

# Initial Population and Employment Guide

## Totals for the 2050 MTP

Dec. 18, 2020



# Population

# Population (Full County)

1. Full County  
Population Totals  
(2010-2019)

Data Source: NC OSBM, Certified  
Population Estimates, "Vintage 2019"

## Reference / Comparison Data Sources:

- Woods & Poole
- 2020 Census (*anticipated Summer 2021*)

2. Full County  
Population Projections  
(2020-2039)

Data Source: NC OSBM, Population  
Projections, "Vintage 2019"

3. 2050 Full County  
Population Growth  
Forecasts

Apply linear regression to NC OSBM  
(2010-2039) estimates/projections out  
to 2050

# Population (Full County)

	2045 MTP		2050 MTP (Initial)					
	2013	2045	2016*	2019	2020	2030	2040	2050
Wake County	964,022	1,743,753	1,028,509	1,085,297	1,109,883	1,328,336	1,545,253	1,764,577
Durham County	286,239	446,074	302,879	316,934	320,322	366,111	412,521	458,395
Orange County	139,103	187,059	142,148	146,521	148,610	163,699	178,557	193,600
<b>W-D-O Total</b>	<b>1,389,364</b>	<b>2,376,886</b>	<b>1,473,536</b>	<b>1,548,752</b>	<b>1,578,815</b>	<b>1,858,146</b>	<b>2,136,331</b>	<b>2,416,572</b>
Chatham County	67,492	121,287	70,746	75,705	77,713	94,920	111,689	128,859
Franklin County	62,661	98,617	65,260	70,157	70,212	81,204	92,109	103,156
Granville County	57,774	77,618	59,048	61,081	62,147	69,540	76,506	83,860
Harnett County	123,369	197,393	129,434	134,906	137,358	158,563	179,624	200,747
Johnston County	177,100	357,464	188,749	206,016	212,401	269,736	323,780	379,794
Nash County	94,548	94,418	94,302	96,089	95,923	97,276	98,153	99,182
Person County	39,129	42,368	39,753	40,315	40,529	41,823	43,022	44,223
<b>TRM Study Area Total</b>	<b>1,739,340</b>	<b>3,021,420</b>	<b>2,120,828</b>	<b>2,233,021</b>	<b>2,275,098</b>	<b>2,671,208</b>	<b>3,061,214</b>	<b>3,456,393</b>

\* NC OSBM Certified Population Estimates, "Vintage 2019"

# Population (*Partial* County)

1. Took percentage of population within TRM based on Tract and Block Group trends from 1990, 2000, and 2010 Census

**Data Source:** Decennial Census (1990, 2000, 2010)

2. Created linear trend chart with 1990-2010 percentages

3. Used linear trend line equation from Step 2 to calculate population proportion through 2050

4. Entered total county population for each year from “Draft 2050 MTP Guide Totals” workbook; the same data source was used for partial population forecasts for consistency

## TRM Counties:

- Chatham
- *Durham (full)*
- Franklin
- Granville
- Harnett
- Johnson
- Nash
- *Orange (full)*
- Person
- *Wake (full)*

