APPENDIX L.
DETERMINATION OF LOW- AND MODERATE-INCOME HOUSING NEEDS IN MORRIS COUNTY,
BASED UPON THE MERCER COUNTY OPINION,
DATED JULY 17, 2018, PREPARED BY RICHARD R. READING

DETERMINATION OF

LOW AND MODERATE INCOME HOUSING NEEDS
IN
MORRIS COUNTY

BASED UPON THE MERCER COUNTY OPINION

July 17, 2018

Submitted to: Honorable Maryann L. Nergaard, J.S.C.
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1.0 INTRODUCTION

The failure of the Council On Affordable Housing (COAH) to fulfil its responsibilities under the Fair Housing Act and its own regulations, and its inability to adopt third round rules as directed by the New Jersey Supreme Court, resulted in the Court's March 10, 2015 decision in "Mount Laurel IV". As a result of COAH's inability to act, the Court in Mount Laurel IV, has returned to the courts their role as the forum of first resort for evaluating municipal compliance with Mount Laurel[1] obligations. Because of COAH's inactions, the Mount Laurel designated judges must now, not only hear and decide actions addressing municipal compliance with constitutional obligations, but must also establish a "fair share" against which municipal compliance may be measured. The absence of an established "yardstick" for the measurement of municipal compliance, previously provided by COAH, is complicated by a significant divergence of opinions advanced by the competing interests as to an appropriate calculation of a municipality's "fair share".

Morris County, along with Essex , Union and Warren counties are located in the "Northwest" Region of New Jersey (Region 2) as established by COAH pursuant to the provisions of the New Jersey Fair Housing Act (FHA). The threshold issue of the appropriate methodology to be utilized for the determination of regional affordable housing needs and the assignment of affordable housing needs to the municipalities in the region was initially addressed in Ocean County within Region 4 by the Honorable Mark Troncone, J.S.C., and was the subject of a February 18, 2016 opinion that addressed the treatment of the housing need that arose during 1999-2015 "gap period" of COAH's inaction. This opinion was reviewed by the Appellate Division and was subsequently affirmed but modified in the January 18, 2017 decision of the Supreme Court (Mount Laurel V). Mount Laurel V has further clarified the consideration and inclusion of the gap period housing needs within an expansion of Present Need to include a gap component referred to as "Gap Present Need". All of the municipalities in the Ocean County settled their cases and the Ocean County trial was not resumed.

A trial on the methodology to be utilized in determining regional and municipal affordable housing needs was scheduled in Mercer County by the Honorable Judge Mary C. Jacobson, A.J.S.C., commenced in Mercer County on January 9, 2017 and continued through June 19, 2017, consuming

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[1] Southern Burlington NAACP v. Twp. of Mount Laurel, 67 N.J. 151 (1975), Southern Burlington County NAACP, et al v. Township of Mount Laurel 92 N.J. 158 (1983 (Mount Laurel II)

over 40 trial days addressing both Prospective Need and Gap Present Need methodologies. The Mercer County trial commenced prior to the <u>Mount Laurel V</u> decision and was bifurcated into two phases: Phase 1 dealing with the Prospective Need methodology and Phase 2 addressing the methodology to determine Gap Present Need.

On March 8, 2018, Judge Jacobson issued a detailed and comprehensive opinion that set forth the details of the methodologies to be utilized for the establishment of the of the affordable housing needs for the two municipalities (Princeton and West Windsor) still seeking declaratory judgments in Mercer County. The Mercer County opinion presents a detailed review of the positions presented by the competing interests as to the appropriate methodology to be used in establishing various affordable needs, and provides the court's determination of the preferred approach to be used.

Following the issuance of the Mercer County opinion, a Motion to Reconsider was filed on March 28, 2018 on behalf of West Windsor Township by Jeffrey R. Surenian, Esq and Edward J. Buzak, Esq. and sought minor technical adjustments to the implementation of this Opinion. In response to West Windsor Township's Motion for Reconsideration, Fair Share Housing Center filed a Cross-Motion for Reconsideration on April 20, 2018 and addressed the adjustments suggested in West Windsor's Motion. Following the receipt of FSHC's cross-motion, West Windsor was granted an opportunity to respond to the cross-motion and submitted a "Reply" on May 12, 2018. These Motions were addressed in a proceeding scheduled before the court on June 19, 2018 and after consideration of the motion and cross-motion, certifications, reports and briefs filed on behalf of the parties and oral argument of counsel, the court denied both the motion and cross-motion for reconsideration. Accordingly, the Mercer County opinion issued on March 28, 2018 remains undisturbed and reflects the court's preferred methodological approach.

The ensuing review and determination of the affordable housing needs of the municipalities in Morris County has been prepared at the request of the Honorable Maryann L Nergaard in connection with the declaratory judgment actions filed by municipalities in Morris County. The purpose of this review and examination is to apply to the principles elucidated in the Mercer County Opinion for the determination of each of the categories of affordable housing need for the municipalities located in Morris County.

2.0 THE REVIEW PROCESS

The Mercer County trial heard and examined the methodological positions of the various parties participating in this trial and rendered opinions as to the procedures adopted by the court. Although there were a substantial number of interested parties involved in the Mercer County trial, only two entities have produced and submitted complete "methodologies" that actually result in the calculation of affordable housing needs. These "methodologies" include the reports produced by David N. Kinsey on behalf of FSHC and the work prepared by Econsult Solutions on behalf of the consortium of municipalities. The parties engaged in the determination of the "methodology" in the Mercer County trial are the same parties engaged in Morris County. Significantly, the same reports submitted in Mercer County are the same reports relied upon in the Morris County proceedings. The reports that have been submitted and identified as being of relevance to the issues of methodology in both Mercer and Morris counties, include the following submissions:

FSHC Methodology Reports
April 16, 2015, New Jersey Low and Moderate Income Housing Obligations for 1999-2025 Calculated Using the NJ COAH Prior Round (1987-1999) Methodology, Fair Share Housing Center. David N. Kinsey, PhD.

July 2015 (Revised), New Jersey Low and Moderate Income Housing Obligations for 1999-2025 Calculated Using the NJ COAH Prior Round (1987-1999) Methodology, Fair Share Housing Center. David N. Kinsey, PhD.

March 24, 2016, New Jersey Fair Share Housing Obligations for 1999-2025 (Third Round) Under Mount Laurel IV for Ocean County, Fair Share Housing Center, David N. Kinsey, PhD.

May 17, 2016, New Jersey Fair Share Housing Obligations for 1999-2025 (Third Round) Under Mount Laurel IV for Ocean County, Fair Share Housing Center, David N. Kinsey, PhD.

FSHC Gap Present Need Reports
April 12, 2017, New Jersey Gap Present Need Housing Obligations, 1999-2015, Fair Share Housing Center, David N. Kinsey, PhD.

April 24, 2017, Response to Reports On Gap Present Need, April 24, 2017, Fair Share Housing Center, David N. Kinsey, PhD.

Econsult Methodology Reports
December 30, 2015, New Jersey Affordable Housing Need and Obligations, Econsult Solutions, Inc., Peter A. Angelides, PhD.

March 24, 2016, New Jersey Affordable Housing Need and Obligations, Econsult Solutions, Inc., Peter A. Angelides, PhD.

May 16, 2016, New Jersey Affordable Housing Need and Obligations, Econsult Solutions, Inc., Peter A. Angelides, PhD.

Econsult Gap Present Need Reports
April 12, 2017, Affordable Housing Obligations Including Gap Present Need, Econsult Solutions, Peter A. Angelides, PhD.

April 24, 2017, ESI Comments on FSHC Present Need Reports, Econsult Solutions, Peter A. Angelides, PhD.

