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SUPERIOR COURT OF NEW JERSEY
MERCER COUNTY
LAW DIVISION, CIVIL PART
DOCKET NOS. L-1550-15
L-1561-15

IN THE MATTER OF THE
APPLICATION OF THE
MUNICIPALITY OF PRINCETON.

IN THE MATTER OF WEST
WINDSOR TOWNSHIP.

APPROVED FOR PUBLICATION

October 22, 2024

COMMITTEE ON OPINIONS

Decided: March 8, 2018

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I. Introduction

The present matter has arisen out of declaratory judgment actions filed with this court by eleven of twelve Mercer County municipalities seeking to establish Third Round Housing Elements and Fair Share Plans under New Jersey’s Mount Laurel Affordable Housing Doctrine. In re Adoption of N.J.A.C. 5:96 & 5:97 by N.J. Council on Affordable Hous., 221 N.J. 1 (2015) (“Mount Laurel IV”); S. Burlington Cnty. NAACP v. Township of Mount Laurel, 67 N.J. 151, 174 (1975) (“Mount Laurel I”); In re Adoption of N.J.A.C. 5:94 & 5:95, 390 N.J. Super. 1, 15 (App. Div. 2007). The declaratory judgment actions were filed in response to the New Jersey Supreme Court’s 2015 decision that declared the Council on Affordable Housing (“COAH”) defunct and reinstated the courts as “the forum of first instance for evaluating municipal compliance with Mount

Laurel.” Mount Laurel IV, 221 N.J. at 20. In 1985, the New Jersey Legislature adopted the Fair Housing Act (“FHA”), N.J.S.A. 52:27D-301 to -329, and created COAH to oversee municipal efforts to satisfy their constitutionally mandated affordable housing obligations. But, having concluded that COAH was “not capable of functioning as intended by the FHA” when the agency failed to enact judicially acceptable Third Round rules after being given multiple extensions of time, the Supreme Court directed trial courts to both establish affordable housing obligations for New Jersey’s municipalities and certify municipal plans to meet those obligations through declaratory judgment actions. Mount Laurel IV, 221 N.J. at 24-29. In the more than two and a half years following the filing of the Mercer County declaratory judgment actions, three small municipalities dismissed their complaints, citing the expense of the litigation; six have entered settlements with Fair Share Housing Center (“FSHC”) that are moving through the compliance process, seeking judicial approval of their Housing Elements and Fair Share Plans; and two – Princeton and West Windsor – remain litigants in the proceedings to establish a fair share methodology, which is the subject of this decision.

In Mount Laurel IV, 221 N.J. at 3-4, the Supreme Court reaffirmed its commitment to ensuring that New Jersey’s municipalities create a “realistic opportunity” for producing their fair shares of the regional Present and

Prospective Need for low and moderate income (“LMI”) housing. Recognizing COAH’s failure to address the constitutional obligation administratively, the Court directed the trial courts to follow “as closely as possible the FHA’s processes,” *id.* at 6, as implemented by COAH in determining municipal fair share obligations and reviewing the municipal zoning ordinances proposed to achieve constitutional compliance with those obligations. Notably, the Supreme Court directed the trial courts “not to become a replacement agency for COAH,” nor to become “an alternate form of statewide administrative decision maker for unresolved policy details” that remained following COAH’s inability to adopt regulations governing the Third Round. *Id.* at 29. Rather, the trial courts were directed to utilize previous methodologies developed in the First and Second Round rules by COAH to “establish present and prospective statewide and regional affordable housing need.” *Id.* at 30.

The determination of municipal affordable housing obligations requires trial courts to once again delve into the technical complexities involved in developing a methodology to calculate numerical affordable housing needs, bringing to mind the first such effort in AMG Realty Co. v. Township of Warren, 207 N.J. Super. 388 (Law Div. 1984) (“AMG”). After recognizing that the development of a methodology to allocate fair share obligations to municipalities was the “primary step” in achieving the ultimate goal of

providing more affordable housing in New Jersey and satisfying the constitutional mandate imposed by the Mount Laurel doctrine, the AMG court went on to detail the intricate steps it endorsed in establishing a numerical fair share obligation for Warren Township. Its consideration of population projection models, employment factors, and computation of median incomes addressed issues that remain subjects of dispute today, more than thirty years later, and even after COAH developed its own methodologies in the First and Second Rounds pursuant to the FHA, and made three attempts to enact Third Round rules that complied with the Mount Laurel doctrine. Indeed, the AMG court's observation that, "[t]he pivotal question is not whether the numbers are too high or low, but whether the methodology that produces the numbers is reasonable," id. at 453, remains as apt today as it was in 1984. And the challenge facing this court is the same one confronting the AMG court: "to make the subject matter easily intelligible while at the same time not sacrificing accuracy and thoroughness." Id. at 450. In assuming this challenge, the court is cognizant that the endeavor "involves highly controversial economic, sociological and policy questions of innate difficulty and complexity." Oakwood at Madison, Inc. v. Township of Madison, 72 N.J. 481, 533 (1977). In fact, "providing suitable and affordable housing for citizens of low and moderate incomes" remains "one of the most difficult constitutional, legal and social issues of our

day.” In re Adoption of N.J.A.C. 5:94 & 5:95, 390 N.J. Super. at 31. If anything, the passage of time since the establishment of the Mount Laurel doctrine has done little to lessen the controversy, as COAH’s three attempts to adopt satisfactory Third Round rules and the ensuing litigation leading to this proceeding demonstrate.

Finally, as the Supreme Court pointed out in S. Burlington County NAACP v. Township of Mount Laurel, 92 N.J. 158 (1983) (“Mount Laurel II”), and as has been confirmed in this case, fair share determinations are the most time-consuming and difficult part of Mount Laurel litigation:

The most troublesome issue in Mount Laurel litigation is the determination of fair share. It takes the most time, produces the greatest variety of opinions, and engenders doubt as to the meaning and wisdom of Mount Laurel. Determination of fair share has required resolution of three separate issues: identifying the relevant region, determining the present and prospective housing needs, and allocating those needs to the municipality or municipalities involved. Each of these issues produces a morass of facts, statistics, projections, theories and opinions sufficient to discourage even the staunchest supporters of Mount Laurel. The problem is capable of monopolizing counsel’s time for years, overwhelming trial courts and inundating reviewing courts with a record on review of superhuman dimensions.

[92 N.J. at 248.]

Notably, the Supreme Court also recognized that the “tools for calculating present and prospective need and its allocation are imprecise.” Id. at 257. That

imprecision did not deter the Court from directing the trial courts to determine actual numerical obligations for municipalities to satisfy, “not because we think scientific accuracy is possible, but because we believe the requirement is most likely to achieve the goals of Mount Laurel.” Ibid.

The truth of those observations has certainly been borne out in the present proceeding, which consumed more than forty trial days and produced a record containing approximately 300 exhibits. The court reviewed innumerable charts, years of demographic data, and conflicting statistical analyses. The court also listened carefully to testimony from six expert witnesses, two of whom testified for more than twelve days each. Given the importance of the endeavor, however, the court placed very few limitations on the presentation of testimony and evidence in order to allow the parties to compile as complete a record as possible for judicial review. This decision examines that record and, with acknowledged imprecision, but a commitment to achieving reasonable results, adopts a fair share methodology and numerical obligations to guide Princeton and West Windsor in satisfying their constitutional responsibility to provide affordable housing.

II. Factual and Procedural History

In Mount Laurel IV, 221 N.J. at 34, the Supreme Court not only recognized that the administrative process established in the FHA had become

non-functioning, but explicitly directed municipalities to return to the courts to obtain judgments of compliance with their constitutional obligations to provide affordable housing, as had been the case prior to adoption of the FHA and the creation of COAH. Acknowledging that a return to the courts would involve some disruption from the administrative process that the towns had followed previously, the Court established a transition period of ninety days, after which eleven of the twelve Mercer County municipalities filed declaratory judgment actions in the summer of 2015 seeking to obtain approval of their Housing Elements and Fair Share Plans. This court appointed a special compliance master for each town to review their proposed Housing Elements and make recommendations to the court as to whether the municipal Plans passed muster in terms of providing a realistic opportunity for the creation of LMI housing.

However, since COAH had not adopted Third Round rules to establish the methodology for determining the numerical fair share obligation for each town, that task fell to the trial courts. This court consolidated all of the Mercer County declaratory judgment actions for the sole purpose of determining that methodology. Each town would then be treated separately for compliance purposes once a methodology was established. Knowing that determination of a methodology to ascertain numerical affordable housing need presented highly complex and technical issues, the court retained a Special “Methodology”

Master in cooperation with the Mount Laurel judges in Ocean and Monmouth Counties—the two other Counties making up Region 4 under prior COAH practice. That Special Master is economic consultant Richard Reading, who assisted the court throughout the proceedings by reviewing expert reports, making recommendations to the court regarding the many aspects of the methodology where the experts differed, and testifying at the trial. Mr. Reading provided invaluable assistance to the court in evaluating the distinctly different methodologies proffered by both sides to determine municipal fair share obligations. Upon the court's completion of its fair share model, the court provided the results to Mr. Reading for him to calculate the statewide, regional, and municipal obligations that are set forth in this decision.

Likely anticipating that the courts would be put in the position of determining a fair share methodology due to COAH's inaction, Fair Share Housing Center, an established affordable housing advocacy group and a litigant in many affordable housing cases arising under the Mount Laurel doctrine, produced a report in April 2015 presenting a methodology to determine LMI housing obligations in New Jersey for the period 1999-2025, which it offered as an alternative to COAH's un-adopted Third Round rules. In June of 2015, a group of municipalities entered into a shared services agreement with Rutgers University to produce a fair share affordable housing methodology and report of

their own, but that report was delayed until December 30, 2015, after Econsult Solutions, Inc. (“Econsult”), replaced Rutgers University as the towns’ consultant due to the unexpected incapacity of Rutgers professor, Dr. Robert Burchell, who had been a long-time COAH consultant and lead analyst under the Rutgers agreement.

Pursuant to the Supreme Court’s Mount Laurel IV directive, eleven of the twelve Mercer County municipalities filed declaratory judgment actions in the summer of 2015 in Mercer County Superior Court: Hamilton, East Windsor, West Windsor, Lawrence, Robbinsville, Princeton, Pennington, Ewing, Hightstown, Hopewell Township, and Hopewell Borough. The Mercer municipalities were joined by several intervenors: FSHC, New Jersey Builders Association (“NJBA”), OTR East Windsor Investors, LLC, Thompson Realty Company of Princeton, Inc., CF Hopewell, LLC, Howard Hughes Corp., The Blackpoint Group, LLC, and Avalon Watch, LLC. Several additional developers joined as intervenors during the course of these proceedings, and others identified themselves as interested parties. The only Mercer County municipality that did not file a declaratory judgment action was the City of Trenton, a Qualified Urban Aid Municipality or “QUAM” that is not required to satisfy a Prospective Need new construction obligation under COAH practice.

On September 25, 2015, this court consolidated the Mercer County declaratory judgment actions for ultimate disposition as to methodology only, and the court granted and extended temporary, full immunity from Mount Laurel litigation to the towns. That immunity has been extended throughout the duration of these proceedings. In the same order, the court appointed Mr. Reading as Special Methodology Master.

While this court awaited the completion and submission of the municipalities' affordable housing methodology report, it invited the parties to provide briefing on issues relating to compliance rather than methodology that they considered legal in nature and that could conceivably be determined without a trial. The subsequent briefing and argument demonstrated to the court that very few of the issues could be determined without further proceedings because most of the issues were too intertwined with the methodology for calculating municipal obligations to be decided without a full record. Consequently, the decision issued by the court on November 19, 2015, addressed only the issue of bonus credits. The court held that Mercer County municipalities could choose either the Second Round or Third Round framework regarding bonus credits (excluding any Third Round bonus credit rule specifically invalidated by the Appellate Division, such as the compliance bonus), but could not combine credit mechanisms from both Rounds.

On December 18, 2015, the court ordered a trial on the methodology and calculation of state, regional, and municipal affordable housing need allocation (“methodology trial”), targeting April of 2016 as the likely starting date. In preparation for the methodology trial, the court directed the parties to submit, exchange, and comment on each other’s affordable housing obligation reports, which were reviewed and analyzed by Special Methodology Master Reading. The court also authorized depositions of experts, including Mr. Reading.

Meanwhile, proceedings were occurring simultaneously throughout the State. In Region 4, the Honorable Mark Troncone, J.S.C., had directed briefing and argument on the time frame to include in the calculation of affordable housing obligations. While COAH had originally developed regulations projecting need for six-year intervals, later extended to ten-year intervals, a total of sixteen years had passed without effective Third Round rules by the time the Supreme Court returned the process to the trial courts. While it was clear that a methodology had to be developed for the ten-year Prospective Need period of 2015 to 2025, a dispute arose as to how to treat the years from 1999 to 2015, during which time COAH had been unable to adopt a Third Round regulatory scheme acceptable to the courts. This period became known as the “gap” period.

In a decision issued on February 18, 2016, Judge Troncone decided that the methodology to determine municipal affordable housing obligations had to

include a “separate and distinct component” to address the need that arose during the gap period. As noted by the Supreme Court in In re Declaratory Judgment Actions Filed By Various Municipalities, County of Ocean, Judge Troncone “reasoned that the need arising from 1999 to 2015 could be calculated not by using projections into the future, as is typical of prospective need, but by relying on the actual growth that accumulated during that time period.” 227 N.J. 508, 518-19 (2017) (“Mount Laurel V”). On March 15, 2016, this court adopted Judge Troncone’s decision for the Mercer County declaratory judgment actions and instructed the parties in this proceeding to include the sixteen-year gap period in the methodologies they would be submitting to the court for review. Given this added responsibility, the court adjourned the trial until September 2016 to allow the parties to prepare reports addressing gap need.

On July 11, 2016, the Appellate Division reversed the Ocean County decision to include a separate and discrete calculation of need for the gap period, although the appellate court noted that the housing need that arose over the sixteen-year gap period could be included in Present Need. In re Declaratory Judgment Actions Filed by Various Muns., Cnty. of Ocean, 446 N.J. Super. 259 (App. Div. 2016). The Supreme Court subsequently granted certification to review the determination. 227 N.J. 355 (2016).

Shortly thereafter, on July 21, 2016, the Honorable Douglas Wolfson, J.S.C., now retired, decided In re Township of South Brunswick, 448 N.J. Super. 441 (Law Div. 2016). That decision adopted a methodology to calculate a fair share obligation for South Brunswick following an eight-day trial. Judge Wolfson endorsed the methodology proffered by FSHC and its expert, Dr. David Kinsey, except that he did not incorporate the filtering adjustment calculated by Dr. Kinsey, agreeing with the recommendation of former COAH Executive Director Art Bernard. Judge Wolfson reviewed the two competing methodologies without assistance from a court-appointed expert.

In order not to delay further the proceedings in this matter due to Supreme Court review of issues pertaining to the gap period, this court directed that the gap period obligation, if any, be considered separately from the rest of the Third Round methodology pending release of a decision on the gap period from the Supreme Court. This court then directed that the trial on Third Round Need for the Mercer municipalities would begin in January 2017. Of the eleven consolidated Mercer County municipalities, Hightstown, Hopewell Borough, and Pennington had dismissed their declaratory judgment actions, while Hamilton, Ewing, and Robbinsville had settled with FSHC. That left East Windsor, West Windsor, Lawrence, Princeton, and Hopewell Township to participate in the consolidated methodology trial. As the trial progressed,

however, all of the towns except for Princeton and West Windsor entered settlements with FSHC and are proceeding through the compliance process. This decision, therefore, will focus on the fair share obligations of Princeton and West Windsor.

Over forty trial days addressing both the Prospective Need and Gap Present Need methodologies, and extending from January until June 2017, the court heard testimony from Peter Angelides, Ph.D., A.I.C.P. (“Dr. Angelides”), of Econsult and Robert S. Powell Jr., Ph.D. (“Dr. Powell”), on behalf of Princeton, West Windsor, and the New Jersey League of Municipalities (“League of Municipalities”); David N. Kinsey, Ph.D., F.A.I.C.P, P.P. (“Dr. Kinsey”), and Daniel T. McCue (“Mr. McCue”), on behalf of FSHC; and Art Bernard, P.P. (“Mr. Bernard”), and Jeffrey Otteau (“Mr. Otteau”) on behalf of NJBA. Notably, on January 17, 2017, the court denied a motion in limine filed by NJBA to exclude Dr. Powell’s expert testimony. NJBA asserted that since Dr. Powell’s reports addressed the housing market and not any step of the fair share methodology, his testimony should be barred as irrelevant. The court disagreed, determining that Dr. Powell’s testimony could be relevant to provide context for certain methodology issues that would be addressed in the trial. The court further determined that Dr. Powell’s testimony might be helpful in evaluating aspects of the methodology, including choices of datasets, and could

shed light on the likelihood that any methodology chosen would result in the production of affordable housing. As a result, NJBA offered testimony from Mr. Jeffrey Otteau, another housing expert, to rebut the housing market analysis presented by Dr. Powell. In addition, Dr. Kinsey addressed Dr. Powell's testimony as well.

On January 18, 2017, the Supreme Court affirmed but modified the Appellate Division decision regarding gap need, requiring a calculation in the Third Round to determine a gap period obligation as part of Present Need ("Gap Present Need"). As a result of this decision, this court issued an order on January 31, 2017, adding an Expanded Present Need or Gap phase to the methodology trial to follow the conclusion of the "Prospective Need" phase, already in progress.

A. Parties' Positions

The overarching theme of the case presented by Princeton, West Windsor, and the League of Municipalities was that any methodology adopted by the court needed to be based upon development "reasonably likely to occur" by 2025, pursuant to the FHA. And since it was their position that the housing market could not absorb the number of units endorsed by FSHC based on the methodology developed by Dr. Kinsey, they consistently advocated for use of data and methodological steps that would result in much lower obligations.

While Dr. Angelides, the municipalities' expert from Econsult, followed the general outline developed by COAH in prior rounds, he deviated from COAH practice when he determined that superior approaches or datasets were available or, in his opinion, more consistent with the FHA.

On the other hand, FSHC's theme was adherence as much as possible to past COAH practice, especially to the model developed in the Second Round. Where that was not possible due to changes in data availability, Dr. Kinsey proposed approaches that he claimed were close to COAH practice or consistent with principles endorsed by COAH in the past. The NJBA, relying on their primary expert, Mr. Art Bernard, former Executive Director of COAH, generally supported Dr. Kinsey's model, with a few notable variations, the most prominent being Mr. Bernard's rejection of Dr. Kinsey's filtering model as a secondary source adjustment.

Mr. Reading reviewed all of the expert reports and attended the entire trial, making recommendations to the court in his reports and through his testimony as to which steps of each party expert to endorse. He was the only neutral party to participate in the proceedings, characterizing his role as advisor to the court. While the court, in retrospect, would have likely benefitted from consideration of a third model produced by a neutral expert without the strong views of the parties in this case, Mr. Reading nonetheless provided an objective expert

analysis to help the court understand the technical presentations and select the most appropriate steps from each expert to include in the court’s methodology. As will be seen in the lengthy discussion that follows, the court reviewed each step of the methodology and then endorsed one approach for each step, often—but not always—accepting the recommendations of Mr. Reading. The court struggled to be consistent in its approach in adopting Prospective Need and Gap Need methodologies, and combined approaches from the experts with some trepidation as to whether the mixing of elements from each model would produce a coherent methodology without unforeseen negative impacts. In choosing an approach for each step, the court evaluated the credibility of the experts and the reasonableness of the datasets and methods advocated by both sides. The strong advocacy of the experts to support either higher (FSHC) or lower (municipalities) obligations caused the court to approach all party recommendations with healthy skepticism and some dismay when their models resulted in vastly divergent calculations of need. While Mr. Reading’s recommendations had the benefit of objectivity, and he freely selected between the alternatives advocated by each expert, the court evaluated his positions against the record and occasionally selected a different option that the court found more convincing. Prior to examining the steps to incorporate into the

court's fair share methodology, the court will briefly review the backgrounds of the experts who testified and the nature of their testimony.

B. The Experts

1. Dr. Peter Angelides – Offered by the Municipalities

Dr. Angelides earned his undergraduate degree in Urban Studies with a minor in Mathematics from the University of Pennsylvania in 1987, continuing on to earn his Master's Degree in City Planning the following year. Dr. Angelides completed a Master's Degree and then a Ph.D. in Economics in June of 1997 from the University of Minnesota. His areas of expertise are statistics, economic modeling, and development planning. Dr. Angelides' experience included providing financial and strategic advice for public and private entities in the areas of economic development, transportation, real estate, and public policy. Dr. Angelides worked with COAH in 2008-2009 on the second iteration of the Third Round rules while employed by Econsult, and has performed other work in New Jersey related to affordable housing.

Dr. Angelides' approach to developing the fair share affordable housing methodology followed what was described in the municipalities' brief as the "essential principles" established by the Supreme Court to guide trial courts in determining the obligation for each town to meet the constitutional requirements of Mount Laurel I. First, that courts should defer to the will of the New Jersey

Legislature as expressed in the FHA, which directed the “establishment of reasonable fair share housing guidelines and standards,” such that calculation of Prospective Need must be based upon “development and growth which is reasonably likely to occur,”

Second, Dr. Angelides, citing In re Adoption of N.J.A.C. 5:96 & 5:97, 416 N.J. Super. 462, 484 (App. Div. 2010), embraced the municipalities’ view that trial judges should use standards “similar to,” although not necessarily identical to, the guidelines set forth in COAH’s First and Second Round rules to define Present and Prospective Need. The municipalities assert, however, citing Mount Laurel IV, 221 N.J. at 30, that the First and Second Round standards are to be used “as a framework—not a straightjacket—to extrapolate Present and Prospective Need.”

Third, the municipalities argue that the Supreme Court did not strictly prohibit trial judges from making methodological decisions that may qualify as “policy judgments,” but instead urged them to exercise caution when making decisions inconsistent with the Prior Rounds. And finally, the municipalities stressed the universal acceptance among the experts and the Appellate Division of the importance of using the best, most up-to-date data in determining the appropriate fair share methodology. See In re Adoption of N.J.A.C. 5:96 & 5:97, 416 N.J. Super. at 486-87.

Dr. Angelides cited these “essential principles” as the source of his approach to developing a fair share methodology. He asserted that his model is based on, and similar to, methods used in the Prior Rounds; is clear and transparent; utilizes the most recent and appropriate data available on a uniform statewide basis; follows the FHA, court decisions, prior methods, and available data; and results in “realistic” municipal obligations reflecting Present and Prospective Need as defined in the FHA, and as explained in Mount Laurel IV. Angelides Rpt. (May 16, 2016), Exhibit (“Ex.”) P2 at 6.

2. Dr. David Kinsey – Offered by FSHC

Dr. Kinsey received a Master’s Degree in Public Affairs and Urban Planning from Princeton University, as well as a Ph.D. in Public and International Affairs from that same institution in 1975. Dr. Kinsey worked in various positions at the New Jersey Department of Environmental Protection (“NJDEP”) from 1975 to 1983, including serving as the Director of NJDEP’s Planning Group, where he became involved in affordable housing issues. After leaving NJDEP, Dr. Kinsey’s private sector work has included developing Fair Share methodologies and compliance mechanisms, drafting Fair Share plans, and advising private and public sector entities on affordable housing throughout the State. He identified himself as a housing advocate with a long association with FSHC. He has been involved in many different facets of affordable housing

need, compliance, and production in New Jersey for more than three decades. Dr. Kinsey described the principles that guided the preparation of his methodology as close adherence to COAH's Prior Round methodologies, use of the "most up-to-date available data," transparency, accessibility to understanding his methodology's components, and consistency in the time periods and datasets he used.

FSHC and Dr. Kinsey's approach to developing the fair share affordable housing methodology was based on an interpretation of Supreme Court guidance requiring trial courts to apply COAH Prior Round methodologies with minimal discretion limited primarily to selecting data to utilize in the calculations of fair share housing obligations. FSHC cited language from Mount Laurel IV, 221 N.J. at 30, to argue that the Supreme Court did not sanction any deviations from COAH's First and Second Round rules, stating that the methodologies employed in those rounds "should be used to establish present and prospective statewide and regional affordable housing need. The parties should demonstrate to the court computations of housing need and municipal obligations based on those methodologies." Ibid. FSHC dismissed notions that trial courts retained discretion to determine a methodology beyond the selection of currently relevant data, contending instead that the Supreme Court reserved such "discretion" or "flexibility" for the municipal compliance stage, which would follow the

establishment of a methodology and be addressed separately in each Mercer County town that had not settled with FSHC. Id. at 30, 33.

According to FSHC, the Supreme Court prohibited trial courts from reconciling policy debates, contending that selecting deviations from COAH's established approaches would disrupt the comprehensive and considered balancing of policy objectives performed by COAH in the prior Rounds. Dr. Kinsey interpreted the Appellate Division's 2010 directive that trial courts utilize "the most up-to-date available data," to mean the "best data," which was not necessarily the most recent, but the most reliable. Kinsey Rpt. (May 17, 2016), Ex. DF at 10.

3. Mr. Daniel McCue – Offered by FSHC

Mr. McCue is a graduate of Williams College and holds a Master's Degree in Urban Planning from the Harvard University Graduate School of Design. Mr. McCue is currently a senior research associate at the Harvard University Joint Center for Housing Studies. Mr. McCue's research has included demographics, homeownership and rental market trends, affordable housing policies and programs, and mortgage markets. Mr. McCue is principally responsible for the Joint Center's annual "State of the Nation's Housing" report and created the Center's latest household growth projections, which formed the basis for his expert testimony. He was offered as an expert by FSHC to discuss headship

rates, which essentially are used to project the size of households by number of occupants. Mr. McCue supported the manner in which Dr. Kinsey utilized headship rates to determine the number of LMI households in New Jersey in 2025, offered an alternative approach, and criticized the way in which Dr. Angelides utilized headship rates in the Econsult model.

4. Mr. Art Bernard, P.P. – Offered by NJBA

Mr. Bernard received a Master's Degree in City and Regional Planning from Rutgers University, and is a licensed professional planner in the State of New Jersey. Mr. Bernard worked previously as Deputy Director and later Executive Director of COAH, where he participated in the development, drafting, and implementation of the First and Second Round rules. After leaving COAH, Mr. Bernard has served as a consultant for many municipalities. He also has acted as a court-appointed special master in several affordable housing cases. Mr. Bernard has advised clients in both the public and private sectors on affordable housing issues. Given his qualifications and experience working with the First and Second Round rules, Mr. Bernard was permitted to offer testimony on affordable housing issues generally as well as the rulemaking process followed by COAH in the First and Second Rounds.

Mr. Bernard endorsed Dr. Kinsey's model with a few variations, choosing it instead of the approach offered by Dr. Angelides because the Kinsey model

adhered more closely to prior COAH practice. He also criticized a number of the approaches recommended by Dr. Angelides as efforts to use the court as a forum to decide unresolved policy issues that are better left to an administrative agency. Notably, Mr. Bernard supported his rejection of the Econsult/Angelides model by noting that where the Second Round produced a total of seventy-one municipalities with no affordable housing obligations statewide, of which forty-seven were urban aid municipalities that were expressly exempt, Dr. Angelides' methodology, by contrast, yielded 240 municipalities with no obligation, irrespective of the fact that these municipalities were responsible for about one-third of the approximate 85,000-unit statewide obligation in the Second Round.

5. Dr. Robert S. Powell, Jr. – Offered by New Jersey League of Municipalities

Dr. Robert Powell received a Master's Degree and Ph.D. in Public Affairs from Princeton University. He currently works as a managing director for Nassau Capital Advisors in Princeton, New Jersey, which provides financial advisory and consulting services for real estate development projects. Dr. Powell has advised a variety of public and private clients on issues involving the feasibility and financial structure of real estate projects, including affordable housing. Dr. Powell submitted reports, accepted into evidence, which addressed

use of the inclusionary zoning strategy to satisfy the fair share obligations advocated by the parties in this case.

Dr. Powell discussed the effectiveness and limitations of “the inclusionary zoning strategy” as a tool to provide affordable housing through 2025, the end of the Prospective Need period, focusing specifically on demographic and economic constraints. Powell Rpt. (March 30, 2016), Ex. P 24, at 2-3. Dr. Powell testified that the FHA does not require municipalities to spend revenue to provide affordable housing, so that many towns turn to inclusionary zoning to satisfy their fair share obligations. That strategy relies primarily on private capital as opposed to public subsidies. He testified that inclusionary zoning is organized around a bargain with private developers whereby municipalities relax zoning constraints to provide for additional density of market-rate units in return for developers providing LMI units, which essentially are subsidized by the increased number of market-rate units. Typically, a certain percentage of total units in a development will be set aside for LMI housing, with the remaining units leased or sold at market rates. Dr. Powell explained that the strategy assumes that there is significant demand for new market rate housing that cannot be satisfied by current zoning, and thus is largely dependent upon the ability of the New Jersey economy to support the production of market-based

housing in quantities sufficient to subsidize the desired number of affordable units.

After reviewing historic trends in the New Jersey housing market, along with economic and demographic projections, Dr. Powell concluded that inclusionary zoning will be unlikely to satisfy the affordable housing obligations advocated by the parties in this case. He singled out the obligations sought to be imposed by FSHC as particularly unrealistic. His assessment was based upon several factors: (1) a recent shift in new housing development away from rural and suburban areas and back to urban areas that do not receive Prospective Need obligations; (2) the regulatory definition of LMI that includes extremely poor households that are unable to afford low-income units produced by private developers; and (3) his conclusion that, given recent economic and population forecasts, there is no reason to expect that there will be sufficient growth or development in New Jersey between now and 2025 to produce more than a small fraction of the need for affordable housing expected to result from this proceeding. Powell Rpt. (March 30, 2016), Ex. P 24 at 5.

6. Mr. Jeffrey G. Otteau – Offered by NJBA

The NJBA offered Mr. Otteau as an expert in the housing market to rebut the testimony of Dr. Powell. Mr. Otteau is a licensed real estate appraiser and licensed real estate broker who has worked in the field since 1973. Mr. Otteau

founded and continues to work for The Otteau Group, a real estate advisory and evaluation firm in New Jersey that focuses on three key areas: market analysis, property valuation, and advisory services.

Mr. Otteau contended that Dr. Powell’s real estate market forecast through 2025 was unduly pessimistic because it was based on data from years that included the time during and shortly after the Great Recession, which caused extraordinary disruption to the economy and the housing market. He also asserted that the slow post-recession economic recovery in New Jersey has recently accelerated, and that he expects the housing market to similarly rebound, getting stronger through 2025. In fact, Mr. Otteau opined that housing construction demand will rapidly exceed recent averages in the next few years, far outstripping the projections for new construction made by Dr. Powell.

III. Fair Share Legal Standard

The Mount Laurel doctrine recognizes that a municipality’s “power to zone carries a constitutional obligation to do so in a manner that creates a realistic opportunity for producing a fair share of the regional present and prospective need for housing low- and moderate-income families.” Mount Laurel IV, 221 N.J. at 3-4 (citing Mount Laurel I, 67 N.J. at 151; and Mount Laurel II, 92 N.J. at 158). The Supreme Court’s opinion in Mount Laurel II provided the basic framework for establishing whether a municipality has met

its Mount Laurel obligations. See Mount Laurel II, 92 N.J. at 158-221. The Court directed that municipalities must first establish their housing need by calculating a concrete number of housing units, id. at 215-16, and then create housing plans that provide a “realistic opportunity” to meet that housing need, id. at 221.

