	90	139	(1)	4	142	142	0	(4)	94	49	228
Paramus borough	Bergen	1	154	373	689	82	0	(3)	79	79	0	(14)	154	373	754
Park Ridge borough	Bergen	1	89	60	111	26	0	(17)	9	9	0	(3)	89	60	117
Ramsey borough	Bergen	1	44	144	266	21	0	(49)	(28)	(28)	0	(5)	44	144	233
Ridgefield borough	Bergen	1	108	72	134	40	0	18	58	58	0	(4)	108	72	188
Ridgefield Park village	Bergen	1	62	55	101	1	0	(62)	(61)	(61)	0	(2)	62	55	38
Ridgewood village	Bergen	1	96	181	334	30	0	(20)	10	10	0	(7)	96	181	337
River Edge borough	Bergen	1	27	82	152	6	0	(76)	(70)	(70)	0	(2)	27	82	80
River Vale township	Bergen	1	47	74	137	24	0	(16)	8	8	0	(3)	47	74	142
Rochelle Park township	Bergen	1	0	42	77	2	0	(4)	(2)	(2)	0	(1)	0	42	74
Rockleigh borough	Bergen	1	0	200	369	1	0	0	1	1	0	(6)	0	200	364
Rutherford borough	Bergen	1	112	175	323	22	0	(30)	(8)	(8)	0	(7)	112	175	308
Saddle Brook township	Bergen	1	26	95	175	20	0	(34)	(14)	(14)	0	(3)	26	95	158
Saddle River borough	Bergen	1	40	196	362	36	0	0	36	36	0	(7)	40	196	391
South Hackensack township	Bergen	1	35	43	79	4	0	11	15	15	0	(2)	35	43	92
Teaneck township	Bergen	1	147	623	1,151	53	0	(278)	(225)	(225)	0	(18)	147	623	908



Municipality	County	Reg	Initial Allocation			Secondary Sources – Change in Need				Allocation Pool			Adjusted Allocation		
			Initial Present Need	Allocated Gap Present Need	Allocated Prospective Need	Demo-litions	Conver-sions	Filter-ing	Total	Applied Locally	Sent to Pool	Received from Pool	Adjusted Present Need	Adjusted Gap Present Need	Adjusted Prospective Need
Tenaflly borough	Bergen	1	18	97	180	89	0	(1)	88	88	0	(4)	18	97	264
Teterboro borough	Bergen	1	0	103	190	0	0	0	0	0	0	(3)	0	103	187
Upper Saddle River borough	Bergen	1	21	188	347	64	0	(3)	61	61	0	(7)	21	188	401
Waldwick borough	Bergen	1	53	77	143	10	0	(50)	(40)	(40)	0	(3)	53	77	100
Wallington borough	Bergen	1	83	34	64	8	(1)	(31)	(24)	(24)	0	(2)	83	34	38
Washington township	Bergen	1	8	187	345	9	0	(32)	(23)	(23)	0	(6)	8	187	316
Westwood borough	Bergen	1	44	64	119	11	0	(11)	0	0	0	(2)	44	64	117
Woodcliff Lake borough	Bergen	1	40	245	453	18	0	(2)	16	16	0	(8)	40	245	461
Wood-Ridge borough	Bergen	1	3	36	67	13	0	(92)	(79)	(79)	0	0	3	24	0
Wyckoff township	Bergen	1	34	171	316	37	0	(7)	30	30	0	(6)	34	171	340
Bayonne city	Hudson	1	716	0	0	14	(6)	1,160	1,168	1,168	0	(20)	716	0	1,148
East Newark borough	Hudson	1	37	12	22	1	0	37	38	38	0	(1)	37	12	59
Guttenberg town	Hudson	1	62	29	53	32	(1)	(174)	(143)	(143)	0	0	1	0	0
Harrison town	Hudson	1	157	123	228	40	(1)	288	327	327	0	(9)	157	123	546
Hoboken city	Hudson	1	314	0	0	46	(2)	(36)	8	8	0	(4)	314	0	4
Jersey City	Hudson	1	4,055	0	0	540	(16)	2,106	2,630	2,630	0	(73)	4,055	0	2,557
Kearny town	Hudson	1	266	220	406	33	(3)	466	496	496	0	(15)	266	220	887
North Bergen township	Hudson	1	835	0	0	36	(4)	499	531	531	0	(15)	835	0	516
Secaucus town	Hudson	1	78	223	412	21	(1)	109	129	129	0	(9)	78	223	532
Union City	Hudson	1	1,491	0	0	101	(4)	20	117	117	0	(17)	1,491	0	100
Weehawken township	Hudson	1	200	0	0	5	(1)	1	5	5	0	(2)	200	0	3
West New York town	Hudson	1	738	0	0	29	(2)	(69)	(42)	(42)	0	(8)	688	0	0
Bloomington borough	Passaic	1	17	32	60	5	0	(20)	(15)	(15)	0	(1)	17	32	44
Clifton city	Passaic	1	1,220	0	0	28	(5)	(245)	(222)	(222)	0	(11)	987	0	0
Haledon borough	Passaic	1	88	41	76	4	(1)	(51)	(48)	(48)	0	(2)	88	41	26
Hawthorne borough	Passaic	1	131	103	190	7	(1)	(46)	(40)	(40)	0	(4)	131	103	146
Little Falls township	Passaic	1	77	138	256	24	0	(49)	(25)	(25)	0	(5)	77	138	226
North Haledon borough	Passaic	1	0	121	223	7	0	(7)	0	0	0	(4)	0	121	219
Passaic city	Passaic	1	3,007	0	0	43	(3)	(69)	(29)	(29)	0	(32)	2,946	0	0
Paterson city	Passaic	1	3,059	0	0	423	(12)	(681)	(270)	(270)	0	(30)	2,759	0	0
Pompton Lakes borough	Passaic	1	46	72	132	21	0	(175)	(154)	(154)	0	(1)	46	49	0