The primary documents that provide methodologies to facilitate the calculation of affordable housing needs are FSHC's July 2015 and March 24, 2016 reports, as supplemented, updated and revised in their May 17, 2016 report; Econsult's December 30, 2015 and March 24, 2016 reports, as supplemented, updated and revised in their May 16, 2016 report. The methodology reports submitted on May 16, 2016 (Econsult) and May 17, 2016 (FSHC), represented the most up-to-date data at that time and presented complete, statewide methodologies for the calculation of municipal and regional affordable housing needs, supplementing and replacing their prior submissions.

The May 16, 2016 Econsult report provided data consistent with a 2015-2025 prospective need while the May 17, 2016 FSHC report included the gap period within a cumulative 1999-2025 prospective need in its municipal allocations and must be disaggregated for comparative purposes. These May 2016 reports, which include a complete, statewide calculation of affordable housing needs were the primary documents that were identified as the source of the methodology upon which FSHC and the municipalities were relying upon for the Mercer County methodology[2] trial.

The aforenoted methodology reports preceded the Appellate Division's July 11, 2016 opinion and the subsequent appeal to the New Jersey Supreme Court that was decided on January 18, 2017.

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[2] The Phase 1 methodology trial did not include Gap Present Need

In recognition of the July 11, 2016 Appellate opinion and Supreme Court's January 11, 2017 (Mount Laurel V) decision, FSHC and Econsult have prepared additional reports, dated April 12, 2017, that directly address the gap period issues and were the subject of the "Phase 2" methodology trial in Mercer County that concluded on June 19, 2017. As a result of this extended time frame and the intervening Appellate and Supreme Court decisions, the competing methodologies are presented in a bifurcated fashion, with the May 2016 reports addressing prior round (1987-99) obligations, traditional Present Need (2015) and Prospective Need (2015-2015). The Court-ordered expansion of Present Need to include a gap component was addressed separately in the April 2017 Gap Present Need reports. While it would have been preferable to have the entire methodology for determining municipal and regional affordable housing needs addressed in a single report, this bifurcated methodology represented the most up-to-date positions of the competing methodologies.

3.0 HOUSING REGIONS

The New Jersey Supreme Court in its Mount Laurel decisions, and the Fair Housing Act have determined that municipalities have "a constitutional obligation to provide through its land use regulations a realistic opportunity for a fair share of its region's present and prospective needs for housing for low and moderate income families" (N.J.A.C. 52:27D-302).

Prior Round Delineations

There were six Housing Regions established in Round 1, and these Regions were adjusted in Round 2 to include at least one "central city" and to consider "journey to work" information. The adjustments that were undertaken in Round 2 moved Sussex County from Region 2 to Region 1; Warren County from Region 3 to Region 2 and Mercer County from Region 5 to Region 4. These Round 2 revisions resulted in the following Regions, which have not been further adjusted:

New Jersey Council On Affordable Housing Regions (1993-1999)

Region	Counties Included
Region 1- Northeast	Bergen, Passaic, Hudson, Sussex
Region 2 -Northwest	Essex, Morris, Union, Warren
Region 3 - West Central	Middlesex, Somerset, Hunterdon
Region 4 - East Central	Monmouth, Ocean, Mercer
Region 5 - Southwest	Camden, Gloucester, Burlington
Region 6 - South-Southwest	Atlantic, Cape May, Cumberland, Salem

The Round 3 calculations prepared by COAH, through the last, unadopted regulations published on June 2, 2014, continued to utilize the Housing Regions that were established in Round 2, notwithstanding more recent information available from both the 2000 and 2010 Census.

FSHC Regions - The methodology employed by the Fair Share Housing Center in its May 17, 2016 report: "New Jersey Fair Share Housing Obligations for 1999-2025" has adopted and utilized, the Round 2 Housing Regions. It is further noted by FSHC (page 26) that "COAH reexamined and reaffirmed these six housing regions in 2004, 2008 and 2014. No further analysis or change in housing regions is required".

Econsult Regions - The May 16, 2016 report prepared by Econsult Solutions entitled "New Jersey Affordable Housing Need and Obligations" presented a more detailed examination of Housing Regions established in the Prior Rounds. Econsult reviewed the definition of the Housing Regions established in Round 1 and in Round 2, examined live/work relationships, discussed the changes in the 1999 PMSA and 2013 Metropolitan Area definitions and concluded that while other configurations are possible, these other combinations would be influenced by judgmental factors that would need to be balanced with the FHA's objective of defining regions "which exhibit social, economic and income similarities". In the absence of an alternative standard, Econsult has also utilized the regions defined in Round 2 and most recently used by COAH and FSHC.

Mercer County Opinion - The housing regions established pursuant to the FHA, established (modified) by COAH in Round 2 and were maintained by COAH in all three iterations of the third round rules. The designation of Morris County within the Northwest (Region 2) along with Essex, Union and Warren Ocean counties has been accepted by both FSHC and Econsult in their most recent (May 2016) methodologies. To the extent that there was no disagreement as to the delineation of, and the specific counties included within, the housing regions, there was no testimony at trial or in the Mercer Opinion as to the regions for which the needs would be determined.

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4.0 PRIOR ROUND OBLIGATIONS

The municipal affordable housing needs that were established in the Prior Rounds (1987-1999) that have not been satisfied, continue as an unmet obligation, legally assigned by COAH, that remain to be fulfilled by those municipalities. The Supreme Court, in its March 2015 decision, confirmed that municipalities are expected to fulfill their prior round obligations that were established for the period from 1987-1999.

1987-1999 Obligations

The records maintained by the New Jersey Department of Community Affairs reveal that the data representing the municipal Round 1 and Round 2 obligations, as originally assigned in 1993, yielded a total Statewide affordable housing obligation for 85,853 units, which is slightly different than the total of 85,964 units published in 2008 by COAH in the second iteration of the Third Round rules.

FSHC Prior Round Obligation - The May17, 2016 report prepared for FSHC discloses a Prior Round Obligation for 85,964 affordable housing unit and is reported to be based upon the COAH's calculation in 1993-1994 and published in 2008.

Econsult Prior Round Obligation - Econsult's May 16, 2016 "New Jersey Affordable Housing Need and Obligations" report identifies a Prior Round Obligation for 85,853 affordable housing units, which is the obligation maintained by the New Jersey Department of Community Affairs and assigned to municipalities for Round 2 in 1993.

Morris County Prior Round Obligations

In the context of Region 2, the Prior Round Obligations reported by FSHC amount to 9,294 units while Econsult reports a total of 9,382 units. The total difference in the prior round obligation

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for Region 2 amounts to 88 units and is confined to two (2) municipalities[3] located in Morris County:

Prior Round (1987-1999) Affordable Housing Obligations

	FSHC 05/17/16	Econsult 05/16/16	Difference
Essex County	1,930	1,930	0
Morris County	4,975	5,063	-88
Union County	1,967	1,967	0
Warren County	422	422	0
Region 2	9,294	9,382	-88

The overall deviations in Region 2 are attributable to a 89 unit decrease in the prior round obligation for the Town of Morristown and a 1 unit increase in the obligation for Parsippany-Troy Hills Township, yielding a net decrease of 88 units in both Morris County and Region 2.

Mercer County Opinion

The two measurements of the 1987–1999 Prior Round Obligations prepared by COAH in 1993 and 2008 COAH reflect a minor deviation of 111 units statewide, a deviation of 88 units in Morris County and Region 2. The latter (2008) tabulation prepared by COAH was adopted in the Mercer County Opinion as it represented the most up-to date determination of Prior Round Obligations:

Prior Round Affordable Housing Obligations

	1987-1999
New Jersey	85,964
Region 2	9,294
Morris County	4,975

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[3] There are also offsetting "rounding" differences in Garwood Borough (+1) and Union Township (-1) in Union County.

