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Louisiana’s 2019 Multi-Regional Statewide Nurse Workforce Forecasting Model and Simulation Tool Overview

Description

Louisiana’s 2019 Multi-Regional Statewide Nurse Workforce Forecasting Model and Simulation Tool is one of only a few multi-regional statewide models in the nation. It was created in 2013 using the population data from the 2010 Census and projections were made out to 2020. State licensure data for registered nurses (RNs), advanced practice registered nurses (APRNs) and licensed practical nurses (LPNs) was a key element in building the model along with demographics based on population projections at the parish level. Several years have gone by since Louisiana’s Nurse Workforce Forecast Model was launched. Other models have been built using the Louisiana templet and during that process improvements were made in the user interface and the underlying engine that drives the model. And, of course, a lot has happened since 2010 as reflected in today’s data as well as changes in healthcare utilization and policy. It is for this reason that the Louisiana State Board of Nursing thought it important, in light of all of the changes that are taking place within Louisiana’s healthcare system, nursing education and nursing practice, that Louisiana’s Nurse Workforce Forecasting Model be updated and enhanced to better project the most current nurse supply and demand in Louisiana.

Design Features

- Combines eight regional models and the statewide model for each type of nurse together in one program via excel spreadsheets connected by specific mathematical relationships incorporating multiple data bases of information related to nurse licensure, demographics and patient care utilization across multiple settings.
- The user interface is a map of Louisiana showing each of the eight regional labor market areas (RLMAs) identified by the Louisiana Workforce Commission.
- To access any of the regional models for a specific type of nurse (i.e., RN, APRN, LPN), just click on the name of the region on the map and it opens. This makes it easy to navigate between regional models and access the statewide model from the interface as well.
- Simulation is used to do “What If Analysis”. By changing the assumptions or the parameters in the model, one can see the impact on the future of supply and demand in the region.
- Measures nurses as full-time equivalents (FTEs) or 40 hours/week.
- Functional through 2025 and can be updated annually with new licensure data and other relevant data as needed.

State Model Measurements	Regional Model Measurements
Statewide Workforce Overview	Regional Workforce Overview
Setting and Status	Demographic Analysis
Nurse Education	Workforce Diversity
Workforce Diversity	Nurse Demand
Nurse Demand	Supply and Demand
Demand by Setting	
Demand by Region	
Supply by Region	
Total Supply and Demand	
Regional Gap – Unfilled FTEs	

Key Findings

RNs

- An overall shortage of FTE RN supply (49,459) compared to demand (51,304) occurred in 2019 resulting in a total of 1,845 unfilled FTEs with substantial variation by region.

	2019	2020	2021	2022	2023	2024	2025
Supply	49,459	47,206	45,424	44,097	42,864	42,305	41,424
Demand	51,304	50,864	50,256	49,648	49,041	48,821	48,629
Unfilled FTEs	1,845	3,658	4,832	5,551	6,177	6,516	7,205

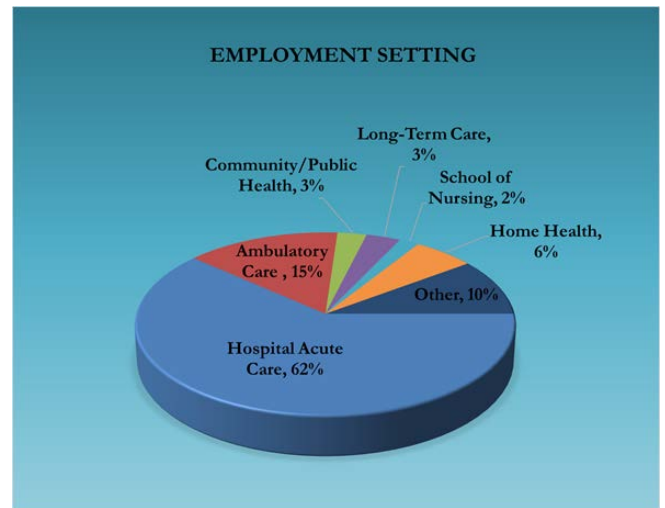
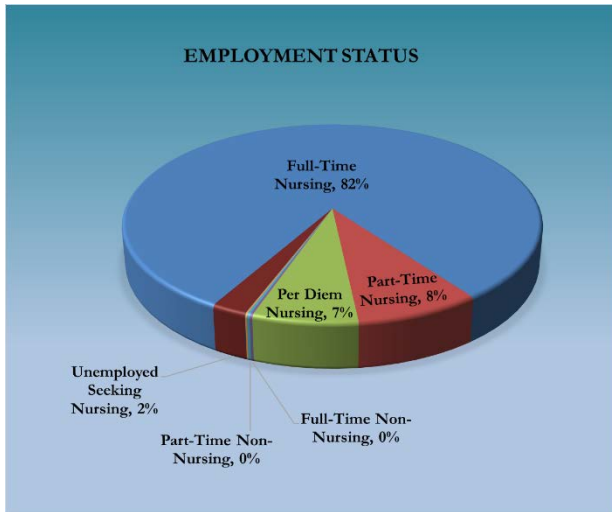


- Shortages for RNs will exist through 2025 in every RLMA with substantial variations between regions.

Region	2019	2020	2021	2022	2023	2024	2025
New Orleans	971	1,454	1,776	1,890	2,077	2,300	2,475
Baton Rouge	185	607	948	1,234	1,478	1,447	1,709
Shreveport	325	594	720	793	829	936	1,023
Lafayette	95	258	378	465	525	424	567
Monroe	81	207	298	363	412	443	489
Alexandria	143	390	493	548	587	680	727
Lake Charles	26	106	152	178	185	196	125
Houma	19	43	67	80	85	90	89
State Total	1,845	3,658	4,832	5,551	6,177	6,516	7,205

Numbers in red indicate unfilled FTEs. All Figures in Full Time Equivalents (FTEs)