**Data Source:** NC OSBM Standard Population Estimates, “Vintage 2019”

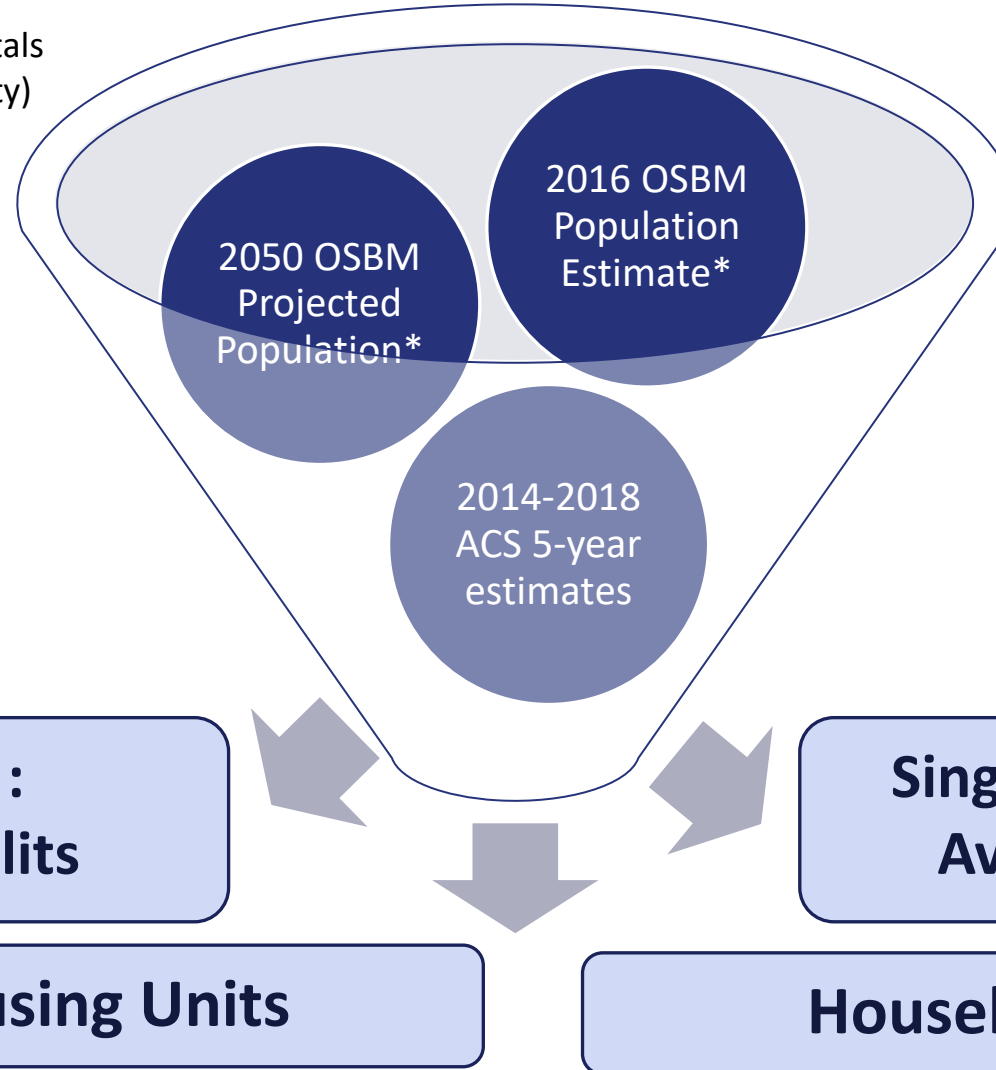
# Population (*Partial County*)

	2045 MTP		2050 MTP (Initial)					
	2013	2045	2016	2019	2020	2030	2040	2050
Wake County	964,022	1,743,753	1,026,952	1,085,297	1,109,883	1,328,336	1,545,253	1,764,577
Durham County	286,239	446,074	302,380	316,934	320,322	366,111	412,521	458,395
Orange County	139,103	187,059	142,138	146,521	148,610	163,699	178,557	193,600
<b>W-D-O Total</b>	<b>1,389,364</b>	<b>2,376,887</b>	<b>1,471,470</b>	<b>1,548,752</b>	<b>1,578,815</b>	<b>1,858,146</b>	<b>2,136,331</b>	<b>2,416,572</b>
Chatham County	41,484	84,066	48,296	49,388	51,079	67,045	84,369	103,661
Franklin County	53,244	86,346	56,512	60,740	60,926	72,066	83,560	95,616
Granville County	33,696	49,392	34,933	39,515	40,602	49,874	59,757	70,859
Harnett County	39,499	65,434	39,330	44,396	45,301	53,428	61,808	70,512
Johnston County	145,881	318,799	159,527	176,913	183,169	242,435	302,800	369,014
Nash County	3,946	5,497	4,280	4,118	4,123	4,309	4,476	4,652
Person County	32,227	34,999	31,856	33,212	33,445	35,105	36,721	38,371
<b>TRM Study Area Total</b>	<b>1,739,340</b>	<b>3,021,420</b>	<b>1,846,204</b>	<b>1,957,033</b>	<b>1,997,460</b>	<b>2,382,408</b>	<b>2,769,822</b>	<b>3,169,256</b>