5.0 TRADITIONAL PRESENT NEED

Traditional Present Need, also referred to as "Indigenous Need" or "Rehabilitation Share", is that portion of the total housing inventory within each municipality that is represented by deficient housing occupied by low and moderate income households.

Revised Deficiency Measures - The prior rounds calculated Present Need as deficient housing units that were identified by surrogates that would indicate the likelihood that housing units are deficient. Six housing quality characteristics were utilized, along with structure age, and represented the full range of characteristics that was available from Census data to estimate deficient housing. These characteristics included the year the structure was built, persons per room, inadequate plumbing, inadequate kitchen facilities, inadequate heating, inadequate sewer services and inadequate water supply. These inadequacies <u>were calculated at the sub-regional level due to constraints on data availability for municipalities</u> and allocated to individual municipalities. The Round 2 methodology utilized the seven proxies then available from Census data and classified units as deficient when <u>two or more deficiencies</u> were identified in these surrogate measures.

Due to changes in data availability as well as improvements in municipal data. COAH's 2004 Round 3 methodology replaced the seven proxies from the prior round with three surrogates, two of which could be measured directly (inadequate plumbing facilities and inadequate kitchen facilities) as well as one for old and overcrowded units represented by housing units constructed before a given date <u>with</u> more that 1.01 persons per room. Under this updated approach, the identification of a unit with <u>any one of the three</u> proxies would be classified as deficient.

FSHC Present Need - Consistent with the Third Round approach utilized by COAH. Present Need is estimated by FSHC at the start of the Prospective Need period for the forthcoming round, which for Third Round calculations, would be as of July 1, 2015. Present Need, as previously discussed, represents that portion of the total housing inventory within each municipality that is represented by deficient housing occupied by low and moderate income households at the beginning of the Prospective Need period. FSHC estimates the number of deficient housing units in a

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municipality using a process similar to that utilized by COAH to determine the Rehabilitation Share in the past. Although the number of surrogates, or proxies, used to identify deficient units has been reduced from seven to three, data is now available at the municipal level compared to the use of calculations in the prior round at the sub-regional level that were then allocated to municipalities.

The estimate by FSHC of the number of deficient units as of July 1, 2015 utilizes the three new surrogates for deficient units; a) lacking complete plumbing facilities; b) lacking complete kitchen facilities, and; c) overcrowding (more than 1.01 persons per room) in housing units at least 50 years old. As indicated by FSHC the, " Use of the year 1965 as a cut-off assures that all housing is at least 50 years old as of 2015" (FSHC, May 17, 2016, page 16). Steps are then taken to identify "unique deficient" units to avoid double counting units with multiple deficiencies. The proportion of unique deficient units occupied by LMI households is then calculated using 2010-2014 ACS PUMS data applied to COAH calculated income limits. The number of deficient housing units occupied by LMI households was estimated by FSHC to amount 82,655 units in 2000.

The regional LMI share as of 2012 (midpoint of the 2010-2014 ACS data) is then applied to each municipality's share of the regional unique deficient housing units to yield each municipality's 2012 Present Need. Since data was not then available for 2015, FSHC estimated the number of unique deficient units as of July 1, 2015 by projecting the 2000 to 2012 change to 2015. This projection results in the estimate of Present Need as the number of "deficient housing units occupied by LMI HH in 2015" being 60,015 LMI housing units, which is a decrease from the 82,655 unique deficient housing units estimated to be occupied by LMI households in 2000:

FSHC - New Jersey Present Need (Pre-Secondary Sources)

	2000	2015	Change
Unique Deficient LMI Housing Units	82,655	60,015	-22,640

The process that is used to estimate Present Need in 2000 and which is used to calculate the 2000-2015 increment, does not estimate the "old and overcrowded" housing units using the 50 year threshold used in the 2015 estimates, but uses the same 1965 cut-off date, rather than 1950 that would have been applied if this calculation had been prepared in 2000. By changing the definition

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of "old" and crowded from 50 years for 2015 to 35 years for 2000, FSHC derives a higher Present Need estimate for 2000 than for 2015. The substantial decline in Present Need is impacted by the change to the 50 year definition used for "old and overcrowded" in the 2000 estimate, a category that accounts for two-thirds of all deficient units.

Econsult Present Need - In their May 16, 2016 report (New Jersey Affordable Housing Need and Obligations), Econsult provides a detailed discussion (pages 16-26) of the methodology employed in their estimation of Present Need. The information presented by Econsult indicates, in their opinion that Present Need, also known as "indigenous need" or "rehabilitation share", "represents an estimate of the current stock of deficient housing within each municipality occupied by low and moderate income households". Econsult further contends that Present Need is an estimate of current conditions that should be estimated at the start of the Prospective Need period, which for the third round calculations would be as of July 1, 2015. Unlike other components of need, the base unit of measurement is not households, but housing units. The Econsult report reviews the methodology employed in Rounds 1 and 2 for the calculation of Present Need as well as the elimination of re-allocated Present Need in COAH's Round 3 methodologies published in 2004, 2008 and 2014. The Round 3 change in the surrogates utilized and the elimination of the "re-allocated Present Need" (which were challenged but upheld by the Appellate Division), were acknowledged and adopted by Econsult in their use of the Round 3 approach for the calculation of Present Need.

Econsult employs a four step process to estimate Present Need at the start of the Prospective Need period in 2015. The specific procedures utilized by Econsult uses the three new surrogates for deficient units; a) lacking complete plumbing facilities; b) lacking complete kitchen facilities, and; c) overcrowding (more than 1.01 persons per room) in housing units at least 50 years old (1960). The data utilized in the preparation of these Present Need estimates is derived from the 2000 Census and from PUMS data from the 2009-2013 ACS, which provides an estimate for the 2011 mid-point. The efforts undertaken to assure the mutual exclusivity of the deficient units are described and estimates of "unique deficient" units are derived from 2009-2013 ACS data yielding a 2011 "mid-point" estimate. A similar process was undertaken by Econsult using 2000 Census data to estimate the LMI Present Need as of 2000. The Present Need estimates prepared by Econsult utilized the "old

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and crowded" surrogate encompassing units that were at least 50 years old (constructed pre-1950 for the 2000 estimate and pre-1960 construction for the 2015 estimate).

The proportion of the unique deficient units occupied by LMI households was derived using the PUMS data from the 2009-13 ACS in comparison to the median household income information for the same time period from the 2009-2013 ACS data. This series of estimates and calculations yielded an estimate that, of the 90,690 unique deficient housing units identified in the 2011-2013 ACS data, approximately 67.8 percent, or 61,500 units, were unique deficient units occupied by LMI households as of 2011 (2009-2013).

In order to project the number of unique deficient housing units occupied by LMI households to 2015, a similar analysis was undertaken using PUMS data from the 2000 Census with the number of LMI households being derived directly from the 2000 Census. The proportion of the unique deficient units occupied by LMI households were estimated by Econsult using the household size and income levels (used in the Prospective Need calculation) and these county proportions were applied to the estimate of unique deficient units for each municipality, resulting in estimates of unique deficient LMI units. These procedures yielded an estimate of 52,386 unique deficient housing units occupied by LMI households in 2000. The increment in the number of unique deficient LMI housing units from 2000 (52,386) to 2011 (61,500) provided the basis for the projection of an increase to 65,034 LMI unique deficient units in 2015, representing the 2015 statewide Present Need.