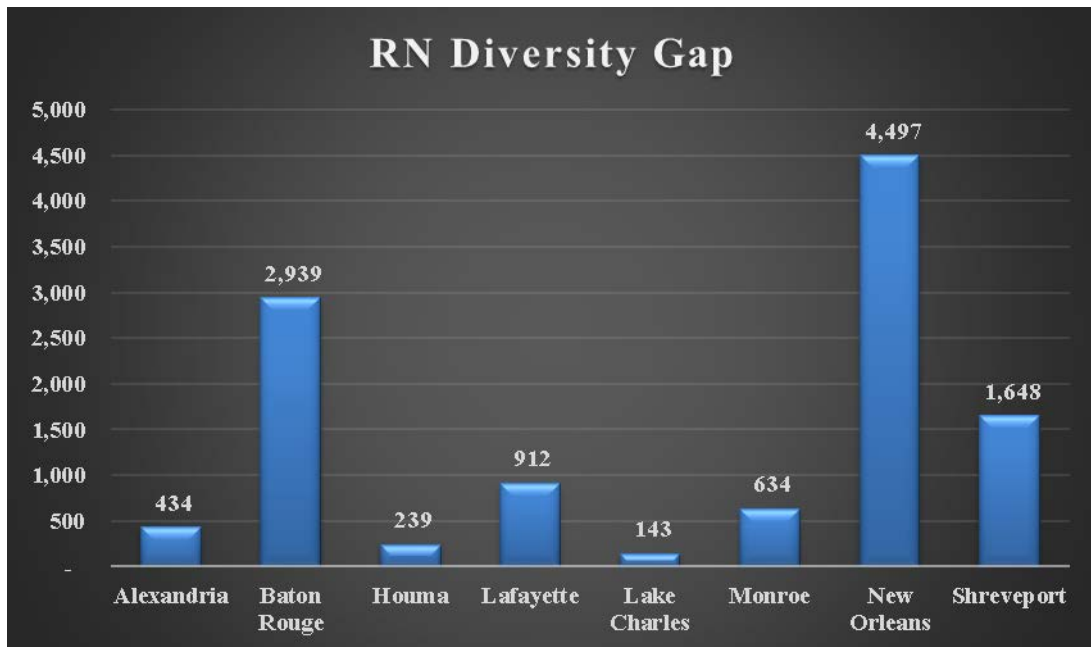
- Eighty-two percent (82%) of Louisiana’s RN workforce work full-time and 61% are employed in Louisiana hospitals.



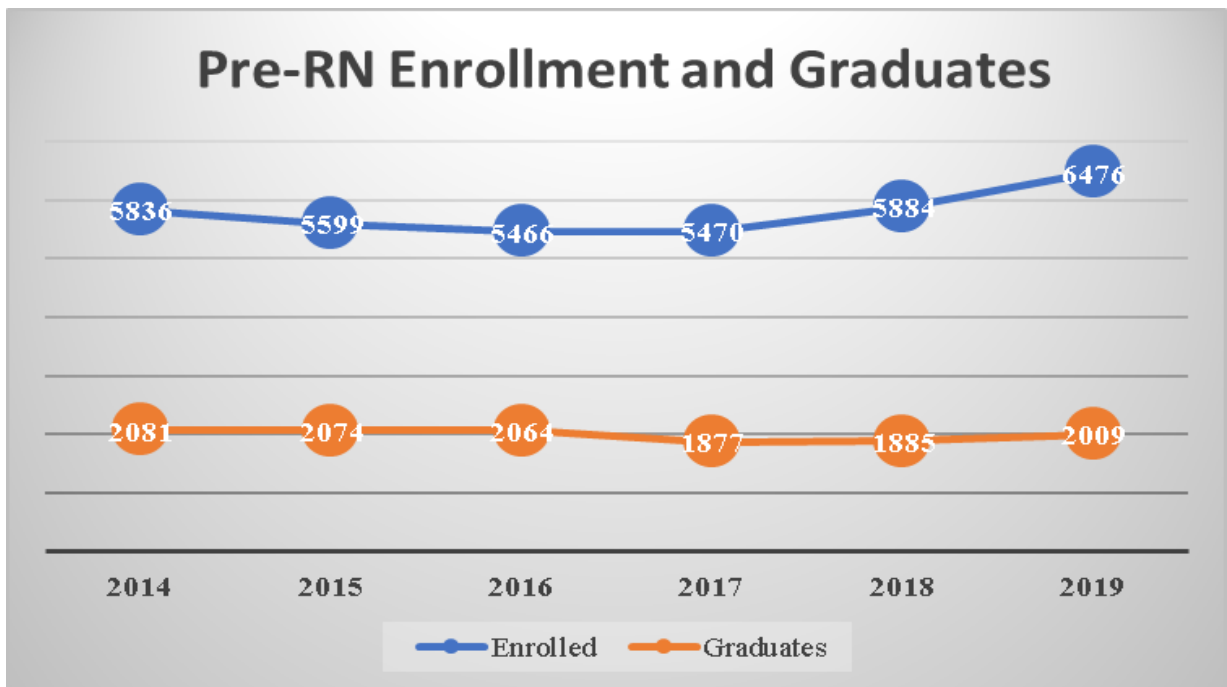
- In 2019, over 3,000 RNs that live in Louisiana reported working outside of Louisiana.

RNs Working Out of State	Nurses
Full-Time Out of State	1,866
Part-Time Nursing Out of State	275
Per Diem Nurses	259
Employed Outside of Nursing	649
Total Working Out of State	3,049