The Legislature endorsed these objectives when it created an administrative mechanism for enforcing affordable housing requirements through the FHA and the State Planning Act. N.J.S.A. 52:18A-196 to -207. Through the FHA, COAH was specifically tasked with promulgating periodic rules to guide municipalities in both ascertaining their fair share housing obligations and in developing appropriate compliance plans to meet those obligations.

COAH successfully carried out its mandate twice. The First Round Rules in 1986, N.J.A.C. 5:92-1.1 to -18.20, covered housing obligations from 1987 to 1993, while the Second Round Rules in 1994, N.J.A.C. 5:93-1.1 to -15.1, covered housing obligations accrued from 1987 through 1999. While these Rules largely withstood the various legal challenges leveled against them, the Third Round Rules failed on two separate occasions to secure full judicial approval. See In re Adoption of N.J.A.C. 5:94 & 5:95, 390 N.J. Super. at 86-87 (overturning the first iteration, codified at N.J.A.C. 5:94-1.1 to -9.2); In re

Adoption of N.J.A.C. 5:96, 215 N.J. 578 (2013) (overturning the second iteration, codified at N.J.A.C. 5:96-1.1 to -20.4). When COAH failed to comply with the Supreme Court’s directive to promulgate lawful Third Round Rules, leaving a sixteen-year regulatory gap, the Supreme Court removed COAH from its role and restored the courts as the primary enforcement instrument for affordable housing obligations. Mount Laurel IV, 221 N.J. at 19-20. Notably, although COAH proposed a third iteration of the Third Round Rules (“Round 3.3”), the Council deadlocked in voting upon the proposals in 2014, leaving them un-adopted.

In returning responsibility for the Mount Laurel doctrine to the courts, as noted above, the Supreme Court cautioned that the “judicial role . . . is not to become a replacement agency for COAH,” and eschewed creating “an alternate form of statewide administrative decision maker for unresolved policy details of replacement Third Round Rules.” Id. at 29. The Court recognized the Legislature’s preference for an administrative remedy over litigation and instructed the courts to “track the processes provided for in the FHA,” in order to “facilitate a return to a system of coordinated administrative and court actions in the event COAH eventually promulgates constitutional Third Round Rules.” Id. at 29, 34. The Supreme Court specifically directed judges charged with ascertaining municipal affordable housing obligations to use methodologies set

forth in COAH's First and Second Round Rules, while allowing them to seek guidance from the aspects of COAH's Third Round rules not invalidated by the appellate courts. Id. at 30, 33. While seemingly straightforward, this guidance was not always easy to follow as the court reviewed the methodologies advocated by the experts.

The initial formula utilized by COAH to calculate regional and municipal fair share need was patterned to some extent on the trial court's opinion in AMG, 207 N.J. Super. at 397-456. See also Toll Bros. v. Township of West Windsor, 173 N.J. 502, 577 (2002). Therefore, Judge Serpentelli's guiding principles in devising his fair share methodology in AMG are instructive here:

Any reasonable methodology must have as its keystone three ingredients: reliable data, as few assumptions as possible, and an internal system of checks and balances. Reliable data refers to the best source available for the information needed and the rejection of data which is suspect. The need to make as few assumptions as possible refers to the desirability of avoiding subjectivity and avoiding any data which requires excessive mathematical extrapolation. An internal system of checks and balances refers to the effort to include all important concepts while not allowing any concept to have a disproportionate impact.

[207 N.J. Super. at 453.]

With these principles in mind, the court turns to the task of developing a fair share methodology to govern the Third Round, and to provide numerical

obligations that will guide Princeton and West Windsor in satisfying their constitutional responsibility to provide affordable housing through 2025.

IV. Fair Share Methodology

Municipal affordable housing obligations are calculated from four primary components: (1) Prior Round Obligations, if any; (2) Present Need; (3) Third Round Prospective Need from July 1, 2015 to June 30, 2025; and (4) Expanded Present Need from the gap period of July 1, 1999 to June 30, 2015. Because the methodology trial began during the pendency of the gap period appeals, the court bifurcated the trial into two phases: the Prospective Need Phase, which considered calculations of Prior Round Need, Present Need, and Prospective Need, and the Expanded Present Need Phase that dealt with the gap period. Among the challenges facing the court in both phases was the passage of time from the end of the Second Round to the present, and the impact of both lags in available datasets used by the experts and the release of new data after expert reports were filed.

A. Prospective Need Phase Methodology

The first phase of the Mercer County Mount Laurel methodology trial examined the methodological steps used by COAH in the First and Second Rounds, as directed by the Supreme Court in Mount Laurel IV. Drs. Kinsey and Angelides submitted methodologies with steps that generally followed those of

COAH's approaches, but with minor variations in ordering and nomenclature, as well as the proposed addition of some new steps by Dr. Angelides and some modifications by Dr. Kinsey. For purposes of this decision, the methodology is organized into five broad steps by which these experts (1) determined any municipal Fair Share Obligations from Prior Rounds; (2) calculated Present Need by estimating the existing deficient housing currently occupied by LMI households at the municipal level; (3) calculated regional Prospective Need by estimating the regional growth of LMI households from July 1, 2015 through June 30, 2025; (4) allocated regional Prospective Need to the municipalities; and (5) adjusted municipal need, both up and down, based on anticipated changes in affordable housing supply due to secondary sources—demolitions, conversions, and filtering—occurring in the housing market. As will be demonstrated in the following analysis, pursuant to COAH's historic practice, Prior Obligations and Present Need are determined at the municipal level, whereas Prospective Need starts at the county level, is aggregated to the six COAH regions, and then ultimately is allocated to the municipalities. Statewide need, which is included here for illustrative purposes, is determined by aggregating the obligations from each of the six COAH regions.

1. Determine Prior Round Obligations

A Prior Round Obligation is any unfilled portion of municipal affordable housing need assigned by COAH in Prior Rounds. Dr. Angelides identified statewide Prior Round Obligations of 85,853 affordable housing units, the same as assigned in the Second Round, which represents only a minor deviation from Dr. Kinsey’s total of 85,964, the same number published in the second iteration of COAH’s adopted and partially invalidated Third Round rules (“Round 3.2”). Drs. Angelides and Kinsey reported identical Prior Round obligations for Mercer County, as well as the County’s twelve municipalities, so there is no dispute pertinent to the Mercer methodology trial regarding this step in determining fair share obligations. For aggregate purposes, however, the court accepts Dr. Kinsey’s statewide number as representing COAH’s most recent determination of Prior Round Obligations. In addition, the number used by Dr. Kinsey was specifically referenced by the Appellate Division “as the prior round component of the third round obligations” in In Re Adoption of N.J.A.C. 5:96 & 5:97, 416 N.J. Super. at 500. The court thus adopts the Prior Round Need set forth in the following chart:

Prior Round Affordable Housing Obligations

New Jersey	85,964
Region 4	27,359
Mercer County	4,924

Princeton	641
West Windsor Township	899

[Kinsey Rpt. (May 17, 2016), Ex. DF 2 at 22; Reading Rpt. (April 24, 2017), Ex. SM 1 at 5.]

2. Calculate Present Need

Present Need, also known as Indigenous Need, was defined by COAH as the “deficient housing units occupied by low and moderate income households within a municipality.” It is calculated at the beginning of the Prospective Need period and capped for each town based on the proportion of deficient housing stock in the region. N.J.A.C. 5:93-1.3; N.J.A.C. 5:93-2.2. Since there is no direct measure of “deficient housing units,” COAH classified units as deficient in the Second Round utilizing seven selected surrogate measures from the United States Census Bureau. Ibid.; 26 N.J.R. 2345 (June 6, 1994) (codified at N.J.A.C. 5:93 app. A). However, that Census dataset became unavailable and COAH in the Third Round retained only three surrogates: (1) housing that was over fifty years old and overcrowded; (2) lacked complete plumbing; or (3) lacked complete kitchen facilities. The Appellate Division upheld this approach, which is accepted by this court. Mount Laurel IV, 221 N.J. at 33 (citing In re Adoption of N.J.A.C. 5:94 & 5:95, 390 N.J. Super. at 38-40).

Both Drs. Kinsey and Angelides estimated municipal Present Need for two points in time and performed straight-line projections to the start of the Prospective Need period in 2015. For both points in time, each expert determined an estimate of “unique” deficient housing units for each municipality by identifying and accounting for any overlap in units with deficiencies in multiple surrogates, then multiplying that count of unique deficient housing units by the appropriate county’s share of regional LMI households to estimate Present Need for each municipality. The key difference in the methodologies was the cut-off date for determining “old” housing units.

Both experts utilized American Community Survey (“ACS”) data in their calculations. The ACS is an ongoing survey by the United States Census Bureau that gathers a wide range of demographic information between the decennial censuses and is released in one-year, and more detailed five-year estimates. In this step, it was necessary for Drs. Angelides and Kinsey to utilize five-year ACS Public Use Micro Sample (“PUMS”) data, which is a dataset that allows the cross-referencing of multiple types of demographic information. Angelides Rpt. (May 16, 2016), Ex. P2 at 19.

Dr. Angelides calculated the municipal Present Need for 2000 and 2011 (mid-point of the five-year, 2009-2013 ACS PUMS dataset) to project Present Need to 2015. Dr. Angelides concluded that it was necessary to shift the cut-off

date to accurately measure the number of deficient housing units that actually existed in each projection year, and thus considered 1950 and 1960 for 2000 and 2011, respectively, as the cut-off dates to identify “old” housing units.

Dr. Kinsey criticized Dr. Angelides’ use of two cut-off years because that approach utilized two different pools of housing. Dr. Kinsey calculated the municipal Present Need for 2000 and 2012 (mid-point of the five-year, 2010-2014 ACS PUMS dataset) to project Present Need to 2015. Dr. Kinsey, however, considered 1965, fifty years prior to 2015, as the cut-off date to identify “old” housing units for both projection years, claiming that a fifty-year cut-off ending in 2015, rather than cut-offs based on 2000 and 2015, would be more accurate, and would replicate COAH’s approach in the Second Round.

Present Need Estimates (unique deficient LMI units)

New Jersey	Mercer County	
Dr. Angelides	65,034	2,004
Dr. Kinsey	60,015	1,766

[Reading Rpt. (April 24, 2017), Ex. SM 1 at 7.]

Special Master Reading concluded that Dr. Kinsey’s use of a single cut-off date in determining “old” housing units was contrary to the new procedures for determining housing deficiencies and undermined the reliability of Dr. Kinsey’s estimates. The court agrees with Mr. Reading’s appraisal and adopts

Dr. Angelides’ approach, concluding that it makes more sense to determine if a housing unit is “old” at the time it is being counted, rather than if it will be “old” at a particular time in the future. Notably, this calculation of need was one of the only times that Dr. Angelides recommended a higher need number than Dr. Kinsey. Consequently, the Present Need obligations adopted by the court are reflected in the following chart:

Present Need 2015

New Jersey	65,034
Region 4	7,195
Mercer County	2,004
Princeton	80
West Windsor Township	132

3. Calculate Regional Prospective Need

The FHA defines Prospective Need as “a projection of housing needs based on development and growth which is reasonably likely to occur in a region or a municipality” N.J.S.A. 52:27D-304(j). Prospective Need is a number reflecting the estimated incremental change in LMI households within each region during the Prospective Need period. Both Drs. Angelides and Kinsey agreed on a Prospective Need period from July 1, 2015, through June 30, 2025, and accepted the six regions as delineated by COAH, with Mercer County as part of Region 4, along with Ocean and Monmouth Counties.

To determine regional Prospective Need, the experts: (1) predicted the regional population growth over the Prospective Need period; (2) estimated the proportion of that population living in households; (3) estimated the number of households associated with that population; (4) estimated the growth of LMI households during the Prospective Need period; (5) removed households (primarily senior citizens) with significant assets from Prospective Need calculations (Dr. Angelides only); and (6) calculated the regional Prospective Need as the incremental change between the estimate of LMI households at the beginning and end of the Prospective Need period.

a. Predict Population Growth

To estimate the incremental affordable housing need over the ten-year Prospective Need period first requires a projection of population growth over that period. This projection is a critical starting point for the methodology because it is a driver for the steps with the greatest impact on need that follow. That explains why there was extensive testimony about population statistics and datasets from the experts, and likely explains why the parties diverged in their projections, with the municipalities advocating for lower population growth than FSHC during the Prospective Need period.

Indeed, this first step in the Prospective Need methodology vividly demonstrates the complexities involved in just one step of the model. As

explained below, COAH changed the datasets it used from the First Round to the Second Round, used various datasets in the three iterations of the Third Round, and discovered that its past projections had been either too low or too high when the projection periods ended. There was extensive demographic testimony and evidence provided to the court, including updated data that had not been included in either model developed by the experts, but was used to support particular choices of datasets. To say the court had to maneuver through a metaphorical minefield to select a population projection for the Third Round is not an understatement. The experts did agree in testimony, however, that making population estimates is “fraught with uncertainty,” “incredibly imprecise,” and essentially a “risky business.” And the court had to undertake this difficult task without testimony from any expert demographer or clear guidance from COAH, which—as noted above—had used different datasets in the First and Second Round rules and the various iterations of the Third Round rules.

All of the experts admitted that COAH relied primarily in the Prior Rounds upon population projections from the New Jersey Department of Labor (NJDOL) and its successor, the New Jersey Department of Labor and Workforce Development (NJLWD). The First Round used only the population estimates of the Historic Migration Model (HMM), while the Second Round averaged HMM

estimates with population projections from the Economic–Demographic Model (EDM), and added a further adjustment using the proprietary Econometric Model from the Center for Urban Policy Research (CUPR) at Rutgers University. See 26 N.J.R. 2347 (June 6, 1994). When COAH adopted its methodology for the Second Round, both the HMM and EDM projected population by county and by age cohort. 26 N.J.R. 2347 (June 6, 1994) (codified at N.J.A.C. 5:93 app. A). At that time, both the EDM and HMM projected similar total statewide population, but differed in how they distributed that population to the counties. Ibid. The HMM based population projections on past employment, over-projecting to places of historic growth, while EDM’s projections were related to anticipated future employment growth and distributed population more evenly. Ibid. In the Second Round, COAH described the benefits of averaging the two projections:

The averaged projection dampens the distribution of [historic vs. future] growth by allocating shares to central-city counties as well as suburban and rural counties. Each of the individual models allocates growth too regularly in one direction. The averaged projection seems to be much more on target in terms of the distributional realities of growth.

[26 N.J.R. 2347 (June 6, 1994).]

In the years after the Second Round, however, the NJDOL ceased providing population projections below the state level for the HMM. Then, in

the adopted first iteration of the Third Round rules (“Round 3.1”), COAH planned to average the EDM projections with a second set of estimates from the three Metropolitan Planning Organizations (MPO) of the State, noting that “both [the MPO and NJDOL] projections generously state the growth anticipated for the period.” N.J.A.C. 5:94 app. A at 75. Subsequently, in the un-adopted third iteration of the Third Round rules (“Round 3.3”), COAH planned to rely solely on the EDM, stating that, “The procedure employed in this analysis is to use the output of the [EDM]. The [EDM] forecasts the future, and is the preferred model by the State.” 46 N.J.R. 952 (June 2, 2014).

Neither Dr. Angelides nor Dr. Kinsey followed the Second Round exactly, as it was impossible to do so with the HMM no longer providing county or age group data, and without CUPR’s proprietary Econometric Model, which was not reproducible for use by the experts who designed methodologies for the court. Instead, Dr. Angelides averaged population projections from the EDM and HMM as in the Second Round, but modified that Round’s approach by averaging the HMM and EDM statewide population projections and then applying EDM’s county and age cohort distributions to the statewide average to yield averaged projections by county and age cohort combinations.

While Dr. Angelides defended his approach as the most faithful to COAH’s preferred method in the Second Round, he also presented significant

data to convince the court to endorse his approach over that of Dr. Kinsey, relying on recent statistics to show that New Jersey's population growth has slowed considerably in the last few years. Since his approach produced estimates that were the lower of the two, Dr. Angelides urged the court to adopt his projections as the demonstrably more accurate ones. To make his point, Dr. Angelides presented new intercensal 2016 Census Bureau population estimates, which are released annually and update the prior years' estimates back to the previous decennial census. The new estimates showed slower statewide population growth for the 2010-2015 period than was depicted in the 2015 Census updates. Dr. Angelides also cited newly released 2016 NJLWD data to demonstrate that both the HMM and EDM projections had overestimated statewide population growth over the 2000-2016 period, contending that his averaged approach more closely tracked the 2016 population estimates than Dr. Kinsey's projections.

Dr. Kinsey's approach utilized a combination of census population data and EDM population projections. For 2015, Dr. Kinsey relied on population estimates published by the United States Census Bureau as of July 1, 2015, while his 2025 population estimates were derived from the EDM projections. Dr. Kinsey asserted that incorporating census population data at the beginning of the Prospective Need period utilized the "most up-to-date available data" even

though he acknowledged that COAH had not used different data sources for the beginning and end of the Prospective Need period in the Second Round. So, despite his avowed adherence to COAH's Second Round methodology, Dr. Kinsey did, in this instance and in a few other steps, recommend some deviations from COAH's approach in the Second Round. Indeed, even though COAH in the un-adopted Round 3.3 rules relied on the EDM, it made no mention of utilizing Census data in this step and generally avoided inter-mixing data sources for population projections in the manner recommended to this court by Dr. Kinsey.

Special Master Reading was troubled by Dr. Kinsey's inter-mixing of census population estimates and EDM population projections to calculate population growth during the Prospective Need period. Reading Rpt. (April 24, 2017), Ex. SM 1 at 8-11. Mr. Reading concluded that, for the sake of data consistency, Dr. Kinsey should have used the same EDM population estimate source for both 2015 and 2025. He noted that Dr. Kinsey's inter-mixing of data inappropriately skewed his results, significantly increasing projected population growth above both the approach used by Dr. Angelides, and the EDM-only approach that COAH had used in Round 3.3. Mr. Reading provided statistics from which the following chart was prepared to compare the three methods:

New Jersey Total Population Estimates (2012-series)

	<u>2015</u>	<u>2025</u>	<u>Growth</u>
EDM & HMM averaged(Dr. Angelides)	8,969,000	9,273,520	304,520
EDM only	8,974,040	9,377,040	403,000
Census (2015)& EDM 2025) (Dr. Kinsey)	8,958,013	9,377,040	419,027

[Ibid. at 9-11.]

Mr. Reading testified that, although he originally preferred use of the EDM to project population for the Prospective Need period because it was the only projection done by county and age cohort, the slower-than-expected recovery of the New Jersey economy had caused the EDM to significantly over-project population growth in the last few years. As a result, Mr. Reading recommended that the court adopt Dr. Angelides' EDM & HMM averaging methodology to reduce the probability of error that could result if the court relied only on the EDM model or on Dr. Kinsey's approach that had used different data sources at each end of the projection period. He also testified that the court's adoption of Dr. Angelides' approach would result in adoption of population estimates more in keeping with recent demographic data than the projections utilized by Dr. Kinsey. Mr. Reading further testified that Dr. Angelides' method effectively "recalibrated" the EDM population projection distribution with the

HMM statewide projection, which was the lower of the two approaches, and thus was the more accurate estimate when compared to recent New Jersey population trends. While Dr. Kinsey was critical of the recalibration done by Dr. Angelides because it could introduce error into the model, Mr. Reading testified that such interpolations were commonly employed in statistical analysis and had been used by both experts in other parts of their fair share methodologies.

The court concurs with Mr. Reading's recommendation and will adopt the approach utilized by Dr. Angelides, but updated to use the 2016 HMM and EDM projections prepared by NJLWD, which are now available. Notably, as the trial progressed, new data was produced. Indeed, as of the end of the trial, almost two years—or 20 percent—of the Prospective Need period of July 2015 to June 2025 had elapsed. During that time, NJLWD released updated models. In addition, while Dr. Kinsey had cited the population projections of the Rutgers Economic Advisory Service (R/ECON) to support his prediction of population growth of almost 42,000 annually, Dr. Powell testified that Rutgers had subsequently reduced its population growth projection to approximately 27,000 a year, far less than the growth advocated by Dr. Kinsey, and closer to the estimate used by Dr. Angelides. Moreover, although there was testimony from Dr. Kinsey cautioning the court about relying on population swings over a short period of time, the decreased rate of growth in New Jersey since the recession

started in 2008 has continued for close to ten years despite an economic upturn and cannot be ignored by the court.

While both Dr. Kinsey and Mr. Bernard urged the court to ignore the recent data and employ the EDM, that model was shown to have over-projected population in the recent past to a significantly greater degree than the HMM. Ignoring that reality would contradict the direction of the Supreme Court to use the best available and most recent data. In addition, Dr. Kinsey did not utilize the same population data source at both end points of his projection, but inter-mixed data in a way not supported by any past COAH practice and one leading to significant inflation of population growth during the Prospective Need period. As noted by Mr. Reading, in making population projections, results can be significantly skewed by even seemingly small deviations caused by utilizing different data sources at the endpoints.

Averaging the HMM and EDM as COAH did in the Second Round thus makes the most sense based on the record, although the court acknowledges that even averaging is not immune from error due to the need to recalibrate the HMM using EDM population distributions, as well as the inherent speculative nature of all population projections. Given the results of the averaging, however, which better reflect historical data from at least the last ten years, the court finds the approach of Dr. Angelides to be preferable at this point in time. While Mr.

Reading noted the availability of other population projection sources, such as R/ECON, he concluded that there was insufficient evidence in the record to deviate from COAH's primary reliance on the EDM and HMM in Prior Rounds. The court is also reluctant to adopt a data source used neither by COAH nor by any expert who designed a methodology for judicial review.

Mr. Bernard, after acknowledging the imprecision of all population projections, simply asserted that all COAH could do when faced with the similar uncertainty inherent in making estimates of population growth over a period of years was to do its best. That is what the court has endeavored to do here in the face of no completely satisfactory alternative. Thus, the court agrees with Mr. Reading and endorses Dr. Angelides' approach to estimating population growth in the Prospective Need period by averaging EDM and HMM projections, following as closely as possible what COAH had done in the Second Round. Since NJLWD released updated EDM and HMM models after Dr. Angelides prepared his model, the court directs that the newly updated, 2014-based NJLWD projections released in 2016 be used in the methodology, following Mr. Reading's recommendation. Reading Rpt. (April 24, 2017), Ex. SM 1 at 65. The court thus adopts the following aggregated New Jersey total estimated population for the Third Round:

Updated New Jersey Total Population Estimates (2014-series)

	<u>2015</u>	<u>2025</u>	<u>Growth</u>
Averaged EDM & HMM	8,974,810	9,333,820	359,010

b. Estimate Population Living in Households

The base unit in the calculation of affordable housing need is households, not population. Prospective LMI housing need is derived by projecting the population by age cohort and then converting this result to households. 26 N.J.R. 2347 (June 6, 1994) (codified at N.J.A.C. 5:93 app. A). The first step in this conversion is to estimate the total population living in households by removing from total population estimates those individuals living in “group quarters” who were not counted by COAH as representing households in need of affordable housing units. As noted by Dr. Kinsey, the United States Census Bureau defines the term “household” to exclude people living in group quarters, and COAH followed this approach. Kinsey Rpt. (May 17, 2016), Ex. DF 2 at 31. In the Second Round, COAH determined the number of people living in group quarters by using the 1990 Census to update 1980 PUMS data “to eliminate all individuals living in institutions, group quarters, or as boarders/lodgers from potential LMI housing demand. This calculation removes from direct count those people who comprise prison/sanitarium, college, nursing

home, boarders/boarding homes, and other related populations.” 26 N.J.R. 2343 (June 6, 1994) (codified at N.J.A.C. 5:93 app. A).

Notably, COAH excluded individuals living in group quarters from people living in households even though COAH provided compliance credits to municipalities for the creation of “alternative living arrangements.” COAH defined that term in N.J.A.C. 5:93-1.1 as structures “in which households live in distinct bedrooms, yet share kitchen and plumbing facilities, central heat and common areas.” Included in the definition were boarding houses, residential care facilities, and group homes for developmentally disabled or mentally ill persons. Ibid. N.J.A.C. 5:93-5.8 allows municipalities to obtain compliance credits for alternative living arrangements, with credits being awarded for the number of bedrooms created. While there is an inconsistency in this approach in terms of excluding individuals living in group quarters from total population living in households while simultaneously awarding bonus credits for the creation of bedrooms for some of the same people who reside in alternative living arrangements, no expert recommended including people living in group quarters in the determination of affordable housing need at this time, deeming such a consideration to be a policy judgment better left to an administrative agency. The court reluctantly agrees with this approach. Consequently, the court will deduct the estimate of people living in group quarters from the total

population living in households as part of its fair share methodology, although an administrative agency should consider in the future including in its population projections the people housed in alternative living arrangements, since increasing the bedrooms available in such units can generate bonus credits for municipalities in the compliance process.

The estimation of the number of people living in group quarters does not raise a significant methodological dispute here because Dr. Angelides and Dr. Kinsey recommended similar percentages to deduct from total population to account for those individuals living in group quarters. Indeed, their percentages differed by negligible amounts: 2.08 percent compared to 2.09 percent statewide, respectively, for 2015, and 2.13 percent compared to 2.14 percent statewide for 2025. Reading Rpt. (April 24, 2017), Ex. SM 1 at 12-13. While the percentages were similar, application of them to the substantially differing total population estimates recommended by each expert produced divergent results. Because of the negligible difference between Drs. Angelides' and Kinsey's percentage estimates of population living in group quarters, however, and to maintain consistency with the prior step where the court accepted Dr. Angelides' population estimates, the court will accept Dr. Angelides' calculated values of 2.08 percent and 2.13 percent here. When the ratio calculated for group quarters is applied to the total population endorsed in the first step of the

methodology, the court determined the aggregated New Jersey estimated population living in households in the Prospective Need period as reflected in the following chart:

New Jersey Population in Households 2015-2025

	<u>Population</u>	<u>Pop. in Grp. Qtrs.</u>	<u>Pop. in HH.</u>
2025	9,333,820	-196,544	9,137,276
2015	8,974,810	-186,339	<u>8,788,471</u>
Growth of Population in Households			+348,805

c. Estimate Growth of Total Households

The next step is to convert the estimated population living in households into an estimate of the total number of households at both the beginning and end of the Prospective Need period. This conversion requires the calculation and application of headship rates to the projections of population in households in 2015 and 2025. COAH described headship rates as the “propensity to form a household,” 26 N.J.R. 2347 (June 6, 1994) (codified at N.J.A.C. 5:93 app. A), a concept tracked by estimating the percentage of people in each of eight age groups who are heads of households. The calculation also considers the number of people in households. Household projections are determined by county and by eight different “age cohorts,” causing each expert to develop headship rates for 168 combinations of age group and county. While this concept may appear

to be relatively straightforward, determining the headship rates to utilize in the affordable housing model once again thrust the court into a morass of conflicting approaches, each of which had positive and negative aspects. Again, no approach was perfect, and none impressed the court as significantly superior to the others. As was true in selecting a population projection, following COAH practice in regard to headship rates was challenging. Not only did COAH utilize different approaches in Prior Rounds, but it created certain ambiguities in the Second Round that caused at least two of the experts to refer to the Second Round application of headship rates as a “black box.” Despite these difficulties, the court reviewed the record and selected the headship rates it deemed preferable as part of the Prospective Need methodology for use in the Third Round.

In Appendix A to the Second Round Rules, 26 N.J.R. 2342-53 (June 6, 1994), which Mr. Bernard testified was prepared by COAH consultant Dr. Robert Burchell of Rutgers University, COAH stated in a section entitled “Household Projections” that, “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 N.J.R. 2347 (June 6, 1994). This statement endorses use of a trend line in headship rates developed from the ten-year period between the two most recent decennial censuses and applied to

population projections to determine the number of total households in the Prospective Need period. Apparently, however, COAH had used flat headship rates in the First Round, and Appendix A from the Second Round stated in a section entitled “Prospective Need” that, “Both the population cohorts for the base year (1993) and the projection year (1999) are multiplied by 1990 New Jersey county-specific headship rates by age cohort,” suggesting that a flat headship rate was utilized instead of a trend line. Given the explicit language in the section governing “Household Projections,” however, the consensus among the experts was that COAH likely had developed a trend line and used one-half of the rate of change observed between 1980 and 1990 to calculate its headship rates in the Second Round. Notably, the descriptive language in Appendix A did not state clearly whether the trend line started in 1990, the year of the most recent decennial census, or in 1993, the beginning of the Prospective Need period for the Second Round. Mr. Bernard testified that COAH relied upon its consultant, Dr. Burchell, for this aspect of the methodology and—given the conflicting language in Appendix A—Mr. Bernard could not be sure as to the exact approach utilized in the Second Round to determine headship rates.

The complexity inherent in determining headship rates is underscored by the fact that FSHC retained a national expert to supplement testimony from Dr. Kinsey regarding this issue. This aspect of the model was the only area where

FSHC looked to an expert other than Dr. Kinsey. FSHC retained Mr. McCue from the Joint Center for Housing Studies at Harvard University (“Joint Center”) to provide testimony to the court regarding headship rates. While FSHC likely expected Mr. McCue to support Dr. Kinsey’s use of flat headship rates in the Prospective Need period, the Joint Center changed its approach to using a trend line after Dr. Kinsey finished his model. As a result, Mr. McCue offered rationales for alternative approaches, one using a flat headship rate and the other using a trend line. Although Dr. Angelides had used a trend line in determining his headship rates, Mr. McCue objected to Dr. Angelides starting his trend line in 2014 instead of in 2010, the year of the most recent decennial census. Starting in 2014 resulted in lower headship rates over the Prospective Need period than would be the case if the trend were started in 2010. The court thus had to sort out the different approaches advocated by the experts, while remaining cognizant of their admonition that even small deviations in headship rates can translate into significant differences in total households—a key building block in the methodology, and one that has a major impact on the determination of need. Indeed, the court was cautioned that an error in this part of the model would be magnified throughout the rest of the methodology.

Before looking more deeply into the different approaches recommended by the experts, the court will turn to aspects of the methodology where they

agree. Notably, while the population estimates for the model were based on NJLWD projections, all of the experts developed their headship rates using datasets prepared by the United States Census Bureau. They used population statistics from the two most recent decennial censuses—2000 and 2010—finding those datasets to be the most reliable ones available. Since the Prospective Need period began in 2015, Drs. Angelides and Kinsey relied upon the most recent household data available when they prepared their reports—the 2014 ACS—a Census Bureau product based on a sampling of households and not a complete population count. Although the ACS was not available during the Second Round, Drs. Angelides and Kinsey agreed that it was an appropriate dataset to use in developing headship rates for the Third Round. Notably, however, Mr. McCue, who identified himself as a housing demographer, testified that it is well known that although the ACS reports population estimates similar to those reported in the decennial Census, the ACS significantly underreports headship rates throughout the country. To correct for this acknowledged aberration, Drs. Angelides and Kinsey adjusted the 2014 ACS headship rates with a “calibration factor” calculated by comparing 2010 Census—derived and 2010 ACS—derived headship rates and adjusting the ACS data to reflect the Census-derived headship rates. While some of the experts voiced concern at various steps of the model concerning manipulating data, the calibration done in this step showed

that some recalibration of data is well-recognized when circumstances require adjustments.