# Households

# Households (Full and Partial County)

\* Draft/adopted 2050 MTP Guide Totals for Population (Full and Partial County)



**Reference / Comparison Data Sources:**

- Woods & Poole
- 2020 Census (*anticipated Summer 2021*)



# Housing Unit Estimate from Population (*Partial County\**)



\* *Connect 2045* Guide  
Totals did not include  
Full County calculations  
in adopted spreadsheet

	2045 MTP					2050 MTP (Initial)				
	2013 Housing Unit Estimate from Population					2016 Housing Unit Estimate from Population				
	Total Units:	% of housing stock: single family	% of housing stock: multi family	Average household size: single family	Average household size: multi family	Total Units:	% of housing stock: single family**	% of housing stock: multi family**	Average household size: single family	Average household size: multi family
Wake County	360,382	0.70	0.30	2.9	2.1	383,107	0.70	0.30	3.0	2.1
Durham County	111,399	0.65	0.35	2.9	2.0	122,956	0.65	0.35	2.7	2.0
Orange County	57,469	0.65	0.35	2.6	2.1	55,945	0.65	0.35	2.8	2.1
<b>W-D-O Total/Avg</b>	<b>529,249</b>	<b>0.70</b>	<b>0.30</b>	<b>2.8</b>	<b>2.1</b>	<b>562,009</b>	<b>0.75</b>	<b>0.25</b>	<b>2.8</b>	<b>2.0</b>
Chatham County (p)	16,587	0.90	0.10	2.6	1.8	19,289	0.90	0.10	2.5	1.9
Franklin County (p)	20,904	0.95	0.05	2.6	1.7	21,771	0.95	0.05	2.6	1.9
Granville County (p)	12,329	0.90	0.10	2.8	2.0	14,042	0.90	0.10	2.7	2.0
Harnett County (p)	14,007	0.90	0.10	2.9	1.9	14,563	0.95	0.05	2.9	2.2
Johnston County (p)	51,061	0.90	0.10	2.9	2.2	55,618	0.95	0.05	2.9	2.1
Nash County (p)	1,472	1.00	0.00	2.7	1.8	1,564	0.90	0.10	2.6	1.8
Person County (p)	12,390	0.90	0.10	2.6	2.6	13,142	0.90	0.10	2.5	2.1
<b>TRM Study Area Total/Avg</b>	<b>658,000</b>	<b>0.85</b>	<b>0.15</b>	<b>2.8</b>	<b>2.1</b>	<b>701,997</b>	<b>0.90</b>	<b>0.10</b>	<b>2.7</b>	<b>2.0</b>

\*\* Durham, Orange and Wake use *Connect 2045* splits

# Total Households from Population (*Partial County\**)



\* *Connect 2045* Guide  
Totals did not include  
Full County calculations  
in adopted spreadsheet