The calculations of Present Need undertaken by Econsult at the beginning of the Prospective Need cycle (2015) indicates an increase in the proportion of unique deficient housing units occupied by LMI households, from 65.8 percent in 2000 to 67.8 percent in 2011, as well an increase in the total number of unique deficient housing units occupied by LMI households, from 52,386 in 2000 to 65,034 units in 2015:

Econsult - New Jersey Present Need (Pre-Secondary Sources)

	2000	2015	Change
Unique Deficient LMI Housing Units	52,386	65,034	12,648

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Mercer County Opinion

Econsult's Present Need estimates, which utilize decennial Census data for crowded units that are at least 50 years old in 2000 (pre-1950) and 2015 (pre-1960) provide estimates for 2000 and for 2015. The FSHC calculation for 2000 uses the same 1965 cut-off that was utilized for the 2015 estimates, and thus reduces the "old" definition to include units that are 35 years old or older, rather than the "at least 50 years old" criteria applied in the 2015 estimate. This change in the definition impacts the projection of Present Need from the 2012 ACS data base to 2015. The truncated cut-off for FSHC's Present Need calculations impacts the Present Need projections for 2015. The Mercer County Opinion found that the Econsult approach more closely replicates the COAH's approach in the Second Round and that it was more appropriate to determine if a housing unit was "old" at the time it was being counted rather than if it will be "old" at a particular time in the future. (Mercer Opinion. Page 40)

2015 Present Need

	2015
New Jersey	65,034
Region 2	19,332
Morris County	1,750

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6.0 PROSPECTIVE NEED

Prospective need is an estimate of the future anticipated need for affordable housing units which, by design, definition and prior practice is a future looking projection. The development of estimates of a future anticipated need for LMI housing is based upon reasonable expectations for population growth, the accompanying increases in households and determinations of the proportion of those households likely to be represented by LMI households. The incremental change in the estimate of LMI households within each housing region at the beginning and end of this ten year period represents the regional Prospective Need that is then allocated to the municipalities within each region. Increases in population are a primary determinant in the estimation of affordable housing needs during the 2015-2025 Prospective Need period. Population changes during the 2015-2025 Prospective Need period, unlike the growth that can be documented from 2000 to 2015, are dependent upon projections, forecasts and other estimates.

Population Projections

The Round 1 methodology used population projections from the New Jersey Department of Labor, now New Jersey Department of Labor and Workforce Development (NJDLWD) as set forth in their "Historical Migration Model". In Round 2, population estimates were derived by averaging the NJDLWD projections from the Historical Migration Model and the Economic-Demographic Model and then were further adjusted using a proprietary model from the Center for Urban Policy Research (CUPR). The Round 2 methodology cannot be replicated exactly since the Historical Migration Model now only provides statewide projections of total population and the CUPR model is not available.

NJDLWD Population Projections - At the time that the May 2016 reports were prepared, the most recent NJDLWD population projections had been prepared in 2014 (2012 base) and were based on incremental five-year projections from 2012 (for 2017, 2022, 2027 and 2032). These projections did not include estimates for the 2015 "beginning", and the 2025 "end" of the Third Round, and required interpolation to establish estimates for the desired time frame. In November

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of 2016, new population projections were released by NJDLWD that replace and "supercede demographic projections previously prepared by this Department" and the prior (2012 base) projections have been removed from the Department's web site. The new (2014 base) population projections follow the format of the prior projections and encompass a 20 year projection in five year intervals (for 2019, 2024, 2029 and 2034). Consistent with prior (2012 series). Statewide projections are provided for four projection models (Economic-Demographic, Zero Migration, Historical Migration and Linear Projection models), but detailed projections by County and age cohorts are published only for the "preferred" Economic-Demographic model. The new NJDLWD population projections (2014 base) reveal a minor downward adjustment in the interpolated 2015-2025 population projections (392 persons) in the Economic Demographic model but a sizeable increase (11,244 persons) in the Historical Migration model. Although the most up-to-date population projections were not included in the May 2016 FSHC and Econsult reports, this updated information shall be incorporated in the calculation of Prospective Need.

The NJDLWD population projections are as of July 1 and reflect only "total" population without allocations for group quarters or household population. The corresponding projections by NJDLWD using the Historical Migration Model is now provided only on a statewide basis.

FSHC Population Projections - The May 17, 2016 report by FSHC relies upon the population projections prepared by NJDLWD (2012 base) using only the Economic-Demographic Model. FSHC's use of the Economic-Demographic Model projections deviates from the Round 1 methodology (Historical Migration Model) and deviates from the Round 2 methodology (averaged Historical Migration and Economic-Demographic Model). As indicated on page 27 of FSHC's May 17, 2016 report, whereas the 2015 population was based upon the July 1, 2015 population estimates published by the U.S. Census Bureau, the 2025 population is "projected". FSHC's estimate of the state's population growth from 2015 to 2025 does not use the NJDLWD projections for 2015, but utilizes the 2015 Census estimate of 8,958,013 persons and interpolates the NJDLWD 2022 and 2027 projections to derive a population projection of 9,377,040 persons as of July 1, 2025. During this ten-year interval, FSHC estimates that the state's total population will increase by 419,037 persons or approximately 41,904 persons annually (9,377,040-8,958,013 =419,037/10 = 41,904). The annual population growth indicated by the Economic-Demographic Model between 2015 to

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2025 (41,904 persons per year) is <u>1.11 times</u> the annual population growth of 37.754 persons per year between the 2000 and 2010 Census and is <u>1.32 times</u> the annual population growth of 31.642 persons per year between the 2010 Census to 2015 Census Estimate:

New Jersey Population Trends

	Census 2000	Change 2000-10	Census 2010	Change 2010-15	Census Est 2015
New Jersey	8,414,350	377,544	8,791,894	166,119	8,958,013
Annual		37,754		31,642	
Percent		0.449		0.360	

Econsult Population Projections - The development of population projections for the 2015-2025 Prospective Need period are set forth on pages 29 through 33 of Econsult's May 16, 2016 "<u>New Jersey Affordable Housing Need and Obligations</u>" report. For the Third Round (2015-2025) projections, Econsult <u>utilizes the Round 2 methodology</u> where the Historical Migration and Economic Demographic Models are combined and <u>averaged</u>, notwithstanding the inavailability of detailed county and age group projections for the Historical Migration Model. As discussed by Econsult on page 30, the primary distinction between these two projection models is in the migration assumptions, and notes that NJDLWD states that "(T)he projected population from these two models may be used as a range for possible populations change in the future". Econsult further notes that NJDLWD's publication entitled "Methodology-The Projections Models", indicates that the assumptions regarding population base, fertility, mobility, cohort aging, and the migration of persons 65 years and older are identical in the Economic-Demographic and Historical Migration Models. Unlike FSHC, Econsult uses the NJDLWD population projections for <u>both</u> the 2015 and 2025 population estimates. Interpolating the 2012 and 2017 data and the 2022 and 2027 data, Econsult derives population estimates for New Jersey for 2015 and 2025, respectively. A comparison of the 2015 estimates and the 2025 projections from NJDLWD's Historical Migration and Economic-Demographic Models are summarized in the following tabulation:

NJDLWD Statewide Population Projections

Model	2015	2025	2015-2025 Growth
Historical Migration	8,963,960	9,170,000	206,040
Economic Demographic	8,974,040	9,377,040	403,000
Averaged	8,969,000	9,273,520	304,520

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Econsult's "averaged" 2015 statewide population estimate of 8,969,000 persons is 10,987 persons higher than the Census Bureau's 2015 estimate of 8,958,013 persons, while the 2015 estimate (interpolation) from the Economic-Demographic Model of 8,974,040 persons is 16,027 persons higher that the 2015 Census estimate.