After recalibrating the ACS data, Dr. Angelides then followed the explicit language in Appendix A of the Second Round by calculating a trend line at one-half the change in headship rates between the two most recent decennial Census years of 2000 and 2010 and then projecting the trend to 2025 from the calibrated 2014 ACS headship rate, for each New Jersey county and age cohort. From these trend lines, Dr. Angelides determined aggregated statewide 2015 and 2025 headship rates of 37.04 percent and 37.45 percent, respectively.

Although Dr. Kinsey professed strong allegiance to the Second Round practices of COAH throughout the trial, he deviated from the apparent Second Round methodology by holding the calibrated 2014 ACS headship rates steady from 2014 into 2015 and 2025. Dr. Kinsey justified this deviation from the Second Round by citing an annual study from the Joint Center for 2015, which used flat headship rates. Although Dr. Kinsey held headship rates constant in his projection, growth rate variations between county and age cohort pairs yielded increasing aggregated headship rates of 37.11 percent and 37.71 percent for 2015 and 2025 respectively. Reading Rpt. (August 31, 2016), Ex. SM 4 at 36.

Drs. Angelides and Kinsey made the following recommendations to the court:

New Jersey Aggregated Headship Rates

	<u>2015</u>	<u>2025</u>	<u>Difference</u>
Dr. Angelides	37.04%	37.45%	00.41%
Dr. Kinsey	37.11%	37.71%	00.60%

[Reading Rpt. (April 24, 2017), Ex. SM 1 at 18.]

While the differences seem minor, as noted earlier, even small deviations in headship rates can have a significant impact on calculating total households, which in turn affects the ultimate calculation of affordable housing need throughout the State.

Although Mr. McCue testified that keeping the headship rates flat, as Dr. Kinsey did, was reasonable, he proposed yet a third approach that used one-half of the observed change in headship rates, similar to what was advocated by Dr. Angelides, but adopting 2010 as the starting point, instead of 2014. Mr. McCue asserted that projecting headship rate trend lines from 2014 would not accurately reflect the expected post-recession recovery in household growth, citing studies indicating that headship rates tend to correct back to their long-term trends following recessions.

Special Master Reading accepted the “recalibration” of ACS-derived headship rates utilized by Drs. Angelides and Kinsey as it yielded a reasonable

correction to known ACS headship rate deviations, and enabled utilization of a more recent projection year. Upon considering all of the alternatives, he endorsed Dr. Angelides' approach, but adjusted it to project from 2015, the beginning of the Prospective Need period, instead of 2014, because more recent data was now available that coincided with the start of the period. Mr. Reading also endorsed use of the trend line over flat rates as consistent with what he believed COAH had done in the Second Round. In addition, Mr. Reading preferred use of a trend line based on one-half of the observed change because it mitigated the extreme effects that could arise from relying on an atypical time period, such as 2000 to 2010, which included three distinct economic trends: pre-recession, recession, and early recovery.

In support of his endorsement of Dr. Angelides' trend line approach updated to use 2015 ACS recalibrated data, Mr. Reading cited the fact that the Joint Center, relied upon by Dr. Kinsey as having used flat rate headship projections, had recently returned to relying upon a trend line calculated with one-half the rate of change. Mr. Reading rejected Mr. McCue's recommendation to start the trend line in 2010, however, because Mr. McCue had based his opinion on nationwide data concerning recovery from the recession, which data was inconsistent with the much slower recovery being experienced in New Jersey. While noting that COAH's Second Round rules

were unclear as to whether COAH had projected its one-half headship rate trend line from the 1990 decennial Census year, or had instead used 1993, the beginning of the Second Round Prospective Need period, Mr. Reading endorsed starting the trend line at the beginning of the Prospective Need period as making more sense in the current circumstances given recent economic trends in New Jersey and the availability of actual data for 2015.

In determining the appropriate methodology for this step, the court must choose both a proper projection starting year and headship rate approach. First, the court agrees with Mr. Reading that it makes sense to project headship rates from the beginning of the Prospective Need period using newly available, although appropriately recalibrated ACS data, a dataset that was not available to COAH in the Second Round. The court prefers use of a trend line over a flat rate because the record strongly suggests that COAH followed this procedure in the Second Round and the Joint Center recently endorsed a trend line approach. Indeed, when pressed on cross-examination, Mr. McCue expressed a slight preference at this point in time for developing a trend line using one-half the observed change in headship rates, unsurprisingly endorsing the recent change implemented by the Joint Center in its national housing study.

The selection of the starting point for the trend line presents a thornier issue because the reasons supporting the choices made by the experts did not

point to a definite answer. Nor was there explicit guidance from COAH to follow. But it did appear that Mr. McCue's recommendation was based on a national rebound from the recession that has not been replicated in New Jersey, which is recovering at a slower rate. Mr. McCue admitted to not being an economist and to a general lack of familiarity with both recent economic trends in New Jersey and COAH practice. He did acknowledge, however, that headship rates in New Jersey were abnormally low and that his own trend line had anticipated more significant growth than had actually occurred in the State based on recent data. He also stated that increases in headship rates lag behind improvement in other economic areas such as employment following a recession, suggesting to the court that the starting point for the trend line recommended by Mr. Reading as an adjustment to the one endorsed by Dr. Angelides offers the best alternative based on recent economic conditions in New Jersey. Indeed, the court is not persuaded based on the record that New Jersey's headship rates will recover to pre-recession levels by the end of the Prospective Need period, as assumed by Mr. McCue, who recommended projecting from 2010. In addition, COAH noted in the Second Round that headship rate growth is typically greatest in the younger age groups, 26 N.J.R. 2347 (June 6, 1994), and there was testimony in the record that New Jersey has more young adults living with their parents than any other state in the country.

These considerations also persuaded the court to reject Mr. McCue's trend line. The court further notes that while Mr. McCue is a national expert in headship rates, Mr. Reading is much more familiar with economic trends in New Jersey, so that his endorsement of starting the trend line in 2015 based on the current state of the New Jersey economy carried greater weight.

The court also concurs with Mr. Reading that a one-half headship rate projection is appropriate to account for the uncertainties presented by the period following the Great Recession. Indeed, the court finds a one-half headship rate trend line, projected from 2015, to be reasonable as it strikes an appropriate balance between Mr. McCue's proposal, which too optimistically assumes household trends will recover by the end of the Prospective Need period to where they would have been but for the recession, and Dr. Kinsey's flat headship rate approach that completely disregards prevailing housing trends. Moreover, as noted by Mr. McCue, there is only a slight difference between the headship rates endorsed by Dr. Angelides and Dr. Kinsey, despite their dissimilar approaches, while the difference between those headship rates and the ones produced by Mr. McCue's alternate trend line projecting from 2010 was much more pronounced.

The court is thus much more comfortable selecting Dr. Angelides' trend line, which resulted in headship rates closer to the ones advocated by Dr. Kinsey,

than it is endorsing Mr. McCue’s trend line, which produced more aberrant results. The court consequently will follow Mr. Reading’s recommendation and adopt Dr. Angelides’ trend line using one-half the observed rate of change in headship rates when projecting 2015 and 2025 headship rates, but will project from calibrated 2015 ACS-derived headship rates, as suggested by Mr. Reading. After reviewing all of the alternatives, this one is the best. The court also notes that since it endorsed the population projection approach advocated by Dr. Angelides and Mr. Reading, the headship rates selected by the court will be applied to those projections. The results of this analysis, showing the aggregated New Jersey estimated growth in total households in the Prospective Need period, are reflected in the following chart:

New Jersey Total Households 2015-2025

	<u>Headship Rate</u>	<u>Population in HH.</u>	<u>Total HH.</u>
2025	37.63%	9,137,276	3,438,417
2015	37.11%	8,788,471	<u>3,261,626</u>
Total Household Growth			+176,791

d. Estimate LMI household growth during the Prospective Need period

Once the projected numbers of total households at the beginning and end of the Prospective Need period have been determined, the next step is to estimate the proportion of those households that qualify as LMI at each point in time.

Having those estimates will allow the court to determine the growth of LMI households during the period (“LMI Household Growth”), another key factor in the development of the fair share methodology. In the Prior Rounds, COAH accomplished this step by calculating and then applying the ratios of LMI households to total households (“LMI Household Ratio”) by county and age cohort, and then aggregating the results to the regions. Prior Round rules do not reveal the precise calculations COAH used in this step, although some guidance can be gleaned from COAH’s statements. In evaluating Drs. Angelides’ and Kinsey’s approaches, the court has identified two distinct sub-steps that require consideration: 1) selection of income qualification data to use in calculating LMI Household Ratios, and 2) how LMI Household Ratios are applied to Total Household projections to estimate LMI Household Growth in the Prospective Need period. The court discusses each in turn.

i. Income Qualification Data Used in Determining LMI Household Ratio Calculation

In the Prior Rounds, COAH calculated LMI Household Ratios in this step of the methodology by utilizing income grids it developed from median income thresholds established by the Federal Department of Housing and Urban Development (“HUD”) for its affordable housing programs, as authorized in the FHA:

Moderate income housing means housing affordable according to [HUD] 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).]

By incorporating HUD standards into its fair share methodology, COAH was following the suggestion of the Supreme Court in Mount Laurel II, 92 N.J. at 220-21 n. 8, which acknowledged the benefit of incorporating well-accepted federal standards into New Jersey's affordable housing program.

COAH's Second Round rule-making expressly noted that the agency was using HUD income limits, based upon household size, to establish the LMI income thresholds from which LMI Household Ratios were determined:

Total households for [1993 and 1999] are converted to low- and moderate-income households by carrying forward the income characteristics of all households in 1990 to 1993 and 1999 by age cohort. Low- and moderate-income households are sorted by applying the Section 8 household size/income qualification criteria that were used in 1992

[26 N.J.R. 2347 (June 6, 1994) (codified at N.J.A.C. 5:93 app. A).]

COAH used HUD median income data from each county in New Jersey to calculate a weighted average median income for a family of four for each region.

N.J.A.C. 5:93-7.4(a). COAH then calculated median incomes for households larger and smaller than four by applying multipliers used by HUD, as shown for Region Four in 2014:

COAH Calculated Median Income by Household Size 2014 – Region 4

Household Size	1	2	3	4	5	6	7	8+
Multiplier	0.7	0.8	0.9	1	1.08	1.16	1.24	1.32
Median	\$64,830	\$74,091	\$83,353	\$92,614	\$100,023	\$107,432	\$114,841	\$122,250
Moderate	\$51,864	\$59,273	\$66,682	\$74,091	\$80,018	\$85,946	\$91,873	\$97,800
Low	\$32,415	\$37,046	\$41,676	\$46,307	\$50,012	\$53,716	\$57,421	\$61,125
Very Low	\$19,449	\$22,227	\$25,006	\$27,784	\$30,007	\$32,230	\$34,452	\$36,675

[Angelides Rpt. (May 18, 2016), Ex. P 2 at 42.]

COAH made the policy decision to adopt HUD’s multiplier adjustments to establish median income thresholds “based on the philosophy that if you have more children/dependents or household members you can earn more and still qualify for moderate/low income; in reverse fashion, if you have fewer dependents or members, it is more difficult to qualify by establishing a lower income for qualification.” 26 N.J.R. 2345 (June 6, 1994) (codified at N.J.A.C. 5:93 app. A).

It is important to note that COAH used its HUD-based income grids both to calculate fair share affordable housing obligations, as well as to set maximum rent and sales prices for LMI housing units throughout the State of New Jersey. The calculation of need thus directly relates to the household income requirements governing access to affordable housing. Notably, other State

agencies have also adopted the COAH income grid to qualify LMI households for affordable housing, achieving a welcome uniformity. Prior to 2001, COAH, the Department of Community Affairs (DCA), and the New Jersey Housing and Mortgage Finance Agency (HMFA) had adopted inconsistent and overlapping sets of rules regarding the continuing affordability of housing constructed pursuant to the FHA. In re Adoption of Unif. Hous. Affordability Controls, 390 N.J. Super. 89, 95 (App. Div. 2007). In 2001, HMFA established the Uniform Housing Affordability Controls (UHAC), N.J.A.C. 5:80-26.1 to -26.26, which were subsequently also adopted by COAH, N.J.A.C. 5:93-9.17, and DCA, N.J.A.C. 5:43-4.10. In re Adoption of Unif. Hous., 390 N.J. Super. at 96. UHAC created a single regulatory scheme to be used by State and municipal affordable housing administrators and provided an array of new enforcement tools to ensure compliance. Ibid. (citing 36 N.J.R. 3660 (Aug. 16, 2004)). UHAC's restrictions on sales prices and rents for affordable housing units are based on COAH's income grid, with UHAC defining median income as, "the median income by household size for an applicable county, as adopted annually by COAH." N.J.A.C. 5:80-26.2.

For this step in the methodology, the experts' approaches differed substantially. Dr. Kinsey used an income grid in his calculations, but because COAH had not released an updated income grid since 2014, Dr. Kinsey updated

the grid himself utilizing what he determined to be COAH's Prior Round methodology and the HUD 2015 county income limits by family size. Kinsey Rpt. (May 17, 2016), Ex. DF 2 at 39. Dr. Angelides, on the other hand, rejected COAH's income grid, and calculated LMI Household Ratios from mathematical median incomes, relying on the language in the FHA that identified LMI households as those with gross household incomes less than 80 percent 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(c), (d). Dr. Angelides calculated median incomes directly from the one-year 2014 ACS data for each household size by region. He then set LMI thresholds below eighty percent of the calculated median household incomes for each household size by region.

Dr. Angelides criticized COAH's methodology as resulting in arbitrary median income thresholds that did not reflect actual, measurable median household incomes, and asserted that they ultimately produced LMI proportions in violation of the FHA. Dr. Angelides noted, for example, that the COAH grid was overly generous to one and two-person households by allowing them to qualify for affordable housing with much higher incomes than actual median incomes for those household sizes would allow. Dr. Angelides asserted that his approach mitigated the statistical anomalies inherent in the Prior Round

methodology that eschewed true median incomes in favor of the HUD-derived medians incorporated into the COAH income grid.

Special Master Reading preferred Dr. Angelides' approach because it utilized precise mathematical calculations based on actual median incomes and produced approximate forty percent LMI Household Ratios, consistent with the mathematical definition of median when applied to the FHA. Mr. Reading disagreed with Dr. Kinsey's use of an income grid because the grids were developed for the purpose of qualifying people to obtain affordable housing, not to determine affordable housing obligations that must be met by municipalities. Mr. Reading also expressed concern regarding Dr. Kinsey's use of HUD's median incomes, because HUD had recently changed its method for determining median incomes and was now utilizing ACS data. However, while expressing concern that COAH had not effectively updated its HUD-derived income grid since 2012, Mr. Reading nonetheless testified that, despite his disagreement with the use of an income grid for determining affordable housing need, he accepted Dr. Kinsey's method for updating the COAH income grid as sound. Mr. Reading added that HUD's new method for determining median incomes would likely have been accepted by COAH, were the agency still functioning. Dr. Kinsey incorporated the new HUD procedure into the COAH-inspired grid he prepared and utilized in his methodology.

The court rejects Dr. Angelides' assertion that the use by COAH and Dr. Kinsey of income grids to calculate affordable housing obligations violates the FHA. The FHA explicitly references HUD standards, as quoted above, and COAH repeatedly made the unambiguous policy decision to use the same income grid for determining affordable housing need as it used for income qualification and for the pricing of affordable housing units. Indeed, Mr. Bernard cited text from the summary of proposed changes to COAH's First Round rules in which COAH determined to use income grids as a means to remedy situations where individual LMI households that were included in need calculations could not afford the LMI housing constructed within their region:

The Council believes that the standards set for pricing and income qualification in a region should be the same as that used to determine need. Therefore, the Council is proposing regional income standards, to eliminate such inequities, based on New Jersey income data.

[25 N.J.R. 1121 (March 15, 1993).]

The same HUD-derived income data was used in the Second Round. 26 N.J.R. 2344-45 (June 6, 1994) (codified at N.J.A.C. 5:93 app. A). COAH's interpretation and application of the FHA is entitled to deference. Indeed, a long period of consistent construction by an administrative agency in the field of its expertise should be given great weight by the courts. Mastrobattista v. Essex Cnty. Park Comm'n, 46 N.J. 138, 146 (1965); Pringle v. N.J. Dep't of Civil

Serv., 45 N.J. 329, 332-33 (1965). While the court appreciates Mr. Reading's fidelity to mathematical principles and thus his preference for calculating LMI Household Ratios using true mathematical median incomes, the court cannot accept his recommendation in this regard. COAH repeatedly endorsed the use of a HUD-derived grid system to determine median income thresholds, by household size, as an important policy that linked the determination of affordable housing obligations to the means of qualifying households that could access that affordable housing. COAH made this policy decision through the regulatory process with public participation and judicial oversight. In addition, the UHAC regulations now directly link the continuing affordability of housing constructed pursuant to the FHA to the COAH income grid for a number of State agencies. To discard the income grid at this juncture would not only undercut established policy decisions by COAH, but could very well lead to an imbalance between affordable housing units made available pursuant to constitutional requirements and LMI households that qualify to live in that housing.

To illustrate this point, Mr. Bernard demonstrated that under Dr. Angelides' methodology, persons making less than \$32,000 would have trouble affording any of the LMI housing that is regulated through the UHAC regulations. Moreover, in endorsing the use of an income grid, as updated by Dr. Kinsey based on HUD standards and COAH methodology, this court is

following the admonition of the Supreme Court to follow the Prior Rounds and refrain from acting as an administrative agency charged with making policy decisions. Indeed, in the South Brunswick methodology trial, Judge Wolfson adopted Dr. Kinsey's approach, citing the fact that he had utilized COAH's income grid. In re Township of South Brunswick, 448 N.J. Super. at 458. The court therefore accepts Dr. Kinsey's updated COAH income grid that Mr. Reading recognized as reasonable and adopts its use in determining LMI Household Ratios in this step.

ii. Application of LMI Household Ratios

Although the court agrees with Dr. Kinsey that an updated COAH income grid should be used to determine LMI Household Ratios, the court cannot fully endorse his approach to determining LMI Household Growth in the Prospective Need period using that grid because Dr. Kinsey deviated from Prior Round methodology in the application of those LMI Household Ratios.

COAH's Second Round rules only briefly summarize the calculations performed to estimate LMI Household Growth, yet the court was able to glean valuable insights regarding the best approach to apply from clarifying language added by COAH to the un-adopted Round 3.3 rules, as well as from testimony given at trial. In discussing the methodology used to estimate LMI Household

Growth during the Second Round Prospective Need period from 1993 to 1999,

COAH stated that:

Total households for [the first year and last year of the Prospective Need period] are converted to low- and moderate-income households by carrying forward the income characteristics of all households in 1990 to 1993 and 1999 by age cohort. Low- and moderate-income households are sorted by applying the Section 8 household size/income qualification criteria that were used in 1992 to a different number of households that exist in each [age] cohort in 1993 and 1999. Thus, to the degree that age cohorts are differently composed and growing differently, the low- and moderate-income population will also change as it ages into the future.

[26 N.J.R. 2347 (June 6, 1994) (codified at N.J.A.C. 5:93 app. A).]

Although this Second Round language suggested that the methodology could result in significant changes in age distribution in the LMI population during the Prospective Need period, language added in the un-adopted Round 3.3 rules made clear as recently as 2014 that, despite any change in the composition of the LMI population, the methodology should still produce an overall proportion of LMI Household Growth to Total Household Growth during the Prospective Need period (“LMI Household Growth Rate”) of about forty percent:

. . . to the degree that age cohorts are differently composed and growing differently, the low- and moderate-income population will also change as it ages into the future. Nonetheless, almost by definition, about 40 percent (40.622%) of household growth will

be comprised of low- and moderate-income household growth.

[46 N.J.R. 953 (June 2, 2014).]

Since COAH's proposed Round 3.3 language appeared to fundamentally reprise this step from the Second Round methodology, the court found this comment instructive on two points. First, despite any variations from true mathematical median incomes introduced by the use of income grids in these calculations, the percent of household growth comprised of LMI households should still be near the forty percent that calculations using true mathematical median incomes would have produced. That follows from the definition of LMI households in the FHA that references fifty percent of eighty percent of median incomes. Secondly, COAH made clear that the ratio of LMI Households to total households would be "about 40 percent" despite demographic shifts in age cohorts during the Prospective Need period. See also In Re Adoption of N.J.A.C. 5:94 & 5:95, 390 N.J. Super. at 38, where the Appellate Division acknowledged COAH's determination that "approximately forty percent" of household growth in the Third Round would qualify as LMI households.

The un-adopted Round 3.3 rule-making process also added an appendix that provided additional insights into the methodological steps to utilize in the then Prospective Need period of 2014 to 2024. There COAH noted that the

statewide LMI Household Ratio at the end of the Prospective Need period was assumed to be the same as the statewide LMI household ratio at the beginning of the Prospective Need period:

The first step in understanding low- and moderate-income housing need in New Jersey is identifying the share of households with incomes below 80 percent of their regional medians – those households qualifying for housing assistance through federal and state programs. This methodology then assumes that the same portion of New Jersey’s new households [in 2024] will be below 80 percent of their regional median incomes as were below 80 percent of their regional median [in 2014]. . . .

[46 N.J.R. 982 (June 2, 2014).]

COAH further demonstrated that the constant LMI Household Ratio that was calculated at the beginning of the Prospective Need period would result in the same overall LMI Household Growth Rate during the period:

According to these procedures, low- and moderate-income households represent 40.622 percent of all households in the State [as of 2014]. 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.

[46 N.J.R. 984 (June 2, 2014).]

Mr. Bernard, former Executive Director of COAH, confirmed in testimony that COAH had similarly utilized constant LMI Household Ratios that

were calculated at the beginning of the Prospective Need period to determine LMI Household Growth in the Second Round. Mr. Bernard further explained that LMI Household Ratios could deviate from exactly forty percent because they were not derived from “true medians,” but from median incomes based on the COAH income grid.

Further confirmation of COAH’s use of constant LMI Household Ratios, as well as the rationale for doing so, was provided during Dr. Kinsey’s testimony in an excerpt from a book by Dr. Robert Burchell, who was the primary consultant working with COAH in developing Prior Round methodologies:

The income distribution among society’s population is a function of many past and present conditions

Rather than attempting to project these many practically imponderable future conditions, the share of Mount Laurel households as a percent of regional population base is assumed to remain constant over the time period projected in this study. What this says is that the proportion of those households at 80 percent of median income or less and observed in 1980, will be assumed to remain constant by age cohort into the future. The size of the cohort may change due to the effects of assumptions regarding births, deaths, and migration by age cohort, but the share of Mount Laurel eligibles within each age-cohort will remain the same.

[Kinsey Rpt. (May 17, 2016), Ex. DF 67 at 5 (quoting Robert Burchell, Mount Laurel II: Challenge and Delivery of Low-Cost Housing, Center for Urban Policy Research, 1983, at 124-25).]

In this excerpt, Dr. Burchell made clear that because predicting future median income levels involved “many imponderables,” LMI Household ratios were not calculated at the end of the Prospective Need period. Instead, LMI Household Ratios calculated at the beginning of the Prospective Need period for each age cohort were held constant, which agrees with the language contained in the un-adopted Round 3.3 rule-making process, for which Dr. Burchell also served as a COAH consultant.

Given COAH’s Second Round methodology, and the additional guidance provided in the un-adopted Round 3.3 rulemaking process, as well as by COAH’s former Executive Director and Dr. Burchell, the court concludes that the proper approach here is to calculate LMI Household Ratios, by age cohort, at the beginning of the Prospective Need period, then apply those ratios to Total Households at the beginning and end of the period to determine LMI Household Growth. The court also concludes that the resulting LMI Household Growth Rate during the Prospective Need period should be “about 40 percent”.

(a) Dr. Angelides

Dr. Angelides did apply constant 2015 LMI Household Ratios to 2025 household data, but as discussed previously, he utilized median incomes derived directly from ACS data instead of using the COAH income grid. Dr. Angelides’ approach resulted in a negligible variation in LMI rates for 2015 and 2025 when

aggregated to the State level and an LMI Household Growth Rate of 40.71 percent, as shown in the following chart:

Dr. Angelides LMI Household Projections 2015 – 2025

	<u>2015</u>	<u>2025</u>
Total HHs	3,252,210	3,398,450
LMI HHs	1,298,400	1,357,940
LMI HH Ratio	39.92%	39.96%

Prospective Need Period

Total HH Growth	146,240
LMI HH Growth	59,540
LMI HH Growth Rate	40.71%

[Reading Rpt. (August 31, 2016), Ex. SM 4 at 48.]

While the court acknowledges that Dr. Angelides’ use of LMI Household Ratios of “about 40 percent” is consistent with COAH practice, the court cannot accept his approach because it is not based on the COAH grid and results in a mismatch between affordable housing obligations and income qualifications. The court will, therefore, review the approach advocated by Dr. Kinsey, who appropriately used an updated income grid in this step of the methodology.

(b) Dr. Kinsey

Although Dr. Kinsey testified that he followed the Second Round in calculating LMI Household Growth, he actually deviated from COAH’s approach substantially by not applying constant LMI Household Ratios in his calculations. Dr. Kinsey calculated LMI Household Ratios by age cohort and county for 2015 by “sorting” updated PUMS Census income data by his income grid-derived 2015 regional LMI income thresholds. Kinsey Rpt. (May 17, 2016), Ex. DF 2 at 38-41. Dr. Kinsey then applied his calculated 2015 LMI Household Ratios to 2015 intercensal population estimates and determined that 41.41 percent of the State’s 3.2 million households qualified as LMI in 2015. Reading Rpt. (April 24, 2017), Ex. SM 1 at 22-25. However, Dr. Kinsey did not then apply his 2015 calculated LMI ratios to 2025 population projections, but instead repeated his calculations for 2025 utilizing the same regional 2015 LMI income thresholds, yielding an aggregated 2025 statewide LMI household ratio of 42.96 percent, a significant increase over 2015. Ibid. More strikingly, Dr. Kinsey’s approach produced a statewide LMI Household Growth Rate of 67.65 percent during the Prospective Need period, resulting in a significant deviation between the two experts’ conclusions:

Dr. Kinsey LMI Household Projections 2015 - 2025

	<u>2015</u>	<u>2025</u>
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Total HHs	3,255,437	3,460,112
LMI HHs	1,348,144	1,486,615
LMI HH Ratio	41.41%	42.96%

Prospective Need Period

Total HH Growth	204,675
LMI HH Growth	138,471
LMI HH Growth Rate	67.65%

[Ibid.]

Special Master Reading took issue with Dr. Kinsey’s approach, pointing out that in his January 22, 2016, gap period report for the Ocean County Mount Laurel methodology trial, Dr. Kinsey had projected LMI Household Ratios to be stable and essentially unchanged at about 41.30 percent during the 1999 to 2015 gap period. Reading Rpt. (April 24, 2017), Ex. SM 1 at 26-27 (citing Ex. P 98 at 19). Mr. Reading concluded that while Dr. Kinsey’s statewide 2015 LMI Household Ratio of 41.41 percent for these proceedings appeared to be within reasonable proximity to COAH’s previously endorsed range, his 2025 ratio of 42.96 percent was an outlier, which Mr. Reading concluded was caused by Dr. Kinsey’s inappropriate mixing of data sources. Id. at 22. Moreover, Mr. Reading concluded that Dr. Kinsey’s significant increase in LMI proportions between 2015 and 2025 led to the untenable conclusion that 67.65 percent of

total household growth during the Prospective Need period was in LMI households.

Mr. Reading reiterated that, as in the calculations of headship rates, it is not the absolute LMI Household Ratios that have a disproportionate effect on LMI Household Growth, but rather the changes between those ratios over the Prospective Need period. As an example, Mr. Reading demonstrated that an increase of two percent in LMI household ratios over the Prospective Need period in a state with 3.3 million households would add about 66,000 LMI households. Mr. Reading further illustrated his point when he adjusted Dr. Kinsey’s approach by applying constant 2015 LMI household ratios to Dr. Kinsey’s 2025 Total Households projections, which yielded a decrease of 26.24 percentage points in Dr. Kinsey’s incremental statewide LMI Household Growth Rate, even though Dr. Kinsey’s two statewide LMI Household Ratios only differed by 1.55 percentage points.

Reading Modification to LMI Household Projections

	<u>Kinsey</u>	<u>Reading</u>
LMI HH Ratio (2015/2025)	41.41%/42.96%	41.41%/41.41%
Total HH Growth	+204,675	+204,675
LMI HH Growth	+138,471	+84,688
LMI HH Growth Rate	67.65%	41.41%

[Reading Rpt. (April 24, 2017), Ex. SM 1 at 22, 25.]

Regarding the application of LMI Household Ratios, the court finds that COAH projected LMI Household Growth during the Prospective Need period in Prior Rounds by calculating LMI Household Ratios at the beginning of the Prospective Need period and then applying those ratios at the end of the period. Mr. Reading and Mr. Bernard provided testimony to support that result, which is also consistent with COAH's approach in the Second Round, as clarified and further explained by COAH in the un-adopted Round 3.3 rule-making process, which the court considers persuasive in this instance. The result is also supported by the excerpt from Dr. Burchell's book that was provided by Dr. Kinsey.

Further, COAH was clear in the un-adopted Round 3.3 rule-making that LMI Household Growth during the Prospective Need period should be "about 40 percent." Although no acceptable range of values was defined, the court concludes that Dr. Kinsey's aggregated statewide LMI Household Growth Rate of 67.65 percent so exceeds the 40 percent accepted by COAH as to require its rejection by the court. Moreover, deviations from the "about 40 percent" standard were even more glaring in Dr. Kinsey's countywide LMI Household Growth Rates, which were widely varied and ranged from negative 37 percent to 111 percent:

Kinsey Countywide LMI Household Projections (sample)

<u>County</u>	<u>LMI HH Growth</u>	<u>Total HH Growth</u>	<u>LMI HH Growth Rate</u>
Cape May	518	-1,398	-37.05%
Mercer	4,384	7,176	61.09%
Warren	2,027	1,883	110.58%

[Kinsey Rpt. (May 17, 2016), CD-ROM Tab 1c, 1c1.]

Dr. Burchell endorsed keeping the LMI Household Ratios constant to avoid the uncertainties inevitably faced when making multi-year projections like these. The court shares that concern, as did COAH, and rejects the widely varying LMI Household Growth Rates produced by Dr. Kinsey’s approach here. The court was also concerned by Dr. Kinsey’s persistent assertion that he was closely following the Second Round when a careful examination of his LMI Household Growth Rates showed an undeniable deviation from the COAH approach. Moreover, Dr. Kinsey himself used a constant household growth ratio in at least one report that he produced in the course of the Third Round judicial proceedings.