Municipality	County	Reg	Initial Allocation			Secondary Sources – Change in Need				Allocation Pool			Adjusted Allocation		
			Initial Present Need	Allocated Gap Present Need	Allocated Prospective Need	Demo-litions	Conver-sions	Filter-ing	Total	Applied Locally	Sent to Pool	Received from Pool	Adjusted Present Need	Adjusted Gap Present Need	Adjusted Prospective Need
Prospect Park borough	Passaic	1	99	40	73	1	(1)	(135)	(135)	(135)	0	(1)	76	0	0
Ringwood borough	Passaic	1	11	39	72	9	0	(102)	(93)	(93)	0	0	11	18	0
Totowa borough	Passaic	1	90	173	320	1	0	(6)	(5)	(5)	0	(6)	90	173	309
Wanaque borough	Passaic	1	29	74	137	5	0	(124)	(119)	(119)	0	(1)	29	74	17
Wayne township	Passaic	1	216	675	1,248	54	0	(139)	(85)	(85)	0	(22)	216	675	1,141
West Milford township	Passaic	1	82	61	113	2	0	(316)	(314)	(256)	58	0	0	0	0
Woodland Park borough	Passaic	1	90	155	286	6	(1)	14	19	19	0	(6)	90	155	299
Andover borough	Sussex	1	0	15	27	1	0	(237)	(236)	(42)	194	0	0	0	0
Andover township	Sussex	1	17	155	286	9	0	(116)	(107)	(107)	0	(4)	17	155	175
Branchville borough	Sussex	1	1	136	252	1	0	(2)	(1)	(1)	0	(4)	1	136	247
Byram township	Sussex	1	18	92	170	5	0	(76)	(71)	(71)	0	(2)	18	92	97
Frankford township	Sussex	1	25	25	46	19	0	(1)	18	18	0	(1)	25	25	63
Franklin borough	Sussex	1	14	17	31	8	0	(151)	(143)	(62)	81	0	0	0	0
Fredon township	Sussex	1	12	75	139	2	0	(5)	(3)	(3)	0	(2)	12	75	134
Green township	Sussex	1	0	23	42	1	0	(50)	(49)	(49)	0	0	0	16	0
Hamburg borough	Sussex	1	11	18	33	2	0	(131)	(129)	(62)	67	0	0	0	0
Hampton township	Sussex	1	33	26	48	2	0	6	8	8	0	(1)	33	26	55
Hardyston township	Sussex	1	22	127	236	9	0	(169)	(160)	(160)	0	(2)	22	127	74
Hopatcong borough	Sussex	1	22	62	116	18	0	(238)	(220)	(200)	20	0	0	0	0
Lafayette township	Sussex	1	0	59	109	3	0	(1)	2	2	0	(2)	0	59	109
Montague township	Sussex	1	0	48	89	2	0	(70)	(68)	(68)	0	(1)	0	48	20
Newton town	Sussex	1	46	33	61	1	0	139	140	140	0	(3)	46	33	198
Ogdensburg borough	Sussex	1	1	14	26	1	0	(52)	(51)	(41)	10	0	0	0	0
Sandyston township	Sussex	1	4	31	58	1	0	(55)	(54)	(54)	0	0	4	31	4
Sparta township	Sussex	1	32	76	140	19	0	(343)	(324)	(248)	76	0	0	0	0
Stanhope borough	Sussex	1	5	23	42	3	0	(170)	(167)	(70)	97	0	0	0	0
Stillwater township	Sussex	1	9	34	63	2	0	(27)	(25)	(25)	0	(1)	9	34	37
Sussex borough	Sussex	1	16	9	16	4	0	(6)	(2)	(2)	0	0	16	9	14
Vernon township	Sussex	1	42	128	237	22	0	(426)	(404)	(404)	0	0	3	0	0
Walpack township	Sussex	1	0	1	2	0	0	0	0	0	0	0	0	1	2
Wantage township	Sussex	1	7	33	61	8	0	(99)	(91)	(91)	0	0	7	3	0

APPENDIX D: ALLOCATION CAP ADJUSTMENTS TO MUNICIPAL OBLIGATIONS

Municipality	County	Reg	Adjusted Present Need	Adjusted Gap Present Need	Adjusted Prospective Need	Est 2015 Occupied Units	20% Cap Level	Capped Units (20% Cap)	Capped Units (1,000 Unit Cap)	Total Capped Units	Capped Present Need	Capped Gap Present Need	Capped Prospective Need
Allendale borough	Bergen	1	27	77	136	2,222	444	0	0	0	27	77	136
Alpine borough	Bergen	1	0	81	169	568	113	(137)	0	(137)	0	81	32
Bergenfield borough	Bergen	1	66	0	0	8,960	1,792	0	0	0	66	0	0
Bogota borough	Bergen	1	57	0	0	2,878	575	0	0	0	57	0	0
Carlstadt borough	Bergen	1	44	85	190	2,308	461	0	0	0	44	85	190
Cliffside Park borough	Bergen	1	168	51	130	10,483	2,096	0	0	0	168	51	130
Closter borough	Bergen	1	0	68	179	2,679	535	0	0	0	0	68	179
Cresskill borough	Bergen	1	51	91	190	2,960	592	0	0	0	51	91	190
Demarest borough	Bergen	1	1	53	134	1,677	335	0	0	0	1	53	134
Dumont borough	Bergen	1	78	85	106	6,308	1,261	0	0	0	78	85	106
East Rutherford borough	Bergen	1	64	92	166	3,640	728	0	0	0	64	92	166
Edgewater borough	Bergen	1	51	176	329	5,642	1,128	0	0	0	51	176	329
Elmwood Park borough	Bergen	1	62	202	356	6,967	1,393	0	0	0	62	202	356
Emerson borough	Bergen	1	0	87	150	2,412	482	0	0	0	0	87	150
Englewood city	Bergen	1	252	173	192	10,834	2,166	0	0	0	252	173	192
Englewood Cliffs borough	Bergen	1	0	110	268	1,722	344	(34)	0	(34)	0	110	234
Fair Lawn borough	Bergen	1	64	168	136	11,812	2,362	0	0	0	64	168	136
Fairview borough	Bergen	1	83	38	83	5,427	1,085	0	0	0	83	38	83
Fort Lee borough	Bergen	1	196	132	338	16,481	3,296	0	0	0	196	132	338
Franklin Lakes borough	Bergen	1	1	246	516	3,726	745	(17)	0	(17)	1	246	499
Garfield city	Bergen	1	219	0	123	10,959	2,191	0	0	0	219	0	123
Glen Rock borough	Bergen	1	11	73	107	3,875	775	0	0	0	11	73	107
Hackensack city	Bergen	1	0	0	0	18,410	3,682	0	0	0	0	0	0
Harrington Park borough	Bergen	1	5	80	153	1,567	313	0	0	0	5	80	153
Hasbrouck Heights borough	Bergen	1	72	252	442	4,474	894	0	0	0	72	252	442
Haworth borough	Bergen	1	0	53	95	1,131	226	0	0	0	0	53	95
Hillsdale borough	Bergen	1	15	90	164	3,550	710	0	0	0	15	90	164
Ho-Ho-Kus borough	Bergen	1	17	59	119	1,410	282	0	0	0	17	59	119
Leonora borough	Bergen	1	51	54	162	3,337	667	0	0	0	51	54	162



Municipality	County	Reg	Adjusted Present Need	Adjusted Gap Present Need	Adjusted Prospective Need	Est 2015 Occupied Units	20% Cap Level	Capped Units (20% Cap)	Capped Units (1,000 Unit Cap)	Total Capped Units	Capped Present Need	Capped Gap Present Need	Capped Prospective Need
Little Ferry borough	Bergen	1	77	51	12	4,239	847	0	0	0	77	51	12
Lodi borough	Bergen	1	178	0	151	9,056	1,811	0	0	0	178	0	151
Lyndhurst township	Bergen	1	171	128	217	8,530	1,706	0	0	0	171	128	217
Mahwah township	Bergen	1	22	174	250	9,219	1,843	0	0	0	22	174	250
Maywood borough	Bergen	1	49	51	92	3,526	705	0	0	0	49	51	92
Midland Park borough	Bergen	1	9	42	80	2,782	556	0	0	0	9	42	80
Montvale borough	Bergen	1	10	273	508	2,887	577	(204)	0	(204)	10	273	304
Moonachie borough	Bergen	1	28	54	88	982	196	0	0	0	28	54	88
New Milford borough	Bergen	1	55	78	142	5,980	1,196	0	0	0	55	78	142
North Arlington borough	Bergen	1	85	79	120	6,123	1,224	0	0	0	85	79	120
Northvale borough	Bergen	1	9	44	92	1,694	338	0	0	0	9	44	92
Norwood borough	Bergen	1	6	53	113	2,085	417	0	0	0	6	53	113
Oakland borough	Bergen	1	15	67	94	4,371	874	0	0	0	15	67	94
Old Tappan borough	Bergen	1	7	131	274	1,994	398	(7)	0	(7)	7	131	267
Oradell borough	Bergen	1	19	52	69	2,634	526	0	0	0	19	52	69
Palisades Park borough	Bergen	1	94	49	228	7,379	1,475	0	0	0	94	49	228
Paramus borough	Bergen	1	154	373	754	8,460	1,692	0	(281)	(281)	154	373	473
Park Ridge borough	Bergen	1	89	60	117	3,187	637	0	0	0	89	60	117
Ramsey borough	Bergen	1	44	144	233	5,454	1,090	0	0	0	44	144	233
Ridgefield borough	Bergen	1	108	72	188	4,002	800	0	0	0	108	72	188
Ridgefield Park village	Bergen	1	62	55	38	4,631	926	0	0	0	62	55	38
Ridgewood village	Bergen	1	96	181	337	8,296	1,659	0	0	0	96	181	337
River Edge borough	Bergen	1	27	82	80	3,948	789	0	0	0	27	82	80
River Vale township	Bergen	1	47	74	142	3,422	684	0	0	0	47	74	142
Rochelle Park township	Bergen	1	0	42	74	1,924	384	0	0	0	0	42	74
Rockleigh borough	Bergen	1	0	200	364	81	16	(548)	0	(548)	0	16	0
Rutherford borough	Bergen	1	112	175	308	6,978	1,395	0	0	0	112	175	308
Saddle Brook township	Bergen	1	26	95	158	5,282	1,056	0	0	0	26	95	158
Saddle River borough	Bergen	1	40	196	391	1,165	233	(354)	0	(354)	40	196	37
South Hackensack township	Bergen	1	35	43	92	926	185	0	0	0	35	43	92
Teaneck township	Bergen	1	147	623	908	13,325	2,665	0	(678)	(678)	147	623	230