	2045 MTP					2050 MTP (Initial)				
	2045 Households					2050 Households				
	Net population added 2013-2045	Net new population : single family	Net new population: multi family	Net new occupied units : single family	Net occupied units: multi family	Net population added 2013-2045	Net new population : single family	Net new population: multi family	Net new occupied units : single family	Net occupied units: multi family
Wake County	779,731	597,842	181,889	204,042	87,446	736,068	566,142	169,656	191,923	82,253
Durham County	159,835	115,639	44,196	40,433	21,772	155,516	111,560	43,956	41,036	22,097
Orange County	47,956	33,741	14,216	12,878	6,934	51,452	36,659	14,793	13,163	7,088
<b>W-D-O Total</b>	<b>987,523</b>	<b>747,222</b>	<b>240,301</b>	<b>257,353</b>	<b>116,153</b>	<b>943,036</b>	<b>714,631</b>	<b>228,405</b>	<b>246,122</b>	<b>111,437</b>
Chatham County (p)	42,582	39,534	3,048	15,323	1,703	57,161	52,752	4,409	21,340	2,371
Franklin County (p)	33,103	31,978	1,124	12,347	650	39,501	38,073	1,428	14,588	767
Granville County (p)	15,696	14,576	1,120	5,169	574	33,791	31,191	2,600	11,520	1,280
Harnett County (p)	25,935	24,169	1,766	8,277	920	28,194	27,123	1,072	9,217	485
Johnston County (p)	172,919	159,603	13,315	54,472	6,052	208,991	201,216	7,775	69,005	3,633
Nash County (p)	1,715	1,715	-	640	-	647	602	46	228	25
Person County (p)	2,772	2,494	278	959	107	5,791	5,326	466	2,109	227
<b>TRM Study Area Total</b>	<b>1,282,244</b>	<b>1,021,292</b>	<b>260,952</b>	<b>354,540</b>	<b>126,158</b>	<b>1,317,113</b>	<b>1,070,913</b>	<b>246,200</b>	<b>374,101</b>	<b>120,225</b>

# Employment

# Employment Types and Data Sources

	W&P	US BEA	InfoUSA	Census QWI	LEHD/LODES	QCEW
<b>Employment Types</b>						
Wage & Salary (UI Covered)	X	X	X	X	X	X
Federal Civilian	X	X	?		X	X
Wage & Salary (Not UI Covered) <sup>1</sup>	X	X	?			
Self-Employed (Proprietors)	X	X	X			
<b>Years Available</b>						
Historical	1975-2018	2001-2019	2020*	1993-2020	2002-2018	2000-2020
Projected	2019-2050	N/A	N/A	N/A	N/A	N/A
<b>Geographies Available</b>						
County	X	X	X	X	X	X
Sub-County			X		X	
Establishment			X			X <sup>2</sup>
<b>NAICS Industry Level</b>						
Sector (2 digit)	X	X*	X	X	X	X
Subsector (3 digit)			X	X		X
Industry Group (4 digit)			X	X		X
National Industry (6 digit)			X			

<sup>1</sup> Includes private and government employment exempt from UI coverage. Private employment exempt from UI consists mostly of employment in religious organizations, private education, and private households. Government employment exempt from UI consists mostly of military employees as well as state and local elected officials, members of the judiciary, students and their spouses employed at public colleges and universities, and employees of public railroads.

<sup>2</sup> QCEW establishment-level data is not publicly available but has been requested from NC Dept. of Commerce