In this step of the methodology, then, the court finds that neither expert’s approach is satisfactory, with both deviating from COAH’s Prior Round methodology in unacceptable ways. Dr. Angelides’ approach applied constant LMI Household Ratios, but disregarded COAH’s explicit policy decision to utilize the COAH income grid, while Dr. Kinsey utilized an updated COAH-

inspired income grid, but failed to apply constant LMI Household Ratios as COAH did in the Prior Rounds. Notably, Mr. Reading’s modification of Dr. Kinsey’s approach utilized both an updated income grid and constant LMI Household Ratios. Therefore, the court will adopt Mr. Reading’s modification of Dr. Kinsey’s approach, utilizing constant 2015 LMI Household Ratios, calculated using Dr. Kinsey’s updated COAH income grid as endorsed by the court in the previous step. Note, however, that some of the numbers contained in the following chart differ from those on page eighty-three due to the use of updated population figures and the trended headship rate adjustment that the court directed Mr. Reading to use in making the calculations required by this decision. As a result, the following chart shows the aggregated New Jersey estimated LMI Household Growth incorporated into the court’s fair share methodology:

Statewide LMI Household Growth 2015 – 2025

LMI HH Ratios	41.41%/41.41%
Tot. HH Growth	+176,791
LMI HH Growth	+73,209

e. Reallocation for age distribution of households

The next step in the Second Round methodology was to pool the working age component of projected LMI Household Growth on a statewide basis for reallocation to regions with prior job growth:

. . . the growth of households below age 65 is put into a statewide pool and allocated to regions of the state according to the proportional share of nonresidential ratable growth that took place in these regions from 1980 to 1990. Thus, 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.

[26 N.J.R. 2347 (June 6, 1994) (codified at N.J.A.C. 5:93 app. A).]

However, both Dr. Angelides and Dr. Kinsey projected actual decreases in the number of working age households, with all LMI Household Growth attributed to households headed by persons of at least sixty-five years of age, reflecting the demographics of the aging baby boomer generation. See Reading Rpt. (August 31, 2016), Ex. SM 4 at 50. Thus, because no growth is projected in working age households during the Prospective Need period, the court will skip this step in the methodology for the Third Round from 2015-2025, as did both experts.

f. Account for older LMI households with significant housing assets (Angelides proposal)

Dr. Angelides included a “significant housing assets” test in his Prospective Need methodology to remove from LMI household projections those LMI households that were LMI with respect to annual household income, but that possess significant housing assets. Dr. Angelides noted that the UHAC regulations contain a real estate asset test that would disqualify otherwise income-eligible LMI households from qualifying for affordable housing. Angelides Rpt. (May 16, 2016), Ex. P 2 at 52 (citing N.J.A.C. 5:80-26.16(b)3). Dr. Angelides also noted that each iteration of COAH’s Third Round methodology included an asset test. Ibid. He applied his test comparing the sum of eligible assets as reported in the 2014 one-year PUMS to the 2014 regional asset limits published by COAH, calculating the proportion of disqualified LMI households by region and household size. Dr. Angelides’ test yielded an aggregated statewide proportion of 8.8 percent of the LMI Household Growth between 2015 and 2025. Application of this proportion resulted in a decrease of 5,400 LMI households statewide. Reading Rpt. (August 31, 2016), Ex. SW 4 at 50.

Mr. Bernard testified that COAH had considered excluding LMI households with assets, along with other potential changes, in both the First and Second Rounds, but declined to do so. In addition, the defendants pointed out

that although COAH did include an asset test in the various iterations of the Third Round rules, the impact of using the test—which would have decreased fair share obligations—was offset by other changes that would have increased fair share obligations. Special Master Reading noted that since all projected growth in New Jersey is anticipated to be in senior citizen households, an asset test made sense because many senior citizens own their own homes, often mortgage-free, and are thus not in need of affordable housing. In the final analysis, however, Mr. Reading recommended against adopting this test because it had not been included by COAH in the First or Second Rounds and constituted an important policy decision that he concluded should be vetted by an agency reviewing a comprehensive revision of COAH rules before adoption.

The court acknowledges that COAH declined to include an asset test in the Prior Rounds, but then did so in all three iterations of its Third Round rules. However, in each of the three iterations, COAH linked the reduction of affordable housing obligations that would result from an asset test with an offset from a new calculation that would likely increase need, such as including individuals living in certain group quarters. COAH stated in Round 3.2 that:

low- and moderate-income owners with significant assets – those who have paid off their mortgages and spend less than 38 percent of their income on other housing costs – are removed from [affordable housing obligations], and low- and moderate-income residents of noninstitutional group quarters are added to

[affordable housing obligations], to reach a Total Projected Need

[N.J.A.C. 5:97 app. A at 89 (“Round 3.2”).]

And in Round 3.3. COAH similarly asserted that:

While owners with significant assets reduce the overall need, demand from low- and moderate-income households in group quarters increases the overall need. The 2000 and 2010 Censuses specify the populations in [noninstitutionalized] group quarters... A portion of residents living in “other” noninstitutional group quarters are included in this methodology.

[46 N.J.R. 984 (“Round 3.3”); see also N.J.A.C. 5:94 app. A at 65, 79 (“Round 3.1”).]

While the asset test constitutes a reasonable revision to Prior Round methodology, it is the kind of policy decision that should be fully vetted by an administrative agency in the context of rulemaking. Here, COAH did consider and adopt such an asset test as part of its Third Round rules, and did provide sufficient detail to allow Dr. Angelides to replicate the test for the current Prospective Need period. However, the addition of the asset test was never specifically approved by the Appellate Division and, as previously noted, COAH included the asset test along with a companion offset, which Dr. Angelides did not include in his methodology, and which has not been incorporated into the model endorsed by this court. Consequently, the court will include neither an asset test nor its companion off-set step in its fair share methodology, leaving the decision to incorporate these policy changes for the

future when an agency better equipped to review and balance new policy initiatives becomes functional. This result is consistent with the Supreme Court’s admonition to the trial courts to concentrate on accepted methodologies and to avoid unnecessary policy determinations better left to administrative rulemaking. Mount Laurel IV, 221 N.J. at 29-30. Therefore, the court will not adopt Dr. Angelides’ proposed asset test.

g. Aggregate Regional Prospective Need

The next step is to aggregate LMI household growth during the Prospective Need period to yield gross Prospective Need by region, which will be subsequently allocated to the municipalities and adjusted for secondary sources. Both experts followed COAH methodology established in the Prior Rounds in this step, reaching different results because of their divergent approaches in the earlier steps. Included here are the statewide and Region 4 values, calculated pursuant to the methodology steps endorsed in this decision:

New Jersey and Region 4 Gross Prospective Need 2015 – 2025

	<u>Angelides</u>	<u>Kinsey</u>	<u>Decision</u>
New Jersey	54,140	138,471	73,209
Region 4	7,430	23,094	14,987

[Angelides Rpt. (May 16, 2016), Ex. P 2 at 55; Kinsey Rpt. (May 17, 2016), Ex. DF at 46.]

4. Allocate Prospective Need to municipalities

After gross Prospective Need has been determined for the region in the previous steps, that need must be allocated to the municipalities in the Region. This process translates the need into obligations for each municipality by (1) identifying and excluding Qualified Urban Aid Municipalities, (2) measuring “responsibility” for affordable housing need for each municipality, (3) measuring “capacity” for affordable housing need for each municipality, (4) averaging regional shares of “responsibility” and “capacity” factors to distribute LMI housing need to municipalities, and (5) calculating gross Prospective Need for each municipality. Application of the allocation factors determines the fair share obligation for each municipality before application of secondary sources. Through application of the allocation factors, COAH sought to target need to regions where employment growth is taking place and to localities with the financial ability and available developable land to accommodate new affordable housing. 26 N.J.R. 2302 (June 6, 1994). This allocation process once again requires the court to select among various datasets and divergent recommendations from the experts. Notably, however, none of these factors alter total need, but govern how the need is allocated to municipalities.

a. Identify and Exclude Qualified Urban Aid Municipalities

COAH Prior Round methodologies excluded a category of municipalities with higher-than-average proportions of LMI families living in fiscally/economically distressed areas from additional LMI housing requirements, known as Qualified Urban Aid Municipalities (“QUAMs”), as designated by the DCA. 26 N.J.R. 2346, 2352 (June 6, 1994) (codified at N.J.A.C. 5:93 app. A). To be designated as a QUAM, a municipality must satisfy at least one of three criteria: (1) a level of existing LMI housing deficiency in excess of the average LMI deficiency in its region, (2) a population density in excess of 10,000 persons per square mile, or (3) a population density between 6,000 and 10,000 persons per square mile and less than 5 percent vacant (non-farm) land measured by the average of the percentage of parcels and valuation in the municipality. Ibid.; see also 46 N.J.R. 952 (June 2, 2014).

Dr. Angelides excluded forty-two of the fifty-eight QUAMs, while Dr. Kinsey exempted forty-eight. Both experts identified the same four Region 4 municipalities for exemption: Trenton, Asbury Park, Long Branch, and Lakewood. As a result, no further discussion is warranted on this point for Mercer County.

The formula for the allocation of regional Prospective Need to non-exempted municipalities in the Prior Rounds relied upon a mix of what COAH

characterized as “responsibility” and “capacity” factors, which reflect the economic and land use concerns referenced above. These factors address whether a municipality can physically accommodate growth in terms of available developable land, and also evaluate the financial ability of towns to address affordable housing need. Once calculated for each municipality, each factor is totaled for the region, and each municipality is assigned a percentage of that regional total. The Second Round recognized three allocation factors—one “responsibility” factor and two “capacity” factors—which were averaged for each municipality. Then that percentage was applied to the regional Prospective Need to determine each municipality’s share of regional need.

b. Calculate Responsibility Factor for Each Municipality as a Share of its Region

Responsibility factors represent “measures of responsibility, i.e., the labor force either existing in the community or drawn to the municipality in the future . . . needing housing.” 26 N.J.R. 2346 (June 6, 1994) (codified at N.J.A.C. 5:93 app. A). In essence, COAH sought to apportion affordable housing obligations to municipalities based in part on employment and anticipated employment growth that generated the need to house workers. While once again this concept appears to be straightforward, the absence of reliable data proved problematic for COAH, and remains problematic for this court.

COAH measured employment-generating activities directly in the First Round, using Department of Labor employment statistics reported on a municipal basis. This data source proved troublesome, however, due to what has been identified as the “zip code problem.” It turned out that the business mailing addresses used by the Department of Labor did not always reflect the actual municipality in which the business is located. Ibid. An example of this phenomenon is that parts of South Brunswick and Montgomery Townships have a Princeton zip code, but are located in Middlesex and Somerset Counties, respectively, and not in Mercer County where Princeton is located. So, employment data collected by mailing address was inaccurate for a number of municipalities. In addition, employers often reported total labor statistics from their headquarters, combining employees working at different locations, including at facilities in other municipalities. This phenomenon became known as the “headquarters problem,” a reporting glitch that also inaccurately skewed some municipal employment data. As a result of these problems, a number of municipalities challenged the affordable housing obligations COAH allocated to them in the First Round. After confirming the assertions of some municipalities that the employment data used in the First Round had improperly been inflated, leading to higher affordable housing obligations than were

warranted, COAH reduced the obligations of those towns. As a result, many units included in municipal need in the First Round were lost and not replaced.

Not wanting to repeat this problem, which had diluted statewide affordable housing obligations, COAH sought a remedy in the Second Round. It consequently replaced the faulty direct measures of employment and employment growth with a single “change in equalized non-residential property valuation,” known as the “non-residential valuation growth” factor, concluding that, “[r]eal property valuation . . . has been found to be an excellent surrogate for the intensity of use or number of employees in the structure.” 26 N.J.R. 2346 (June 6, 1994). COAH relied on data collected and reported annually by the Division of Local Government Services in the NJDCA. As noted by COAH, “Equalized valuation through the application of assessment-to-sales or equalization ratio is used to standardize for the differing levels of assessment relative to true or market values that exist in an individual community.” Ibid. Dr. Kinsey incorporated the non-residential valuation growth factor into his methodology, essentially following COAH’s approach in the Second Round, but modifying it to include growth from 1990 through 2015 because COAH had used 1990 data as the endpoint in the Second Round.

Dr. Angelides disagreed with this approach, concluding that the non-residential valuation surrogate was problematic due to the lack of direct

correlation between valuation and employment density, the susceptibility of the surrogate to non-employment forces (i.e., the real estate market), and the arbitrary manner in which revaluations and reporting are performed. Dr. Angelides concluded that these issues rendered the validity of the valuation surrogate suspect, despite COAH's endorsement of the approach in the Second Round. As a result, Dr. Angelides replaced the non-residential valuation growth factor in favor of municipal employment data drawn from a 2013 dataset known as the Longitudinal Employer-Household Dynamics Origin-Destination Employment Statistics ("LODES"), a product developed by the United States Census Bureau, and apparently used primarily for transportation planning. According to Dr. Angelides, LODES data, which was not available to COAH during the Second Round, provided direct employment data on a municipal level and would accomplish the direct measure that COAH had utilized in the First Round, but allegedly without the zip code or headquarters problems. Notably, however, Dr. Angelides admitted that he had simply incorporated LODES data for the State and Mercer County into his model without verifying its accuracy.

Dr. Kinsey not only urged the court to follow the Second Round procedures as more consistent with COAH practice, but also challenged the reliability of the LODES data used by Dr. Angelides because of inaccuracies Dr. Kinsey claimed are caused by the statistical techniques employed to protect the

confidentiality of aspects of the data. While the court did not fully understand what Dr. Kinsey characterized as “noise” that was introduced into the data collection process to protect employer confidentiality, but which he claimed had the effect of introducing inaccuracies into the data, Dr. Kinsey presented compelling evidence of specific instances in Mercer County where LODES data appeared to be erroneous. For example, from 2012 to 2014, LODES employment data in Hopewell Township in the health care sector remained static although it is well known that Capital Health opened a large new hospital there during that period with over 1500 employees. Ewing Township, however, which adjoins Hopewell, showed an increase of 1800 health care jobs in the same time frame with no obvious justification for that increase. LODES data also showed an inexplicable drop in Trenton employment from 2013 to 2014 of over 25,000 jobs. LODES data for Ewing over the past fifteen years also showed significant swings of between 5,000 and 17,000 jobs in several years with no apparent explanation.

Mr. Bernard confirmed COAH’s experience as summarized above, noting that the Second Round had solved the zip code and headquarters problems. Indeed, he testified that no town objected to the application of the responsibility factor based on its non-residential ratables, preventing the dilution of need that had occurred in the First Round. While he admitted that non-residential ratables

were an imperfect surrogate for jobs, he asserted that such ratables showed the fiscal capacity of a town to absorb affordable housing and operated as a fair and effective surrogate on this basis. He expressed concern that if the court adopted the use of LODES data as advocated by Dr. Angelides, municipalities could petition the court for corrections based on inaccuracies in the data, propelling the court into the same dilemma faced by COAH in the First Round.

Mr. Reading candidly admitted that neither approach urged by the experts was satisfactory. While he identified what he termed a “disconnect” between job growth and ratable growth, he was troubled by the clear inaccuracies in the LODES data for Mercer County. He agreed with Mr. Bernard, however, that non-residential ratables in a town are associated with a responsibility to provide housing for the workers employed there. Although Mr. Reading liked the idea of a direct measure of employment and thought LODES data showed promise, he could not recommend its use because it has never been validated for New Jersey. He somewhat reluctantly endorsed Dr. Kinsey’s approach as being generally consistent with COAH’s procedure in the Second Round.

The court once again is faced with a choice between two imperfect and imprecise alternatives. Notably, neither set of statistics was developed for the purpose for which it is being introduced into the model: allocating affordable housing to municipalities based on employment. Given the clear inaccuracies

in the LODES data for Mercer County, however, the court concurs with Mr. Reading's assessment that the Second Round valuation surrogate should continue to be used in this step, as advocated by Dr. Kinsey and Mr. Bernard. COAH made a policy choice in the Second Round to replace the direct measures of employment it had used to assess municipal responsibility factors in the First Round with a valuation surrogate, as the solution to specific problems it identified. That surrogate was used without apparent objection in the Second Round, with the advantage of directing need to municipalities with non-residential ratable growth. Any reevaluation of COAH's Second Round data choice to measure this responsibility factor involves policy decisions best left to an administrative agency that can fully analyze the matter and explore alternatives in a systematic way. While the court would have considered changing datasets if the Second Round valuation surrogate was shown to be clearly defective and a demonstrably superior alternative was available, neither circumstance was supported by the record here. The only thing that is clear is that neither approach is without shortcomings. As a result, the court adopts Dr. Kinsey's methodology that utilizes the Second Round single non-residential valuation growth factor and will leave the possible use of LODES data, or another alternative, to a reconstituted COAH in the future.

c. Calculate Capacity Factors for Each Municipality as a Share of its Region

Municipal “capacity” factors represent “measures of *capacity*, i.e., the physical (land) and fiscal (income) capacity to absorb and provide for [affordable] housing.” 26 N.J.R. 2346 (June 6, 1994) (codified at N.J.A.C. 5:93 app. A). In the Second Round, income capacity was determined by measures of income differences between the municipality and the region, while “physical” capacity was based on an analysis of the proportion of the region’s undeveloped land located within each municipality that could accommodate development.

i. Income Capacity Factor

COAH changed the income capacity factor calculation for the Second Round because the straightforward calculation of a municipality’s share of its regional aggregate income in the First Round “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.” 26 N.J.R. 2346 (June 6, 1994) (codified at N.J.A.C. 5:93 app. A). In its place, the Second Round calculated the average of 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 the households in the municipality.

[26 N.J.R. 2346 (June 6, 1994) (codified at N.J.A.C. 5:93 app. A).]

By using household income differences in municipalities rather than income, as was used in the First Round, as well as weighting, COAH sought to “dampen the extremes of the straight-difference income allocation index,” utilized in the First Round. In commenting on this change, COAH noted that, “It is believed that the procedure achieves both equity and more incisive income targeting.” Ibid.

Dr. Angelides adopted the Second Round methodology, but with modifications to correct what he saw as mathematical errors regarding both the mixing of median and mean in the first calculation, and a statistically inappropriate use of medians in the second. Dr. Kinsey followed the Second Round methodology, utilizing ACS 2010-2014 data to establish municipal median and regional “floor” income levels. Mr. Reading found that the differences between the two methodologies had a minimal effect on the allocation of need, and recommended Dr. Kinsey’s methodology as adhering more closely to the Second Round. Given the minimal impact on the allocation of municipal affordable housing need, Mr. Reading’s endorsement of Dr.

Kinsey's approach, and its consistency with the Second Round, the court adopts Dr. Kinsey's approach for calculation of the income capacity factor.

ii. Land Capacity Factor

The land capacity factor considers undeveloped land in the community that can accommodate development. The complexity involved in this determination derives in part from the fact that not all vacant land is developable, and from the shortcomings of the datasets used by the experts. The Second Round estimated the undeveloped land in municipalities utilizing land satellite imagery (LANDSAT), which was compiled for COAH by Rutgers University. 26 N.J.R. 2346 (June 6, 1994) (codified at N.J.A.C. 5:93 app. A). The undeveloped land was then weighted in accordance with the "Planning Areas" in the State Development and Redevelopment Plan. Ibid. COAH cross-checked the undeveloped land by municipality with data from The New Jersey Department of Treasury, Division of Taxation, finding that the LANDSAT data was "an excellent and comprehensive source of land-use information." COAH noted that the data contained information for every municipality in the State so that its strengths and weaknesses applied equally to most municipalities, making LANDSAT "a very comprehensive and important source of undeveloped land information especially good for relative comparisons." Ibid. Mr. Bernard noted

that COAH in the Second Round was looking for a uniform and reliable source of information and was satisfied that LANDSAT satisfied these concerns.

Dr. Kinsey followed COAH's Second Round methodology, with certain revisions to incorporate the updated 2001 State Development and Redevelopment Plan, the revised (2004) Meadowlands Master Plan, and the land classifications in the 2008 Highlands Regional Master Plan. Reading Rpt. (August 31, 2016), Ex. SM 4 at 57. Dr. Kinsey also utilized updated "land use/land cover data" from the New Jersey Department of Environmental Protection's (NJDEP) 2007 land use mapping product, which was released in 2010 and was based on work performed through a joint Rowan University-Rutgers University initiative. The major shortcoming of this procedure was the age of the data used to apply this factor in the Third Round, which started in 2015. Mr. Bernard did note, however, that since the data was collected before the start of the recession and New Jersey's recovery had been slow, limited development in recent years made the age of the imagery less problematic than it would have been had the recent past seen significant development.

Dr. Angelides likewise followed the Second Round by considering the allocation of municipal shares of regional affordable housing need as the ratio of undeveloped land in each municipality as a percentage of that in the region. However, Dr. Angelides expressed skepticism as to whether vacant,

undeveloped land could act as an accurate measure of capacity as it does not take into account repurposing of existing non-residential buildings or demolition of underutilized structures, which he concluded biases development toward suburban green field locations.

Dr. Angelides also expressed concern that the 2007 NJDEP imagery was nine years old at the time Dr. Kinsey prepared his model, that it was of poor resolution, and that the Rutgers/Rowan analysis was not reproducible or verifiable. Thus, Dr. Angelides deviated from the Second Round by utilizing parcel-level tax assessment data from the New Jersey Property Tax System instead of land imagery to determine potentially developable parcels in each municipality. Dr. Angelides then accounted for environmental restrictions and state planning designations by overlaying the tax assessment data with visual displays of geographic data from the NJDEP Bureau of Geographic Information Systems. Dr. Angelides then applied a weighting system based upon planning designations from the Second Round to undeveloped acreage that reflected its conduciveness to development. The shortcomings of this approach were that the data contained inconsistencies and had been shown to be incomplete, with up to fifteen percent of local tax records lacking the necessary data to establish the existence of vacant and developable land. Dr. Kinsey pointed to a glaring error in West Windsor, where the data used by Dr. Angelides showed that a

property of over ninety acres was not considered developable because it had a small improvement on the large parcel. That property is owned by a developer that intervened in West Windsor's declaratory judgment action seeking to build affordable housing on that property.

Mr. Reading concluded that, although Dr. Angelides' reliance on municipal block and lot classifications of land use instead of aerial surveys could offer a more accurate and up-to-date method, his approach depended upon classifications performed by individual municipal assessors, and therefore lacked statewide uniformity. Mr. Reading further concluded that any inaccuracies in the land imagery data due to recent development could be addressed by adjustments made in each town's compliance process. Mr. Reading once again recommended Dr. Kinsey's methodology as it conformed more closely to COAH's Second Round methodology.

The court concurs with Mr. Reading's assessment that, given yet another choice between two imperfect alternatives, following the Second Round approach is the best option, especially since that approach relies on data derived from a single consistent source that can be corrected during the compliance process. Moreover, the court once again is hesitant to endorse a new approach never validated or tested in any way by COAH. The court therefore adopts Dr. Kinsey's method for calculating the land capacity factor.

d. Average Regional Shares of “responsibility” and “capacity” Factors and Allocate Gross Prospective Need to Each Municipality

Once the allocation factors are determined, the next step is to calculate the average allocation factor for each municipality. In the Second Round, COAH concluded that, “[a]ll factors operate individually, are equally weighted, and involve all municipalities in the region except Urban Aid municipalities,” with all allocations derived from those factors “reflect[ing] the fraction representing the community’s share of the regional total.” 26 N.J.R. 2346 (June 6, 1994) (codified at N.J.A.C. 5:93 app. A). Drs. Angelides and Kinsey both aggregated each of the factors they calculated by region and determined each municipality’s share for each factor. They then averaged the shares of each factor for each municipality, yielding municipal proportional shares of regional Prospective Need. Since the court adopted Dr. Kinsey’s three “responsibility” and “capacity” factors, gross Prospective Need will be allocated to each municipality following COAH’s Second Round methodology, based on the average share of Dr. Kinsey’s three factors. The resulting municipal gross Prospective Need, calculated pursuant to this decision, is reflected in the following chart:

Municipal Gross Prospective Need 2015 – 2025

	<u>Regional Share</u>	<u>Gross Prospective Need</u>
Region 4	100.00%	14,987

Princeton	2.22%	333
West Windsor	4.46%	669

5. Adjust for Secondary Sources of Supply and Demand

The next step in the Fair Share methodology is to calculate each municipality’s secondary source adjustments to apply to their gross Prospective Need. Secondary sources represent the effect of market forces on the supply of affordable housing units not otherwise addressed in the fair share methodology. According to COAH’s Second Round methodology, applicable secondary sources are demolitions, residential conversions, filtering, and spontaneous conversions. 26 N.J.R. 2348-49 (June 6, 1994) (codified at N.J.A.C. 5:93 app. A). Calculations reflecting these categories are applied to each municipality’s previously calculated gross Prospective Need, producing municipal Prospective Need. Ibid. And, unlike the allocation of gross Prospective Need, “[i]n the reductions or increases to housing need due to secondary supply and demand, all municipalities, including Urban Aid locations, participate.” Ibid. COAH included QUAMs in this step because “all municipalities have some type of housing need, and reductions apply to housing need no matter how the need is generated.” Ibid.

Although COAH also included spontaneous conversions in its adopted Round 3.1 rules, they were omitted in Round 3.2 and Round 3.3, and both Drs. Angelides and Kinsey adopted this approach. Dr. Angelides, however, added a step not included in the Prior Rounds by reallocating surplus affordable housing credits from individual municipalities back to the region to offset the remaining need of other municipalities. As a result, the court will consider the following secondary source adjustment steps: (1) demolitions; (2) residential conversions; (3) filtering; (4) reallocation of secondary source adjustments (Angelides proposal); and (5) calculation of Prospective Need by Municipality.

a. Demolitions

“Demolitions are a secondary source of housing demand . . . created by households requiring housing because units are lost from stock.” 26 N.J.R. 2348 (June 6, 1994) (codified at N.J.A.C. 5:93 app. A). This “selective pruning” of residential housing units occurs for a variety of reasons, such as damage from natural causes, deterioration, redevelopment, or abandonment. “In strong markets, demolitions are low; in weaker markets, they are proportionally higher.” Ibid. In both situations, when housing units affordable to LMI households are lost, their demolition decreases the supply of affordable housing, thus increasing affordable housing need.

In the Second Round, COAH calculated an estimate of total demolitions in the six-year Prospective Need period for each municipality by averaging reported demolitions for the three most recent years for which municipal demolition data was available, and then multiplying by six. N.J.A.C. 5:93-2.9. In determining the LMI share of total municipal demolitions, COAH “recognize[d] that demolitions take place at a much higher rate in the low- and moderate-income housing sector than for all housing locally,” 26 N.J.R. 2348-49 (June 6, 1994) (codified at N.J.A.C. 5:93 app. A), further noting that:

Total demolitions are thus tallied by individual community and the share affecting low- and moderate-income housing is estimated by a multiple of the subregional low- and moderate-income housing deficiency percentage.

[Ibid.]

To calculate the “multiple” in accordance with the Second Round, and thus determine the LMI share of total municipal demolitions, COAH provided that:

Demolitions are adjusted for each municipality to the share of all demolitions that affect the low- and moderate-income housing sector by 120 percent of the subregional share of low- and moderate-income housing. This percentage share of all demolitions that affects low- and moderate-income families is capped at 95 percent.

[Ibid.]

Dr. Kinsey utilized NJDCA demolition data from 1999 through 2015 as the basis to estimate total municipal demolitions during the Prospective Need

period but adjusted the data for the effects of Hurricane Sandy. Dr. Kinsey accounted for the unusually high number of storm-related demolitions by applying adjustments for four Hurricane Sandy-impacted counties, based on the ratio of pre- and post-Sandy demolitions. Then, Dr. Kinsey calculated municipal LMI demolitions using each municipality's share of the county's LMI households. While Dr. Kinsey intended to include COAH's Second Round multiplier in his calculations, he expressed confusion during cross-examination as to whether he had actually incorporated the multiplier into his spreadsheets, suggesting that any omission on his part had been inadvertent. He also used county rather than regional incomes in preparing his calculations. Dr. Kinsey's resulting estimate of LMI demolitions in each municipality was aggregated to yield 19,262 projected statewide demolitions for the Prospective Need period of 2015-2025. Notably, Dr. Kinsey seemed uncharacteristically unconcerned about any possible deviations in his calculations from COAH's approach to demolitions and made no effort to clarify the procedure he actually followed. Perhaps his attitude was prompted by the small variation in demolitions between his figures and those of Dr. Angelides, which difference Mr. Reading identified as less than five percent.

Dr. Angelides also used NJDCA data in his methodology and adjusted for Hurricane Sandy but deviated from Second Round methodology by not applying

COAH's multiplier. Dr. Angelides calculated average annual total demolitions by municipality from 2000 to 2014 using NJDCA data but excluding 2012 and 2013 statistics to account for the high number of Hurricane Sandy demolitions. Angelides Rpt. (May 16, 2016), Ex. P 2 at 70-71. Dr. Angelides incorporated additional data from a report produced by the United States Department of Housing and Urban Development called Components of Inventory Change ("CINCH"). COAH never used that dataset in analyzing demolitions.

Not being comfortable with COAH's approach to demolitions, Dr. Angelides decided to "update" COAH's methodology by using CINCH data to exclude certain categories of demolished units. Ibid. Dr. Angelides deducted from total demolitions unoccupied units, units not occupied by LMI households, demolitions of seasonal units, and demolitions of any deficient units that would already have been accounted for under traditional Present Need. The resulting estimate of occupied, non-deficient LMI demolitions in each municipality was aggregated to yield 18,653 projected statewide demolitions for the Prospective Need period of 2015-2025. Notably, neither expert followed COAH's Round 3.3 approach of aggregating municipal data to produce a statewide total demolition figure from 2000 through 2009 and then taking 19.5 percent of that number to add to the housing need for the Prospective Need period. 46 N.J.R. 986 (June 2, 2014).

Special Master Reading endorsed Dr. Angelides’ approach because he concluded that it was more detailed and precise, and because it better identified “the number of demolitions of non-vacant, non-seasonal, recently occupied, occupied and affordable to LMI households, and which are not deficient.” Reading Rpt. (August 31, 2016), Ex. SM 4 at 63. However, Mr. Reading recommended that adjustments for Hurricane Sandy be made by utilizing NJDCA demolition data for all counties prior to 2012, thereby excluding all post-Sandy data. Ibid. Although Mr. Reading acknowledged that Prior Rounds did not reduce demolition estimates for deficient and unoccupied dwellings, he based his support for this reduction on the much better data available today than twenty-five years ago. Mr. Reading also remarked that, as noted above, despite using divergent approaches, the estimates of Drs. Angelides and Kinsey for LMI demolitions yielded a statewide difference of less than five percent:

Aggregated LMI Demolitions (2015-2025)

	<u>Region 4</u>	<u>New Jersey</u>
Dr. Angelides	+4,168	+18,653
Dr. Kinsey	+4,509	+19,262

[Reading Rpt. (April 24, 2017), Ex. SM 1 at 40-43.]

Although Mr. Reading preferred what he deemed to be the more precise approach utilized by Dr. Angelides, the court is concerned that such a

methodology deviates significantly from COAH's approach in the Second Round and would require the court to make the kind of policy judgments disfavored by the Supreme Court. In the Second Round, COAH was clear that estimates of demolitions for the Prospective Need period would be based upon past total demolitions that were increased by a calculated multiplier, recognizing—as noted above—that demolitions occur at a much higher rate for LMI units than for all housing. 26 N.J.R. 2348-49 (June 6, 1994) (codified at N.J.A.C. 5:93 app. A). Most persuasively, however, COAH in Prior Rounds made no mention whatsoever of excluding unoccupied and deficient units from its calculation of demolitions. Nor did COAH ever limit demolitions to units occupied by LMI households, as Mr. Bernard testified. While CINCH data may at some point be used by a reconstituted COAH for this step, it is noteworthy that COAH made no mention of it in any of the iterations of the Third Round rules that it drafted. Nor did any of the iterations of the Third Round rules exclude the categories of units deducted by Dr. Angelides. While it is noteworthy that Dr. Angelides—without using a multiplier—produced an estimate close to that endorsed by Dr. Kinsey, who more closely followed the Second Round approach, the bottom line is simply that Dr. Angelides deviated from the Second Round without convincing the court that it was necessary to do so. And since that deviation excludes units incorporated by COAH, Dr.