Municipality	County	Reg	Adjusted Present Need	Adjusted Gap Present Need	Adjusted Prospective Need	Est 2015 Occupied Units	20% Cap Level	Capped Units (20% Cap)	Capped Units (1,000 Unit Cap)	Total Capped Units	Capped Present Need	Capped Gap Present Need	Capped Prospective Need
Tenaflly borough	Bergen	1	18	97	264	4,735	947	0	0	0	18	97	264
Teterboro borough	Bergen	1	0	103	187	43	8	(282)	0	(282)	0	8	0
Upper Saddle River borough	Bergen	1	21	188	401	2,522	504	(85)	0	(85)	21	188	316
Waldwick borough	Bergen	1	53	77	100	3,466	693	0	0	0	53	77	100
Wallington borough	Bergen	1	83	34	38	4,600	920	0	0	0	83	34	38
Washington township	Bergen	1	8	187	316	3,211	642	0	0	0	8	187	316
Westwood borough	Bergen	1	44	64	117	4,204	840	0	0	0	44	64	117
Woodcliff Lake borough	Bergen	1	40	245	461	2,103	420	(286)	0	(286)	40	245	175
Wood-Ridge borough	Bergen	1	3	24	0	3,053	610	0	0	0	3	24	0
Wyckoff township	Bergen	1	34	171	340	5,803	1,160	0	0	0	34	171	340
Bayonne city	Hudson	1	716	0	1,148	25,733	5,146	0	(864)	(864)	716	0	284
East Newark borough	Hudson	1	37	12	59	794	158	0	0	0	37	12	59
Guttenberg town	Hudson	1	1	0	0	4,373	874	0	0	0	1	0	0
Harrison town	Hudson	1	157	123	546	5,377	1,075	0	0	0	157	123	546
Hoboken city	Hudson	1	314	0	4	24,983	4,996	0	0	0	314	0	4
Jersey City	Hudson	1	4,055	0	2,557	99,790	19,958	0	0	0	4,055	0	2,557
Kearny town	Hudson	1	266	220	887	13,785	2,757	0	(373)	(373)	266	220	514
North Bergen township	Hudson	1	835	0	516	21,675	4,335	0	(351)	(351)	835	0	165
Secaucus town	Hudson	1	78	223	532	7,064	1,412	0	0	0	78	223	532
Union City	Hudson	1	1,491	0	100	23,004	4,600	0	(591)	(591)	1,000	0	0
Weehawken township	Hudson	1	200	0	3	6,146	1,229	0	0	0	200	0	3
West New York town	Hudson	1	688	0	0	19,623	3,924	0	0	0	688	0	0
Bloomington borough	Passaic	1	17	32	44	2,975	595	0	0	0	17	32	44
Clifton city	Passaic	1	987	0	0	29,230	5,846	0	0	0	987	0	0
Haledon borough	Passaic	1	88	41	26	2,586	517	0	0	0	88	41	26
Hawthorne borough	Passaic	1	131	103	146	6,829	1,365	0	0	0	131	103	146
Little Falls township	Passaic	1	77	138	226	5,299	1,059	0	0	0	77	138	226
North Haledon borough	Passaic	1	0	121	219	3,091	618	0	0	0	0	121	219
Passaic city	Passaic	1	2,946	0	0	19,857	3,971	0	(1,946)	(1,946)	1,000	0	0
Paterson city	Passaic	1	2,759	0	0	43,029	8,605	0	(1,759)	(1,759)	1,000	0	0
Pompton Lakes borough	Passaic	1	46	49	0	4,108	821	0	0	0	46	49	0

Municipality	County	Reg	Adjusted Present Need	Adjusted Gap Present Need	Adjusted Prospective Need	Est 2015 Occupied Units	20% Cap Level	Capped Units (20% Cap)	Capped Units (1,000 Unit Cap)	Total Capped Units	Capped Present Need	Capped Gap Present Need	Capped Prospective Need
Prospect Park borough	Passaic	1	76	0	0	1,662	332	0	0	0	76	0	0
Ringwood borough	Passaic	1	11	18	0	3,830	766	0	0	0	11	18	0
Totowa borough	Passaic	1	90	173	309	3,308	661	0	0	0	90	173	309
Wanaque borough	Passaic	1	29	74	17	4,148	829	0	0	0	29	74	17
Wayne township	Passaic	1	216	675	1,141	18,062	3,612	0	(1,032)	(1,032)	216	675	109
West Milford township	Passaic	1	0	0	0	9,357	1,871	0	0	0	0	0	0
Woodland Park borough	Passaic	1	90	155	299	4,342	868	0	0	0	90	155	299
Andover borough	Sussex	1	0	0	0	273	54	0	0	0	0	0	0
Andover township	Sussex	1	17	155	175	1,970	394	0	0	0	17	155	175
Branchville borough	Sussex	1	1	136	247	308	61	(322)	0	(322)	1	61	0
Byram township	Sussex	1	18	92	97	2,896	579	0	0	0	18	92	97
Frankford township	Sussex	1	25	25	63	2,079	415	0	0	0	25	25	63
Franklin borough	Sussex	1	0	0	0	1,978	395	0	0	0	0	0	0
Fredon township	Sussex	1	12	75	134	1,227	245	0	0	0	12	75	134
Green township	Sussex	1	0	16	0	1,146	229	0	0	0	0	16	0
Hamburg borough	Sussex	1	0	0	0	1,420	284	0	0	0	0	0	0
Hampton township	Sussex	1	33	26	55	2,098	419	0	0	0	33	26	55
Hardyston township	Sussex	1	22	127	74	3,308	661	0	0	0	22	127	74
Hopatcong borough	Sussex	1	0	0	0	5,581	1,116	0	0	0	0	0	0
Lafayette township	Sussex	1	0	59	109	809	161	(7)	0	(7)	0	59	102
Montague township	Sussex	1	0	48	20	1,526	305	0	0	0	0	48	20
Newton town	Sussex	1	46	33	198	3,298	659	0	0	0	46	33	198
Ogdensburg borough	Sussex	1	0	0	0	844	168	0	0	0	0	0	0
Sandyston township	Sussex	1	4	31	4	751	150	0	0	0	4	31	4
Sparta township	Sussex	1	0	0	0	6,563	1,312	0	0	0	0	0	0
Stanhope borough	Sussex	1	0	0	0	1,346	269	0	0	0	0	0	0
Stillwater township	Sussex	1	9	34	37	1,568	313	0	0	0	9	34	37
Sussex borough	Sussex	1	16	9	14	831	166	0	0	0	16	9	14
Vernon township	Sussex	1	3	0	0	8,183	1,636	0	0	0	3	0	0
Walpack township	Sussex	1	0	1	2	4	0	(3)	0	(3)	0	0	0
Wantage township	Sussex	1	7	3	0	4,087	817	0	0	0	7	3	0