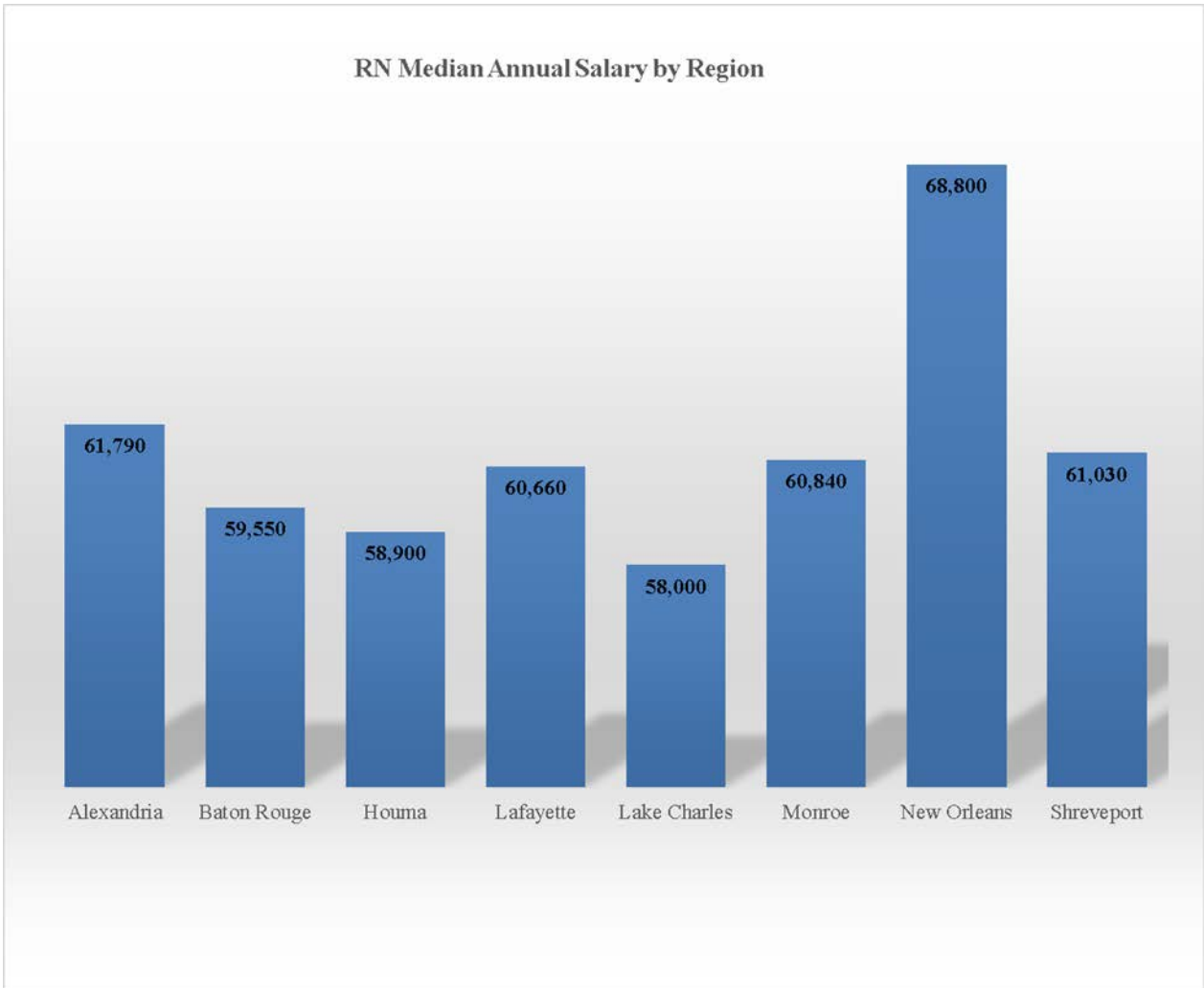
- The greatest gap in the number of Black/African American RNs when compared to the regional population can be found in the New Orleans RLMA (4,497), the Baton Rouge RLMA (2,939) and the Shreveport RLMA (1,648).



- There has been an upswing in the total number of students enrolled in Louisiana's pre-RN programs in Louisiana since 2018.



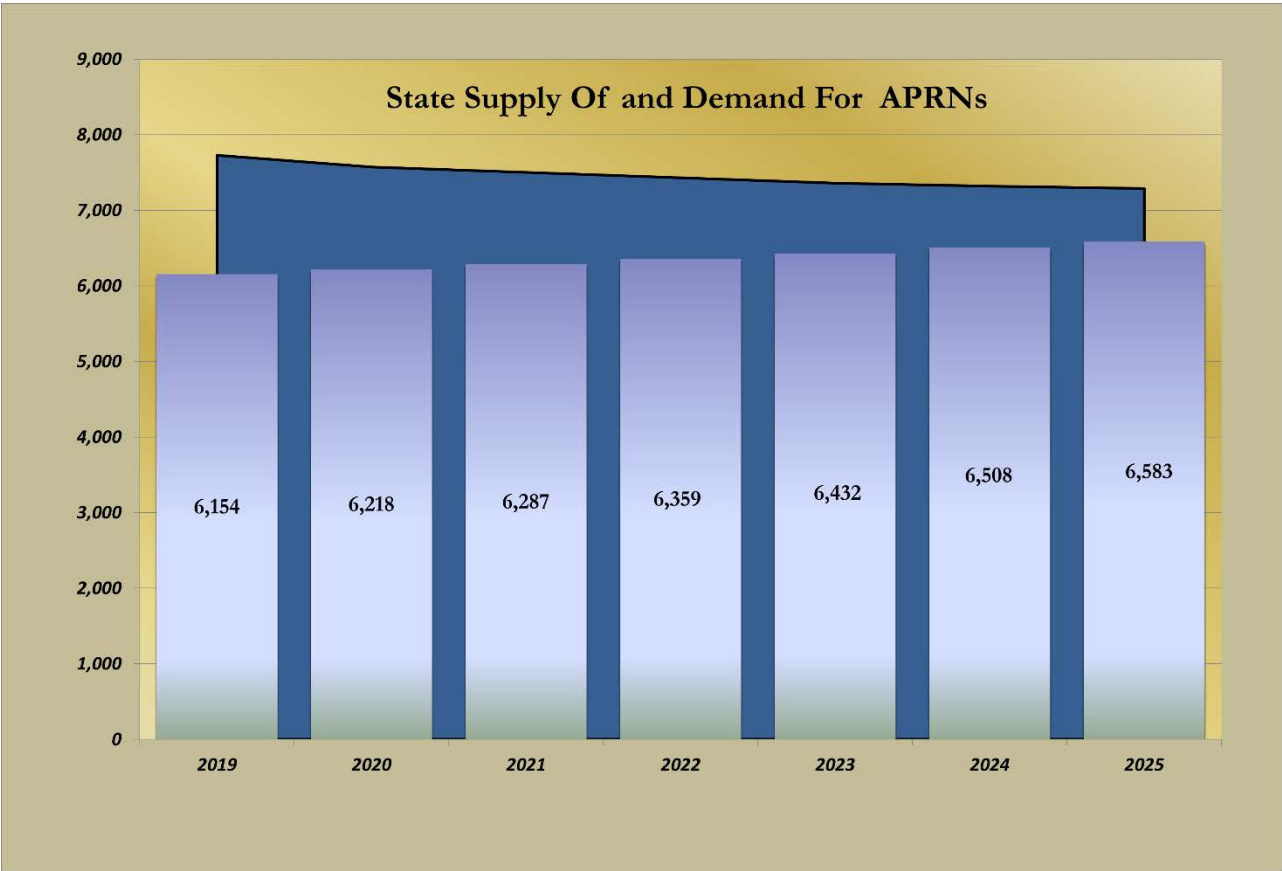
- The highest median annual salaries in Louisiana for RNs can be found in the New Orleans RLMA.