Angelides' approach involves policy decisions that the court prefers to leave to administrative consideration. Consequently, the court rejects the modifications urged by Dr. Angelides.

The court, however, does endorse the recommendation of Mr. Reading that all post-Sandy data be excluded from the averaging process. Higher than normal demolitions occurred in more than the four counties identified by Dr. Kinsey and for more years than the two excluded by Dr. Angelides as a result of Hurricane Sandy. The better approach to making an adjustment for the very high number of demolitions in the wake of that disaster is thus to remove all post-Sandy demolition data from the calculation of demolitions for the Prospective need period. Moreover, given Dr. Kinsey's uncertainty about his close adherence to the Second Round in his calculation of demolitions, the court instructed Mr. Reading to follow COAH's Second Round approach, utilizing the COAH multiplier, but also incorporating the adjustment for Sandy data he recommended. In addition, while Dr. Kinsey used county income data in this step, the court directs Mr. Reading to use regional LMI income data. Although COAH never defined what it meant by "subregional" in its approach to calculating demolitions, N.J.A.C. 5:93-2.9, other steps in the methodology use regional and not county incomes and the court has determined that regional income data should be used in this step for consistency. As a result, the court

will incorporate into its statewide model total demolitions during the Prospective Need period calculated by Mr. Reading of 23,835 statewide and 4,947 for Region 4. For Princeton the number of demolitions is eighty-seven, and for West Windsor the figure is fifty-three.

b. Residential conversions

While demolitions increase affordable housing need, residential conversions represent the creation of new residential units that COAH expected would reduce affordable housing need. “Residential conversion is the creation of dwelling units from already existing residential structures” that reduces municipal need. 26 N.J.R. 2320, 2349 (June 6, 1994) (codified at N.J.A.C. 5:93-2.11). Most conversions result from the creation of multiple smaller units from larger existing units, and “[a]lmost all conversion consists of additional dwelling units being created from other residential units, and very rarely from nonresidential units.” 26 N.J.R. 2349 (June 6, 1994). COAH described the relationship between demolitions and conversions in the Second Round:

Residential conversions to low- and moderate-income housing in normal markets are often on a par with demolitions for the low- and moderate-income sector. In stronger markets, conversions are more than demolitions; in weaker markets, less.

[Ibid.]

COAH further explained that because residential conversions are closely related to the municipal percentage of two- to four-family structures, conversions are

calculated at the regional level and then allocated to municipalities in proportion to their regional share of two- and four-family dwellings. 26 N.J.R. 2320, 2349 (June 6, 1994) (codified at N.J.A.C. 5:93-2.11).

Residential conversions cannot be directly measured but are evidenced by the “unexplained difference” between the units measured at the beginning and end of a period that cannot be accounted for by building permits minus demolitions. Ibid. In both the adopted Round 3.2 rules and the un-adopted Round 3.3 rules, COAH clarified this step by providing a clear mathematical formula to estimate conversions, and changed the indicia of housing construction from building permits, which were used in the Second Round, to certificates of occupancy:

This methodology . . . defines residential conversions as the change in total units minus the difference between new construction (as indicated by certificates of occupancy) and demolitions (as indicated by demolition permits).

[46 N.J.R. 985-86 (June 2, 2014).]

Notably, however, neither expert used COAH’s Third Round approach, but tried to follow COAH’s Second Round to the extent they could discern that methodology.

As with demolitions, COAH recognized in the Second Round that “on a percentage basis, a greater share of residential conversion units flows to the low-

and moderate-income population than to the population as a whole,” *id.* at 2349, but failed to designate a specific multiplier to calculate conversions, differing from its approach to demolitions in the Second Round. Given some ambiguity in COAH’s Second Round approach, and the absence of a multiplier, Drs. Angelides and Kinsey defaulted to the multiplier formula in the Second Round used for demolitions but selected different datasets to use in their calculations. Dr. Angelides went on to calculate the change in “occupied housing” using certificates of occupancy to represent construction activity, while Dr. Kinsey utilized building permits. Reading Rpt. (August 31, 2016), Ex. SW 4 at 63-69.

Dr. Angelides calculated the regional change in occupied housing units by county between 2000 and 2010, using decennial census data, and then aggregated the data to the appropriate region. Dr. Angelides measured construction activity at the municipal level for that period using certificates of occupancy reported by NJDCA, concluding that they were a more reliable metric of completed residential construction activity than building permits, which might not result in actual construction in a given year. Dr. Angelides likewise drew municipal demolition figures from NJDCA data, and aggregated both construction activity and demolition activity to the regional level to determine residential conversions. Dr. Angelides then allocated the regional conversion activity to municipalities in proportion to their share of regional two- and four-

family dwellings, utilizing 2009-2013 ACS data. Finally, Dr. Angelides calculated the proportion of LMI conversion activity for each municipality by utilizing 120 percent of the proportion of households qualifying as LMI within each county, and then projecting annualized conversion activity, by municipality, into the Prospective Need period. Dr. Angelides estimated 2,025 LMI conversions in Region 4 and 11,662 statewide LMI conversions for the Prospective Need period based on this approach.

Dr. Kinsey calculated the regional change in total housing units at the county level, using 2000 decennial census and 2014 Population and Housing Unit Estimates data. Dr. Kinsey measured construction activity for the same period using municipal building permits reported by NJDCA, but adjusted for the effects of Hurricane Sandy as he did when calculating demolitions in the previous step. Dr. Kinsey then derived municipal demolitions from NJDCA data, aggregating both construction activity and demolition activity to the regional level to determine residential conversions. Dr. Kinsey then allocated the regional conversion activity to municipalities in proportion to their share of regional two- and four-family dwellings in 2012, using 2010-2014 ACS data, and estimated the LMI share of conversions based on 120 percent of the proportion of households qualifying as LMI within each county, capped at ninety-five percent, and then projected annualized conversion activity, by

municipality, into the Prospective Need period. Dr. Kinsey’s calculations yielded a loss of 1,375 units in Region 4, and a loss of 2,068 units statewide due to residential conversions, which he attributed to the increased pricing of the converted units. The following chart demonstrates a comparison of the results recommended by each expert:

Impact of Aggregated LMI Conversions on Need (2015-2025)

	<u>Region 4</u>	<u>New Jersey</u>
Dr. Angelides	-2,025	-11,662
Dr. Kinsey	+1,375	+2,068

Special Master Reading endorsed the use of certificates of occupancy to represent building activity for the calculation of residential conversions. Reading Rpt. (April 24, 2017), Ex. SM 1 at 47. Mr. Reading testified that economic conditions affecting construction activity between 2000 and 2010—which includes the onset of the Great Recession—made building permits a less reliable indicator of housing construction than certificates of occupancy. He noted that, during this period, there were two building permits issued for every housing unit ultimately occupied, and that the State government issued two building permit extensions in response to the effect on construction caused by the economic downturn. Mr. Reading concluded, therefore, that certificates of

occupancy were a much better indicator of construction activity than building permits in the Third Round. Moreover, Mr. Reading was disturbed by the results of Dr. Kinsey's approach, which added units to need when COAH had always used conversions to reduce need. Mr. Reading believed that Dr. Kinsey's reliance on building permits to measure construction activity was a primary reason for the questionable results recommended by Dr. Kinsey.

The court concurs with Mr. Reading that certificates of occupancy provide a better indicia of housing construction for this step, especially given the economic downturn that affected the data available to the experts for the calculation of conversions. Moreover, COAH recognized the superiority of using certificates of occupancy in determining conversions in its adopted Round 3.2 rules and continued that approach in Round 3.3. Whether or not Dr. Kinsey's use of building permits skewed his analysis, his results are inconsistent with COAH's past observations that residential conversions should reduce municipal affordable housing need.

Although FSHC and the NJBA questioned the reliability of certificates of occupancy by presenting evidence of individual instances where municipalities did not accurately report and track them, the practice did not appear to be widespread. Presumably, those minor anomalies were known to COAH when it endorsed the use of certificates of occupancy in Rounds 3.2 and 3.3. When

weighed against the shortcomings of building permits to reflect actual construction activity, certificates of occupancy emerge as more reliable despite the anomalies cited by defendants. In addition, Dr. Angelides' residential conversion values not only decrease affordable housing need, consistent with past COAH practice, but are also less than both his and Dr. Kinsey's demolition values, which COAH anticipated would be the case in a weak housing market. The court thus adopts Dr. Angelides' approach for the calculation of residential conversions as the best alternative based on the trial record. His data will be included in the court's model, reducing affordable housing need by 11,662 statewide.

c. Filtering

Filtering is a secondary source adjustment that has proven controversial in the past and remains controversial in the Third Round. As noted above, Mr. Bernard endorsed most of Dr. Kinsey's model except for filtering, as did Judge Wolfson. In re Township of South Brunswick, 448 N.J. Super. at 464.

Calculating filtering is an extremely complicated process involving many variables. Days of testimony were devoted to each expert's attempt to explain and justify their models and the results they produced, although Dr. Kinsey was skeptical about the reliability of either model and questioned consideration of filtering altogether as part of the fair share model. Two types of filtering are

proposed for inclusion in the current methodology. Downward filtering reduces affordable housing need and occurs when middle or upper income households vacate a housing unit, which then becomes affordable to LMI households. Upward filtering increases affordable housing need and occurs when a formerly affordable housing unit rises in value beyond the reach of LMI households. In prior rounds, downward filtering predominated, with COAH recognizing filtering as the most significant market force in reducing housing need. In re Adoption of N.J.A.C. 5:94 & 5:95, 390 N.J. Super. at 24. Although COAH maintained that filtering takes place in all locations to some degree, COAH asserted that it is found more often in urban and older suburban areas with higher percentages of multifamily houses than in newer suburban areas. 26 N.J.R. 2349 (June 6, 1994).

As the filtering concept evolved, COAH identified its prerequisite market conditions. In the Second Round, COAH described filtering as “a downward adjustment of housing” that was “predicated on the existence of housing surpluses, which cause housing prices to drop because of the excess of housing supply over demand.” 26 N.J.R. 2349 (June 6, 1994) (codified at N.J.A.C. 5:93 app. A); N.J.A.C. 5:93-2.10. In response to comments on the Second Round methodology, COAH identified five conditions that must exist 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. In re Adoption of N.J.A.C. 5:94 & 5:95, 390 N.J. Super. at 42 (accepting COAH's five conditions for the existence of filtering in New Jersey, citing 36 N.J.R. 5801-03 (Dec. 20, 2004)). While the Appellate Division had upheld COAH's First Round filtering methodology because the legislative scheme was novel, and the implementation of its goals was an evolving process, id. at 44 (citing Van Dalen v. Washington Township, 120 N.J. 234, 246 (1990)), the court's deference to COAH ultimately yielded to closer scrutiny.

Seventeen years later, the Appellate Division rejected COAH's use of filtering and the resulting reductions in Prospective Need it had incorporated into the adopted Round 3.1 rules, questioning the reasonableness of the data COAH relied upon. Id. at 41, 44-45. Notably, in rejecting COAH's application of filtering in Round 3.1, the Appellate Division declared that, "the legislative scheme is no longer novel and COAH has had ample time to test its opinion that filtering substantially reduces the need for affordable housing in New Jersey." Id. at 44.

The Appellate Division found that COAH had not adequately demonstrated the existence of filtering according to the five conditions it had

previously articulated, finding as well that the survey data used in the calculations did not represent “the most recent and reliable data available.” Id. at 46. The Appellate Division did not, however, invalidate filtering as a secondary source altogether, but required that “[o]n remand, COAH must consider more recent data relevant to whether the five conditions for filtering currently exist in New Jersey, as well as any other data supplied by the interested parties.” Ibid. In response to this decision, COAH developed a new filtering model with the assistance of Econsult, the firm retained by the municipalities to assist them in this litigation. See N.J.A.C. 5:97 app. A at 97. Notably, however, the Appellate Division did not address that model’s validity when it rejected COAH’s Growth Share approach in Round 3.2. In re Adoption of N.J.A.C. 5:96 & 5:97, 416 N.J. Super. at 511-12.

Dr. Angelides was skeptical that the five prerequisite conditions were valid indicators of the existence of filtering, but provided brief justifications as to why each was satisfied. Angelides Rpt. (May 16, 2016), Ex. P 2 at 76. He then went on to explain that his econometric approach to filtering was composed of a three-step process: (1) collect data for 2000-2014 housing transactions, combined with census income data and housing stock to measure historic filtering; (2) create a model to determine the geographic probability of filtering; and (3) apply the model to municipalities to estimate future filtering. Dr.

Angelides’ methodology produced a downward filtering of 30,187 units statewide, reducing affordable housing need by that number.

Dr. Kinsey asserted that there was no court-approved methodology for calculating or projecting filtering in New Jersey and questioned the existence of filtering. Kinsey Rpt. (May 17, 2016), Ex. DF 2 at 61. He presented extensive evidence challenging the existence of each of COAH’s five conditions. Kinsey Rpt. (May 17, 2016), Ex. DF 58 at 182-200. Nevertheless, Dr. Kinsey developed an approach based on the methodology Econsult had developed for COAH, but with significant modifications and the addition of a separate analysis to differentiate rental units from the for-sale market. Id. at 62. Dr. Kinsey’s methodology produced an upward filtering of 30,047 units statewide, meaning that affordable housing need was increased by that number in his model. The following chart shows a comparison of the results of the two filtering models presented to the court:

Aggregated LMI Filtering (2015-2025)

	<u>Region 4</u>	<u>New Jersey</u>
Dr. Angelides	-7,777	-37,604
Dr. Kinsey	<u>+2,330</u>	<u>+30,047</u>
Difference:	10,107	67,651

Special Master Reading rejected both Dr. Angelides' and Dr. Kinsey's filtering approaches because they included "an abundance of adjustments, probabilities, likelihoods, and extrapolations" that he concluded were unreliable. Reading Rpt. (April 24, 2017), Ex. SM 1 at 56. Given the extreme divergence between the estimates prepared by the experts and absent a convincing demonstration of their reliability, Mr. Reading recommended that filtering not be included in the determination of fair share obligations in the Third Round, agreeing with both Mr. Bernard and Judge Wolfson on this issue.

Likewise, Mr. Bernard did not support the use of either expert's filtering approach. Mr. Bernard concluded that Dr. Angelides' approach was analogous to what had already been rejected by the Appellate Division in In re Adoption of N.J.A.C. 5:94 & 5:95, 390 N.J. Super. at 42-46, in that it represented an extremely complicated statistical construct that supposedly demonstrated downward filtering effects at the regional and local levels, while there was census data demonstrating the opposite. And although he agreed with the general upward direction of filtering reflected in Dr. Kinsey's data, Mr. Bernard also rejected his approach because it was equally as complicated as that of Dr. Angelides, not transparent, and contained questionable assumptions.

The court concurs with the recommendations of Mr. Reading and Mr. Bernard, and the ruling of Judge Wolfson on this issue, and rejects including

filtering adjustments in the Third Round fair share methodology. First and foremost, the court is not convinced that either expert satisfactorily addressed the concerns expressed by the Appellate Division in In re Adoption of N.J.A.C. 5:94 & 5:95, 390 N.J. Super. at 42-46. In that case, appellants argued that COAH relied on flawed data to conclude that filtering was occurring, and the Appellate Division agreed, citing a failure of COAH to demonstrate in the record that housing was becoming more affordable and directing COAH, on remand, to substantiate the five filtering conditions with recent relevant data. Ibid.

Here, even Dr. Angelides, a proponent of filtering adjustments, nonetheless expressed some skepticism as to the validity of COAH's five filtering conditions. While presenting a filtering model to the court, he provided scant statistical evidence to accompany anecdotal indications that COAH's conditions had been satisfied. Angelides Rpt. (May 16, 2016), Ex. P2 at 76-77. By contrast, Dr. Kinsey countered with credible testimony providing a detailed analysis challenging each filtering condition utilizing source documentation from COAH and other data to support each point, yet he proceeded to advocate including his filtering approach in his fair share model. Kinsey Rpt. (May 17, 2016), Ex. DF 58 at 182-200. Mr. Bernard also expressed skepticism regarding the existence of filtering, based on census data indicating that housing has become less affordable statewide. The record in this case thus provides the court

with little confidence that filtering is occurring in New Jersey or, even if it is, that it can be measured in a reliable manner.

The results advocated by the parties also are troubling to the court. Notably, Dr. Angelides’ approach produced a number of filtered housing units that were valued at hundreds of thousands of dollars above COAH’s maximum LMI qualifying incomes, *id.* at 171-74, and Dr. Kinsey’s approach yielded a significant net upward filtering, despite COAH’s observations in the Prior Rounds that filtering generally could be expected to reduce housing need. Consequently, the court has no confidence that either approach is reasonable or reliable and thus will not include filtering as a secondary source adjustment in its fair share methodology.

After addressing all of the steps discussed above, the court directed Mr. Reading to calculate municipal secondary source adjustments to reflect this court’s rulings, and also directed him to aggregate all of the results to the State level for illustrative purposes. The results are listed below with the recommendations of the experts included for the sake of comparison:

Aggregated New Jersey Prospective Need 2015 – 2025

	<u>Angelides</u>	<u>Kinsey</u>	<u>Decision</u>
Gross Prospective Need	54,140	138,471	73,209
Secondary Sources Demolitions	+18,653	+19,262	+23,835

Conversions	-11,662	+2,068	-11,662
Filtering	<u>-37,604</u>	<u>+30,047</u>	<u>0,000</u>
Prospective Need	23,527	189,848	85,382

d. Reallocation of Secondary Source Adjustments

Dr. Angelides testified that COAH’s Second Round methodology was defective due to what he called the “zero bound” flaw, whereby credit for excess affordable housing in individual municipalities is effectively lost because it is not pooled and reallocated to other municipalities in the region. According to Dr. Angelides, COAH calculated secondary source adjustments in the Second Round by region and allocated them down to individual municipalities, which can result in a net negative need. Angelides Rpt. (May 16, 2016), Ex. P 2 at 82-83. Such negative need could occur when the number of housing units created through conversions and filtering is greater than the need for units created by demolitions and filtering. Dr. Angelides noted that once this secondary source negative need is allocated to the municipalities, it is applied first against any Prospective Need the municipality may have, and then against municipal Present Need. Dr. Angelides pointed out that a municipality could have a secondary source negative need that is larger than the sum of its Prospective Need and Present Need, meaning that the municipality has more affordable housing than its fair share of the region’s affordable housing need. Dr. Angelides noted that,

under COAH's Second Round practice, a net negative need (excess available affordable housing) is not otherwise accounted for and is set to zero. Ibid. Dr. Angelides argued that instead of being zeroed out and lost, municipal negative need should be aggregated back to the region, pooled, and reallocated to offset the remaining affordable housing need of the region's other municipalities. Ibid. Dr. Angelides' secondary source reallocation step would add over 30,000 units of affordable housing statewide, decreasing the need by that number. Under Dr. Angelides' approach, over 5,500 additional affordable housing units would be reallocated to Region 4.

Notably, however, any excess municipal affordable housing (negative need) is not lost but can be credited in future fair share rounds in the compliance process. Mr. Bernard testified that, in the Prior Rounds, municipalities with surplus housing units from a previous round were credited with those units in the subsequent round. Indeed, the Second Round rules state that, "[t]he 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." 26 N.J.R. 2350 (June 6, 1994). And in fact, in Mercer County settlements reviewed by this court, some municipalities are using excess credits from the past toward satisfaction of their Third Round obligations, consistent with past COAH practice.

Thus, the court concludes that any surplus affordable housing units in individual municipalities can be utilized in subsequent fair share rounds so that there is no need to deviate from prior COAH practice and reallocate any surplus here. Also, the addition of a secondary source reallocation step to the fair share methodology is the type of policy decision that is better left to an administrative agency that can thoroughly review any such change through rulemaking. This court therefore declines to adopt Dr. Angelides' secondary source reallocation. The court does note, however, that Dr. Angelides' results for this proposal were greatly affected by incorporation of his filtering model, which was also rejected by the court.

e. Calculate Prospective Need by Municipality

The next step in calculating Prospective Need is to adjust each municipality's gross Prospective Need to reflect secondary source adjustments of supply and demand. Having excluded filtering from this adjustment, the court—following Prior Round methodology—directed Mr. Reading to calculate municipal Prospective Need by taking the sum of each town's allocated share of gross Prospective Need and its LMI demolitions, minus its share of conversions. Municipal Prospective Need calculated pursuant to this decision produced the following results:

Municipal Prospective Need 2015 – 2025

	<u>Gross Prosp. Need</u>	<u>S.S. Adjust.</u>	<u>Prosp. Need</u>
Princeton	333	+32	365
West Windsor	669	+38	707

Following adjustments for secondary sources, the final step in determining Prospective Need in the fair share methodology would be to calculate and apply the twenty percent cap to each municipality's gross Prospective Need before it is added to municipal Prior Round Obligations and Present Need. See 26 N.J.R. 2350-51 (June 6, 1994) (codified at N.J.A.C. 5:93 app. A). However, discussion and application of the twenty percent cap is related to the calculation of Gap Present Need and the court's determination concerning how the cap will be applied. Consequently, having concluded its analysis of Phase 1 of the trial focusing largely on Prospective Need for the Third Round, the court now turns to addressing a model to calculate the affordable housing need that arose during the gap period of 1999-2015.

V. Gap Present Need/Phase 2

A. Gap Present Need Factual and Procedural History

In the Ocean County proceeding to determine the methodology for establishing the fair share affordable housing obligations for thirteen Ocean County municipalities, the Honorable Mark A. Troncone, J.S.C., raised the issue

of whether Third Round housing obligations should include the need that arose from the expiration of the Second Round rules in 1999 to the date in 2015 by which towns were required to file declaratory judgment actions to demonstrate constitutional compliance and to obtain immunity from builders' remedy lawsuits. See Mount Laurel V, 227 N.J. at 516. This period has become known as the "gap," representing the sixteen years in which COAH did not adopt a full set of Third Round rules that passed constitutional muster. The Ocean County municipalities, joined by the League of Municipalities, argued to Judge Troncone that fair share obligations could only fall into the two well-defined components of Present Need and Prospective Need, claiming that since any gap need fell outside of these categories, establishing a fair share for this period would violate the FHA. Ibid. FSHC, NJBA, and private developers opposed this argument and joined in asserting that gap need must be captured as part of a town's affordable housing obligation. Mount Laurel V, 227 N.J. at 516-17.

The same experts who submitted reports regarding Prospective Need provided reports to Judge Troncone and to court-appointed Special Master Reading, analyzing whether and then how gap need could be calculated as part of a municipality's Third Round fair share obligation. The League of Municipalities' expert, Dr. Angelides, asserted that there was no "legally defined obligation" to address gap need for the Third Round cycle, , while Mr.

Bernard, on behalf of NJBA, claimed that COAH's regulations, as well as the reality of affordable housing need in New Jersey, mandated that the gap need be included in a Prospective Need analysis. Mount Laurel V, 227 N.J. at 517 FSHC's expert, Dr. Kinsey, contended that COAH's regulations and applicable case law required including the gap period need in the Third Round, either separately or as part of the Prospective Need component, which he asserted spanned the entire period from 1999 to 2025. Ibid. Special Master Reading reviewed all of the submitted reports and recommended to Judge Troncone that gap period need should be calculated as a "separate and discrete" methodology unique to the gap period, rather than as part of Prospective Need. Ibid.

On February 18, 2016, Judge Troncone issued an opinion concluding that the housing need that arose during the gap period must be included as part of the Third Round fair share obligation in order to satisfy constitutional requirements. Judge Troncone also held that gap period need was not part of Prospective Need but should be calculated as a "separate and discrete component" of need, based on actual growth during the 1999-2015 period, rather than on future projections. See Mount Laurel V, 227 N.J. at 518-19 (summarizing the proceedings before the trial court in Ocean County). The Township of Barnegat appealed Judge Troncone's ruling that a gap period component must be included in the Third Round. Ibid. The Appellate Division,

at the direction of the Supreme Court, expedited the appellate proceedings after the Court denied FSHC's emergent application for direct certification. Ibid.

On July 11, 2016, the Appellate Division issued its ruling, captioned In re Declaratory Judgment Actions filed by Various Municipalities, County of Ocean, 446 N.J. Super. 259 (App. Div. 2016) ("Ocean County Appeal"), which found that there was no basis in the FHA or otherwise to require municipalities to retroactively calculate a new "separate and discrete" affordable housing obligation during the gap period. Id. at 267-68. The Appellate Division grounded its decision in Mount Laurel IV and the FHA and viewed the creation of a "separate and discrete" gap component as over-reaching policymaking best left to the Legislative and Executive branches. Ibid. In rejecting Judge Troncone's approach to the retrospective calculation of the need that arose during this period, however, the Appellate Division emphasized that some gap period need could be captured in a municipality's calculation of Present Need. Ocean County Appeal, 446 N.J. Super. at 295.

FSHC moved to stay the decision pending expedited review by the Supreme Court, which the Appellate Division denied on July 18, 2016. FSHC then applied to the Supreme Court for leave to appeal and a stay, both of which were ultimately granted on September 8, 2016. Barnegat remained the only municipality involved in the appeal insofar as it challenged the obligation to

account for any need that arose during the gap period. Mount Laurel V, 227 N.J. at 520-21. On January 18, 2017, during the pendency of the Mercer County methodology trial, the Supreme Court affirmed and modified the Appellate Division's decision, ordering that gap period affordable housing need be included as part of the fair share component of Present Need, in what has become known as Mount Laurel V, 227 N.J. at 513-14.

In response to Mount Laurel V, on January 31, 2017, this court added a Gap Present Need phase to the methodology trial and scheduled it to follow the conclusion of the "Prospective Need" phase, already in progress. The court again directed the experts to develop, exchange, and submit methodology reports to Mr. Reading and to the court. Given the guidance provided by the Supreme Court, this court urged the parties to work together in fashioning a mutually acceptable methodology to address the calculation of Gap Present Need. Unfortunately, the parties resisted the court's efforts, appearing to be too invested in their own methodological paradigms to embrace a joint approach. The challenges presented by crafting a model to determine Gap Present Need are underscored by the continually evolving positions of the experts, starting with their submissions to Judge Troncone and continuing through the testimony and evidence presented at the Mercer County methodology trial. See also Mount

Laurel V, 227 N.J. at 522 (noting how arguments regarding gap need had evolved throughout the proceedings before Supreme Court).

Dr. Kinsey testified that he felt bound to follow the same approach for Gap Present Need that he had utilized for determining Prospective Need. To support this approach, he cited COAH's use of Prospective Need methodology when it recalculated the fair share obligations assigned to municipalities in the First Round when they proved to be too high. COAH called this process Prior-Cycle Prospective Need, described at N.J.A.C. 5:93-1.3, and discussed in Mount Laurel V, 227 N.J. at 528 n.7. Dr. Kinsey thus endorsed a retrospective prospective need analysis, similar to what he had submitted to Judge Troncone. Notably, however, Dr. Kinsey had submitted a different approach to Judge Wolfson in the South Brunswick case after the Appellate Division decision had issued, but before it was modified by the Supreme Court. That approach was similar to what Dr. Angelides advocated in the Mercer trial.

On the other hand, Dr. Angelides rejected reliance on past COAH practice given the new and unique circumstances presented by Gap Present Need. He calculated the number of LMI households formed during the gap and still in existence at the end of the gap period and then reduced that number by removing categories of households in response to comments in the Supreme Court's decision. Oddly enough, although Dr. Angelides had criticized the methodology

developed by Dr. Kinsey and submitted to Judge Wolfson in the South Brunswick case, he adopted a similar approach following the Supreme Court's decision. Unsurprisingly, the calculations of Gap Present Need advocated by the two experts were wildly divergent, with Dr. Kinsey endorsing a much higher number than that advocated by Dr. Angelides. In that sense, their positions relative to each other mirrored the conclusions they had advanced in the Prospective Need phase of the trial.

Mr. Bernard once again endorsed the approach developed by Dr. Kinsey, with several modifications, including the same rejection of a filtering adjustment that he had recommended in Phase 1 of the trial. Notably, after listening to the testimony of Dr. Angelides, he went even further and accepted a variation on one of the adjustments advocated by Dr. Angelides.

Mr. Reading also changed his position from the one he had advocated before Judge Troncone, and then refined his recommendations after listening to the testimony presented during Phase 2 of the trial. Although he largely supported the method presented by Dr. Angelides, he rejected or modified some of the adjustments contained in that model. As noted above, this lack of consensus reflected the divergent results advocated by the parties in the first phase of the trial, leading to thirteen days of additional testimony between May 15, 2017 and June 19, 2017. Once again, the court appreciated the assistance of

Mr. Reading in reviewing the two different proposed gap methodologies from a neutral perspective.

B. Gap Present Need Legal Standard

The Mount Laurel V decision explicitly requires that gap period need be included as part of the fair share affordable housing methodology and places it within the calculation of Present Need. 227 N.J. at 529-31. Although the Supreme Court neither defined a specific methodology to calculate gap period need, nor expressed a preference for any of the proposed approaches that had been submitted to Judge Troncone, it did provide additional guidance for the trial courts. Firstly, the Supreme Court was unequivocal in declaring that any fair share methodology must include gap period need:

As to the fundamental disagreement—whether the gap period must be addressed—we waste no time in settling that issue. There is no fair reading of this Court’s prior decisions that supports disregarding the constitutional obligation to address pent-up affordable housing need for low- and moderate-income households that formed during the years in which COAH was unable to promulgate valid Third Round rules.

[Mount Laurel V, 227 N.J. at 521.]

The Court reiterated in unmistakable terms that there would be “no hiatus in the constitutional obligation.” Id. at 522. It then directed that the calculation of gap need be addressed by the trial courts as part of the judicial effort to ensure compliance by New Jersey’s municipalities with their constitutional obligations:

We conclude, as did the Appellate Division panel and the trial court, that the need of presently existing low- and moderate-income households formed during the gap period must be captured and included in setting affordable housing obligations for towns that seek to be protected from exclusionary zoning actions under the process this Court has set up while COAH is defunct

[Mount Laurel V, 227 N.J. at 529 (internal citations omitted).]

Having identified the need, however, the Court then had to determine how to incorporate gap need into the fair share methodology. In considering the options, the Supreme Court agreed with the Appellate Division that including gap need within Prospective Need was untenable. Indeed, the Court observed that the very category was “a more or less calcified term,” having been defined in the FHA and in COAH’s rules as purely forward looking. As a result, the Court found that it would be inappropriate to incorporate a retrospective calculation—necessary for gap need—into a category based on projections, concluding that:

[b]y . . . definition, [P]rospective [N]eed 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, 227 N.J. at 526-27.]