APPENDIX E: INITIAL SUMMARY OBLIGATIONS BY MUNICIPALITY

Municipality	County	Reg	Prior Round (87-99) Initial Obligation (unadjusted)	Present Need	Gap Present Need	Prospective Need
Allendale borough	Bergen	1	137	27	77	136
Alpine borough	Bergen	1	214	0	81	32
Bergenfield borough	Bergen	1	87	66	0	0
Bogota borough	Bergen	1	13	57	0	0
Carlstadt borough	Bergen	1	227	44	85	190
Cliffside Park borough	Bergen	1	28	168	51	130
Closter borough	Bergen	1	110	0	68	179
Cresskill borough	Bergen	1	70	51	91	190
Demarest borough	Bergen	1	66	1	53	134
Dumont borough	Bergen	1	33	78	85	106
East Rutherford borough	Bergen	1	90	64	92	166
Edgewater borough	Bergen	1	28	51	176	329
Elmwood Park borough	Bergen	1	54	62	202	356
Emerson borough	Bergen	1	74	0	87	150
Englewood city	Bergen	1	152	252	173	192
Englewood Cliffs borough	Bergen	1	219	0	110	234
Fair Lawn borough	Bergen	1	152	64	168	136
Fairview borough	Bergen	1	20	83	38	83
Fort Lee borough	Bergen	1	181	196	132	338
Franklin Lakes borough	Bergen	1	358	1	246	499
Garfield city	Bergen	1	0	219	0	123
Glen Rock borough	Bergen	1	118	11	73	107
Hackensack city	Bergen	1	201	0	0	0
Harrington Park borough	Bergen	1	56	5	80	153
Hasbrouck Heights borough	Bergen	1	58	72	252	442
Haworth borough	Bergen	1	64	0	53	95
Hillsdale borough	Bergen	1	111	15	90	164
Ho-Ho-Kus borough	Bergen	1	83	17	59	119
Leonia borough	Bergen	1	30	51	54	162



Municipality	County	Reg	Prior Round (87-99) Initial Obligation (unadjusted)	Present Need	Gap Present Need	Prospective Need
Little Ferry borough	Bergen	1	28	77	51	12
Lodi borough	Bergen	1	0	178	0	151
Lyndhurst township	Bergen	1	100	171	128	217
Mahwah township	Bergen	1	350	22	174	250
Maywood borough	Bergen	1	36	49	51	92
Midland Park borough	Bergen	1	54	9	42	80
Montvale borough	Bergen	1	255	10	273	304
Moonachie borough	Bergen	1	95	28	54	88
New Milford borough	Bergen	1	23	55	78	142
North Arlington borough	Bergen	1	4	85	79	120
Northvale borough	Bergen	1	86	9	44	92
Norwood borough	Bergen	1	118	6	53	113
Oakland borough	Bergen	1	220	15	67	94
Old Tappan borough	Bergen	1	98	7	131	267
Oradell borough	Bergen	1	89	19	52	69
Palisades Park borough	Bergen	1	0	94	49	228
Paramus borough	Bergen	1	698	154	373	473
Park Ridge borough	Bergen	1	111	89	60	117
Ramsey borough	Bergen	1	189	44	144	233
Ridgefield borough	Bergen	1	47	108	72	188
Ridgefield Park village	Bergen	1	25	62	55	38
Ridgewood village	Bergen	1	229	96	181	337
River Edge borough	Bergen	1	73	27	82	80
River Vale township	Bergen	1	121	47	74	142
Rochelle Park township	Bergen	1	63	0	42	74
Rockleigh borough	Bergen	1	84	0	16	0
Rutherford borough	Bergen	1	95	112	175	308
Saddle Brook township	Bergen	1	127	26	95	158
Saddle River borough	Bergen	1	162	40	196	37
South Hackensack township	Bergen	1	50	35	43	92
Teaneck township	Bergen	1	192	147	623	230

Municipality	County	Reg	Prior Round (87-99) Initial Obligation (unadjusted)	Present Need	Gap Present Need	Prospective Need
Tenaflly borough	Bergen	1	159	18	97	264
Teterboro borough	Bergen	1	106	0	8	0
Upper Saddle River borough	Bergen	1	206	21	188	316
Waldwick borough	Bergen	1	81	53	77	100
Wallington borough	Bergen	1	5	83	34	38
Washington township	Bergen	1	85	8	187	316
Westwood borough	Bergen	1	87	44	64	117
Woodcliff Lake borough	Bergen	1	170	40	245	175
Wood-Ridge borough	Bergen	1	38	3	24	0
Wyckoff township	Bergen	1	221	34	171	340
Bayonne city	Hudson	1	0	716	0	284
East Newark borough	Hudson	1	3	37	12	59
Guttenberg town	Hudson	1	23	1	0	0
Harrison town	Hudson	1	30	157	123	546
Hoboken city	Hudson	1	0	314	0	4
Jersey City	Hudson	1	0	4,055	0	2,557
Kearny town	Hudson	1	211	266	220	514
North Bergen township	Hudson	1	0	835	0	165
Secaucus town	Hudson	1	590	78	223	532
Union City	Hudson	1	0	1,000	0	0
Weehawken township	Hudson	1	3	200	0	3
West New York town	Hudson	1	0	688	0	0
Bloomingtondale borough	Passaic	1	168	17	32	44
Clifton city	Passaic	1	379	987	0	0
Haledon borough	Passaic	1	5	88	41	26
Hawthorne borough	Passaic	1	58	131	103	146
Little Falls township	Passaic	1	101	77	138	226
North Haledon borough	Passaic	1	92	0	121	219
Passaic city	Passaic	1	0	1,000	0	0
Paterson city	Passaic	1	0	1,000	0	0
Pompton Lakes borough	Passaic	1	102	46	49	0