APRNs

- The demand for APRNs (FTEs) in 2019 was estimated at 7,728, with a supply of 6,154, leaving a gap of 1,574 FTEs. The ultimate size of this gap over the next decade will depend on the changing patterns of APRN utilization and healthcare policy as we go forward.

	2019	2020	2021	2022	2023	2024	2025
Supply	6,154	6,218	6,287	6,359	6,432	6,508	6,583
Demand	7,935	7,869	7,796	7,723	7,650	7,610	7,579
Unfilled FTEs	1,780	1,650	1,509	1,364	1,218	1,102	996

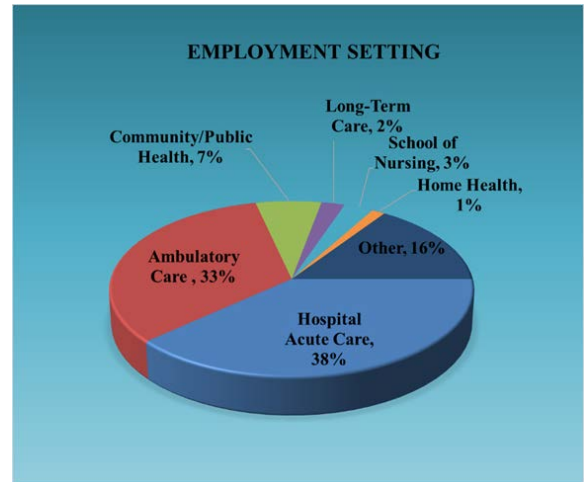
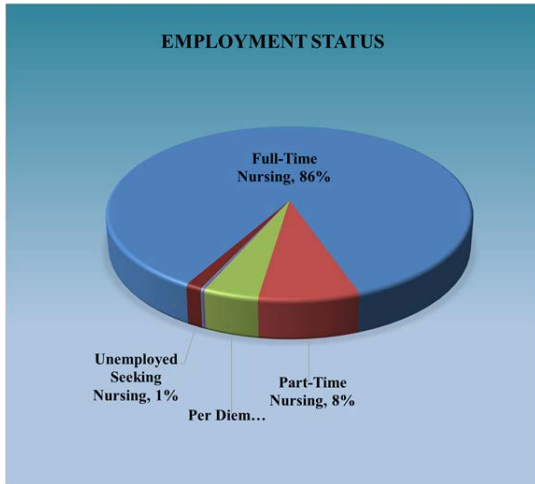


- There will be a demand for APRNs through 2025 in all of the eight RLMAs with substantial variation by region.

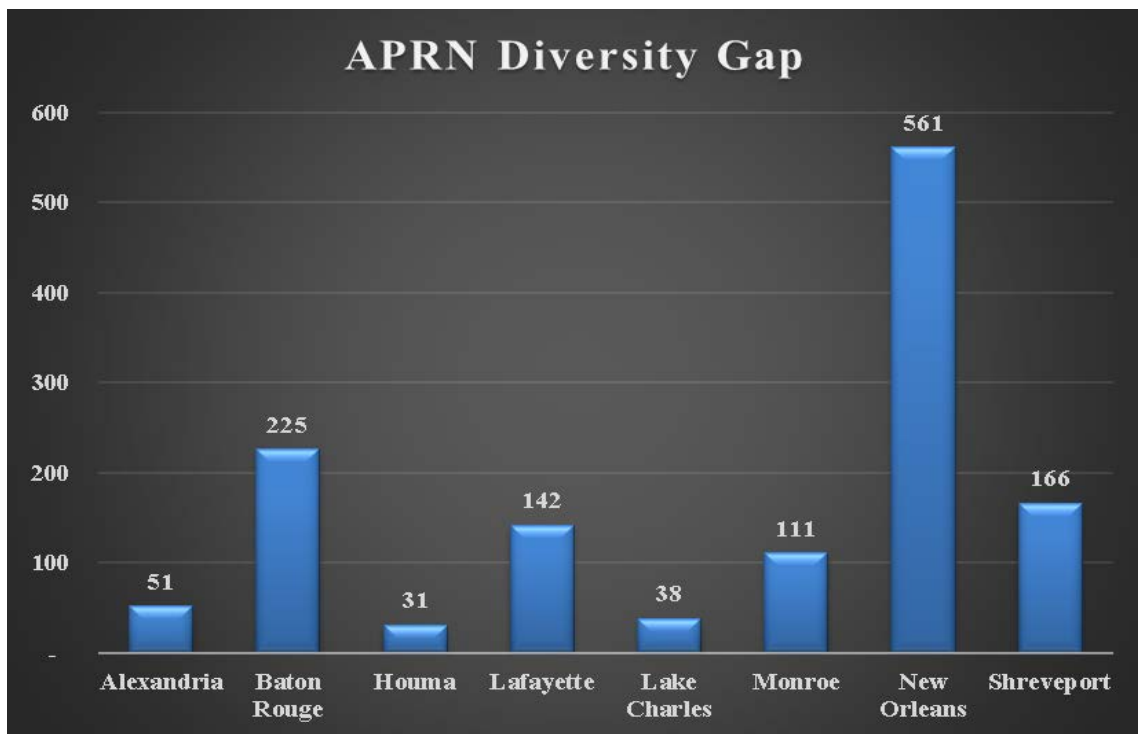
Region	2019	2020	2021	2022	2023	2024	2025
New Orleans	521	496	467	436	403	391	377
Baton Rouge	354	327	300	273	248	227	206
Lafayette	254	246	231	216	201	192	183
Shreveport	235	198	162	125	88	50	13
Monroe	87	78	69	59	48	33	26
Lake Charles	104	98	91	84	78	74	69
Houma	91	78	66	53	39	27	16
Alexandria	134	129	123	118	113	109	105
State Total	1,780	1,650	1,509	1,364	1,218	1,102	996

Numbers in red indicate unfilled FTEs.