In addition to the deviations between the interpolated 2015 populations, there is also a difference in the amount of population growth projected between 2010 and 2015 by the Historical Migration and Economic Demographic Models. During the period from the 2010 Census (April 1, 2010) and the Census Bureau's 2015 (July 1, 2015) Population Estimate for New Jersey, the State's population increased from 8,791,894 persons to 8,958,013 persons, indicating a gain of 166,119 persons during this 5.25 year period, or approximately 31,642 persons annually. The Census Bureau's July 1, 2015 population estimate for New Jersey (8,958,013) is closer to the population projected with the Historical Migration Model (8,963,960) than the Economic-Demographic projection (8,974,040), while the annual population growth between the 2010 Census and the July 1, 2015 Census population estimate, which amounts to 31,642 persons is most similar to the "averaged" population growth of 30,452 persons annually. Nevertheless, both models yield 2015 population estimates (8,963,960 to 8,974,040) that are above the 2015 Census estimate of 8,958,013 persons.

2015 Population Comparisons

	Census 2010	Census Est 2015	NJDLWD 2015	2015 Deviation
Historical Migration	8,791,894	8,958,013	8,963,960	+ 5,947
Economic Demographic	8,791,894	8,958,013	8,974,040	+16.027
Averaged	8,791,894	8,958,013	8,969,000	+10,987

Econsult's choice of the Round 2 methodology, with the use of an "average" of the Historical Migration and Economic Demographic projections, is reported to be based on the reliability of the "averaged" projections rather than either model individually. Using the NJDLWD biannual projections that have been published from 2000 through 2012 with comparisons to Census populations and Census estimates, Econsult reports that the twelve time periods analyzed indicate an average annual Census population increase of 0.39 percent compared the average annual

increments of 0.58 percent with the Economic Demographic Model and 0.62 percent with the Historical Migration Model and 0.60 percent annually for the "averaged" projections. During the 2000-2012 NJDLWD projections (base year), both models have generally exceeded the Census population estimates.

Population Projection Comparisons - The projection of population is a critical component in the estimation of future levels of household population, the number and increase of occupied households and ultimately the increase in LMI households. Obviously, the projection model will influence the estimation of the number and growth of LMI households. FSHC has selected a projection based upon the only (Economic Demographic) model that provides detailed information by county and age groups. Econsult, on the other hand, uses the Round 2 methodology that averages the Historical Migration and the Economic- Demographic Models with the stated objective of diminishing the projection variations ascribed to a single data source. Econsult's use of two measures of population growth is consistent with the Round 2 Methodology as well as the principles set forth with in *AMG Realty* that were cited by Judge Serpentelli:

> With regard to internal checks and balances, two examples will suffice. The projection of population to determine prospective need averages two population models, one of which is considered conservative and one liberal. The allocation factors contain numerous checks and balances. The two employment factors in the prospective need formula tend to check each other because one reflects past trend and the other, future projections.
> [AMG Realty Co v Warren Tp, 207 N.J. Super. 388, p453-454]

The population projections for the Prospective Need period used by FSHC and Econsult are the same at the time of the 2010 Census, slightly different for 2015 estimates with a much larger deviation for the 2025 projections:

New Jersey Total Population

	Census 2010	Estimate 2015	Projection 2025	Change 2015-25
FSHC	8,791,894	8,958,013	9,377,040	419,027
Econsult	8,791,894	8,969,000	9,273,520	304,520

Mercer County Opinion - During the course of the Mercer trial, new population data was released and by the end of the trial, almost two years of the 2015-2025 Prospective Need period had elapsed. New population estimates were published by the Bureau of the Census and updated American Community Survey (ACS) data became available. Importantly, updated the population projections by the New Jersey Department of Labor and Workforce Development (NJDLWD), which are the foundation for the estimates of population and housing growth, were released and replaced the projections that were used in the FSHC and Econsult reports. The newest population estimates generally reflected a decreased rate of population growth and were acknowledged by both FSHC and Econsult. Although the NJDLWD population projections were updated and superceded the version used in the FSHC and Econsult reports, neither party revised their projections to include this most up-to-date data. The Mercer County Opinion adopts the use of the most recent (2014 base) population projections produced by NJDLWD with the averaging of the Historic Migration and Economic Demographic models as proposed by Econsult and used by COAH in the Second Round. FSHC's intermixing of Census population for the beginning of the projection and the NJDLWD data for the end of the projection was rejected by the court. The averaging of NJDLWD's Historical Migration and Economic Demographic models was found to better reflect recent historical data particularly in view of the uncertainties inherent in all projections. Using the updated NJDLWD projections (2014 base) that became available prior to the Mercer trial, the averaged H-M and E-D population projections resulted in an estimated statewide population growth of 359,010 persons between 2015 and 2025:

Updated New Jersey Total Population Estimates (2014-Series)

	2015	2025	Growth
Averaged EDM & HMM	8,974,810	9,433,820	359,010

Household Population

The projection of <u>total</u> population is the <u>first step</u> in the process leading to the estimation of the increase in LMI households. The next step involves the preparation of the estimated <u>household</u> population and is derived by deducting the number of persons residing in group quarters, which includes persons in correctional facilities, college dormitories, military installations, nursing homes, mental institutions and other "group" facilities. New Jersey's entire population is classified as either living in households or in group quarters and the reduction of total population by the number, or proportion, of group quarters population will yield household population.

FSHC Household Population Estimates - The methodology employed by FSHC adjusts the total population through the deduction of Group Quarters population to yield an estimate of household population. In FSHC's population estimates, a group quarters population of 186.167 persons was estimated for 2015 and represented 2.08 percent of the total population. For 2025, FSHC estimates a group quarters population of 201,122 persons, or approximately 2.14 percent of the total estimated population. By deducting the group quarters population from the total population, household populations of 8,771,846 persons and 9,175,818 persons were derived for 2015 and 2025, respectively, and indicate a 2015-2025 household population increment of 404,072 persons:

FSHC Total and Household Population 2015 and 2025

	2015	2025	Change
Total Population	8,958,013	9,377,040	419,027
In Group Quarters	186,167	201,122	14,955
In Households	8,771,846	9,175,918	404,072

Econsult Household Population Estimates - The methodology employed by Econsult also adjusts the total population through the deduction of Group Quarters population to yield an estimate of household population. Econsult calculates the proportion of persons in group quarters using the 2010 Census and 2014 ACS data by county and age group, and projects these proportions to 2015 and 2025. For 2015, Econsult estimates 2.09 percent of the total population (187,770 persons) were in group quarters and that this group quarters population would be estimated to account for 2.13 percent (197,750 persons) of the total population in 2025. Deducting the group quarters population,

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household populations of 8,781,230 persons and 9,075,770 persons were derived for 2015 and 2025, respectively, and indicate a 2015-2025 household population increment of 294,540 persons:

Econsult Total and Household Population 2015 and 2025

Econsult	2015	2025	Change
Total Population	8,969,000	9,273,520	304,520
In Group Quarters	187,770	197,750	9,980
In Households	8,781,230	9,075,770	294,540

Mercer County Opinion - The updated NJDLWD population projections (2014 base) were not used by either FSHC or Econsult in the reports submitted in Mercer County. The estimated of the number of person in households were derived by both FSHC and Econsult by deducting the estimated number of residents in group quarters. There was not a significant methodological dispute in this calculation insofar as FSHC and Econsult estimated similar proportions of group quarters population. Group quarters population was estimated to represent 2.08 percent (FSHC) to 2.09 percent (Econsult) of total population in 2015 and from 2.13 percent (Econsult) to 2.14 percent (FSHC) of total population in 2025. Due to the negligible differences and in order to maintain consistency with the prior step, the court accepted Econsult' group quarters estimates and derived the following statewide estimates of household population:

New Jersey Population in Households 2015-2025

	Population	In Group Qtrs.	Pop. in HH
2025	9,333,820	-196,544	9,137,276
2015	8,974,810	-186,339	8,798,471
HH Pop Growth			348,805

Headship Rates and Households

The estimation of the increases in households is derived by FSHC and Econsult using projections of total population growth, adjusted for non-household (group quarters) population, and converted to households (occupied housing units) through the use of "headship rates". The headship rate represents the probability that a person is a head of a household, and is the fractional representation of the commonly used "persons per household" measure utilized by the Bureau of the Census. For example, a group of 100 persons residing in 40 households would yield an average of 2.50 persons per household (100 / 40 = 2.50) and reflect a headship rate (probability) of 0.40 (40 / 100 = 0.40).