Municipality	County	Reg	Prior Round (87-99)	Present Need	Gap Present Need	Prospective Need
			Initial Obligation (unadjusted)			
Prospect Park borough	Passaic	1	0	76	0	0
Ringwood borough	Passaic	1	51	11	18	0
Totowa borough	Passaic	1	247	90	173	309
Wanaque borough	Passaic	1	332	29	74	17
Wayne township	Passaic	1	1,158	216	675	109
West Milford township	Passaic	1	98	0	0	0
Woodland Park borough	Passaic	1	146	90	155	299
Andover borough	Sussex	1	7	0	0	0
Andover township	Sussex	1	55	17	155	175
Branchville borough	Sussex	1	13	1	61	0
Byram township	Sussex	1	33	18	92	97
Frankford township	Sussex	1	36	25	25	63
Franklin borough	Sussex	1	9	0	0	0
Fredon township	Sussex	1	29	12	75	134
Green township	Sussex	1	20	0	16	0
Hamburg borough	Sussex	1	14	0	0	0
Hampton township	Sussex	1	44	33	26	55
Hardyston township	Sussex	1	18	22	127	74
Hopatcong borough	Sussex	1	93	0	0	0
Lafayette township	Sussex	1	27	0	59	102
Montague township	Sussex	1	9	0	48	20
Newton town	Sussex	1	24	46	33	198
Ogdensburg borough	Sussex	1	13	0	0	0
Sandyston township	Sussex	1	13	4	31	4
Sparta township	Sussex	1	76	0	0	0
Stanhope borough	Sussex	1	15	0	0	0
Stillwater township	Sussex	1	15	9	34	37
Sussex borough	Sussex	1	0	16	9	14
Vernon township	Sussex	1	60	3	0	0
Walpack township	Sussex	1	0	0	0	0
Wantage township	Sussex	1	35	7	3	0



Municipality	County	Reg	Prior Round (87-99)	Present Need	Gap Present Need	Prospective Need
			Initial Obligation (unadjusted)			
Belleville township	Essex	2	0	0	0	0
Bloomfield township	Essex	2	0	0	0	0
Caldwell borough	Essex	2	0	20	16	22
Cedar Grove township	Essex	2	70	27	65	69
City of Orange township	Essex	2	0	0	0	0
East Orange city	Essex	2	0	0	0	0
Essex Fells borough	Essex	2	40	2	29	49
Fairfield township	Essex	2	318	38	107	140
Glen Ridge borough	Essex	2	28	38	41	21
Irvington township	Essex	2	0	0	0	0
Livingston township	Essex	2	375	42	172	219
Maplewood township	Essex	2	51	149	0	0
Millburn township	Essex	2	261	117	192	356
Montclair township	Essex	2	0	9	0	0
Newark city	Essex	2	0	0	0	0
North Caldwell borough	Essex	2	63	13	59	65
Nutley township	Essex	2	29	66	0	0
Roseland borough	Essex	2	182	0	54	73
S. Orange Village township	Essex	2	63	26	126	152
Verona township	Essex	2	24	5	42	27
West Caldwell township	Essex	2	200	63	80	105
West Orange township	Essex	2	226	397	163	0
Boonton town	Morris	2	11	53	32	0
Boonton township	Morris	2	20	21	22	15
Butler borough	Morris	2	16	28	35	0
Chatham borough	Morris	2	77	8	49	86
Chatham township	Morris	2	83	52	158	274
Chester borough	Morris	2	16	6	43	64
Chester township	Morris	2	32	0	32	34
Denville township	Morris	2	325	77	31	0
Dover town	Morris	2	6	225	0	0

Municipality	County	Reg	Prior Round (87-99)	Present Need	Gap Present Need	Prospective Need
			Initial Obligation (unadjusted)			
East Hanover township	Morris	2	262	28	135	218
Florham Park borough	Morris	2	326	56	471	342
Hanover township	Morris	2	356	49	169	224
Harding township	Morris	2	83	0	69	116
Jefferson township	Morris	2	69	41	0	0
Kinnelon borough	Morris	2	73	9	51	60
Lincoln Park borough	Morris	2	74	13	86	60
Long Hill township	Morris	2	62	18	27	36
Madison borough	Morris	2	86	25	57	107
Mendham borough	Morris	2	25	9	22	29
Mendham township	Morris	2	41	0	38	65
Mine Hill township	Morris	2	61	7	113	84
Montville township	Morris	2	261	60	77	92
Morris township	Morris	2	293	18	267	381
Morris Plains borough	Morris	2	144	22	31	30
Morristown town	Morris	2	227	198	92	100
Mountain Lakes borough	Morris	2	80	3	40	69
Mount Arlington borough	Morris	2	17	23	39	5
Mount Olive township	Morris	2	45	76	0	0
Netcong borough	Morris	2	0	0	0	0
Parsippany-Troy Hills twp	Morris	2	663	257	382	122
Pequannock township	Morris	2	134	50	40	35
Randolph township	Morris	2	261	47	115	8
Riverdale borough	Morris	2	58	2	126	16
Rockaway borough	Morris	2	43	25	61	66
Rockaway township	Morris	2	370	22	0	0
Roxbury township	Morris	2	255	0	0	0
Victory Gardens borough	Morris	2	0	0	0	0
Washington township	Morris	2	66	25	69	51
Wharton borough	Morris	2	42	151	59	14
Berkeley Heights township	Union	2	183	1	196	290

Municipality	County	Reg	Prior Round (87-99) Initial Obligation (unadjusted)	Present Need	Gap Present Need	Prospective Need
Clark township	Union	2	92	25	58	133
Cranford township	Union	2	148	121	74	93
Elizabeth city	Union	2	0	1,000	0	0
Fanwood borough	Union	2	45	12	23	29
Garwood borough	Union	2	18	24	14	57
Hillside township	Union	2	0	80	0	12
Kenilworth borough	Union	2	83	20	42	67
Linden city	Union	2	209	359	175	342
Mountainside borough	Union	2	123	17	47	76
New Providence borough	Union	2	135	41	63	79
Plainfield city	Union	2	0	465	0	0
Rahway city	Union	2	70	158	0	114
Roselle borough	Union	2	0	103	0	0
Roselle Park borough	Union	2	0	117	20	106
Scotch Plains township	Union	2	182	71	91	174
Springfield township	Union	2	135	7	54	87
Summit city	Union	2	171	138	189	286
Union township	Union	2	234	143	131	349
Westfield town	Union	2	139	47	92	224
Winfield township	Union	2	0	12	17	20
Allamuchy township	Warren	2	13	20	23	1
Alpha borough	Warren	2	13	29	10	0
Belvidere town	Warren	2	0	0	0	0
Blairstown township	Warren	2	12	0	14	13
Franklin township	Warren	2	11	0	17	4
Frelinghuysen township	Warren	2	6	9	7	0
Greenwich township	Warren	2	41	6	38	2
Hackettstown town	Warren	2	62	145	23	145
Hardwick township	Warren	2	6	1	11	0
Harmony township	Warren	2	47	0	0	0
Hope township	Warren	2	8	4	8	0

Municipality	County	Reg	Prior Round (87-99) Initial Obligation (unadjusted)	Present Need	Gap Present Need	Prospective Need
Independence township	Warren	2	10	0	0	0
Knowlton township	Warren	2	14	0	0	0
Liberty township	Warren	2	7	0	0	0
Lopatcong township	Warren	2	56	0	0	0
Mansfield township	Warren	2	3	40	49	111
Oxford township	Warren	2	2	0	0	0
Phillipsburg town	Warren	2	0	0	0	0
Pohatcong township	Warren	2	47	5	5	0
Washington borough	Warren	2	0	39	0	0
Washington township	Warren	2	48	0	0	0
White township	Warren	2	16	52	5	0
Alexandria township	Hunterdon	3	22	0	34	31
Bethlehem township	Hunterdon	3	42	0	57	9
Bloomsbury borough	Hunterdon	3	17	0	0	0
Califon borough	Hunterdon	3	21	0	0	0
Clinton town	Hunterdon	3	51	16	0	0
Clinton township	Hunterdon	3	335	21	74	0
Delaware township	Hunterdon	3	23	10	24	27
East Amwell township	Hunterdon	3	40	22	25	16
Flemington borough	Hunterdon	3	38	105	14	88
Franklin township	Hunterdon	3	36	0	20	59
Frenchtown borough	Hunterdon	3	2	0	0	0
Glen Gardner borough	Hunterdon	3	7	0	0	0
Hampton borough	Hunterdon	3	2	0	0	0
High Bridge borough	Hunterdon	3	27	0	0	0
Holland township	Hunterdon	3	17	69	4	0
Kingwood township	Hunterdon	3	19	0	0	0
Lambertville city	Hunterdon	3	0	2	25	34
Lebanon borough	Hunterdon	3	34	0	0	0
Lebanon township	Hunterdon	3	28	18	16	0
Milford borough	Hunterdon	3	5	0	0	0