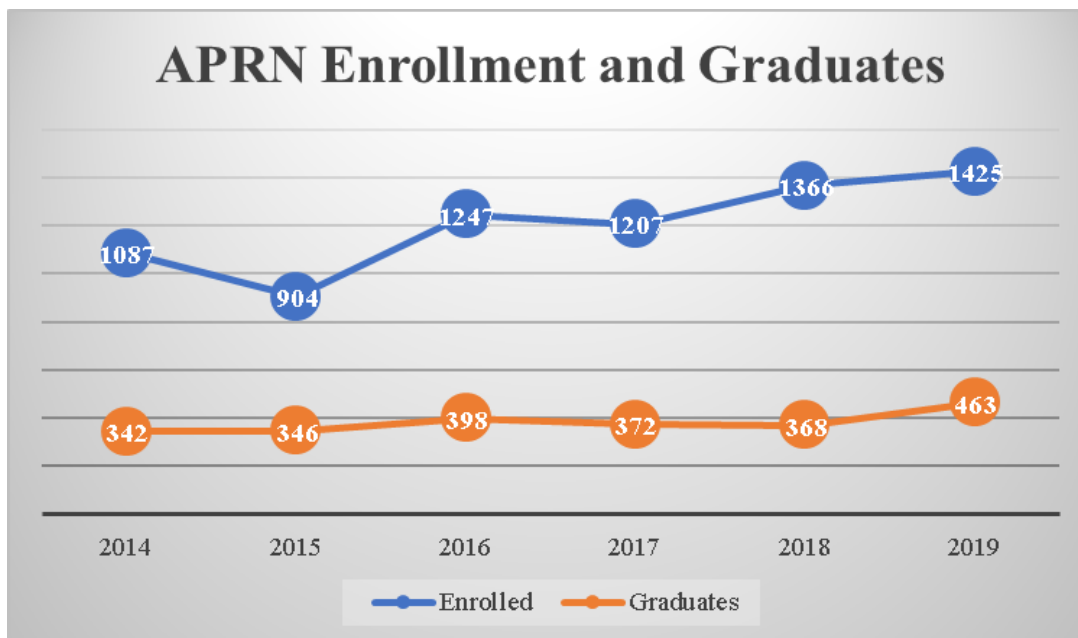
- In 2019, 86% of the APRN workforce worked full-time. Thirty-eight percent (38%) of the APRN workforce worked in acute care hospitals and 33% worked in ambulatory care settings.



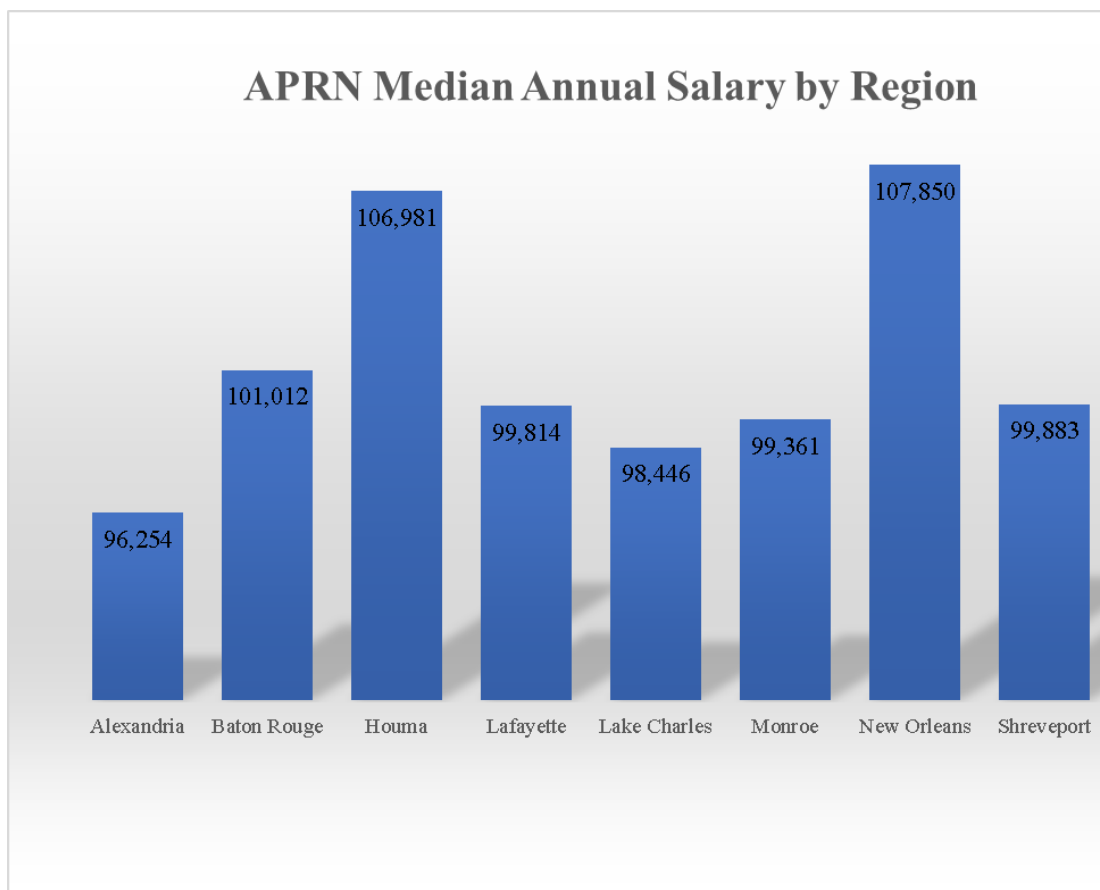
- The greatest gap in the number of Black/African American APRNs when compared to the regional population is in the New Orleans RLMA (561).



- In 2019, 85% of the students enrolled in Louisiana’s APRN programs and 86% of the graduates were from NP programs. Fifteen percent of the students enrolled in Louisiana’s APRN programs and 14% of the graduates were from CRNA programs.



- The highest median annual salary for APRNs in Louisiana can be found in the New Orleans and Houma RLMA’s.