Prior Round Headship Methodology - In COAH's Round 2 methodology, the changes in actual headship rates between the 1980 Census and 1990 Census were calculated and future headship rates were projected to change at one-half the rate observed between 1980 and 1990. The most recent Census data contained in the 2000 and 2010 Census reveals a virtually unchanged headship rate during the most recent decennial census interval. In this regard, the headship rate was 0.3728 in 2000 and 0.3735 in 2010, indicating a 10 year increment of 0.0007. Using the Round 2 methodology, one-half of this 10-year increment would be 0.00035 and result in a 5-year projection (2015) of 0.373635 and a 10-year (2020) projection of 0.37385. Extended to 2025, a headship rate of 0.374025 would be indicated:

Projected Headship Rates - Round 2 Methodology

	Census 2000	Census 2010	Projected 2015	Projected 2020	Projected 2025
Headship Rate	0.3728	0.3735	0.373675	0.373850	0.374025
Persons/Household	2.6820	2.6771	2.6761	2.6749	2.6736

The changes in overall headship rates and average household size that would be derived using the Round 2 methodology applied to the two most recent decennial Census, would indicate a nominal decrease in the average household size in New Jersey from 2.6771 persons per household

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at the time of the 2010 Census to a projection of 2.6736 persons per household in 2025. The corresponding headship rates would amount to 0.3735 in 2010 and 0.3740 in 2025.

FSHC Headship Rates - FSHC has prepared estimates and projections of headship rates that are used to derive estimates of the number of current (2015) and future (2025) households using the data from the 2010 Census and the most recent (2014 ACS One Year) survey data. The prior projections prepared by FSHC in July 2015 used the 2013 ACS (One-Year) survey data and updated this source to the 2014 ACS (One-Year) survey data in the more recent March 24, 2016 and May 17, 2016 reports. The use of the 2010 Census and ACS survey data has disclosed certain inconsistences that have been acknowledged by FSHC. In this regard, the ACS data for both 2013 and 2014 report fewer occupied households in New Jersey than the number reported by the 2010 Census. According to the ACS surveys, the number of occupied households in New Jersey decreased from 3,214,360 households at the time of the 2010 Census to 3,176,139 occupied households as of July 1, 2013 and 3,194,844 occupied households as of July 1, 2014, indicating that there were 38,221 fewer households in 2013 than at the 2010 Census and 18,705 fewer households in 2014 than at the 2010 Census.

Recognizing these disparities, FSHC engaged Daniel T. McCue, a mathematician with the Joint Center for Housing Studies of Harvard University, to examine the differences in the Census and ACS data. Mr. McCue prepared and submitted reports dated January 29, 2016, March 24, 2016, April 8, 2016 and May 17, 2016. The January and April reports specifically addressed the differences in the Census and ACS data and acknowledged that the lower number of households reported in the ACS data is a problem that is not limited to New Jersey, but occurs throughout the ACS data nationwide. Mr. McCue reports that the Census Bureau has not fully resolved why there are differences in the household counts and that a comparison of 2010 ACS (One-Year) data to the 2010 Census, discloses a difference of 2.1 million households nationwide. After reviewing and comparing the Census and ACS data, and in view of the small base and high margins of error in the ACS data, Mr. McCue questions "using two incomparable data sets" (McCue, January 29, 2016, Page 9).

Despite these shortcomings, the methodology utilized by FSHC to estimate and project headship rates for the projection of occupied households, does not abandon the use of ACS data, but

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creates a procedure to "calibrate" the 2014 ACS (One Year) survey data by comparing the 2010 Census and 2010 ACS data in order to create a ratio that is then used to adjust (increase) the 2014 ACS households to yield an estimate that would represent 2014 Census households. The adjusted number of 2014 households is then projected to yield an estimated number of 2015 households.

The final step is the projection of the 2014 headship rates by county and age group to 2015 and then using a flat headship rate "held constant when projected to 2025". Although FSHC indicates that headship rates are held constant by county and age group, variations in the growth rates by county and by age group result in an overall increase in headship rates and a decline in average household size between 2015 and 2025:

FSHC Population, Headship Rate and Household Projections

	2000	2015	2025
Total Population	8,414,350	8,958,013	9,377,040
Group Quarters	194,821	186,167	201,122
In Households	8,219,519	8,771,846	9,175,918
Occupied Households	3,064,645	3,255,437	3,460,112
Headship Rate	0.3728	0.3711	0.3771
Persons Per Household	2.6820	2.6945	2.6519
Increase			
Household Population	-----	543,663	404,027
Occupied Households	-----	190,792	204,675
Headship Rate	-----	0.3509	0.5065
Persons Per Household	-----	2.8495	1.9742

The population and housing changes between 2000-2015 and the 2015-2025 Prospective Need period are <u>significantly different</u> in terms of the demographics of the <u>incremental</u> populations. Between 2000 and 2015, the added population was represented by households that were substantially larger than the 2000 base population (2.8495 persons vs. 2.68320 persons), but are much smaller in the 2015-2025 projection, with an incremental (2015-2025) household size approximately two-thirds (1.9742 persons vs. 2.8621 persons) of that observed during the prior 15 years. The annual household growth over the past 15 years (2000-2015) amounted to 12,501 households per year compared to FSHC's 2015-2025 projection of 204,675 households, or 20,468 households annually.

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Econsult Headship Rates - The headship rates used by Econsult in their May 16. 2016 "Need and Obligations" report follow the Round 2 methodology where one-half of the change measured in the prior period is used to project the future. This projection is not a single statewide rate, but is applied across 8 age-groups in 21 counties for a total of 168 individualized rates. The specific methodology employed by Econsult recognizes the differences in the household counts of the Census and ACS survey data and adopts the approach used by FSHC in re-basing the ACS estimates to the Census base, adjusting 2010 ACS data to housing data from the 2010 Census. The projection of headship rate trends also utilizes the actual headship rates from the 2000 Census (0.3728) and 2010 Census (0.3735). The increase in headship rates (decline in household size) between 2000 and 2010 is then applied to the re-based ACS data to yield an estimated headship rate of 0.3699 for 2014. The re-based data and re-calibrated headship rate is then projected to increase to 37.04 percent in 2015 and to 37.45 percent in 2025. These adjusted headship rates yield an estimate of 3,252,210 households in 2015 and a projection of 3,398.450 households in 2025:

Econsult Population, Headship Rate and Household Projections

	2000	2015	2025
Total Population	8,414,350	8,969,000	9,273.520
Group Quarters	194,821	187,770	197,750
In Households	8,219,519	8,781,230	9,075.770
Occupied Households	3,064,645	3,252.210	3,398.450
Headship Rate	0.3728	0.3704	0.3745
Persons Per Household	2.6820	2.7001	2.6706
Increase			
Household Population	-----	561,711	294,540
Occupied Households	-----	187,565	146.240
Headship Rate	-----	0.3339	0.4965
Persons Per Household	-----	2.9948	2.0141

The methodology employed by Econsult estimates an increase of 187,565 households between 2000 and 2015 (12,299 households/year) and projects an increase of 146.240 households between 2015 and 2025 (14,624 households/year). The average household size is projected to decrease from 2.7001 persons in 2015 to 2.6706 in 2025. The incremental increase between 2015 and 2025 amounts to 294,540 household residents and 146,240 households, indicating a 10 year

(2015-2025) increment of 2.0141 persons per household and a headship increment of 0.4965.