Municipality	County	Reg	Prior Round (87-99) Initial Obligation (unadjusted)	Present Need	Gap Present Need	Prospective Need
Raritan township	Hunterdon	3	360	74	196	205
Readington township	Hunterdon	3	394	28	300	351
Stockton borough	Hunterdon	3	6	0	0	0
Tewksbury township	Hunterdon	3	119	0	58	83
Union township	Hunterdon	3	78	0	34	258
West Amwell township	Hunterdon	3	16	0	23	39
Carteret borough	Middlesex	3	0	141	0	189
Cranbury township	Middlesex	3	217	0	93	142
Dunellen borough	Middlesex	3	0	7	14	52
East Brunswick township	Middlesex	3	648	165	234	491
Edison township	Middlesex	3	965	578	399	23
Helmetta borough	Middlesex	3	26	0	0	0
Highland Park borough	Middlesex	3	0	98	25	362
Jamesburg borough	Middlesex	3	8	49	34	110
Metuchen borough	Middlesex	3	99	26	90	166
Middlesex borough	Middlesex	3	105	42	36	174
Milltown borough	Middlesex	3	64	38	29	39
Monroe township	Middlesex	3	554	126	475	399
New Brunswick city	Middlesex	3	0	1,000	0	0
North Brunswick township	Middlesex	3	395	166	211	361
Old Bridge township	Middlesex	3	438	265	264	471
Perth Amboy city	Middlesex	3	0	505	0	0
Piscataway township	Middlesex	3	736	204	209	370
Plainsboro township	Middlesex	3	205	9	272	620
Sayreville borough	Middlesex	3	261	104	140	328
South Amboy city	Middlesex	3	0	9	26	16
South Brunswick township	Middlesex	3	842	105	341	467
South Plainfield borough	Middlesex	3	379	53	175	371
South River borough	Middlesex	3	0	218	19	170
Spotswood borough	Middlesex	3	48	16	21	94
Woodbridge township	Middlesex	3	955	574	426	0

Municipality	County	Reg	Prior Round (87-99) Initial Obligation (unadjusted)	Present Need	Gap Present Need	Prospective Need
Bedminster township	Somerset	3	154	1	100	180
Bernards township	Somerset	3	508	39	486	475
Bernardsville borough	Somerset	3	127	13	54	100
Bound Brook borough	Somerset	3	0	0	0	0
Branchburg township	Somerset	3	302	5	226	149
Bridgewater township	Somerset	3	713	107	268	263
Far Hills borough	Somerset	3	38	3	19	28
Franklin township	Somerset	3	766	157	304	0
Green Brook township	Somerset	3	151	0	98	51
Hillsborough township	Somerset	3	461	64	402	196
Manville borough	Somerset	3	0	134	13	42
Millstone borough	Somerset	3	21	0	22	9
Montgomery township	Somerset	3	307	0	202	278
North Plainfield borough	Somerset	3	0	0	0	0
Peapack & Gladstone bor.	Somerset	3	82	0	83	26
Raritan borough	Somerset	3	82	46	43	123
Rocky Hill borough	Somerset	3	25	1	19	30
Somerville borough	Somerset	3	153	143	35	47
South Bound Brook borough	Somerset	3	0	0	0	0
Warren township	Somerset	3	543	22	170	283
Watchung borough	Somerset	3	206	18	84	146
East Windsor township	Mercer	4	367	106	153	165
Ewing township	Mercer	4	481	98	902	0
Hamilton township	Mercer	4	706	450	391	159
Hightstown borough	Mercer	4	45	12	21	20
Hopewell borough	Mercer	4	29	13	17	40
Hopewell township	Mercer	4	520	17	376	335
Lawrence township	Mercer	4	891	81	161	223
Pennington borough	Mercer	4	52	43	28	23
Princeton	Mercer	4	641	82	223	245
Robbinsville township	Mercer	4	293	16	164	192

Municipality	County	Reg	Prior Round (87-99) Initial Obligation (unadjusted)	Present Need	Gap Present Need	Prospective Need
Trenton city	Mercer	4	0	0	0	0
West Windsor township	Mercer	4	899	56	242	203
Aberdeen township	Monmouth	4	270	0	0	0
Allenhurst borough	Monmouth	4	50	3	11	16
Allentown borough	Monmouth	4	28	0	0	0
Asbury Park city	Monmouth	4	0	185	0	213
Atlantic Highlands borough	Monmouth	4	86	1	20	37
Avon-by-the-Sea borough	Monmouth	4	20	0	11	37
Belmar borough	Monmouth	4	59	49	17	126
Bradley Beach borough	Monmouth	4	20	3	12	59
Brielle borough	Monmouth	4	159	16	41	48
Colts Neck township	Monmouth	4	218	23	59	67
Deal borough	Monmouth	4	54	4	14	26
Eatontown borough	Monmouth	4	504	114	81	136
Englishtown borough	Monmouth	4	65	0	0	0
Fair Haven borough	Monmouth	4	135	0	36	64
Farmingdale borough	Monmouth	4	19	6	9	20
Freehold borough	Monmouth	4	188	110	0	0
Freehold township	Monmouth	4	1,036	137	244	57
Hazlet township	Monmouth	4	407	38	25	0
Highlands borough	Monmouth	4	20	0	0	0
Holmdel township	Monmouth	4	768	40	82	60
Howell township	Monmouth	4	955	0	0	0
Interlaken borough	Monmouth	4	40	1	21	24
Keansburg borough	Monmouth	4	0	0	0	0
Keyport borough	Monmouth	4	1	65	11	0
Lake Como borough	Monmouth	4	31	4	8	66
Little Silver borough	Monmouth	4	197	0	40	50
Loch Arbour village	Monmouth	4	30	0	13	0
Long Branch city	Monmouth	4	0	244	0	486
Manalapan township	Monmouth	4	706	17	138	2