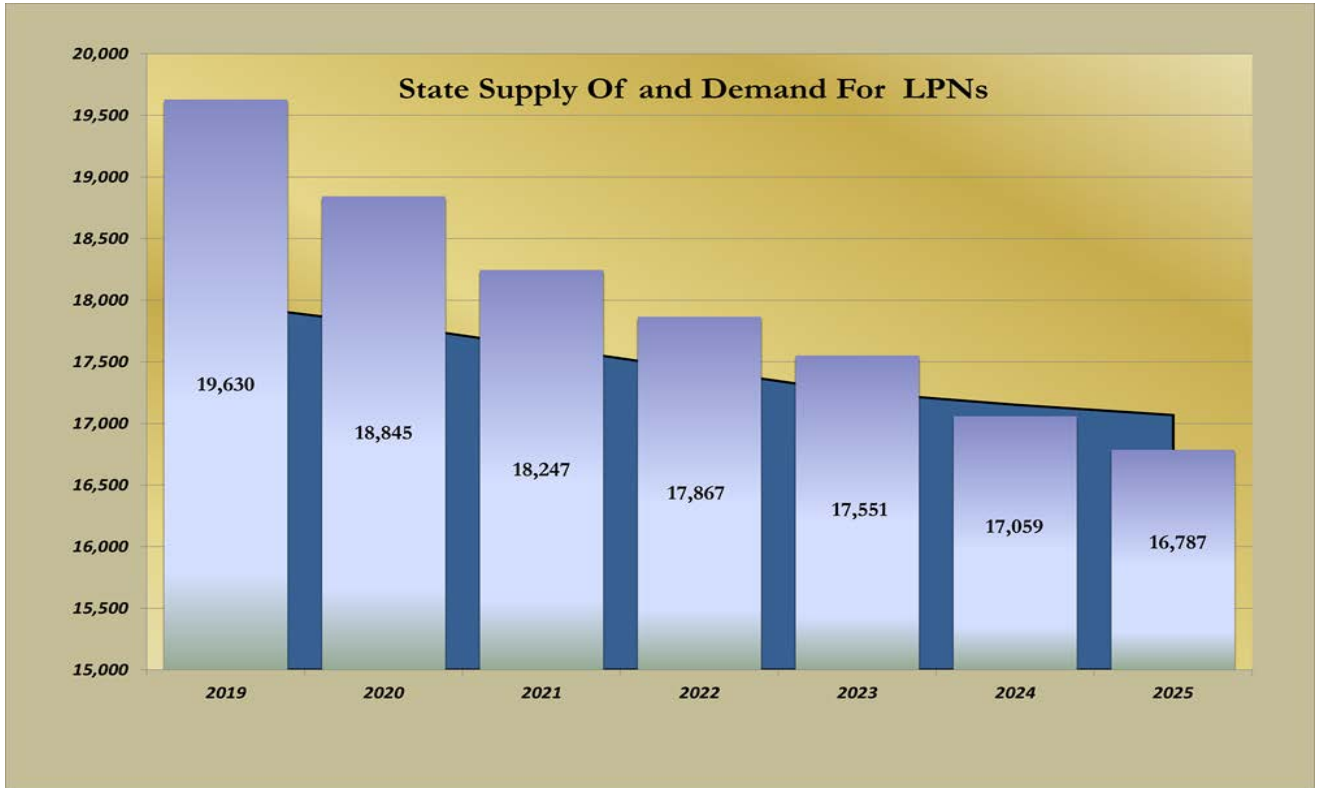


LPNs

- There will be a surplus of LPNs statewide through 2023 with a looming shortage beginning in 2024.

	2019	2020	2021	2022	2023	2024	2025
Supply	19,630	18,845	18,247	17,867	17,551	17,059	16,787
Demand	18,059	17,900	17,715	17,530	17,345	17,244	17,160
Unfilled FTEs	(1,571)	(945)	(533)	(337)	(206)	185	373

Numbers in Red Indicate Unfilled FTEs

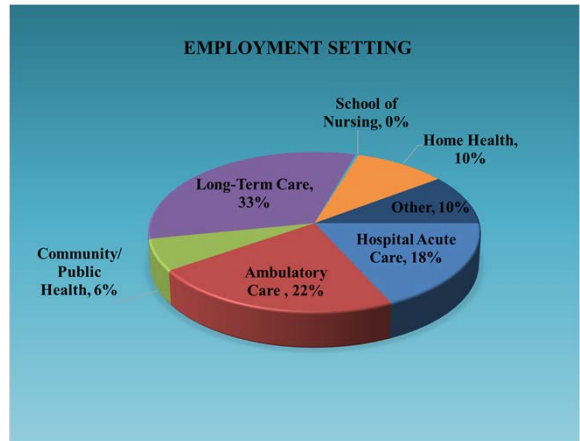
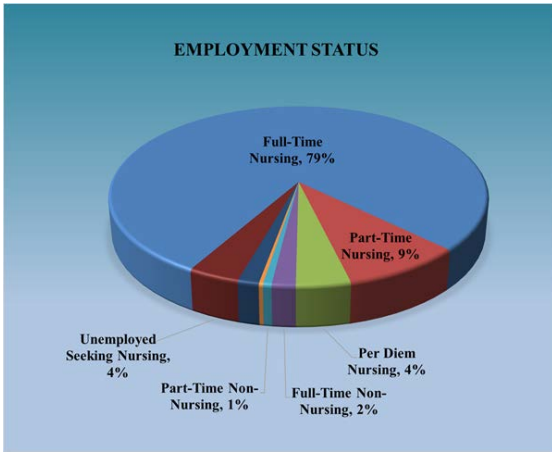


- There will be a growing demand for LPNs in more than 50% of the RLMAs beginning in 2021 with substantial variation by region.