Instead, following the suggestion of the Appellate Division, the Supreme Court concluded that of the available categories, only Present Need had “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.” Mount Laurel V, 227 N.J. at 526 (citing Ocean County Appeal, 446 N.J. Super. at 294-95). In arriving at that conclusion, the Court recognized that prior practice limited the concept of Present Need to identifying substandard and overcrowded existing housing units at a single point in time—the start of the next affordable housing cycle. Nonetheless, the Court determined that the category could be expanded to address calculation of the need for affordable housing of the LMI households that formed between 1999 and 2015 and still needed such housing at the end of that period, which coincided with the beginning of the Third Round fair share cycle. The Supreme Court noted that because the term Present Need was not defined in the FHA, it was malleable and could be adapted to address gap period need (hereinafter referred to as “Gap Present Need”). Mount Laurel V, 227 N.J. at 529. While directing that Gap Present Need be added to the fair share methodology to determine municipal affordable housing obligations, the Court explicitly refused to endorse any of the analytical approaches and characteristics of Gap Present Need calculations presented to Judge Troncone:

[T]his 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, 227 N.J. at 530 n.8.]

The Supreme Court did, however, provide guidance to assist the trial courts in determining this "fair estimate":

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.

[Id. at 531.]

The focus of Gap Present Need on the unmet housing need of LMI households formed between 1999 and 2015 might at first blush appear to pose an easier task for a trial court considering the matter in 2017-2018 than the calculation of Prospective Need, which is based on projections and is inherently speculative in nature. Somewhat unexpectedly, therefore, Gap Present Need confronted the court with complexities borne of the lack of existing datasets to pinpoint the need, and with conflicting methodologies advocated by the experts that were even more divergent than in the analysis of Prospective Need.

It quickly became apparent that even though real data was available for the gap period and projections could be avoided, getting a handle on the number of LMI households that formed in the gap period and were still in need of affordable housing in 2015 was extremely challenging. Moreover, while placing gap need within the broader category of Present Need, the calculation of gap need was quite distinct from traditional Present Need. As noted above, whereas traditional Present Need counts deficient housing units and is addressed through the rehabilitation of those units, Gap Present Need is measured in LMI households and adds to a new construction obligation.

While the Supreme Court chose Present Need as the context for gap period need because Present Need is not defined in the FHA and therefore provided flexibility in fashioning an appropriate methodology, the absence of clear precedent or COAH rules on the subject has made the task more demanding. Although the Supreme Court's admonition to the trial courts when addressing Prospective Need to utilize the most up-to-date and appropriate data and to avoid policy-making better left to the Legislative and Executive branches continues to offer some guidance for determining Gap Present Need, those guidelines simply are more difficult to apply when addressing a new category of need based on unprecedented circumstances. Yet, as the Supreme Court did not shy away from requiring numerical obligations to be calculated for Prospective Need despite

the acknowledged difficulty in making multiple projections into the future, Mount Laurel II, 92 N.J. at 257, so the complexities involved in determining Gap Present Need did not deter the Court from requiring the trial courts to calculate numerical “fair estimates” of that Need. Mount Laurel V, 227 N.J. at 528-521. So it is with more than a little trepidation that the court approaches the task at hand.

C. Summary of Methodological Approaches

Lacking clearly applicable precedent from COAH or prescription of a specific methodology from the New Jersey appellate courts, Drs. Angelides and Kinsey enjoyed wider latitude in devising their Gap Present Need methodology than they did for determining Prospective Need. Nonetheless, Dr. Angelides and Dr. Kinsey both began their Gap Present Need calculations by estimating LMI household growth during the gap period, essentially following their Prospective Need approaches. Where the two experts diverged was in how they estimated LMI Household Growth, the very different adjustments they applied to account for their interpretations of the guidance provided in Mount Laurel V, and the way in which they each allocated and incorporated their Gap Present Need obligations into the existing fair share methodology.

1. Dr. Angelides (for the municipalities)

a. Guiding Principles

Dr. Angelides interpreted Mount Laurel V as requiring that he develop a novel approach to calculate the newly defined Gap Present Need that required consideration of the current housing status of gap period LMI households. Angelides Gap Rpt. (April 12, 2017), Ex. P 86 at 9. According to Dr. Angelides, both the Appellate Division’s gap decision and Mount Laurel V made clear that Gap Present Need is not a “separate and discrete” component of need that can be captured by a retrospective Prospective Need methodology under the FHA. Ibid. (citing Mount Laurel V, 227 N.J. at 519-20). Dr. Angelides asserted that under Mount Laurel V, no prior fair share method was adequate to capture need under the unique circumstances of the gap period. Dr. Angelides specifically rejected the use of the Second Round Prior-Cycle Prospective Need recalculation of First Round obligations because he concluded that it failed to consider current housing circumstances. Ibid. In that process COAH had recalculated First Round Prospective Need obligations on a retrospective basis to correct for over-projections before unmet First Round need was incorporated into Second Round obligations. See 26 N.J.R. 2302 (June 6, 1994) (comment 6) (codified at N.J.A.C. 5:93-2.8 app. A). As a result, COAH dampened down

Prior Cycle Prospective Need by 48 percent to provide a mid-period (1990) correction. Ibid.

Dr. Angelides claimed that, unlike in Mount Laurel IV where the Supreme Court had directed the trial courts to follow Prior Round COAH practices, the Supreme Court in Mount Laurel V offered trial judges “considerable flexibility” to utilize new methods when crafting Gap Present Need methodologies. Angelides Gap Rpt. (April 12, 2017), Ex. P 86 at 11. Dr. Angelides outlined four “common and central principles” he derived from Mount Laurel V: (1) “Gap Present Need households must have been added during the gap period,” (2) “Gap Present Need households must currently be LMI and otherwise eligible for affordable housing” (excludes gap period LMI households still living in the state with significant assets), (3) “Gap Present Need households must not be represented within the traditional quantification of Present Need” (excludes gap period LMI households living in overcrowded or deficient housing), and (4) “Gap Present Need households must currently have an identifiable need for affordable housing” (excludes gap period LMI households that live in affordable housing). Id. at 6-8.

b. Methodological Approach

Dr. Angelides utilized what he termed a “single snapshot” approach, making his calculations of LMI household growth and associated reductions at

a single point in time, that being the end of the gap period in 2015. He consciously sought to mimic the aspect of traditional Present Need that estimates existing deficient units as a “snapshot” of current need within a municipality, even utilizing that term—which had been employed by the Supreme Court to describe traditional Present Need—in his gap analysis. See Mount Laurel V, 227 N.J. at 527. Since both he and Dr. Kinsey accepted the same updated estimates of total households for 1999 and 2015 from datasets published by the United States Census Bureau, concluding that total households in New Jersey increased by 187,390 households during the gap period, the multi-step total household growth calculations of the Prospective Need phase were not necessary for either expert. Reading Final Gap Rpt. (June 12, 2017), Ex. SM 11 at 4.

Dr. Angelides started his “single snapshot” approach by taking the increase in total households over the gap period and applying ratios that he calculated to show the percentage of that total that qualified as LMI in 2015. This method contrasted with the methodology employed by Dr. Kinsey, which estimated the number of LMI households in 1999 and 2015, and then calculated the difference between the two. Dr. Angelides utilized true median incomes in his analysis, as he had done in his Prospective Need methodology. Ibid. That process yielded a growth in LMI households in the gap period of 73,213 LMI households, which is 39.07 percent of the total household growth during the

period. He then adjusted his total LMI household number by removing those gap period LMI households that were living in affordable housing, possessed significant assets, or that overlapped with units captured as part of traditional Present Need as of 2015. Id. at 11-12. Dr. Angelides allocated this regional-level Gap Present Need to municipalities utilizing the same four allocation factors from his Prospective Need approach. Angelides Gap Rpt. (April 12, 2017), Ex. P 86 at 43. He then added his Gap Present Need for each municipality to his previously calculated municipal Prospective Need before applying the 20 percent caps on new construction obligations.

Angelides New Jersey Gap Present Need 1999-2015 (pre-cap)

Growth Rate Calculation

Total HH Growth	187,390
LMI HH Growth Rate	<u>39.07%</u>
LMI HH Growth	73,213

Calculation of Adjustments

In Affordable Housing	27,720
Significant Assets	1,958
Present Need Overlap	<u>+ 3,992</u>
Total Adjustments	33,670

Impact of Adjustments on LMI HH Growth

LMI HH Growth	73,213
Total Adjustments	<u>- 33,670</u>
Gap Present Need	39,543

[Reading Final Gap Rpt. (June 12, 2017), Ex. SM 11 at 24.]

2. Dr. Kinsey (for FSHC)

a. Guiding Principles

Dr. Kinsey’s approach was based on his position that the Supreme Court in Mount Laurel V did not intend Gap Present Need to be constrained by the single snapshot structure of traditional Present Need, but only included gap period obligations within Present Need to accommodate the framework for fair share obligations established in the FHA. Dr. Kinsey maintained that Mount Laurel V did not modify Mount Laurel IV’s direction that “First and Second Round methodologies be employed, without policy modifications” in determining Gap Present Need. Kinsey Gap Rpt. (April 12, 2017), Ex. DF 85 at 8-9. Dr. Kinsey’s approach to calculating Gap Present Need thus generally tracked his Prospective Need methodology, which he justified by citing COAH’s use of that approach when the agency performed its Second Round Prior-Cycle Prospective Need calculations to correct for over-projections in the First Round. Dr. Kinsey modified COAH’s Prior-Cycle Prospective Need calculations, however, to take advantage of additional datasets covering the entire gap period

that were unavailable to COAH in 1994. Dr. Kinsey described his approach as employing “Prior Round methodology’s techniques, but on a retrospective basis,” in which he utilized “detailed data on what actually occurred during 1999-2015,” rather than relying on projections. Id. at 10, 13.

Although Dr. Kinsey noted that there was insufficient data available to reliably estimate the total number of LMI households that came into existence, or formed, during the gap period due to what he termed “the unquantifiable churning” in which LMI households formed, unformed, moved, died, left or returned to New Jersey between 1999 and 2015, id. at 15, he opined that using a retrospective Prospective Need analysis was the best method to identify Gap Present Need. He also asserted that it was “an appropriately conservative approach completely consistent with the approach COAH took in its Second Round methodology,” both when COAH included one “gap” year in its calculation of Second Round Prospective Need and when it recalculated First Round obligations. Dr. Kinsey also presented data showing that rents and residential real estate prices rose faster than incomes during the gap period, resulting in a net decrease in available affordable housing during those years. In addition, he also cited data that showed that many LMI households were paying over thirty percent of their incomes for housing, rendering them “cost-burdened.” While he acknowledged that neither COAH nor the courts had ever

included a calculation of cost-burdened LMI households in fair share methodologies, he asserted that testimony on this subject was necessary to provide an important “context” for the court’s consideration of Gap Present Need.

b. Methodological Approach

For his Gap Present Need calculations, Dr. Kinsey reprised his multi-step Prospective Need methodology, beginning with the same incremental “two snapshots” approach he had used to calculate LMI household growth previously. Reading Final Gap Rpt. (June 12, 2017), Ex. SM 11 at 6. Dr. Kinsey estimated the growth of LMI households during the gap period by calculating the number of LMI households at the beginning and end of the gap period using the same HUD/COAH-derived income grids he had employed in Phase 1 of the trial. Id. at 7. Continuing his Prospective Need approach, Dr. Kinsey pooled and reallocated gap period LMI household growth for working age households to regions that experienced recent job growth. Kinsey Gap Rpt. (April 12, 2017), Ex. DF 85 at 75. Dr. Kinsey then allocated his regional LMI household growth to the municipalities, exempting urban aid municipalities, so that he could then apply secondary source adjustments for demolitions, conversions and filtering that occurred during the gap period. Reading Final Gap Rpt. (June 12, 2017), Ex. SM 11 at 5-7, 11. Dr. Kinsey then added these municipal Gap Present Need

obligations to his previously calculated municipal Unmet Prior Round Obligations, Present Need, and Prospective Need. Ibid. However, Dr. Kinsey advocated applying twenty percent caps to Prospective Need and Gap Present Need estimates separately before adding those numbers together with the other categories of Third Round obligations.

Kinsey New Jersey Gap Present Need 1999-2015

Total HH Growth	187,390
LMI HH Growth Rate	<u>49.87%</u>
LMI HH Growth	93,451

Secondary Source Adjustments

Demolitions	37,050
Filtering	44,263
Conversions	15,408
Less Urban Aid	<u>(40,347)</u>
Total Adjustments	56,374

Calculating Gap Present Need

LMI HH Growth	93,451
Total Adjustments	<u>56,374</u>
Gap Present Need	149,825

[Id. at 24 (emphasis added).]

3. Mr. Bernard (for NJSBA)

Mr. Bernard generally supported Dr. Kinsey's Gap Present Need approach, with some modifications, and was very critical of the methodology advocated by Dr. Angelides. Mr. Bernard agreed with Dr. Kinsey that a "two snapshot" approach was appropriate because it considered housing activity over the entire gap period. Like Dr. Kinsey, Mr. Bernard advocated following COAH's Second Round Prior-Cycle Prospective Need approach for calculating Gap Present Need. Bernard Gap Rpt. (April 12, 2017), Ex. DB 46 at 2. However, unlike Dr. Kinsey, Mr. Bernard would have applied secondary source adjustments for only conversions and demolitions, having deemed the use of filtering to have been overturned by the Appellate Division and not being convinced that any filtering methodology proposed in this case satisfied the Appellate Division's concerns. Bernard Gap Response Rpt. (April 24, 2017), Ex. DB 47 at 1. Mr. Bernard also suggested modifications to Dr. Kinsey's calculation of conversions and treatment of the Highlands area of New Jersey. He strongly criticized Dr. Angelides' rejection of the HUD/COAH-derived grids to establish LMI incomes, pointing out that this approach greatly reduced the Gap Present Need estimates. Mr. Bernard likewise rejected the adjustments made by Dr. Angelides to reduce the overall gap need, Bernard Gap Rpt. (April 12, 2017), Ex. DB 46 at 7, although he eventually did accept making some

modified adjustment to Dr. Angelides' calculation for the overlap with traditional Present Need.

While Mr. Bernard initially rejected the adjustment advocated by Dr. Angelides to prevent the overlap identified by the Supreme Court with traditional Present Need, Mount Laurel V, 227 N.J. at 529-30, he later conceded in testimony that a Present Need overlap adjustment could have merit. He qualified his endorsement of this reduction, however, noting that it should not include Present Need in urban aid municipalities because they do not receive new construction obligations under the fair share methodology. Mr. Bernard also agreed with Dr. Kinsey in rejecting the reduction taken by Dr. Angelides for LMI households living in affordable housing because it was impossible to ascertain which of those households were formed during the gap period, such an adjustment could lead to double-counting when municipalities take bonus credits for the construction of affordable units in the gap period during the compliance process, and because of the marked increase in cost-burdened LMI households during the gap period. Bernard Gap Rpt. (April 12, 2017), Ex. DB 46 at 13, 18.

4. Special Master Reading

Special Master Reading generally agreed with the Gap Present Need approach proposed by Dr. Angelides, rejecting Dr. Kinsey's Prospective Need

methodology that he had favored in the Ocean County proceedings because it appeared less responsive to the concerns articulated by the Supreme Court in Mount Laurel V. Mr. Reading testified that although Dr. Kinsey's use of an incremental Prospective Need methodology was not unreasonable, Dr. Angelides' approach directly addressed the new and unique circumstances of Gap Present Need. In particular, Mr. Reading agreed with Dr. Angelides that his single snapshot approach to calculating gap period LMI household growth was more consistent with the point-in-time analysis of traditional Present Need, and more appropriately responded to the Supreme Court's Mount Laurel V decision.

Mr. Reading recommended Dr. Angelides' Gap Present Need methodology, but with modified adjustments. Mr. Reading concluded that the significant asset test should not be used to adjust Gap Present Need for the same reasons he rejected the test in Phase 1 of the trial. While he viewed the test as reasonable, he deemed it to reflect a policy determination that should only be endorsed as part of a comprehensive re-evaluation of the fair share methodology by an administrative agency that would examine many considerations and not just this one policy change in isolation. In addition, Mr. Reading recommended that LMI households living in deed-restricted affordable housing should not be excluded from Gap Present Need because municipalities may already have either

been given bonus credits for those units, or may be applying for credits for those units during the ongoing Third Round compliance process. The adjustment made by Dr. Angelides in removing such households could thus lead to a double reduction in the obligation in many towns, improperly diluting their fair share obligations. Indeed, the court confirms that several Mercer County municipalities that have settled with FSHC have sought bonus credits for affordable housing units constructed from 1999 through the first half of 2015 as part of the compliance process. Mr. Reading, however, accepted the adjustment to remove gap period LMI households living in affordable housing units that were not deed restricted since such an adjustment would not lead to double counting in the compliance process. He also concluded that while overlap with traditional Present Need should be excluded from Gap Present Need, the adjustment should be modified not to exclude households living in QUAMs because those urban municipalities do not have a new construction need, essentially agreeing with the testimony of Mr. Bernard in this regard. Reading Final Gap Rpt. (June 12, 2017), Ex. SM 11 at 22.

Reading New Jersey Gap Present Need 1999-2015

Total HH Growth	187,390
LMI HH Growth Rate	<u>39.07%</u>
LMI HH Growth	73,213

Adjustments

In Affordable Housing (Non-deed restricted)	(26,595)
Present Need Overlap (Not urban aid)	<u>(2,055)</u>
Total Adjustments	(28,650)

Calculating Gap Present Need

LMI HH Growth	73,213
Total Adjustments	<u>(28,650)</u>
Gap Present Need	44,563

[Id. at 24.]

D. Gap Present Need Methodology

Drs. Angelides and Kinsey began their approaches by estimating LMI household growth during the gap period, and then applying adjustments to account for the guidance provided by Mount Laurel V. In fashioning an appropriate Gap Present Need methodology, the court will determine the appropriate approach to calculate LMI household growth, and then evaluate the proposed adjustments.

1. Gap Period LMI Household Growth

In determining an estimate of the number of LMI households that formed during the gap period, all of the experts agreed that no existing dataset provided

a direct answer. In fact, Mr. Reading testified that available datasets were much better at tracking housing units than LMI household formation. So the effort to identify LMI households that formed during the gap period proved to be somewhat elusive. As in other parts of the fair share methodology, the court had to select from imperfect approaches, both of which contained troubling elements the court was unable to endorse. So once again the court struggled to fashion an acceptable alternative that would result in a fair and reasonable estimate of Gap Present Need without accepting any one complete methodology proposed by the experts. And once again the court hopes to avoid unforeseen negative consequences that might flow from combining the most convincing aspects of each model.

Both experts started their analyses by determining the total number of households in New Jersey in 1999 and 2015 and determining the increase in households over the sixteen-year period of the gap. Unlike the Prospective Need period that required the use of projections, estimates of total households at the beginning and end of the gap period became available from the United States Census Bureau and were accepted by both experts, eliminating the need for the elaborate calculations utilized in the Prospective Need methodology:

	<u>1999</u>	<u>2015</u>	<u>Growth</u>
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Total Households	3,043,483	3,230,873	187,390
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Aggregate New Jersey Total Household Growth 1999-2015

[Reading Final Gap Rpt. (June 12, 2017), Ex. SM 11 at 4.]

From this point on, however, their methodologies diverged significantly.

As noted above, Dr. Angelides determined his estimate of the number of LMI households for 2015 only, calling it a “single snapshot” approach, which he deemed appropriate since the Supreme Court combined gap need with traditional Present Need, also calculated at a single point in time. Notably, all of his calculations used true median incomes and not the HUD/COAH-derived income grids endorsed by the court in Phase 1 of the trial. Dr. Angelides calculated 2015 LMI household ratios and applied them to total household growth during the gap period. He derived his 2015 LMI Household Ratios, by household size and region, utilizing LMI income thresholds set at eighty percent of observed median incomes in the 2015 ACS One-Year PUMS. Dr. Angelides then multiplied the 2015 LMI Household Ratios by the gap period Total Household Growth for each of the forty-two region and household size combinations. Dr. Angelides asserted that this “single snapshot” approach identified those households formed in the gap period that currently qualify as

LMI, which he then aggregated by region. Angelides Gap Rpt. (April 12, 2017), Ex. P 86 at 20-26. He referred to his estimate of the LMI households that formed during the gap as making up a “pot,” from which he made deductions for various adjustments he deemed required by Mount Laurel V. He also made certain assumptions about each level or “strata” of LMI households derived from true median incomes (i.e., moderate, low, and very low income levels), which assumed that each household in the strata could afford housing affordable to households earning the top incomes in the category.

Dr. Kinsey utilized what he called a “two snapshot” approach, whereby he determined the percentages of LMI households in 1999 and 2015 for each of 168 “cells” representing the various county and age cohort groupings that he had also analyzed in his Prospective Need methodology. The incomes he used in his model were derived from COAH’s income grid from 2000 and the grid he calculated for 2015 using HUD data because COAH had not updated the grid itself. Using those incomes for moderate, low and very low income households, he determined the share of total households that were LMI for every age group by county for each of the end points of the gap period. He then applied those LMI household ratios in each of the cells to total households in every cell to produce the number of LMI households at the beginning and end of the gap period. Dr. Kinsey then subtracted the number of LMI households in 1999 from

the number in 2015, concluding that 93,398 LMI households were added during the gap period. Kinsey Gap Rpt. (April 12, 2017), Ex. DF 85 at 28-34. Note that Dr. Kinsey later updated this number and used 93,451 as the number of LMI households formed during the gap period. While his calculations yielded a statewide average of 41.16 percent of New Jersey's households that were qualified as LMI in 1999, using census data, and 41.66 percent of the State's households that were qualified as LMI in 2015, using ACS/PUMS data, the incremental growth of LMI households during the period was 49.87 percent. Reading Final Gap Rpt. (June 12, 2017), Ex. SM 11 at 5.

Dr. Kinsey asserted—in response to characteristics that the Supreme Court had identified as needing to be excluded from Gap Present Need (Mount Laurel V, 227 N.J. at 529-30)—that the increase in households he calculated reflected the number of LMI households that came into existence during the gap period and were still in existence at the end of the period. He claimed that his model excluded those who had died and those who were income-ineligible. Finally, Dr. Kinsey asserted that the number of LMI households captured within traditional Present Need in 2015 should not be subtracted from Gap Present Need despite the Supreme Court's explicit direction to exclude such households to avoid double-counting because COAH had not deducted Present Need in its Prior Cycle Prospective Need calculation, which Dr. Kinsey maintained was the

only proper way to determine Gap Present Need. See Mount Laurel V, 227 N.J. at 529-30.

Notably, Dr. Kinsey utilized different datasets to calculate his LMI household ratios in 1999 and in 2015, albeit out of necessity. Reading Final Gap Rpt. (June 12, 2017), Ex. SM 11 at 4-5. Because detailed PUMS income data was not yet available in 1999, Dr. Kinsey relied on 2000 Census data, which he sorted using the 2000 COAH income grid. Kinsey Gap Rpt. (April 12, 2017), Ex. DF 85 at 31. Dr. Kinsey used 2000 Census income data because it reflected 1999 incomes, and the 2000 COAH grid because it was based, in part, on household income data derived from the fourth quarter of 1999. Ibid. For 2015, Dr. Kinsey used 2015 ACS PUMS income data. Since a COAH grid was not available for 2015, Dr. Kinsey sorted PUMS income data using a 2015 income grid he devised utilizing HUD 2015 county income limits, as he had done in his Prospective Need analysis. He then applied secondary source adjustments to his estimate of LMI households formed during the gap period.

As in the Prospective Need phase, the approaches of the experts yielded significantly divergent results. The difference in their gap period LMI household growth estimates is set forth in the following chart:

New Jersey LMI Household Growth Estimates 1999-2015

	<u>Angelides</u>	<u>Kinsey</u>
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Total HH Growth	187,390	187,390
LMI HH Growth	73,213	93,451
LMI HH Growth Rate	39.07%	49.87%

[Reading Final Gap Rpt. (June 12, 2017), Ex. SM 11 at 5.]

For the reasons discussed below, the court prefers Dr. Kinsey’s approach using the HUD/COAH-derived income grids to determine the number of LMI households in 2015, but will modify his methodology to address concerns raised by Mr. Reading about some of the results produced by Dr. Kinsey’s model.

As noted above, Mr. Reading favored Dr. Angelides’ approach because he felt it better responded to the unique circumstances presented by the gap period and comments made by the Supreme Court in Mount Laurel V, 221 N.J. at 529-30. For the estimation of LMI household growth, he once again preferred Dr. Angelides’ use of “true” mathematical medians over the COAH income grids, and recommended this approach to the court. However, the court will require the use of income grids in the estimation of gap period LMI household growth as advocated by Dr. Kinsey and Mr. Bernard, for the same reasons expressed above in the discussion of Prospective Need. COAH never wavered in its use of the HUD-based grids, and changing that policy for the gap period would lead to a mismatch between LMI households that make up Gap Present Need and

LMI households that can qualify to live in the new deed-restricted units ultimately made available to address this need.

In addition, although Dr. Angelides characterized his methodology as a “single snapshot” in time in an apparent effort to make it fit better with traditional Present Need, he started his approach to LMI household growth by calculating the net-change in total households during the gap period. Consequently, using the term “single snapshot” to describe his methodology is somewhat of a misnomer. Moreover, the Supreme Court simply did not require that Gap Present Need mimic traditional Present Need in this or any other way. In fact, the Court specifically noted that the concept of Present Need “does not have to be limited to a survey approach to housing units” that were substandard and would be addressed through rehabilitation, but could and should be expanded to include an analytical component that identifies a number of LMI households whose need for affordable housing will be addressed by imposing new construction obligations upon municipalities. Mount Laurel V, 227 N.J. at 529.

Dr. Kinsey, on the other hand, stubbornly insisted that reading Mount Laurel IV and V together required the court to follow COAH’s Prior Cycle Prospective Need approach, even though the Supreme Court had only acknowledged that approach “as a matter of historical record,” and had

specifically refused to endorse it or any of the other models presented to Judge Troncone because they had not been tested by cross-examination. See Mount Laurel V, 227 N.J. at 528 n. 7, 529. While the court favors Dr. Kinsey's methodology because it uses the income grids long endorsed by COAH, the court cannot accept his inexplicably inflated Gap LMI Household Growth Rate of almost fifty percent because of its significant deviation from COAH's rule of thumb. As the court noted earlier in its discussion of Phase 1 of the trial, COAH projected constant LMI Household Ratios throughout the Prospective Need period because it was impossible to reliably calculate those ratios ten years into the future due to the "many imponderables" recognized by COAH consultant Dr. Robert Burchell. Here, however, looking into the past, the court expected data to be available from which LMI Household Ratios could be reliably estimated for both 1999 and 2015. Unfortunately, in practice this was not the case because the data used by Dr. Kinsey at the beginning and end of the gap period was apparently not compatible and skewed the results for 2015.

As repeated throughout this decision, COAH has consistently observed that LMI Household Growth Rates "almost by definition" hover around forty percent. See, e.g., 46 N.J.R. 953 (June 3, 2014). COAH utilized this rule of thumb because it established a range of reasonable values around the mathematical median. Special Master Reading thus became very troubled by

Dr. Kinsey’s model that found over 93,000 gap period households in need of affordable housing in 2015 because that calculation reflected a growth rate of 49.87 percent during the sixteen-year period. Mr. Reading characterized this result as unreasonably high, attributing its significant variation from COAH’s rule of thumb to the inappropriate mixing of data sources used by Dr. Kinsey in 1999 and 2015. Indeed, Dr. Angelides demonstrated that Dr. Kinsey’s approach produced volatile gap period LMI household growth rates between regions from a low of five percent in Region 1, to a high of 85.1 percent for Region 6. Angelides Gap Rpt. (April 12, 2017), Ex. P 115 at 32. Even more concerning were the variations in Dr. Kinsey’s countywide results, which were not discussed in the testimony, but were admitted into evidence on CD-ROM. Kinsey Gap Rpt. (April 12, 2017), Ex. DF 101 (CD-ROM):

Kinsey Countywide LMI Household Projections (sample)

<u>County</u>	<u>LMI HH Growth</u>	<u>Total HH Growth</u>	<u>LMI HH Growth Rate</u>
Passaic	3,856	-965	-399.42%
Mercer	5,155	4,651	110.83%
Camden	3,053	530	576.46%

[Kinsey Gap Rpt. (April 12, 2017), CD-ROM Tab 1c, 1d.]

Such wildly varying LMI Household Growth Rates leave many counties far from COAH's "about 40 percent" guidance and are indicative of a flawed approach.

Although Mr. Reading endorsed Dr. Angelides' approach to gap period LMI household growth calculations, he also gave serious consideration to Dr. Kinsey's model as an alternative method. Mr. Reading concluded that modifying Dr. Kinsey's methodological steps to apply his 2015 LMI Household Ratios, which averaged 41.66 percent statewide, to the growth in total households during the gap period would be both "reasonable and acceptable." Reading Final Gap Rpt. (June 12, 2017), Ex. SM 11 at 18. Mr. Reading testified that such modification would both negate any skewing from data mixing and would produce LMI Household Growth Rates closer to the COAH benchmark of "about 40 percent." Moreover, using constant LMI ratios for Gap Present Need would mirror the court's handling of Dr. Kinsey's LMI growth ratios in the Prospective Need phase of the trial. While calculating Gap Present Need enabled the experts to use actual data, the "imponderables" created by the "churning" of LMI households in the gap period and the absence of datasets to reliably measure such LMI household formation created circumstances eerily similar to what confronted the court when facing the projections necessary to determine Prospective Need. Mr. Reading summarized the numerical

recommendations of the experts and added his modification of Dr. Kinsey’s analysis in the following chart, which reflects changes in the numbers originally used by both experts to reflect updated total household data both experts endorsed and which was incorporated by Mr. Reading:

New Jersey LMI Household Growth Estimates 1999-2015

	<u>Angelides</u>	<u>Kinsey</u>	<u>Kinsey as modified by Reading</u>
Total HH Growth	187,390	187,390	187,390
LMI HH Growth	73,213	93,451	78,067
LMI HH Growth Rate	39.07%	49.87%	41.66%

[Reading Final Gap Rpt. (June 12, 2017), Ex. SM 11 at 5.]

Since Dr. Kinsey’s method produced LMI Household Growth Rates so wildly variable as to not only contradict COAH’s basic understanding of the operation of LMI Household Ratios, but to test the bounds of reasonableness, the court endorses Mr. Reading’s modification of Dr. Kinsey’s approach. Notably, Dr. Kinsey was never able to explain why his results were reliable despite their significant deviation from COAH’s established rule of thumb. He simply testified that his estimates of Gap Present Need were the product of the calculations he performed trying to mimic COAH’s Prior Cycle Prospective Need approach and should be accepted by the court on that basis.