Municipality	County	Reg	Prior Round (87-99) Initial Obligation (unadjusted)	Present Need	Gap Present Need	Prospective Need
Manasquan borough	Monmouth	4	149	7	24	95
Marlboro township	Monmouth	4	1,019	48	179	0
Matawan borough	Monmouth	4	141	46	0	0
Middletown township	Monmouth	4	1,561	152	21	0
Millstone township	Monmouth	4	81	22	56	35
Monmouth Beach borough	Monmouth	4	70	0	21	50
Neptune township	Monmouth	4	0	132	0	0
Neptune City borough	Monmouth	4	33	14	27	56
Ocean township	Monmouth	4	873	60	89	108
Oceanport borough	Monmouth	4	149	3	27	27
Red Bank borough	Monmouth	4	428	126	57	71
Roosevelt borough	Monmouth	4	29	0	0	0
Rumson borough	Monmouth	4	268	17	51	134
Sea Bright borough	Monmouth	4	37	16	13	35
Sea Girt borough	Monmouth	4	115	0	28	76
Shrewsbury borough	Monmouth	4	277	0	44	53
Shrewsbury township	Monmouth	4	12	0	0	0
Spring Lake borough	Monmouth	4	132	38	22	67
Spring Lake Heights bor.	Monmouth	4	76	12	19	87
Tinton Falls borough	Monmouth	4	622	143	183	41
Union Beach borough	Monmouth	4	83	0	0	0
Upper Freehold township	Monmouth	4	43	0	33	32
Wall township	Monmouth	4	1,073	81	246	293
West Long Branch borough	Monmouth	4	219	22	37	44
Barnegat township	Ocean	4	329	68	114	96
Barnegat Light borough	Ocean	4	83	0	11	11
Bay Head borough	Ocean	4	65	0	17	29
Beach Haven borough	Ocean	4	70	1	15	51
Beachwood borough	Ocean	4	123	0	0	0
Berkeley township	Ocean	4	610	0	0	0
Brick township	Ocean	4	930	321	243	98

Municipality	County	Reg	Prior Round (87-99) Initial Obligation (unadjusted)	Present Need	Gap Present Need	Prospective Need
Eagleswood township	Ocean	4	36	0	48	31
Harvey Cedars borough	Ocean	4	44	1	8	11
Island Heights borough	Ocean	4	31	6	13	34
Jackson township	Ocean	4	1,247	47	341	289
Lacey township	Ocean	4	580	113	106	22
Lakehurst borough	Ocean	4	66	0	0	0
Lakewood township	Ocean	4	0	481	0	519
Lavallette borough	Ocean	4	82	0	8	58
Little Egg Harbor township	Ocean	4	194	19	0	0
Long Beach township	Ocean	4	41	0	19	134
Manchester township	Ocean	4	370	0	0	0
Mantoloking borough	Ocean	4	60	0	19	4
Ocean township	Ocean	4	236	48	77	128
Ocean Gate borough	Ocean	4	12	0	0	0
Pine Beach borough	Ocean	4	41	1	0	0
Plumsted township	Ocean	4	47	0	24	73
Point Pleasant borough	Ocean	4	343	0	42	127
Point Pleasant Beach bor.	Ocean	4	167	32	43	114
Seaside Heights borough	Ocean	4	0	40	2	7
Seaside Park borough	Ocean	4	52	26	9	35
Ship Bottom borough	Ocean	4	71	0	8	76
South Toms River borough	Ocean	4	51	0	0	0
Stafford township	Ocean	4	555	138	90	35
Surf City borough	Ocean	4	49	10	12	40
Toms River township	Ocean	4	2,233	245	285	377
Tuckerton borough	Ocean	4	69	0	0	0
Bass River township	Burlington	5	15	7	7	9
Beverly city	Burlington	5	18	8	0	0
Bordentown city	Burlington	5	33	16	0	0
Bordentown township	Burlington	5	211	23	1	0
Burlington city	Burlington	5	89	0	0	0

Municipality	County	Reg	Prior Round (87-99) Initial Obligation (unadjusted)	Present Need	Gap Present Need	Prospective Need
Burlington township	Burlington	5	445	44	143	88
Chesterfield township	Burlington	5	55	38	22	1
Cinnaminson township	Burlington	5	331	38	49	11
Delanco township	Burlington	5	61	0	0	0
Delran township	Burlington	5	208	26	0	0
Eastampton township	Burlington	5	49	1	53	128
Edgewater Park township	Burlington	5	30	39	29	0
Evesham township	Burlington	5	534	175	223	0
Fieldsboro borough	Burlington	5	19	0	0	0
Florence township	Burlington	5	114	68	21	0
Hainesport township	Burlington	5	150	2	52	63
Lumberton township	Burlington	5	152	5	1	0
Mansfield township	Burlington	5	114	0	32	0
Maple Shade township	Burlington	5	0	0	0	0
Medford township	Burlington	5	418	44	81	93
Medford Lakes borough	Burlington	5	60	0	0	0
Moorestown township	Burlington	5	621	22	126	98
Mount Holly township	Burlington	5	0	24	26	15
Mount Laurel township	Burlington	5	815	48	252	64
New Hanover township	Burlington	5	4	2	31	94
North Hanover township	Burlington	5	1	1	6	230
Palmyra borough	Burlington	5	39	0	0	0
Pemberton borough	Burlington	5	9	1	6	47
Pemberton township	Burlington	5	0	0	0	0
Riverside township	Burlington	5	6	0	0	0
Riverton borough	Burlington	5	15	0	15	8
Shamong township	Burlington	5	84	10	24	47
Southampton township	Burlington	5	85	0	15	39
Springfield township	Burlington	5	54	8	37	14
Tabernacle township	Burlington	5	106	8	27	26
Washington township	Burlington	5	11	0	0	0

Municipality	County	Reg	Prior Round (87-99)	Present Need	Gap Present Need	Prospective Need
			Initial Obligation (unadjusted)			
Westampton township	Burlington	5	221	55	14	0
Willingboro township	Burlington	5	268	0	0	0
Woodland township	Burlington	5	19	3	10	23
Wrightstown borough	Burlington	5	10	0	0	0
Audubon borough	Camden	5	0	29	16	80
Audubon Park borough	Camden	5	4	0	8	9
Barrington borough	Camden	5	8	18	14	144
Bellmawr borough	Camden	5	107	28	16	138
Berlin borough	Camden	5	154	37	30	102
Berlin township	Camden	5	109	17	41	138
Brooklawn borough	Camden	5	23	0	0	0
Camden city	Camden	5	0	126	0	0
Cherry Hill township	Camden	5	1,829	164	385	451
Chesilhurst borough	Camden	5	28	10	5	0
Clementon borough	Camden	5	19	34	24	31
Collingswood borough	Camden	5	0	57	19	391
Gibbsboro borough	Camden	5	112	11	18	19
Gloucester township	Camden	5	359	170	178	48
Gloucester City	Camden	5	0	0	0	0
Haddon township	Camden	5	35	16	26	203
Haddonfield borough	Camden	5	192	19	45	61
Haddon Heights borough	Camden	5	23	9	24	92
Hi-Nella borough	Camden	5	0	0	0	0
Laurel Springs borough	Camden	5	17	0	0	0
Lawnside borough	Camden	5	33	10	7	0
Lindenwold borough	Camden	5	0	0	0	0
Magnolia borough	Camden	5	22	28	13	30
Merchantville borough	Camden	5	0	13	9	81
Mount Ephraim borough	Camden	5	33	0	0	0
Oaklyn borough	Camden	5	1	1	18	43
Pennsauken township	Camden	5	0	159	0	59