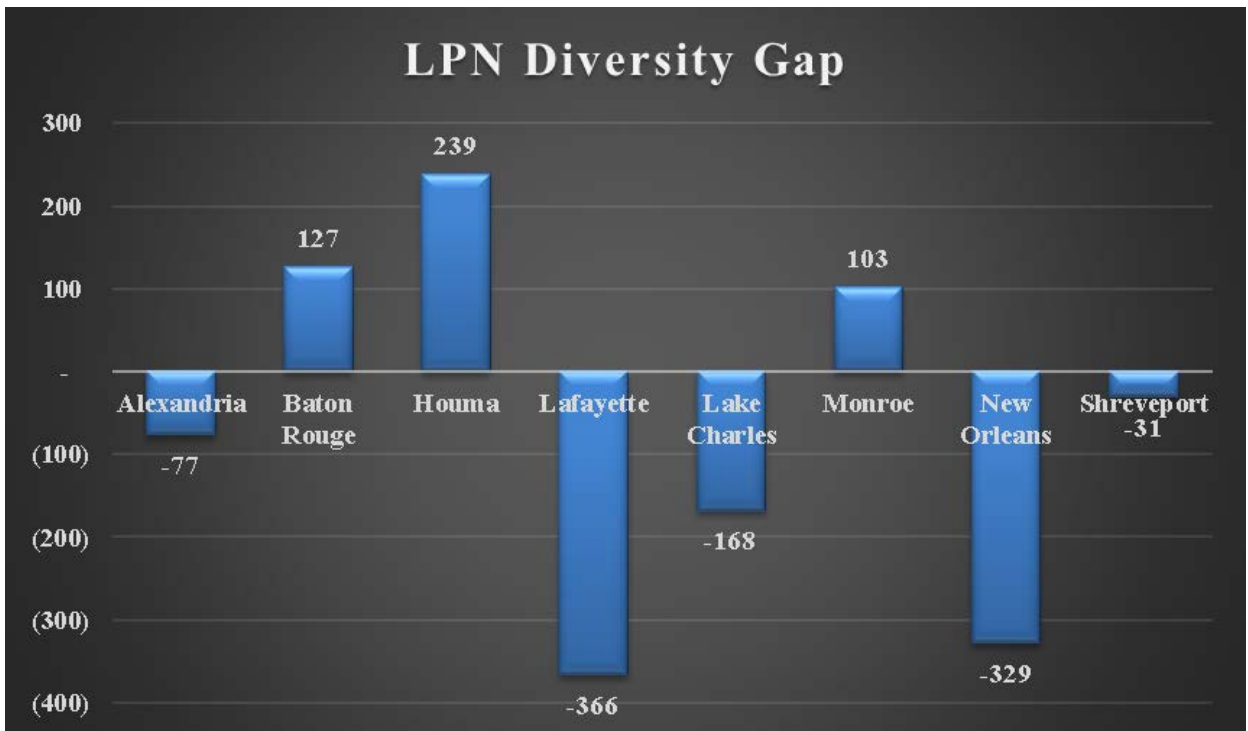
Region	2019	2020	2021	2022	2023	2024	2025
New Orleans	(158)	(16)	87	147	190	287	340
Baton Rouge	(746)	(629)	(554)	(523)	(503)	(423)	(381)
Lafayette	(115)	(20)	24	36	41	101	129
Shreveport	(170)	(72)	(5)	24	45	85	85
Monroe	(114)	(42)	10	39	61	101	133
Lake Charles	(275)	(212)	(166)	(140)	(123)	(76)	(55)
Houma	(1)	22	37	38	37	47	47
Alexandria	8	23	35	41	46	64	75
State Total	(1,571)	(945)	(533)	(337)	(206)	185	373

Numbers in red indicate unfilled FTEs.

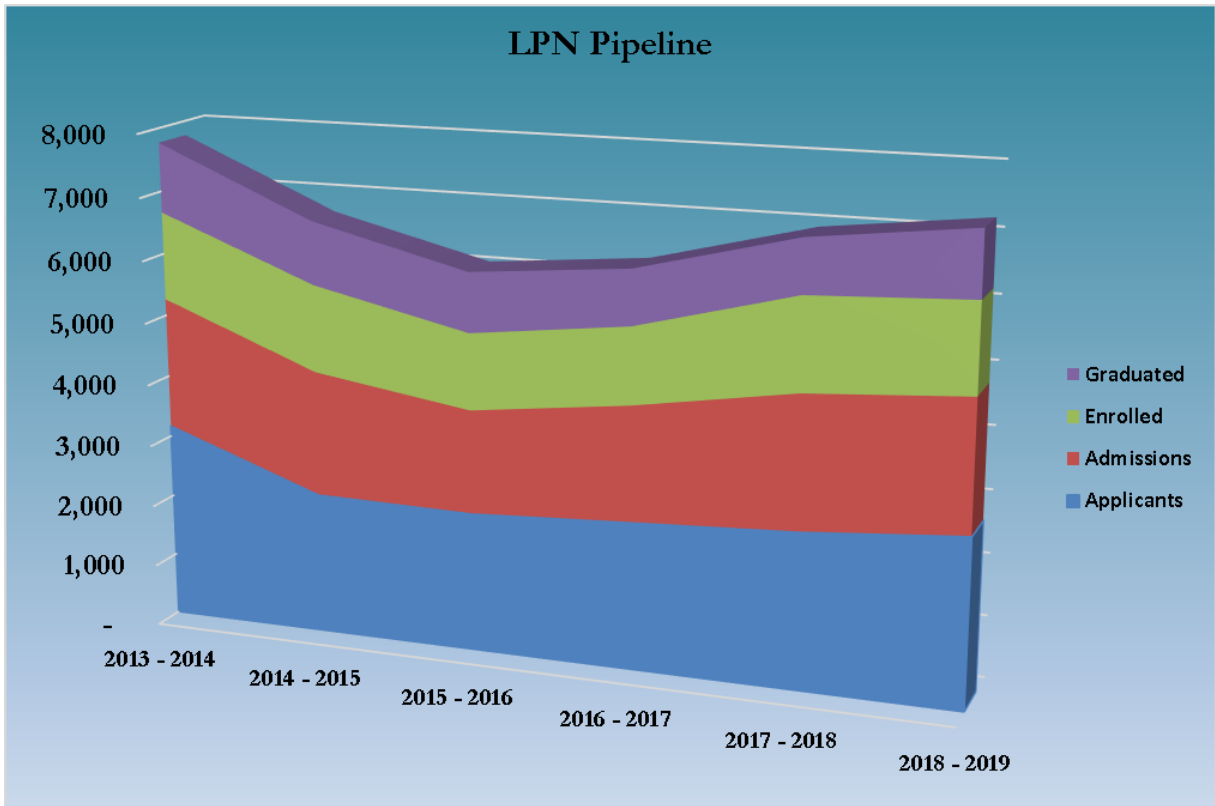
- Seventy-nine percent (79%) of the LPN workforce work full-time. Approximately one-third (33%) of the LPN workforce work in long-term care, 22% in ambulatory care and 18% in acute care hospitals.