Moreover, Dr. Kinsey never convinced the court that blindly following the Prior Cycle methodology made sense when calculating LMI households formed during the gap period who were still in need of affordable housing in 2015. In recalculating First Round obligations based on over-projections, COAH appeared to be replicating the same process it had performed in arriving at the faulty projections, but using more recent data. See 26 N.J.R. 2348 (June 6, 1994). That makes sense when undoing a past calculation. Notably, however, although Dr. Kinsey aimed to follow COAH's Prior Cycle approach, it was not clear to the court from the rulemaking record exactly how COAH determined to reduce the First Round obligations by a flat forty-eight percent. Ibid. Nor was Dr. Kinsey able to convince the court that he knew exactly what COAH did because the technical appendix did not contain any actual calculations. See 26 N.J.R. 2348 (June 6, 1994). So the court was not convinced that Dr. Kinsey's calculations really were consistent with COAH's Prior Cycle approach. For Gap Present Need, however, the court is not correcting a prior faulty calculation of Prospective Need, but is looking back to estimate the number of LMI households created over a sixteen-year period that still need affordable housing today. That exercise strikes the court as related to, but distinctly different from what COAH was doing to dampen down unduly inflated obligations calculated using a Prospective Need formula in the First Round. While aspects of Prospective

Need analysis such as use of the COAH grids seem appropriate in determining Gap Present Need, replicating the entire process was not a perfect fit in this context.

While the court accepts Dr. Kinsey’s assertion that consistent data sources were not available for both 1999 and 2015, this fact does not alter the likelihood that their use skewed his results, causing his wildly variable gap period LMI household ratios and resulting in an increment in the gap period that far exceeded COAH’s rule of thumb. Consequently, the court endorses Special Master Reading’s analysis that Dr. Kinsey’s unacceptable results were likely caused by inappropriate data mixing, and adopts Mr. Reading’s modification of the Kinsey approach, which applies Dr. Kinsey’s 2015 LMI Household Ratios to gap period total household growth:

Gap Period LMI Household Growth

	Total HH Growth	LMI HH Growth
Region Four	40,625	17,324
New Jersey	187,390	77,677

Mr. Reading’s modification actually produces a statewide average LMI Household Growth Rate of 41.45 percent, which is slightly lower than the 41.66

percent average of the applied 2015 LMI Household Ratios, due to household growth distributions.

Although the court recognizes that LMI Household Growth Rates can fluctuate around forty percent, and are not completely static, the court viewed its choice here as being between applying Dr. Kinsey's 2015 ratios to total household growth, which produces a statewide average LMI Household Growth Rate of 41.45 percent, or using his incremental approach that yielded an average growth rate of 49.87 percent. Faced with these alternatives, the court deemed it better, and ultimately more reasonable, to apply the 2015 LMI Household Ratios to diminish the wildly divergent county and individual "cell" ratios calculated by Dr. Kinsey.

Having decided to incorporate this modification of Dr. Kinsey's approach into the fair share methodology, the court now considers the very different adjustments proposed by Dr. Angelides and Dr. Kinsey in their calculations of the gap period affordable housing need that remained unmet in 2015. Since the methodological steps of the experts do not match, the court will consider each expert's adjustments separately.

2. Dr. Kinsey's Adjustments

Dr. Kinsey adjusted Gap Present Need by adapting his entire Prospective Need methodology to the gap period. As noted above, Dr. Kinsey's approach is

largely based on his understanding of COAH’s 1994 Prior-Cycle Prospective Need recalculation, using the “most up-to-date available data that reflected actual, observed growth during the gap period.” Kinsey Gap Rpt. (April 12, 2017), Ex. DF 85 at 10.

a. Reallocation of Working Age Household Growth

In keeping with his Prospective Need methodology, the first adjustment to gap period LMI household growth that Dr. Kinsey proposed was to pool and reallocate portions of that growth occurring in households below age sixty-five to regions based on historic job growth. *Id.* at 33. This reallocation of working age household growth was included by COAH as part of the Second Round Prospective Need calculations:

. . . the growth of households below age 65 is put into a statewide pool and allocated to regions of the state according to the proportional share of nonresidential ratable growth Thus, 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.

[26 N.J.R. 2347 (June 6, 1994).]

However, this pooling and reallocation step was not applied in the calculation of Prospective Need in this trial because neither Dr. Kinsey nor Dr. Angelides attributed any of the LMI household growth during the Prospective Need period to households headed by persons younger than sixty-five years of age, reflecting

the demographic characteristics of the Baby Boomer generation. See Reading Rpt. (August 31, 2016), Ex. SM 4 at 50. Moreover, there is no indication in the rulemaking record whether COAH included a reallocation of need in its Prior Cycle Prospective Need calculation. See 26 N.J.R. 2348 (June 6, 1994).

Mr. Bernard agreed with Dr. Kinsey’s inclusion of this step to determine Gap Present Need as it would counter the displacement of LMI households from areas of job growth that occurred during the gap period. Mr. Reading questioned including this inter-regional reallocation step, however, because its purpose in Prior Rounds was to predict areas of future housing need based on previous employment growth and not on the housing need of LMI households that already exist. Reading Final Gap Rpt. (June 12, 2017), Ex. SM 11 at 5-6. Mr. Bernard countered that although the LMI households already existed, the affordable housing units to accommodate them had not yet been built, and thus could still be relocated as part of this step.

For Gap Present Need, Dr. Kinsey advocated reallocating a significant portion (39.5 percent) of LMI household growth out of Region 4:

Kinsey Reallocation of Gap Period LMI Household Growth

	<u>Initial</u>	<u>Reallocated</u>	<u>Change</u>
Region 1	(2,361)	14,290	+16,651
Region 2	22,227	17,908	-4,319

Region 3	14,178	19,948	+5,770
Region 4	34,433	20,846	-13,587
Region 5	18,801	17,521	-1,280
Region 6	<u>6,120</u>	<u>2,885</u>	<u>-3,235</u>
New Jersey	93,398	93,398	0

[Reading Final Gap Rpt. (June 12, 2017), Ex. SM 11 at 6.]

While application of the reallocation method would reduce Gap Present Need for Region 4 and Mercer County, it would shift a new construction obligation away from where the gap period LMI households are currently located. Offering an opportunity for a Mercer County LMI household to relocate to Bergen County, which receives the largest portion of the reallocation, is not something envisioned in Mount Laurel V and does not make sense in terms of the Supreme Court’s purpose of providing affordable housing for presently existing LMI households formed during the gap period. This court has been focused on determining the current need of gap period LMI households in Mercer County and establishing municipal obligations to meet that need. Incorporating this step into a calculation of Gap Present Need is an example of how blindly following the Prospective Need methodology is not a good fit to satisfy the task assigned to the court. Consequently, the court rejects Dr. Kinsey’s proposed reallocation

of LMI household growth between regions, which would shift a significant percent of need away from where LMI gap households are living today.

b. Gap Period Secondary Source Adjustments

After reallocating gap period LMI household growth between regions, Dr. Kinsey’s next adjustment was for municipal secondary sources. Dr. Kinsey’s approach was a further adaptation of his fair share Prospective Need methodology, including allocating regional Gap Present Need to the municipalities in each region, then calculating and applying municipal secondary source adjustments, but retrospectively for the gap period. Reading Final Gap Rpt. (June 12, 2017), Ex. SM 11 at 19. As in his Prospective Need methodology, Dr. Kinsey adjusted municipal Gap Present Need to reflect estimated changes in the housing stock attributable to demolitions, conversions and filtering. Ibid. Dr. Kinsey’s gap period secondary source adjustments increased statewide Gap Present Need significantly:

Kinsey New Jersey Gap Period Secondary Source Adjustments

Demolitions	37,050
Filtering	44,263
Conversions	15,408
Less Urban Aid	<u>(40,347)</u>
Secondary Sources	56,374

[Reading Final Gap Report (June 12, 2017), SM 11 at 8.]Special Master Reading recommended rejecting Dr. Kinsey's Gap Present Need secondary source adjustments, concluding that because such adjustments were conceived as predictive calculations, they should apply only as part of a future Prospective Need methodology. As observed by Dr. Kinsey, however, COAH included secondary source adjustments in its calculation of Prior Cycle Prospective Need, which was a retrospective calculation. 26 N.J.R. 2348 (June 6, 1994). As the court noted above, however, in the Second Round COAH was retrofitting its Prospective Need calculations from the First Round in order to reduce the obligations it had previously over-projected, and may have included secondary source adjustments because they had been incorporated into the formula applied in the First Round to establish the obligations COAH was then revising. Mr. Reading expressed additional concern that Dr. Kinsey's proposed adjustments had the potential to double count demolitions and conversions, which had already occurred and may have been included to some extent in calculating traditional Present Need. Although Mr. Bernard generally agreed with Dr. Kinsey's use of demolitions and conversions to expand Gap Present Need, he joined Mr. Reading in expressing discomfort with the inclusion of filtering in the calculation of that need for the same reasons they both rejected filtering previously in the calculation of Prospective Need. Mr. Bernard also took

exception to how Dr. Kinsey calculated conversions and handled the Highlands area of the State.

The court is wary about adjusting Gap Present Need to add secondary sources. The Supreme Court in Mount Laurel V focused on LMI households created during the gap. When estimating households that have already formed, making adjustments for changes in housing units such as those caused by demolitions and conversions that have already occurred seems incompatible with the task at hand. That Dr. Kinsey's Gap Present Need soared far above the number of gap period LMI households he identified as having been formed during the gap period underscored yet again how a full Prospective Need approach is incompatible with the thrust of the Supreme Court's gap period analysis.

Indeed, Dr. Kinsey's use of secondary sources focuses on housing units and not households, fundamentally remaining at odds with this court's conception of the components necessary to calculate Gap Present Need. Firstly, adding significantly to the gap need due to filtering is as ill-advised in this context due to the unproven complexities of the model designed by Dr. Kinsey as it was when the court considered a similar adjustment for Prospective Need. Notably, Mr. Bernard recommended rejecting this adjustment in both Phases 1 and 2 of the trial, a recommendation concurred in by Mr. Reading. The court

agrees that there is no place in a “fair estimate” of Gap Present Need for an adjustment based on filtering. The proposed method is simply too unreliable to be incorporated into a calculation of Gap Present Need.

While excluding demolitions and conversions is not as clear cut, they do not have a viable place in a retrospective analysis based on the need of gap period LMI households for affordable housing in 2015 when those changes in the housing market have already occurred. This court is not undoing a past over-projection calculated with data shown in retrospect to be faulty, and retrofitting a similar analysis to arrive at a reduction in prior obligations. Moreover, adding conversions and demolitions as calculated by Dr. Kinsey again significantly inflates Gap Present Need above the number of gap period LMI households he asserts was created during the period. As noted above, such a result makes no sense to the court. To the extent Dr. Kinsey made these adjustments as a way to address the circumstances he described concerning cost-burdened LMI households that formed during the gap, Dr. Kinsey and Mr. Bernard admitted that COAH had never included this consideration in any of its fair share housing models, largely due to the complexities and imponderables such consideration would entail. Finally, the court simply lacks confidence that such adjustments make sense in the context of Gap Present Need. Should similar circumstances arise in the future, the court hopes a reconstituted agency will be available to

evaluate important policy considerations underlying the necessary retrospective analysis. For present purposes, however, the court rejects secondary source adjustments when calculating Gap Present Need.

3. Dr. Angelides' Adjustments

Dr. Angelides responded creatively to the concerns expressed by the Supreme Court in Mount Laurel V and fashioned three novel adjustments for the court's consideration. While the court was at first attracted by Dr. Angelides' adjustments as facially responsive to the Supreme Court's comments concerning the characteristics of Gap Present Need, 227 N.J. at 526-31, closer scrutiny caused the court to lose confidence in many aspects of the reductions in Present Need that he advocated. Although the court does not adopt his proposals to reduce Gap Present Need for gap period LMI households that found affordable housing or gap period LMI households with significant housing assets, the court did find his adjustment for traditional Present Need overlap to be valid as modified.

a. LMI households living in affordable housing

The first adjustment undertaken by Dr. Angelides to translate gap period LMI household growth into Gap Present Need was to exclude those LMI households, formed during the gap period, that were living "in a housing unit affordable to their income strata (as defined in the Fair Housing Act) in 2015,

provided the household is not overcrowded within the unit (as defined in COAH's Present Need standard)." Angelides Gap Rpt. (April 12, 2017), Ex. P 86 at 28. However, because there was no data source that specifically identified which 2015 LMI households were formed during the gap period, Dr. Angelides made his estimation by assuming that the same proportion of 2015 gap period LMI households would be in affordable units as was the case for all 2015 LMI households in affordable housing. Id. at 29 n.34.

Dr. Angelides utilized 2015 ACS PUMS data to categorize each LMI household by its income status "strata" (moderate, low, or very low-income) and then compared the households in each strata with the affordability of the unit in which they were residing to determine those LMI households that were living in affordable housing in 2015. Id. at 29-30. Dr. Angelides then removed those households living in overcrowded units, as defined in traditional Present Need methodology, to avoid double counting. Id. at 30-31. From these calculations, Dr. Angelides next determined the proportion of all 2015 LMI households in each region and household size to be living in affordable housing, and then applied those proportions to his estimated gap period LMI households to reduce Gap Present Need. Id. at 31-32. Dr. Angelides' adjustments in this step, aggregated by region and statewide, demonstrate significant reductions in gap period LMI households in need of affordable housing in 2015:

Gap Period LMI Households Living in Non-Overcrowded Affordable Housing Units

	<u>LMI HH Growth</u>	<u>% HH Reduced</u>	<u># HH Reduced</u>
Region 1	17,794	30.0%	(5,341)
Region 2	11,605	39.9%	(4,634)
Region 3	12,602	33.7%	(4,252)
Region 4	15,513	47.8%	(7,409)
Region 5	10,060	52.5%	(5,286)
<u>Region 6</u>	<u>2,497</u>	<u>32.0%</u>	<u>(799)</u>
New Jersey	70,070	39.6%	(27,720)

[Angelides Gap Rpt., (April 12, 2017), Ex. P 86 at 32.]

Both Dr. Kinsey and Mr. Bernard took issue with this adjustment to Gap Present Need. Both of these experts found Dr. Angelides’ “strata” approach to calculating the number of gap period LMI households that found affordable housing to be flawed, and concluded that, regardless of the accuracy of his figures, the households he identified did not represent satisfaction of gap period affordable housing need. Both Dr. Kinsey and Mr. Bernard testified that Dr. Angelides overstated the households living in affordable housing because he compared each LMI household’s actual housing costs to the maximum affordable housing costs for households at the highest qualifying LMI income, rather than to the maximum housing costs based on each household’s actual

income. When Dr. Kinsey reportedly reproduced Dr. Angelides' approach in this step, but determined affordability based on each household's actual income, total LMI households living in affordable housing were less than half the number calculated by Dr. Angelides. Kinsey Gap Rpt. (April 12, 2017), Ex.DF 95a at 1.

Dr. Kinsey and Mr. Bernard further challenged the accuracy of Dr. Angelides' calculations, specifically questioning the manner in which he estimated the number of gap period LMI households in affordable housing by applying the proportions of total gap period LMI households in affordable housing to gap period LMI household growth. Both experts asserted that the application of these proportions was based on the faulty assumption that newly established gap period LMI households would be able to find affordable housing at the same rate as already established LMI households. Mr. Bernard considered this assumption to be counterintuitive given the diminishing affordable housing choices available during the gap period, which included the Great Recession. In addition, Dr. Kinsey pointed out that Dr. Angelides mixed income requirements in a novel and troubling way, utilizing true median incomes for his calculations that have been rejected by the court, but also introducing consideration of HUD standards he had spurned in other instances in his methodology and accepting only portions of UHAC regulations. Dr. Kinsey characterized the process as

using a “hodge-podge affordability definition . . . that mixes and matches different standards and definitions.” Kinsey Response Gap Rpt. (April 24, 2017), Ex. DF 86 at 17. Dr. Kinsey asserted that such mixing was inherently unreliable.

In the strata approach Dr. Angelides used to reduce Gap Present Need, he essentially sorted LMI households living in cost-burdened housing in 2015 from those households that were not cost-burdened. Mr. Bernard questioned the results of this method to reduce need, citing census-based HUD data to show an increase in cost-burdened households in New Jersey during the gap period. Cost-burdened households are those that spend over a set percentage of their incomes for housing, ranging from twenty-eight percent to over thirty percent. Mr. Bernard’s data showed that there was a total increase in cost-burdened households from about sixty-one percent to seventy-five percent during the gap period, and that the increase in LMI households that were cost-burdened between 2000 and 2010 was more than three times the number of LMI households created during the gap. Bernard Gap Rpt. (April 12, 2017), Ex. DB 47. Mr. Bernard testified that these figures showed a significant loss of affordable housing over the gap period, most of which he attributed to gentrification. As a result of these circumstances, Mr. Bernard asserted that, while some LMI households did find affordable housing during the gap period,

far more LMI households lost affordable housing as their incomes declined. Mr. Bernard therefore concluded that any gap period LMI households that found affordable housing did not represent a satisfaction of “pent-up affordable housing need,” pursuant to Mount Laurel V, and should therefore not be used to reduce Gap Present Need.

Both Dr. Kinsey and Mr. Bernard further criticized the reduction in Gap Present Need for gap period LMI households that found deed-restricted affordable housing during the period as being redundant. While the adjustment made by Dr. Angelides included gap period LMI households in both deed restricted and non-deed-restricted units, reductions in municipal obligations for creation of deed-restricted affordable housing are applied as credits during the compliance process. Therefore, to avoid double counting, both Dr. Kinsey and Mr. Bernard recommended that if any municipal housing obligations were to be reduced for gap period LMI households that found deed-restricted affordable housing, such deductions should only be accomplished through municipal bonus credits awarded during the compliance process.

Special Master Reading endorsed Dr. Angelides’ adjustment, concluding that his approach was well-reasoned and supported by available data sources. Mr. Reading responded to Mr. Bernard’s concern regarding increases in New Jersey’s cost-burdened households during the gap period by noting that Judge

Serpentelli in AMG, 207 N.J. Super. at 422-23, had rejected incorporating cost-burdened households in the calculation of Present Need, and COAH and other courts had agreed with this conclusion. Mr. Reading did, however, concur with the criticisms expressed by Dr. Kinsey and Mr. Bernard regarding the exclusion of LMI households living in deed-restricted affordable housing because to include them would be redundant since municipalities receive credits for those units toward satisfaction of their fair share obligations during the compliance process. Excluding deed-restricted units would prevent double counting those units. Reading Final Gap Rpt., (June 12, 2017), Ex. SM 11 at 20. As a result, Mr. Reading proposed that the 2,368 LMI households he calculated as living in deed-restricted affordable housing remain included in Gap Present Need to avoid the possibility of double counting. Id. at 24:

Gap Period LMI Households Living in Non-Overcrowded, Non-Deed
Restricted Affordable Housing Units (Reading)

New Jersey	28,963
Less Deed Restricted	<u>(2,368)</u>
Total	26,595

[Reading Final Gap Rpt. (June 12, 2017), Ex. SM 11 at 24.]

The court concurs with Special Master Reading that COAH rejected consideration of cost-burdened households in calculating municipal affordable housing obligations, and that its decision was upheld by the Appellate Division

as a permissible exercise of discretion. In Re Adoption of N.J.A.C. 5:94 & 5:95, 390 N.J. Super. at 36. Such considerations cannot drive the calculation of Gap Present Need despite the challenging circumstances experienced by such LMI households that formed during the gap period. Further, while the court appreciates Dr. Angelides' effort to restrict Gap Present Need to those households "still in need of affordable housing" in response to language used by the Supreme Court in Mount Laurel V, 227 N.J. at 528-31, the court is not convinced that those households identified by Dr. Angelides in this step reliably represent a reduction in gap period need. The court was troubled by the compelling criticisms of Dr. Kinsey and Mr. Bernard, which were based on statistical evidence they provided that called the deductions taken by Dr. Angelides into question. Moreover, reductions in Gap Present Need based on an analysis of cost-burdened households, as this adjustment appeared to be, are at odds with COAH and judicial precedent rejecting such considerations in prior methodologies. The court also remained unconvinced that the strata approach utilized by Dr. Angelides was reliable, especially as it was not based on the COAH income grid and mixed affordability criteria.

In Mount Laurel IV, the Supreme Court specifically identified COAH's exclusion of cost-burdened households from Present Need calculations as

having been judicially approved and among the policies for trial courts to follow in fashioning their fair share methodologies:

[I]n addressing the first iteration of 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 doing so, the appellate panel noted that pre-FHA courts also had allowed exclusion of the “cost-burdened poor” from the fair share formula. The court found that COAH’s decision to exclude the cost-burdened poor was a permissible exercise of discretion.

[Mount Laurel IV, 221 N.J. at 32-33 (citations omitted).]

COAH’s Prior Round rules largely adopted the approach developed in AMG, 207 N.J. Super. at 422-423, which excluded consideration of cost-burdened households from the calculation of Present Need. The Appellate Division concurred with this conclusion in In re Adoption of N.J.A.C. 5:94 & 5:95, 390 N.J. Super. at 23, 35, which justified the exclusion primarily on the difficulty of accurately calculating the number of cost-burdened households. Drawing largely from Judge Serpentelli’s analysis, the appellate court reasoned as follows:

First, many people do not fully report their income. Second, some people, by choice, pay “a disproportionate amount of their income for housing.” Third, some people choose lesser quality housing than they can afford, thereby creating a housing “mismatch.” If household unit income and housing unit cost were more closely correlated, more units would be available

for needy families. Fourth, many retirees who have lower incomes nonetheless have substantial assets. Fifth, the needs of lower income households could be met more appropriately through income maintenance programs rather than revision of land use regulations. Sixth, many of the cost-burdened poor also occupy substandard units, thereby creating a duplication in the present need count.

[In re Adoption of N.J.A.C. 5:94, 390 N.J. Super. at 35 (citations omitted).]

See also 36 N.J.R. 5798, 5809-10 (Dec. 20, 2004) (wherein COAH specifically provided additional policy-based justifications for the exclusion as part of the notice and comment process).

In using cost-burdened concepts to exclude gap period LMI households from Gap Present Need, Dr. Angelides thus ventured into territory COAH had assiduously avoided. And in criticizing his adjustment, Dr. Kinsey and Mr. Bernard also made arguments based on cost-burdened concepts. Without guidance from COAH and the appellate courts as to how such concepts might appropriately be incorporated into any calculation of municipal obligations, this court is unwilling to endorse an approach based on an analysis of cost-burdened households, especially one where the testimony of the experts was so sharply conflicting. Indeed, Dr. Angelides' adjustment is susceptible to all of the potential inaccuracies connected with a cost-burdened analysis highlighted in AMG, and the appellate cases that concurred in Judge Serpentelli's reasoning.

Although Gap Present Need is a new addition to the fair share methodology, the court remained skeptical that cost-burdened concepts could be incorporated into determining a “fair estimate” of that Need. The bottom line is that the adjustment as structured by Dr. Angelides is simply too unreliable to be accepted by the court to significantly dilute Gap Present Need. Accepting this adjustment would run afoul of well-established COAH precedent based on the inherent lack of reliability in such an analysis.

Furthermore, other aspects of Dr. Angelides’ approach raise even more questions about his calculations. First, to estimate the number of LMI households in affordable housing that formed during the gap period, Dr. Angelides assumed that the proportion of those gap period LMI households that found affordable housing would be the same as the proportion of all 2015 LMI households in affordable housing. While this approach may appear reasonable at first glance, it assumes that gap period LMI households were able to acquire affordable housing during the gap period at the same rate as all LMI households. The court, however, shares the concerns raised by Mr. Bernard that it is counterintuitive to assume that the relatively new LMI households formed during the gap period would have the same level of access to affordable housing opportunities as those LMI households established before 1999. Those households in LMI status for longer periods of time would likely be more

familiar with the processes to find and qualify for affordable housing and may already have been living in affordable units for considerable periods of time. To the extent that some percentage of LMI households are living in owner-occupied residences, the ability of newer formed LMI households to purchase property would likely not match their more established counterparts. These concerns cause the court to further doubt the reliability of Dr. Angelides' proposed adjustment.

Second, although Mr. Reading found Dr. Angelides' overall approach to be reasonable, the court is concerned with his use of "strata" to determine housing affordability. The court agrees with Dr. Kinsey and Mr. Bernard that setting housing affordability thresholds from the maximum incomes for each strata, rather than using the actual incomes of each household, tends to inflate the number of households in affordable housing. Dr. Angelides' strata approach is especially puzzling considering that PUMS data can be used to compare each household's actual income to the cost of the housing they occupy. In addition, Dr. Kinsey and Mr. Bernard presented further credible evidence to make the court question the propriety of Dr. Angelides' mixing and matching of income standards from the UHAC, HUD, and his own methodology based on true medians, raising the distinct possibility that his estimate of gap period LMI

households living in affordable housing was significantly inflated. Kinsey Rpt. (May 17, 2016), Ex. DF 86 at 16.

The court also had serious misgivings about the proposed adjustment due to the likely negative ramifications of Dr. Angelides' reductions on the fair share municipal compliance process. Notably, Dr. Angelides reiterated often during the trial that he had no expertise in the process through which towns design and adopt fair share plans to comply with their affordable housing obligations. So it was not surprising that he did not appear to realize or to be concerned about the likely impact on the compliance process of his proposed adjustment that removed from Gap Present Need those gap period LMI households living in deed-restricted units.

When developing fair share plans to respond to the identified affordable housing need, municipalities can obtain credits toward their affordable housing obligations from the creation of deed-restricted affordable housing units. COAH relied upon a well-established system of "bonus credits" in the compliance process to incentivize towns to take various actions such as approving inclusionary developments, constructing affordable housing units for very-low income households, making family rental units available, or providing affordable units in designated redevelopment or rehabilitation areas. See, e.g., Mount Laurel IV, 221 N.J. at 31-32.

The court agrees with Mr. Bernard and Mr. Reading that Dr. Angelides' adjustment could very well result in deed-restricted housing being counted twice toward the satisfaction of a town's obligation, and thus improperly diluting the need. To avoid this double counting would require the modification of the compliance process, which in turn would deprive municipalities of credits for deed-restricted housing constructed during the gap period and now occupied by gap period LMI households. Such a modification would also benefit municipalities that did not actually build affordable housing units during the gap by reducing their Gap Present Need obligations. Adopting this approach would interfere with COAH's well-established compliance process and thwart the reasonable expectations of municipalities that have been relying on credits in developing their Third Round fair share plans through settlements, many of which have already been approved throughout New Jersey, including several by this court.

Perhaps most importantly, however, is that disallowing credits for towns where affordable housing was developed in the gap period would undermine the special treatment accorded to them by the Supreme Court in Mount Laurel IV, 221 N.J. at 21-27. See also Mount Laurel V, 227 N.J. at 523-25 (describing rationale behind "the Court's different, and better, treatment of towns that had already started taking meaningful steps toward compliance during [the gap]

period,” and thus had “willingly accepted responsibility for the need arising while COAH worked to adopt controlling rules for that very time period and going forward”). Such a result cannot be countenanced. To avoid double-counting and to preserve the well-established expectations of municipalities engaged in the compliance process thus constitute yet additional reasons for the court to reject Dr. Angelides’ proposed removal from Gap Present Need of LMI gap households that found deed-restricted affordable housing between 1999 and 2015. While deed-restricted housing was only a subset of the proposed adjustment, the negative effect of this adjustment on the compliance process further erodes the court’s confidence in the methodology advocated by Dr. Angelides. In short, the court rejects the adjustment to remove gap households living in affordable housing from Gap Present Need because it is too unreliable and threatens to significantly and inappropriately dilute municipal new construction obligations for the gap period.

b. LMI Households with Significant Housing Assets

For his second adjustment, Dr. Angelides reprised the significant asset test from his Prospective Need calculations. Reading Final Gap Rpt. (June 12, 2017), Ex. SM 11 at 12. Utilizing 2015 ACS PUMS data, Dr. Angelides excluded those LMI households that owned their own homes with no mortgage, had total housing costs of less than 38 percent of their income, and their primary

residence had a value in excess of the regional asset limit published by COAH.

Mr. Reading recorded the results of this adjustment in his report to the court:

Gap Period LMI Households with Significant Assets

	<u>LMI HH Growth(adj.)</u>	<u># HH Excluded</u>	<u>% HH Excluded</u>
New Jersey	42,351	(1,958)	-4.6%
Region 4	8,104	(314)	-3.9%

[Id. at 13.]

The court reiterates its rejection of a significant asset test for the same reasons expressed in the Prospective Need analysis and agrees with Special Master Reading that such a test should be included only as part of a comprehensive re-evaluation of the entire fair share methodology by COAH, and not adopted as an isolated policy that would reduce affordable housing need without considering off-setting factors. While the test is a reasonable one, COAH only considered adding it to the methodology in the various iterations of the Third Round when it also adopted changes that somewhat balanced the reductions in need anticipated from the asset test with new requirements that would increase the overall need. This issue thus remains one better left to the Executive and Legislative branches, hopefully to be addressed in the future by a reconstituted and functioning COAH.

c. Overlap with Traditional Present Need

Dr. Angelides' third and final adjustment before allocating regional Gap Present Need to the municipalities was to remove those gap period LMI households already included in traditional Present Need calculations, specifically those gap period LMI households living in deficient units as of July 1, 2015. Angelides Gap Rpt. (April 12, 2017), Ex. P 86 at 35. In endorsing this "overlap" adjustment, Dr. Angelides emphasized the Supreme Court's caution to "avoid double-counting" when calculating Gap Present Need. Ibid. See Mount Laurel V, 227 N.J. at 531.

Dr. Angelides utilized 2015 ACS PUMS data to identify the gap period LMI households with identifiable housing need that he had not previously excluded for living in affordable housing or having significant assets that were living in deficient housing, by region and household size. Angelides Gap Rpt. (April 12, 2017), Ex. P 86 at 35-36. In performing these calculations, Dr. Angelides utilized the same three surrogates for deficient housing that he had used in his Present Need calculations: units with inadequate plumbing facilities, units with inadequate kitchen facilities, or units that are both old and overcrowded. Ibid. Mr. Reading summarized the application of this adjustment in the following chart:

Gap Period LMI Households Captured within Present Need

	<u>LMI HH Growth(adj.)</u>	<u># HH Excluded</u>	<u>% HH Excluded</u>
New Jersey	40,393	(3,992)	-9.9%
Region 4	7,790	(431)	-5.5%

[Reading Final Gap Rpt. (June 12, 2017), Ex. SM 11 at 14.]

After initially rejecting this adjustment, Mr. Bernard testified that a step addressing the overlap between traditional Present Need and Gap Present Need could have merit. But Mr. Bernard recommended that Dr. Angelides' adjustment be modified to not remove the sixty-two percent of gap period LMI households in deficient housing located in QUAMs because including them would not result in double counting since urban aid municipalities do not have a new construction obligation. Mr. Bernard reasoned that, without a new construction obligation, QUAMs would not receive both a traditional Present Need rehabilitation obligation and a Gap Present Need new construction obligation for the same LMI Household. According to Mr. Bernard's interpretation of Mount Laurel V, a prohibited overlap occurs only when redundant traditional Present Need and Gap Present Need obligations are allocated to the same municipality. However, Mr. Bernard acknowledged that excluding QUAMs from this adjustment, as he proposed, could theoretically

result in a deficient unit being rehabilitated in a QUAM and a new unit being built elsewhere in the region for the same gap period LMI household.

Special Master Reading concluded that Dr. Angelides' traditional Present Need overlap calculation represented a reasonable and necessary adjustment to Gap Present Need, and was explicitly contemplated by the Supreme Court in Mount Laurel V. Reading Final Gap Rpt. (June 12, 2017), Ex. SM 11 at 22. Mr. Reading also agreed with Mr. Bernard's recommendation that traditional Present Need in QUAMs not be removed from the calculation of Gap Present Need because these municipalities do not receive allocations of Gap Present Need. Ibid. Mr. Reading estimated that 61.80 percent of statewide and 28.30 percent of Region 4 traditional Present Need was located in QUAMs. Mr. Reading recommended excluding these percentages from the adjustment, resulting in a decrease in Dr. Angelides' overlap of 2,055 units. Id. at 22-24.