Municipality	County	Reg	Prior Round (87-99)	Present Need	Gap Present Need	Prospective Need
			Initial Obligation (unadjusted)			
Pine Hill borough	Camden	5	22	48	18	26
Pine Valley borough	Camden	5	47	0	0	0
Runnemede borough	Camden	5	40	32	19	110
Somerdale borough	Camden	5	95	0	14	264
Stratford borough	Camden	5	70	7	12	53
Tavistock borough	Camden	5	80	0	0	0
Voorhees township	Camden	5	456	181	123	291
Waterford township	Camden	5	102	0	22	156
Winslow township	Camden	5	377	39	124	248
Woodlynne borough	Camden	5	0	0	0	0
Clayton borough	Gloucester	5	94	77	29	121
Deptford township	Gloucester	5	522	106	119	215
East Greenwich township	Gloucester	5	252	55	8	0
Elk township	Gloucester	5	127	5	56	38
Franklin township	Gloucester	5	166	37	66	102
Glassboro borough	Gloucester	5	0	60	0	275
Greenwich township	Gloucester	5	308	17	31	32
Harrison township	Gloucester	5	198	0	95	36
Logan township	Gloucester	5	454	0	159	166
Mantua township	Gloucester	5	292	67	78	90
Monroe township	Gloucester	5	439	236	0	59
National Park borough	Gloucester	5	28	0	5	6
Newfield borough	Gloucester	5	14	0	0	0
Paulsboro borough	Gloucester	5	0	12	0	0
Pitman borough	Gloucester	5	40	71	9	0
South Harrison township	Gloucester	5	31	0	18	23
Swedesboro borough	Gloucester	5	23	7	15	10
Washington township	Gloucester	5	507	153	160	42
Wenonah borough	Gloucester	5	30	0	8	0
West Deptford township	Gloucester	5	368	40	87	227
Westville borough	Gloucester	5	27	0	0	0

Municipality	County	Reg	Prior Round (87-99) Initial Obligation (unadjusted)	Present Need	Gap Present Need	Prospective Need
Woodbury city	Gloucester	5	0	130	36	0
Woodbury Heights borough	Gloucester	5	55	0	0	0
Woolwich township	Gloucester	5	209	0	0	0
Absecon city	Atlantic	6	144	0	0	0
Atlantic City	Atlantic	6	2,458	4	0	0
Brigantine city	Atlantic	6	124	62	13	167
Buena borough	Atlantic	6	41	0	0	0
Buena Vista township	Atlantic	6	19	0	0	0
Corbin City	Atlantic	6	13	0	0	0
Egg Harbor township	Atlantic	6	763	24	0	0
Egg Harbor City	Atlantic	6	42	0	0	0
Estell Manor city	Atlantic	6	21	0	3	0
Folsom borough	Atlantic	6	20	0	0	0
Galloway township	Atlantic	6	328	0	0	0
Hamilton township	Atlantic	6	349	35	0	0
Hammonton town	Atlantic	6	257	0	0	0
Linwood city	Atlantic	6	140	0	0	0
Longport borough	Atlantic	6	59	2	9	10
Margate City	Atlantic	6	97	56	23	26
Mullica township	Atlantic	6	40	0	0	0
Northfield city	Atlantic	6	190	0	0	0
Pleasantville city	Atlantic	6	0	0	0	0
Port Republic city	Atlantic	6	19	2	6	1
Somers Point city	Atlantic	6	103	28	19	0
Ventnor City	Atlantic	6	27	31	11	18
Weymouth township	Atlantic	6	15	0	0	0
Avalon borough	Cape May	6	234	0	13	93
Cape May city	Cape May	6	58	8	21	0
Cape May Point borough	Cape May	6	34	0	3	3
Dennis township	Cape May	6	220	0	0	0
Lower township	Cape May	6	324	0	0	0



Municipality	County	Reg	Prior Round (87-99)	Present Need	Gap Present Need	Prospective Need
			Initial Obligation (unadjusted)			
Middle township	Cape May	6	454	0	0	0
North Wildwood city	Cape May	6	80	0	0	0
Ocean City	Cape May	6	411	187	24	141
Sea Isle City	Cape May	6	109	2	7	100
Stone Harbor borough	Cape May	6	141	3	8	29
Upper township	Cape May	6	317	0	0	0
West Cape May borough	Cape May	6	7	1	3	4
West Wildwood borough	Cape May	6	33	0	0	0
Wildwood city	Cape May	6	0	0	0	0
Wildwood Crest borough	Cape May	6	42	0	0	0
Woodbine borough	Cape May	6	88	0	0	0
Bridgeton city	Cumberland	6	0	0	0	0
Commercial township	Cumberland	6	45	0	0	0
Deerfield township	Cumberland	6	41	0	6	0
Downe township	Cumberland	6	10	13	3	16
Fairfield township	Cumberland	6	79	31	3	0
Greenwich township	Cumberland	6	13	0	0	0
Hopewell township	Cumberland	6	114	7	6	0
Lawrence township	Cumberland	6	10	0	0	0
Maurice River township	Cumberland	6	22	4	0	0
Millville city	Cumberland	6	0	95	0	0
Shiloh borough	Cumberland	6	7	2	1	0
Stow Creek township	Cumberland	6	14	0	5	3
Upper Deerfield township	Cumberland	6	242	27	86	2
Vineland city	Cumberland	6	0	386	0	0
Alloway township	Salem	6	17	13	6	0
Carneys Point township	Salem	6	184	38	28	0
Elmer borough	Salem	6	12	0	20	2
Elsinboro township	Salem	6	26	0	0	0
Lower Alloways Creek twp	Salem	6	26	0	0	0
Mannington township	Salem	6	19	5	7	0

Municipality	County	Reg	Prior Round (87-99) Initial Obligation (unadjusted)	Present Need	Gap Present Need	Prospective Need
Oldmans township	Salem	6	184	0	39	0
Penns Grove borough	Salem	6	0	0	0	0
Pennsville township	Salem	6	228	17	0	0
Pilesgrove township	Salem	6	35	16	27	0
Pittsgrove township	Salem	6	58	36	0	0
Quinton township	Salem	6	15	1	4	0
Salem city	Salem	6	0	0	0	0
Upper Pittsgrove township	Salem	6	27	12	10	16
Woodstown borough	Salem	6	8	0	0	0



APPENDIX F: CALCULATION FOR PARK RIDGE BOROUGH

Present Need	Inadequate Plumbing	Pre-1963 & Crowded (w/ adequate plumbing)	Inadequate Kitchen (only)	Unique Deficient Units (2011-2015)	Est. LMI Proportion	Unique Deficient LMI Units (2011-2015)	Unique Deficient LMI Units (2000)	Annualized Net Change	Present Need (2015)
Park Ridge borough	26	60	48	134	60.6%	81	28	4.1	89

Municipal Allocation of Regional Need	Regional Gap Present Need	Regional Prospective Need	Employment Level Share	Employment Change Share	Income Difference Share	Developable Land Share	Averaged Share of Regional Need	Allocated Gap Present Need	Allocated Prospective Need
Park Ridge borough	11,235	20,772	0.65%	0.00%	0.94%	0.54%	0.53%	60	111

Secondary Source Adjustments	Initial Allocation			Secondary Sources – Change in Need				Allocation Pool			Adjusted Allocation		
	Initial Present Need	Allocated Gap Present Need	Allocated Prospective Need	Demo-litions	Conver-sions	Filter-ing	Total	Applied Locally	Sent to Pool	Received from Pool	Adjusted Present Need	Adjusted Gap Present Need	Adjusted Prospective Need
Park Ridge borough	89	60	111	26	0	(17)	9	9	0	(3)	89	60	117

Allocation Caps	Adjusted Present Need	Adjusted Gap Present Need	Adjusted Prospective Need	Est 2015 Occupied Units	20% Cap Level	Capped Units (20% Cap)	Capped Units (1,000 Unit Cap)	Total Capped Units	Capped Present Need	Capped Gap Present Need	Capped Prospective Need
Park Ridge borough	89	60	117	3,187	637	0	0	0	89	60	117

Initial Summary Obligations	Prior Round (87-99)			
	Initial Obligation (unadjusted)	Present Need	Gap Present Need	Prospective Need
Park Ridge borough	111	89	60	117