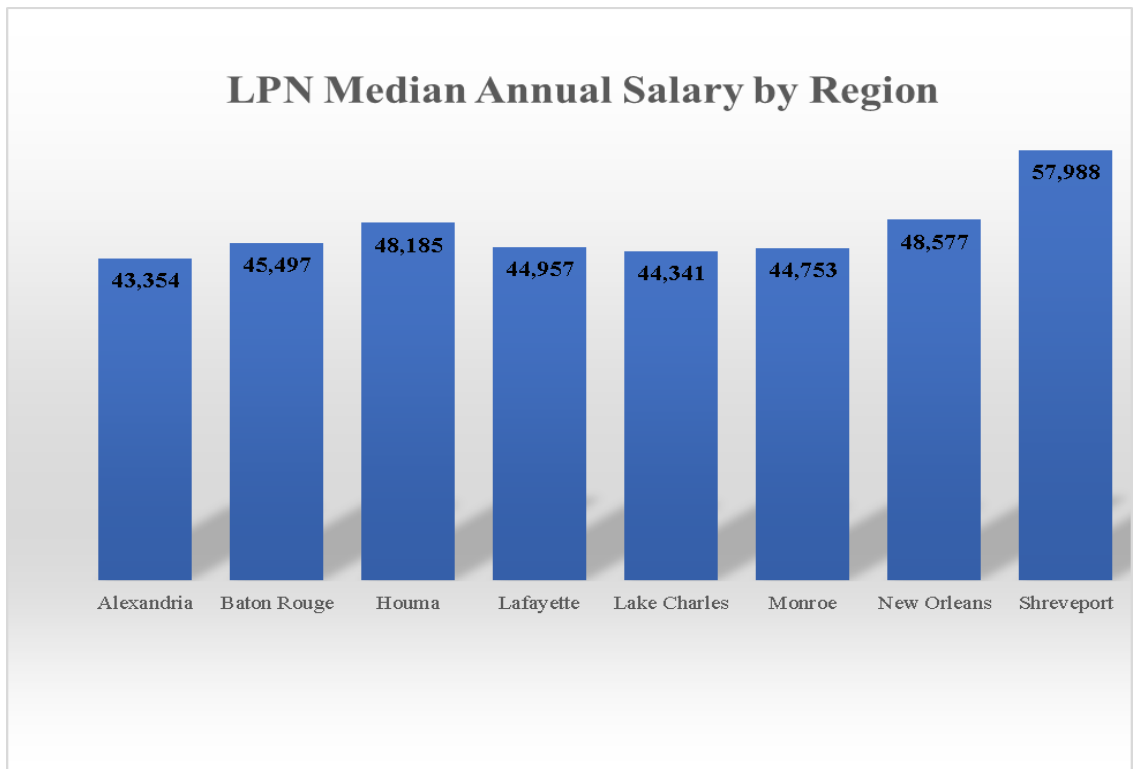
- In 50% of the RLMAs, Black/African American LPNs exceed the percentage of the Black/African American population within the RLMAs which is depicted by the negative numbers in the following diagram.



- The LPN pipeline is on an upswing from what appeared to be a decline in admissions, enrollment and number of graduates between 2014 and 2016.



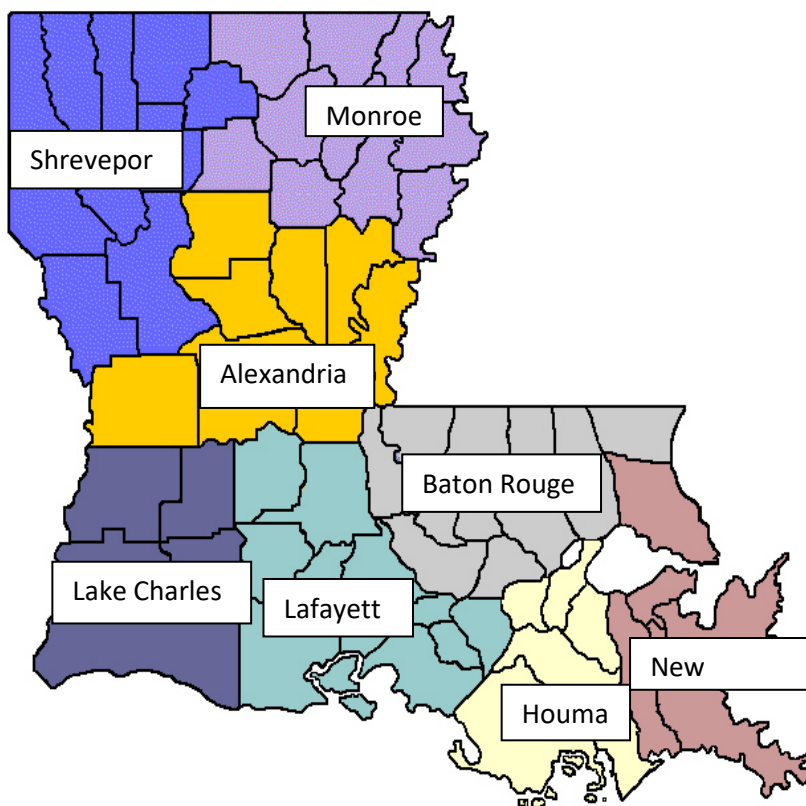
- The highest median annual salary for LPNs in Louisiana can be found in the Shreveport RLMA.



Louisiana's Population and Nursing Workforce Utilization

The U.S. Census Bureau estimates that Louisiana's population declined by nearly 11,000 residents from 2018 to 2019. It is estimated that 26,000 people moved out of Louisiana to another state last year, the 6th highest number in the nation despite Louisiana's relatively small total population. The population of Louisiana has been decreasing over the past decade and is projected to continue to lose residents through 2025. The supply of new RNs and APRNs, however, is not keeping pace because of retirements and the reduction of hours as nurses are aging. The data show the demand for nurses falling slightly because of the shrinking population, but the reduction in the supply of full-time nurses is falling faster leading to a significant number of unfilled positions for RNs and APRNs. While there is a surplus of LPNs at present, this will turn around by 2023 as the supply slips below demand. Changes in health care policy/health care reform, patient care delivery, utilization of the nursing workforce, or population shift will affect demand for RNs, APRNs, and LPNs going forward.

Eight Regional Labor Market Areas



Parishes in Regions:

New Orleans: Jefferson, Orleans, Plaquemines, St. Bernard, St. Charles, St. James, St. John the Baptist, St. Tammany

Baton Rouge: Ascension, East Baton Rouge, East Feliciana, Iberville, Livingston, Pointe Coupee, St. Helena, Tangipahoa, Washington, West Baton Rouge, West Feliciana

Houma: Assumption, Lafourche, Terrebonne

Lafayette: Acadia, Evangeline, Iberia, Lafayette, St. Landry, St. Martin, St. Mary, Vermilion

Lake Charles: Allen, Beauregard, Calcasieu, Cameron, Jefferson Davis

Alexandria: Avoyelles, Catahoula, Concordia, Grant, LaSalle, Rapides, Vernon, Winn

Shreveport: Bienville, Bossier, Caddo, Claiborne, DeSoto, Lincoln, Natchitoches, Red River, Sabine, Webster

Monroe: Caldwell, East Carroll, Franklin, Jackson, Madison, Morehouse, Ouachita, Richland, Tensas, Union, West Carroll¹

Adapted from the Louisiana Workforce Commission RLMAs

http://www.laworks.net/LaborMarketInfo/LMI_LaborForceDiversity_RLMA.asp