The population and housing changes estimated between the 2000 and 2015 and the 2015-2025 projection for the Prospective Need period are different in terms of the demographics of the incremental populations. Between 2000 and 2015, the added population was represented by household populations significantly larger (2.9948 persons) than the 2000 base population (2.6820 persons) but are substantially smaller in the 2015-2025 projection, with an incremental household size (2015-2025) approximately two-thirds (2.0141 persons vs 2.9948 persons) of that observed during the prior 15 years.

Mercer County Opinion - Whereas the concept of headship rates is relatively straightforward, the determination of the headship rates to utilize in the affordable housing model involve a morass of conflicting approaches. COAH used different approaches in the prior rounds and the precise manner of COAH's calculations was subject to certain ambiguities. Econsult followed COAH's Second Round rules where headship rates were projected at one-half the rate observed between 1980 and 1990, although it was not clear whether COAH projected this trend from 1990 or from the beginning of the Second Round in 1993.

In an unusual departure from the methodology used in the prior rounds, FSHC <u>did not project headship rates at one-half the rate observed</u> in the prior period. This deviation was said to be the result of: 1) the opinion of "national experts" and; 2) a more conservative projection of household growth. FSHC's <u>deviation</u> from the methodology established by COAH in the Second Round and the use of a constant headship rate was reported by FSHC to based upon the mistaken belief that "trend" projections were <u>no longer supported by "national experts"</u>. The second rationale for the deviation from COAH's Second Round methodology ... that it yields a more conservative projection of household growth... does not appear to be consistent with data and the information presented by Dr. Kinsey (slide 240, February 10, 2017), <u>which indicates that the use of the headship rate trend</u> in COAH's Second Round methodology would <u>actually decrease</u> and <u>not increase</u> the projected number of households.

The court adopted the trend line approach that was utilized by Econsult and which more closely followed COAH's procedures in the Second Round. The use of a trend that is one-half of

the rate observed in the prior period was also determined to be appropriate in consideration of the unique economic circumstances that existed in the prior (2000-2015) period. The projection of the trend line should begin from the beginning of the Prospective Need period insofar as data is now available from the Census (re-calibrated ACS) for this starting point. The Mercer County Opinion found that these "trended" headship rates, which should be applied to the household population estimates based on the updated and averaged NJDLWD population estimates, would yield the following estimate of 2015-2025 household growth:

New Jersey Total Households 2015-2025

	Headship Rate	Population In Households	Total Households
2025	37.63	9,137,276	3,438,417
2015	37.14	8,788,471	3,261,626
Total Household Growth			176,791

(Mercer Opinion, page 65)

7.0 LOW AND MODERATE INCOME HOUSEHOLDS

The preparation of estimates of the proportion of the total number of occupied households that are represented by low and moderate income households is another important factor in the determination of affordable housing needs and is the next successive step after the estimation of the current, and the projection of the future, number of occupied households.

Definition

The FHA furnishes definitions for low and moderate income housing that provide the basis for defining lower income households. According to the FHA, low income households are "households with a gross household income equal to 50% or less of the median gross household income for households of the same size within the housing region in which the housing is located" [N.J.S.A. 52:27D-304 (c)], while moderate income households are "households with a gross household income equal to or more than 50% but less than 80% of the median gross household income for households of the same size within the housing region in which the housing is located" [N.J.S.A. 52-27D-304 (d)] . Combined, these definitions would encompass all households with incomes less than 80% of the median gross household income for households of the same size within the housing region in which the housing is located.

Determining the Proportion of LMI Households

The measurement and determination of the proportion of the total households with incomes below 80 percent of median gross household income may be derived from Census and ACS data and are established at the beginning of the Prospective Need period The quantification of the number of households with incomes below 80 percent of the regional median income in the Prior Round was calculated using proportions for eight age groups in each of the State's 21 counties.

FSHC LMI Households - The process undertaken by FSHC to estimate the proportion of total 2015 households that are LMI households utilizes 2014 ACS income data by age group and county that are updated to 2015 using a Consumer Price Index adjustment. The specific CPI index

(US. Region, Urban Consumers, Wage Earners. All Items. Housing, etc) used for this adjustment is not identified. The projection of total households by county and age group are then sorted by regional income limits using HUD 2015 income limits by "family size". The proportion of total households that are LMI households are not determined using the proportion of households reflected in the ACS data with household incomes below 80 percent of the median by household size. but in comparison to HUD "county income limits by family size". Using this procedure. FSHC estimated that 1,348,144 of the 3,255,437 total households in 2015. or <u>41.41</u> percent. were LMI households.

The process for estimating the proportion of total households estimated to be LMI households in 2025 utilizes the 2014 ACS income data by county and age group updated to 2015 and then projected by the following method. "(T)his analysis projects that on a statewide basis 43.0 percent of New Jersey HH will qualify as LMI, under prior round methodology, in 2025". The results of FSHC's income analysis yields the following estimates of the proportion. and concomitantly. the number of LMI households as of 2015 and 2025.

FSHC Low and Moderate Income Household Projections

	2015	2025
Total Population	8,958,013	9,377,040
Group Quarters	186,167	201,122
In Households	8,771,846	9,175,918
Occupied Households	3,255,437	3,460,112
Percent LMI	41.41	42.96
LMI Households	1,348,144	1,486,615
Increase		
Occupied Households	-----	204,675
LMI Households	-----	138,471
Percent LMI/Total	-----	67.65

The proportions of LMI households estimated by FSHC for 1999 (41.16 percent) and for 2015 (41.41 percent) indicate a 16 year increment of 0.25 percent, or 0.0156 percent annually compared to an increase of 1.55 percent between 2015 and 2025, or 0.155 annually. which is 10 times the annual increment observed between 1999 and 2015. This significant increase in the LMI

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proportion between 2015 and 2025 results in LMI households accounting for over two-thirds (67.65 percent) of New Jersey's total household growth between 2015 and 2025. The data used by FSHC to estimate the proportions of LMI households combines data derived from different sources (ACS for household income and COAH/HUD for income thresholds) that are complied by different entities for different purposes. This intermixing of data was a concern that was acknowledged by FSHC in their October 28, 2015 response, which stated that:

> "Because income qualification of LMI HH's under the Prior Round methodology is not based on actual median income of New Jersey households (3.2 million), but rather is based on HUD's estimate of the median income of New Jersey families (2.2 million), with adjustments by family size, it is not necessarily the case that exactly 40% of households will be at less than 80 % of median family income" (Page10, emphasis added).