The court concurs with the recommendations of Mr. Bernard and Mr. Reading to modify Dr. Angelides' adjustment to remove the deduction for Present Need in QUAMs. First, the court's focus in Gap Present Need is in determining a new construction obligation for Princeton and West Windsor. Since their respective traditional Present Needs will be deducted from their Gap Present Need obligations, those towns will not be responsible to rehabilitate a unit and also provide a unit of new construction for the same Gap LMI

household. That is the overlap that concerned the Supreme Court, which was examining a new construction obligation when it created Gap Present Need. Since QUAMs do not have any new construction need, the Supreme Court did not discuss their special status in Mount Laurel V, nor did the Court mention urban aid municipalities at all when identifying the overlap with traditional Present Need that trial courts should avoid. Mount Laurel V, 227 N.J. at 531. If gap period LMI households in deficient housing are excluded from Mercer County's new construction obligation, those households may be deprived of an opportunity to access affordable housing in the region outside of Trenton. That result seems at odds with the intent of the Supreme Court in Mount Laurel V. Moreover, COAH itself recognized that excess Present Need should be reallocated out of urban areas that had higher than average substandard units. N.J.A.C. 5:93-2.4; N.J.A.C. 5:93-2.5; 26 N.J.R. 2346-47 (June 6, 1994). Reducing the adjustment for overlap with Present Need to remove the Present Need in QUAMs strikes the court as consistent with the policies underlying COAH's regulations providing for the reallocation of Present Need from urban areas with large amounts of deficient housing to other municipalities.

The court agrees with Special Master Reading that Dr. Angelides has submitted a reasonable approach for the Present Need overlap adjustment, to be modified to exclude the Present Need in QUAMs. Since Dr. Angelides

incorporated the adjustment for traditional Present Need as part of a sequence that relied upon his first two adjustments that the court has rejected, the court directed Mr. Reading to apply the Present Need adjustment, minus Present Need in QUAMs. As modified, the results of the adjustment are reflected in the following chart:

New Jersey Gap Present Need

Total HH Growth	LMI HH Growth
187,390	77,677

Adjustment

Present Need Overlap	(7,422)
Reduction for QUAMs	<u>(3,429)</u>
Gap Present Need	74,248

Dr. Angelides allocated Gap Present Need to the municipalities in the same proportions he used to allocate Prospective Need, which he calculated based on each municipality’s proportional share of his Prospective Need phase allocation factors. However, since the court adopted Dr. Kinsey’s approach to allocating Prospective Need to the municipalities, for the same reasons expressed previously and for the sake of consistency, the court will likewise use Dr. Kinsey’s approach to allocate Gap Present Need here and directed Mr. Reading to make the appropriate allocations for Princeton and West Windsor.

VI. Consolidated Affordable Housing Obligations

A municipality's affordable housing obligations include its Prior Round Obligations, Traditional Present Need, Prospective Need, and Gap Present Need. However, before these final calculations can be made, municipal new construction obligations required to satisfy Prospective Need and Gap Present Need for the Third Round are subject to further adjustment. Pursuant to COAH Second Round methodology, a municipality's new construction obligations in any one housing cycle may not exceed a cap defined by twenty percent of the municipality's occupied housing, N.J.A.C. 5:93-2.16., while the FHA authorizes a cap on municipal prospective need of 1,000 units for a ten-year period. N.J.S.A. 52:27D-307(e). However, since all parties have agreed that application of the 1000-unit cap must await the compliance process for each municipality, the court need only decide the appropriate application of the twenty percent cap at this time.

As noted in N.J.A.C. 5:93-2.16, application of the twenty percent cap prevents a new construction obligation that would exceed twenty percent of the estimated occupied housing stock at the beginning of the Prospective Need period for any municipality. The cap was developed with the inclusionary housing strategy in mind, which typically requires a set-aside of twenty percent of all units provided by the private housing market to be deed-restricted for

occupancy by LMI households. As noted in the Second Round rules, “if the affordable housing was provided as a 20 percent set-aside of inclusionary housing, and if the planned affordable housing was more than 20 percent of existing units, then the new affordable housing and accompanying market units would exceed the number of existing housing units in the community.” Ibid. COAH determined that such a result would be undesirable, and thus imposed the cap in the Second Round. As noted by COAH, “[t]he derivation of this limitation reflects a desire by COAH not to overwhelm local communities with affordable housing activities such that the community would experience ‘drastic alteration’ from these activities.” 26 N.J.R. 2350 (June 6, 1994) (codified at N.J.A.C. 5:93 app. A). COAH termed the calculation of the cap as an effort to respect “community capacity” in establishing municipal affordable housing obligations.

A. Calculate and Apply Twenty Percent Cap

With the incorporation of Gap Present Need into the fair share methodology, an issue has arisen as to how the twenty percent cap should be applied with respect to the total municipal new construction obligations. Dr. Angelides proposed that because Gap Present Need, unlike traditional Present Need, constitutes a new construction obligation, the twenty percent cap should be applied to the combined totals of Gap Present Need and Prospective Need for

the Third Round. Angelides Gap Rpt. (April 12, 2017), Ex. P 86 at 47. By contrast, Dr. Kinsey proposed that Gap Present Need and Prospective Need each be subject to the twenty percent cap separately. Kinsey Gap Rpt. (April 12, 2017), Ex. DF 85 at 70. Since Prospective Need and Gap Present Need impose a combined new construction obligation for the Third Round, the twenty percent cap should be applied to the combined total to fulfill COAH's intent in adopting N.J.A.C. 5:93-2.16, which is to prevent the "drastic alteration" of a community from the housing need imposed in a single round. The court, therefore, adopts Dr. Angelides' approach in this step and will apply the twenty percent cap to each municipality's combined Gap Present Need and Prospective Need new construction obligations. Notably, however, the cap does not apply to either Princeton or West Windsor's combined new construction obligation and thus is not a matter of dispute in regard to Mercer County. Application of the twenty percent cap statewide is demonstrated below for illustrative purposes.

B. Calculate Municipal Fair Share Affordable Housing Obligations

The following charts show the new construction obligations for the Third Round on a statewide basis and as applied to Princeton and West Windsor. The charts also show the Prior Round Obligations and Present Need calculations for New Jersey and the two Mercer County municipalities that were plaintiffs in this proceeding.

New Jersey Fair Share Third Round Totals

Prior Round Obligations	Present Need
85,964	65,034

Prospective Need	Gap Present Need	Total
85,382	74,248	159,630

	20 Percent Cap	Post 20 percent Gap + Prosp. Need
New Jersey	5,049	154,581
Region 4	385	34,161
Mercer	0	7,378

Mercer County Fair Share Third Round Totals

	<u>Prior Rd.</u>	<u>P.N.</u>	<u>Gap P.N.</u>	<u>Prosp. N.</u>
Princeton	641	80	388	365
West Windsor	899	132	793	707

The new construction obligation for Princeton is therefore 753, while the new construction obligation for West Windsor is 1,500.

VII. Housing Market Analysis

While not addressing any particular aspect of the fair share methodology, the court allowed testimony and evidence to be presented regarding the housing market in New Jersey and the ability of that market to create affordable housing through 2025. The municipalities relied on the testimony of Dr. Robert Powell

to support their contention that the obligation recommended by Dr. Kinsey and FSHC was much too aggressive to be achieved and should be rejected on that basis. His testimony was intended to show that the fair share obligation advocated by FSHC and NJBA was unrealistic when analyzed against the likely pace of residential development in the next decade. Notably, however, Dr. Powell addressed only the inclusionary zoning strategy and its “effectiveness and limitations” in satisfying municipal affordable housing obligations. Indeed, he testified that the League of Municipalities had retained him to prepare reports focusing on the limitations of that single mechanism to create affordable housing in New Jersey through 2025.

Dr. Powell testified that inclusionary zoning depends on a bargain between municipalities and private developers whereby towns will grant increased residential densities in return for developers providing affordable units, typically at a set-aside of twenty percent of the total units. While that bargain is often attractive to municipalities because affordable units can be created without municipal financing, it depends on the willingness of private developers to invest substantial capital in the New Jersey housing market—something developers will do only if they determine it is financially beneficial to do so.

Dr. Powell prepared reports on the likely amount of affordable housing that could be absorbed by the housing market through inclusionary developments between the present and 2025. He studied housing data in terms of residential building permits issued from 1990 through 2010, as well as population and employment data over the same period. He noted that his projections took into account the slow recovery from the Great Recession that had characterized the New Jersey economy, which dampened his estimates for job and population growth in the State over the next decade. He concluded that current economic factors would prevent the development of a robust housing market from now until 2025. His estimates were based on an assumption that sixty percent of new residential development in New Jersey in the next decade would involve inclusionary projects. Dr. Powell also noted that recent trends in the housing market showed increased activity in urban areas and less interest in suburban communities, although he did admit that this trend was not particularly pronounced in Region 4 or in Mercer County. Overall, however, he stated that recent years showed a significant increase in multi-family new construction and a decrease in large-lot single family homes as a percentage of total new development.

Based on his research, and due to uncertainties in the housing market that made him hesitant to endorse only one estimate, Dr. Powell created three

Alternative Projections for Affordable Housing Production
in New Jersey
2015 – 2025

Utilizing the Inclusionary Zoning Strategy

1	2	3	4	5	6	7
Alternative Growth Assumptions	2015-2025 New Market Rate Units Average Per Year	Aggregate 10-Year Total New Units 2015-2025	Adjusted 10-Year Totals Excluding 20% in Urban Aid Towns	New Units 2015-2025 Subject to Inclusionary Development Plan (Assume 60% of Row 4)	Average Set-Aside For Affordable Units In all Inclusionary Developments 2015-2025 (Column 5)	Projected Total New Affordable Units 2015-2025
Very Aggressive	40,000	400,000	320,000	192,000	20%	38,400
Optimistic	25,000	250,000	200,000	120,000	20%	24,000
Achievable	18,000	180,000	144,000	86,400	20%	17,280

alternative projections, labelling them Very Aggressive, Optimistic, and Achievable, as reflected in the following chart at P-32, slide 9:

Throughout his testimony, Dr. Powell focused on the amount of inclusionary development that he thought was reasonably likely to occur over the next decade. He was particularly disturbed that the methodologies proposed

by Drs. Angelides and Kinsey were created in what he perceived to be a vacuum divorced from the reality of the housing market. While he agreed that there is a significant need for affordable housing in New Jersey, he saw a “disconnect” between any fair share methodology and reality when the methodology did not consider the current characteristics of the housing market and the likelihood that sufficient new construction would be built to satisfy the fair share needs calculated by each methodology expert.

Mr. Jeffrey Otteau also testified for NJBA as an expert regarding the New Jersey housing market, and opined that the projections of Dr. Powell were too low. Mr. Otteau criticized Dr. Powell’s forecasts for not adjusting the data to minimize the effect of the Great Recession, which reflected an extreme disruption in the housing market and not baseline trends. He stated that he thought the market could easily achieve the number of affordable units through inclusionary projects that Dr. Powell had categorized as “Optimistic” based on the performance of the market over the last three years. In fact, he stated that the pent-up need for affordable housing created during the gap period would increase the demand for affordable housing in the next decade. Where Dr. Powell had estimated that an aggressive market through 2025 would produce an average of 40,000 residential building permits a year, which was his maximum number, Mr. Otteau countered that an average of 50,000 building permits could

be achieved during the same period. Mr. Otteau noted that more permits than that had been issued in 1986 and a return to a robust housing market was possible in the foreseeable future, especially since the post-Recession recovery had accelerated in New Jersey and was likely to continue improving at a healthy rate.

Through cross-examination of Dr. Powell and testimony from Dr. Kinsey, who was also accepted as an expert in the New Jersey housing market, especially in regard to the development of affordable housing, it became apparent that Dr. Powell's testimony had limited utility. First, Dr. Powell focused exclusively on satisfying the affordable housing need through new construction provided by inclusionary zoning projects. While that mechanism had been the primary tool used to satisfy municipal obligations in the years immediately following the first Mount Laurel decision, 100 percent affordable units have surpassed the inclusionary mechanism in providing affordable housing since that time. Dr. Powell simply did not consider those projects in his analysis of the ability of the housing market to satisfy the need for LMI housing in the Prospective Need period. He did acknowledge, however, that they were a very effective way to provide affordable housing in New Jersey and had a proven track record. He remarked that such projects typically depended upon developers qualifying for tax credits, which was beyond the control of the municipality and thus not as reliable in satisfying municipal obligations as inclusionary developments. He

also noted that changes in tax policy could affect the likelihood of this mechanism remaining viable.

Dr. Powell also had not considered how municipalities could meet fair share obligations by extending affordability controls on existing units, by qualifying for bonus credits for the creation of past and future affordable units, by utilizing Affordable Housing Trust funds supported by developer contributions to help create affordable units, and by instituting market-to-affordable programs through which towns use public funds to acquire market rate housing and then subsidize converting those units into affordable residences. Nor did he consider that mobile home parks could be considered as another mechanism to satisfy affordable housing need. Indeed, Dr. Powell admitted that he was not an expert in municipal compliance strategies to meet affordable housing obligations, and stressed repeatedly that his opinions were limited to inclusionary projects only, which was the assignment he had been given by the League of Municipalities. Notably, he is not a professional planner, but rather focuses on the financial and economic side of the real estate market.

In terms of his projections, Dr. Powell acknowledged that Rutgers was predicting building permits rising to an average of 30,000 per year in the next few years, an amount between his Optimistic and Aggressive projections. Although he had relied on studies produced by Rutgers in preparing his own

reports, he disagreed with the Rutgers forecast regarding building permits, characterizing it as too aggressive. Moreover, Dr. Powell had refused to consider the poorest of the low income households in his study of inclusionary developments because he concluded that they could not afford even the most affordable inclusionary units. According to Dr. Kinsey, this approach failed to consider that many very low income households qualify for vouchers that can be used to subsidize rents in inclusionary projects.

Dr. Kinsey provided testimony based on his analysis of data that he obtained from COAH that fifty-seven percent of affordable housing units created in New Jersey under the Mount Laurel doctrine had been developed through 100 percent affordable projects, and twenty-eight percent of the units had been created through inclusionary developments. He expects both mechanisms to be significant sources of new affordable housing during the Third Round Prospective Need period. This evidence showed that Dr. Powell had been mistaken in concluding that inclusionary developments were the primary mechanism over time used by municipalities to satisfy their affordable housing obligations. Based on his familiarity with the compliance process, which spans more than three decades, Dr. Kinsey estimated that towns will be able to satisfy approximately twenty percent of their obligations through the use of bonus credits. Notably, that estimate was based on an analysis of the settlement

agreements FSHC has entered with over 100 municipalities since Mount Laurel IV was decided in 2015 and over 350 municipalities filed declaratory judgment actions seeking substantive certification of their housing plans from the trial courts. Dr. Kinsey also noted that Dr. Powell had ignored vacant land adjustments, through which largely developed municipalities can seek a reduction in their affordable housing obligations due to the unavailability of vacant land for new residential development. In addition, Dr. Powell had not examined durational adjustments in affordable housing obligations that towns can seek based upon the lack of infrastructure necessary for development, such as lack of utilities, including sewers.

For the Third Round Prospective Need period addressed in these proceedings, Dr. Kinsey used Dr. Powell's "Optimistic" estimate that 24,000 new affordable units could be built through inclusionary projects, and created a chart he labelled "How the Prospective Need Can Be Met," submitted into evidence at Ex. DF 61, slide 6. The chart estimates that Dr. Kinsey's affordable housing need number of 163,653 for the Prospective Need period would lead to construction of 48,865 new units, with the balance of the obligation being addressed through other compliance mechanisms, discounts offered through settlements with FSHC, or attributed to municipalities that have opted not to

participate in declaratory judgment proceedings filed in the wake of Mount Laurel IV. This chart illustrates how Dr. Kinsey concluded that his statewide Prospective Need obligation of 163,653 could be met:

An Estimate on Meeting 2015-2025 Prospective Need During 2015-2025				
		Affordable Units		Source
Prospective Need (post 20% cap)		163,653		FSHC R3 Model May 2016, Tab 1999-2025 Prospective Need, revised to compute only 2015-2025 need
Compliance Mechanisms and Reduction Types		Credits and Reductions (estimate)	% of Total Credits and Reductions	Source or Basis of Estimate
1	Affordable units built 1999-2015		0.0%	
2	Bonuses	32,731	20.0%	25% cap on bonus credits, but some overlap with municipalities not participating, subject to the 1,000-unit cap, entitled to a vacant land adjustment, etc., estimated at 20% of total need.
3	100% Affordable Rental (LIHTC)	9,100	5.6%	Rate of actual production 1987-2014, since federal Low Income Housing Tax Credits (“LIHTC”) program began in 1986, based on total LIHTC production, reduced by one-third to account for development of units in Qualified Urban Aid Municipalities exempted from Prospective Need
4	100% Affordable Rental (Fund for Restoration of Large Multi-Family Housing, post- Sandy)	3,945	2.4%	\$546 million in post-Sandy HUD CDBG-DR funds awarded for a total of 5,246 units (as of 7/28/16; NJ HMFA), reduced by 25% to account for development of units in Qualified Urban Aid Municipalities exempted from Prospective Need
5	Sandy Special Needs Housing	320	0.2%	\$39 million in post-Sandy HUD CDBG-DR funds awarded (as of 10/4/16; NJ HMFA; \$60 million allocated to NJ)
6	100% Affordable Rental (Balanced Housing/NJ Affordable Housing Trust Fund)	3,200	2.0%	Rate of actual production, 1986-2014
7	Inclusionary Zoning	24,000	14.7%	“Optimistic” growth projection of Nassau Capital Advisors, LLC, 2015, p.20
8	Supportive and Special Needs Housing	2,300	1.4%	Rate of actual production 1980-2014 counted and credited by COAH
9	Assisted Living Residences	1,000	0.6%	Rate of actual production since authorized by COAH rule, 2002-2014
10	Market-to-Affordable	5,000	3.1%	Review of a sample of Third Round housing elements and fair share plans filed with COAH and the courts in 2000s and early 2010s
11	Extensions of expiring controls	10,000	6.1%	Assumption that controls have been or will be extended on one-third of total eligible units, i.e., 18,000 inclusionary units, 2,000 units in Section 202 (senior) projects, and 10,000 LIHTC-funded units with 30 year controls
12	Vacant land and durational adjustments	20,000	12.2%	Calculation of Realistic Development Potential (RDP”) and unmet need will result in reduction of the need that is likely to be met during 2015-2025, although only defer satisfaction of this portion of the obligation
13	Reductions of Prospective Need by court-approved settlements	22,500	13.7%	FSHC has signed settlement agreements with over 100 municipalities, with reductions totaling about 45,000 units from the FSHC R3 Model - May 2015 calculation of 1999-2025 Prospective Need. The reductions combine discounts for settlement and application of the 1,000-unit cap (including deferrals of need to future periods after 2025). This estimate calculates the 2015-2025 share of these reductions at the same rate as the 2015-2025 Prospective Need share of 1999-2025 need of the settlement municipalities.
14	Non-participation by municipalities	26,000	15.9%	About two-thirds (63.6%) of municipalities (359) have filed <u>Mount Laurel IV</u> declaratory judgment actions or are defendants in active <u>Mount Laurel</u> litigation. This leaves about 200 municipalities as non-participants, which account for about 26,000 units (16%) of the 2015-2025 need calculated by the FSHC R3 Model-May 2016.

15	Application of the 1,000-unit cap	6,000	3.7%	Prospective Need in excess of 1,000 units in 28 municipalities totals 12,547 units, but 12 of these municipalities have reached settlements with FSHC. The allocated need in excess of 1,000 units totals about 6,000 units in non-settlement municipalities. Whether such reductions are granted depends on verification of credits and calculation of the cap by a trial court. A court-approved cap reduces the need that is likely to be met during 2015-2025, although only defer satisfaction of this portion of the obligation.
Total Estimated "Credits" and Reductions		166,096	101.5%	
"Surplus" of "Credits" Compared with Prospective Need		2,443	1.5%	
Notes:				
1. Some overlap inevitably will occur among these compliance mechanisms and reduction types, a likelihood considered in these estimates				
2. This estimate addresses only 2015-2025 need, pursuant to Hon. Mary C. Jacobson, A.J.S.C., Sixth Revised Scheduling Order, In re East Windsor at al., November 7, 2016.				
Prepared by David N. Kinsey, Rho, FAICP, PP, November 6, 2015, last revised February 24, 2017				

In discussing this chart, Dr. Kinsey noted that municipalities can use all available compliance mechanisms recognized by COAH to meet that obligation, and that the obligation does not require that it be satisfied only through the construction of new units. He also emphasized, however, that satisfying municipal obligations through new construction combined with various compliance strategies that do not require building new units underscores how a higher obligation will provide a greater opportunity for the construction of more affordable units than a lower number.

In fact, he utilized some of the municipal numbers recommended by Dr. Angelides to show that certain towns, including West Windsor in Mercer County, could satisfy the need attributed to them by Dr. Angelides without producing any new units whatsoever. The court does note, however, that the chart shows satisfaction of some of the Prospective Need number by reductions

in municipal obligations agreed to through court-approved settlements between Fair Share Housing Center and various municipalities.

Finally, Dr. Kinsey asserted that while it would be beneficial if all new construction contained in municipal compliance plans approved by the courts would be built within the Prospective Need period, COAH never required that outcome. Indeed, the methodologies of both Drs. Angelides and Kinsey considered by this court started by acknowledging the unmet need from COAH's First and Second Rounds, and included those numbers in the categories addressed in this proceeding. If any amount of need is unmet during the Third Round, it will be added to a future Round and will not disappear, following well-accepted COAH practice.

Dr. Powell criticized Dr. Kinsey's chart, asserting in particular that the combined 30,000-unit credit for extensions of expiring controls and vacant land and durational adjustments was based on "soft" data. While that may be true, it is clear that Dr. Kinsey prepared his estimates with staff from FSHC based upon their extensive practical experience with the compliance process. No one else who testified at the trial, except perhaps Mr. Bernard, a former Executive Director of COAH, had anywhere near the experience with municipal affordable housing compliance that Dr. Kinsey had, which was augmented by his working with the staff of the FSHC over many years.

Moreover, Dr. Kinsey even accepted Dr. Powell’s “optimistic” projection for the number of units to be created by inclusionary projects rather than his “aggressive” estimate and incorporated it into the chart. While far from scientifically precise, the chart is accepted by the court for what it is—a series of educated guesses based on significant practical experience that shows the Prospective Need obligations recommended by Dr. Kinsey are not unreasonable numbers totally divorced from reality, as Plaintiffs contend, but rather can likely be achieved through use of multiple compliance mechanisms, including new construction.

Indeed, that over 100 settlements had been entered with FSHC as of May 2017 following the Supreme Court’s returning the substantive certification process to the trial courts, including several settlements in Mercer County municipalities that employ many of the strategies included in the Kinsey chart (i.e., bonus credits, extensions of expiring controls, inclusionary projects, and 100 percent affordable projects), demonstrates that the obligations calculated by Dr. Kinsey are not as daunting to many municipalities as Plaintiffs suggest.

In addition, while the chart purported to demonstrate how a Prospective Need of over 160,000 units could be met, this court has calculated the Prospective Need to be 85,382. That lower number makes it even more likely that it is achievable and accommodates any overestimates that may have been

made by Dr. Kinsey, the uncertainty of projections generally, and the contention that some of the data used could be considered as “soft.”

Having provided an analysis of how his Prospective Need number could be met that included a projection that 48,865 new affordable housing units were likely to be constructed in the Third Round through 2025 somewhat constrained Dr. Kinsey when his Gap Present Need obligation was added to his Prospective Need figure. His total including Gap Present Need soared to 309,691 affordable units. Yet, despite this number, which came close to doubling his Prospective Need number, Dr. Kinsey contended that the maximum new construction expected would remain at 48,865, somewhat contradicting his own opinion that the larger the obligation, the more likely an increased number of new units would be built. He nonetheless provided an analysis to the court that purported to demonstrate how his combined Prospective Need and Gap Present Need obligation of over 300,000 could be met. The chart illustrating his position was labelled “Impact of Kinsey/FSHC Approach” and was admitted into evidence as Ex. DF 96, at slide 111:

An Estimate on Meeting the Gap Present Need (1999-2015) + Prospective Need (2015-2025) as Calculated by Kinsey/FSHC, 2017			
	Affordable Units		Source
Gap Present Need (146,038 units, post-20% cap) + Prospective Need (163,653 units, post-20% cap)	309,691		Kinsey/FSHC Prospective Need Model - May 2016 and Gap Present Need Model - April 2017
Compliance Mechanisms and Reduction Types	Credits and Reductions (estimate)	% of Total Credits and Reductions	Source or Basis of Estimate
1 Credits for Affordable Housing Built 1999-2015	30,468	9.8%	Assumes affordable housing production during 1999-2015 at the same rate as during 1980-2006 as credited by COAH, i.e., 1,904 units/year.
2 100% Affordable Rental (LIHTC)	9,100	2.9%	Rate of actual production 1987-2014, since federal Low Income Housing Tax Credits ("LIHTC") program began in 1986, based on total LIHTC production, reduced by one-third to account for development of units in Qualified Urban Aid Municipalities exempted from Prospective Need
3 100% Affordable Rental (Fund for Restoration of Large Multi-Family Housing, post-Sandy)	3,945	1.3%	\$546 million in post-Sandy HUD CDBG-DR funds awarded for a total of 5,246 units (as of 7/28/16; NJ HMFA), reduced by 25% to account for development of units in Qualified Urban Aid Municipalities exempted from Prospective Need
4 Sandy Special Needs Housing	320	0.1%	\$39 million in post-Sandy HUD CDBG-DR funds awarded (as of 10/4/16; NJ HMFA; \$60 million allocated to NJ)
5 100% Affordable Rental (Balanced Housing/NJ Affordable Housing Trust Fund)	3,200	1.0%	Rate of actual production, 1986-2014
6 Inclusionary Zoning	24,000	7.7%	"Optimistic" growth projection of 24,000 units of Nassau Capital Advisors, LLC, 2015, p. 20
7 Supportive and Special Needs Housing	2,300	0.7%	Rate of actual production 1980-2014 counted and credited by COAH
8 Assisted Living Residences	1,000	0.3%	Rate of actual production since authorized by COAH rule, 2002-2014
9 Market-to-Affordable	5,000	1.6%	Review of a sample of Third Round housing elements and fair share plans filed with COAH and the courts in 2000s and early 2010s
10 Bonuses	61,938	20.0%	25% cap on bonus credits, but some overlap with municipalities not participating, subject to the 1,000-unit cap, entitled to a vacant land adjustment, etc., estimated at 20% of total need
11 Extensions of expiring controls	10,000	3.2%	Assumption that controls have been or will be extended on one-third of total eligible units, i.e., 18,000 inclusionary units, 2,000 units in Section 202 (senior) projects, and 10,000 LIHTC-funded units with 30 year controls, i.e., 10,000 units.
12 Vacant land and durational adjustments	45,000	14.5%	Calculation of Realistic Development Potential ("RDP") and unmet need will result in reduction of the need that is likely to be met during 2015-2025, although only defer satisfaction of this portion of the obligation
13 Reductions of Prospective Need by court-approved settlements	45,000	14.5%	FSHC has signed settlement agreements with over 100 municipalities, with reductions totaling about 45,000 units from the combined Gap Present Need and Prospective Need. The reductions combine discounts for settlement and application of the 1,000-unit cap (including deferrals of need to future periods after 2025).
14 Non-participation by municipalities	51,251	16.5%	About two-thirds (63.6%) of municipalities (359) have filed <u>Mount Laurel IV</u> declaratory judgment actions or are defendants in active <u>Mount Laurel</u> litigation. This leaves about 200 municipalities as non-participants, which account for 51,251 units of combined Gap Present Need and Prospective Need.
15 Application of the 20% cap and 1,000-unit cap	30,000	9.7%	The FSHC R3 Model - May 2016 allocated a Prospective Need of more than 1,000 units to 31 municipalities, but many of these municipalities have reached settlements with FSHC. The FSHC Gap Present Need Model - April 2017 allocated more than 1,000 units to only three municipalities, of which two have settlements with FSHC (Edison and Toms River). For non-settled municipalities, the excess above 1,000 units is about 40,000 units. The 20% cap will also be applicable in many towns; its application to Gap Present Need and Prospective Need is a legal issue still to be resolved. If applicable, whether reductions on the basis of 1,000 unit caps are granted depends on verification of credits and calculation of the cap by a trial court. A court-approved cap reduces the need that is likely to be met during 2015-2025, although only defer satisfaction of this portion of the obligation.
Total Estimated "Credits" and Reductions	322,522	94.3%	
"Surplus" of "Credits" Compared with Gap Present Need + Prospective Need	12,831	4.1%	
Actual Additions to Affordable Housing Supply	48,865	15.8%	Actual additions to affordable housing supply are estimated to amount to only 15.8% of the total need as calculated by Kinsey/FSHC

Prepared by David N. Kinsey, PhD, FAICP, PP, November 6, 2015, last revised May 25, 2017

Notably, the categories with the biggest changes were vacant land and durational adjustments, which increased from 20,000 units being removed from the total to 45,000 units; units covered by court-approved settlements going from 22,500 to 45,000 units removed from total need; applications of twenty percent and 1,000-unit caps removing 30,000 units whereas 6,000 had been removed previously; and attributing 51,251 units to non-participating municipalities while 26,000 had been removed from these towns before. While Dr. Kinsey

attempted to justify these significant increases in order to account for his claim that the total obligation he recommended to the court was both reasonable and achievable, his explanations were unsatisfactory and did not convince the court of the reliability of the much-inflated assessment. However, since the court's own analysis of the methodologies presented in the trial resulted in a combined post-twenty percent cap Prospective Need and Gap Present Need of 154,581, far below Dr. Kinsey's number, the court's rejection of his final assessment as to how his total recommended need could be achieved has no impact on the outcome of this case and does not alter the court's own conclusions. Indeed, the court found Dr. Kinsey's analysis demonstrating that his Prospective Need number of 163,653 was achievable in the Third Round to be credible. And that analysis supports the reasonableness and achievability of the total Third Round municipal new construction obligation found by the court in this proceeding.

VIII. CONCLUSION

As the preceding discussion demonstrates, the parties, expert witnesses, and Special Master Reading put an enormous effort into analyzing the most appropriate methodology by which to calculate municipal affordable housing obligations in the Third Round affordable housing cycle. The enormity of the effort reflects the critical importance of the task to the citizens and political subdivisions in the State of New Jersey. The court hopes that the formulas

adopted and explained in this decision enable Princeton and West Windsor to promptly finalize new Housing Elements and Fair Share Plans that satisfy their constitutional obligations to provide housing affordable to our State's LMI households. And the court hopes as well that the work of all involved, and the transparency of the judicial process leading to the adoption of the court's methodology, will assist other courts grappling with similar issues and—eventually—will assist a reconstituted COAH in ensuring continuing compliance with the Mount Laurel doctrine.