The intermixing of non-comparable data can have a significant impact on the determination of the proportion and number of low and moderate income households. Whereas an increase in the proportion of LMI households from 41 to 43 percent may appear to represent a minimal change, in the context of the State's 3.3 million households, a 2 percent increase in the LMI proportion represents an increase of 66,000 LMI households. The choice of the data used by FSHC in their determination of the proportion and number of LMI households contributes to their forecasted inclusion of more than two-thirds of the 2015-2025 increase in total households as being represented by LMI households. COAH had noted in the last iteration of the unadopted Third Round rules that the proportion of total household growth represented by LMI households will be approximately 40 percent of the total household growth:

> "Thus to the degree that age cohorts are differently composed and growing differently, the low- and moderate-income component of the 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) Appendix A

COAH's expectations were significantly different than the 67.65 percent LMI share projected by FSHC between 2015 and 2025. If, for example, FSHC had utilized the same LMI ratio that it had determined for 2015 (41.41 percent) the increase in LMI households from 2015 to 2025 would have

amounted <u>84,688 LMI households, as opposed to 138,471 LMI households</u>, and the LMI proportion of the total household increase would be 41.41 percent, rather than 67.65 percent:

FSHC LMI 2015-2025 Household Projections
<u>Using Constant 2015 LMI Ratio</u>

	<u>2015</u>	<u>2025</u>
<u>Occupied Households</u>	3,255,437	3,460,112
Percent LMI	41.41	41.41
LMI Households	1,348,144	1,432,832
<u>Increase</u>		
Occupied Households	-----	204,675
LMI Households	-----	84,688
Percent LMI/Total	-----	41.41

By increasing the proportion of all new households that would be LMI households. FSHC projects that more than <u>two of every three</u> new households in New Jersey over the next 10 years (2015-2025) will be LMI households.

The proportion of total households estimated by FSHC to be LMI households in Region 2 reflect significant variations by County, with a regional average of LMI households that represents more than two-thirds of all new households. According to FSHC's calculations, the total number of households in Region 2 will increase by 42,212 total households between 2015 and 2025, of which 28,629 households, or 66.97 percent, will be LMI households:

<u>FSHC Prospective Need Total and LMI Household Growth 2015-2025 - Region 2</u>

County	Total Household Increase	LMI Household Increase	Percent LMI Households
Essex County	12,435	9,840	79.13
Morris County	15,973	9,490	59.41
Union County	11,971	6,912	49.39
Warren County	1,833	2,027	110.58
Region 2	42,212	28,269	66.97
New Jersey	204,675	138,471	67.65

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Econsult LMI Households - A detailed review of incomes is presented in support of Econsult's decision to calculate income directly from Census and ACS data for each household size and region rather than using COAH/HUD income thresholds. Differences are noted throughout the range of household sizes, but particularly for 1-persons households, where the HUD/COAH incomes were nearly 1.7 times the actual reported incomes. Using ACS income data projected to 2015 and 2025, Econsult estimates that 39.92 percent of all households in 2015 were LMI households and that this proportion would increase to 39.96 percent in 2025. During the 10 year interval, total households are projected to increase by 146.240 households, of which 40.71 percent, would be LMI households:

Econsult's 2015-2025 Household Projections
Total and LMI Households

	2015	2025
Household Population	8.781.280	9.075.767
Occupied Households	3,252,210	3,398,450
Headship Rate	0.3704	0.3745
Persons Per Household	2.7001	2.6706
LMI Households	1,298,400	1,357,940
LMI / Total Households -%	39.92	39.96
Increase 2015-2025		
Occupied Households	-------	146.240
LMI Households	-----	59,540
LMI / Total Households -%	-----	40.71

Affordable Need Comparisons - The May 17, 2016 report prepared by FSHC and the May 16, 2016 report by Econsult yield distinctly different measures of affordable housing needs for the 2015-2025 Prospective Need period. The estimates of the increases in total households are influenced by a variety of factors including the projection of total and household population, changes in headship rates and the resulting estimates of the accompanying increases in the number of total households. Estimates of the proportion of LMI households is another factor that directly, and significantly, impacts the estimate of Prospective Need households, as summarized in the following comparisons:

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2015-2025 Prospective Need Comparisons

	FSHC	Econsult
Household Population Growth	404,072	294,540
Headship Rate Increment	0.5063	0.4965
Household Growth	204,675	146,240
LMI Proportion Increment	67.65	40.71
LMI Household Growth	138,471	59,540

The differences in the proportion of the increase in total households estimated to be LMI households is largely attributable to the different ways that they are calculated by Econsult and FSHC. Econsult, as previously discussed uses the <u>actual median</u> incomes reported in the Census (ACS) data while FSHC uses the ACS medians in relationship the income limits used for qualifying for affordable housing as determined by the COAH and/or HUD "income grids". These income grids do not use actual median incomes, but use a process where the income for a 4-person household is estimated from family incomes and then is assigned to smaller and larger families based upon household size. This income grid assumes that the income of 3-person households are 90 percent of the income of a 4-person household while 2-person households are allocated 80 percent of the income of 4-person households and a 1-person household is assumed to have 70 percent of the income of a 4-person household.

Mercer County Opinion - A primary distinction between the competing methodologies in their calculation of the increase in the number of LMI households between 2015 and 2025 is the use of actual median incomes advocated by Econsult and the use of the HUD-derived income qualification grid used by FSHC. While the precise mathematical calculations advanced by Econsult do produce approximate 40 percent LMI ratios consistent with mathematical definition, they do not utilize the income qualification grid relied upon by COAH in the Prior Rounds. The FHA references HUD standards 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. Although the court agreed with the use of the income grid for determining LMI Household Ratios that was advanced by FSHC, it did not endorse the projection of those ratios. COAH's Second Round rules do not fully detail the calculations performed to determine LMI ratios, however, the unadopted Third Round rules clarify COAH's position that, despite changes in the composition of the LMI

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population, the methodology should produce an overall proportion of approximately 40 percent. COAH's LMI ratios were calculated at the beginning of the Prospective Need period and held constant for that period. Further insight into COAH's support of a constant LMI ratio was provided by several excerpts from Dr. Burchell that stated almost by definition, about 40 percent of household growth will be comprised of LMI households. The projection of LMI ratios by FSHC produced a statewide LMI household growth rate of 67.65 percent during the Prospective Need Period.

The court found that COAH calculated the LMI ratio at the beginning of the Prospective Need period in Prior Rounds and applied those ratios at the end of the period. In this step of the methodology, the court found that neither of the experts approach was satisfactory and adopted a modification of the FSHC approach, using the updated grid, but utilizing constant 2015 LMI ratios. The 2015 statewide LMI ratio of 41.41 percent yielded a 2015-2025 LMI household growth of 73,209 housing units:

Statewide LMI Household Growth 2015 - 2025

LMI HH Ratio	41.41 %
Total Household Growth	176,791
LMI Household Growth	73,209

(Mercer Opinion, Page 85-86)

Reallocation for Age Distribution of Households

The total and LMI household growth projected for 2015-25 by both FSHC and Econsult revealed a decline in "working-age" households. In the Second Round, the working-age households were reallocated to regions with prior job growth. Because no growth of working-age households was projected by either FSHC or Econsult, there was no reallocation of LMI households and the court skipped this step.

Adjustment for Older LMI Households with Significant Assets

Econsult included a "significant housing assets" test as an adjustment to the projected increase in LMI households. The UHAC regulations contain a real estate asset test that would

disqualify otherwise income eligible households and COAH included an asset test in each iteration of the Third Round Rules. The court found that while the asset test would constitute a reasonable revision to the methodology, it represents a policy decision that was neither fully vetted nor specifically approved by the Appellate Division. The asset test and other accompanying adjustments to the methodology represent policy changes better left administrative rule making and were not adopted in the Mercer County Opinion.

Aggregate Regional Need

With the adjustments made by the court, the gross Prospective Needs for the State and Region diverged from the results of both experts:

New Jersey and Region 2 Gross Prospective Need 2015 - 2025

	Econsult	FSHC	Opinion
New Jersey	54,140[4]	138,471	73,209
Region 2	12,353	28,269	15,682

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[4] Econsult reduced the projected (2015-25) increase in the number of LMI households (59,540) by 5,400 LMI households with significant housing assets, to yield a regional prospective need for 54,140 households. (Econsult, May 16, 2016, pages 51-55)