## Data Source Key:

**W&P:** Woods & Poole 2020 Data Pamphlet

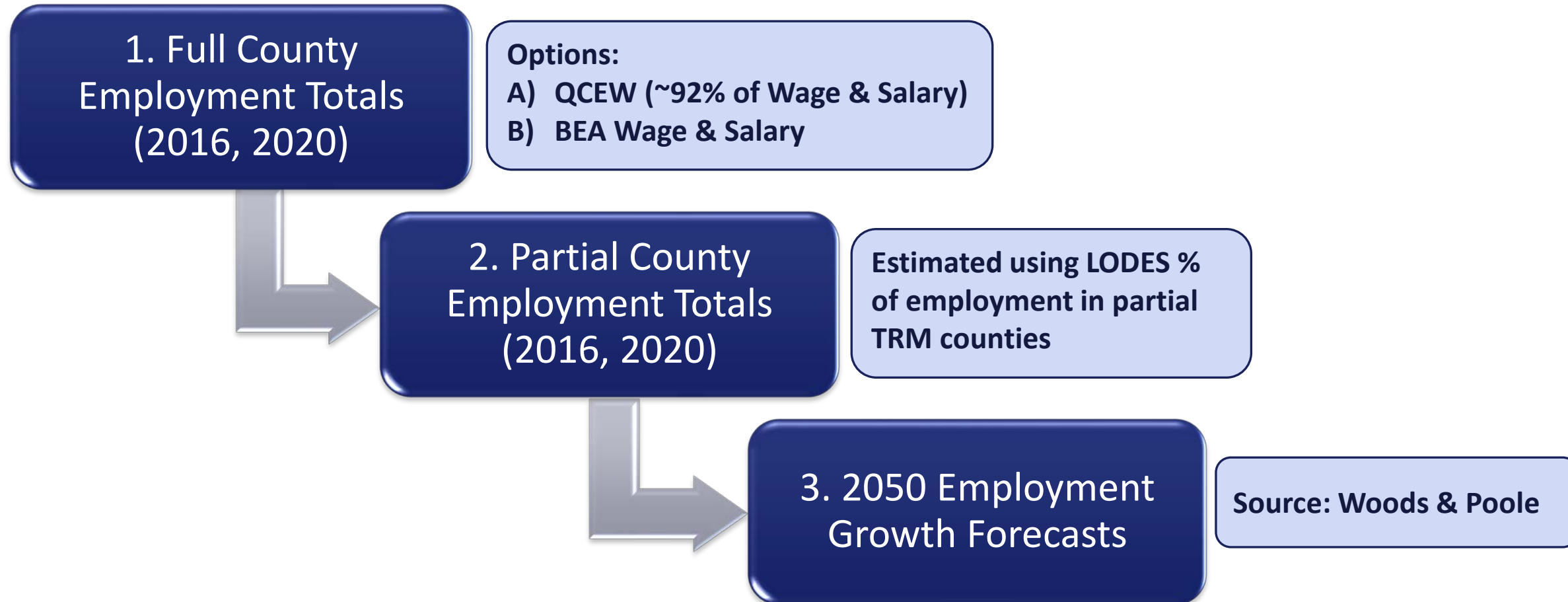
**US BEA:** US Bureau of Economic Analysis, Total Full-Time and Part-Time Employment by NAICS Industry (Table: CAEMP25N)

**Census QWI:** Quarterly Workforce Indicators (Source: LEHD), Beginning-of-Quarter Employment Counts

**LEHD/LODES:** LEHD Origin-Destination Employment Statistics, Work Area Characteristics, All Jobs for All Workers

**QCEW:** Quarterly Census of Employment and Wages, NC Labor and Economic Analysis Division

# County-Level Employment Guide Totals Process



# Full County Employment Totals: QCEW

Full Counties	QCEW			% in Partial TRM Counties		
	2016 Q2	2020 Q1	2050	2016	2020	2050
Wake County	529,869	572,145	1,084,428	100%	100%	100%
Durham County	196,974	220,686	378,617	100%	100%	100%
Orange County	70,186	73,057	110,185	100%	100%	100%
<b>W-D-O Total</b>	<b>797,029</b>	<b>865,888</b>	<b>1,573,230</b>			
Chatham County	14,458	15,693	27,800	63%	65%	78%
Franklin County	11,542	12,409	18,803	94%	95%	96%
Granville County	21,039	20,786	30,735	40%	41%	56%
Harnett County	24,462	26,006	36,473	30%	31%	42%
Johnston County	46,862	52,299	84,228	92%	93%	97%
Nash County	40,344	40,273	45,193	2%	2%	3%
Person County	10,151	9,686	10,947	94%	92%	92%
<b>Full Counties Total</b>	<b>965,887</b>	<b>1,043,040</b>	<b>1,827,408</b>			

**Notes:**

- QCEW employment totals (Source: NC Labor and Economic Analysis Division) account for 92% of BEA Wage & Salary employment on average for the 10 counties in the TRM study area.
- Partial-county percentages for 2016 were calculated using LODES 2016 Census block-level employment; 2020 and 2050 percentages are based on a linear regression of LODES 2013-2018 trend except for Person County, which was held constant at 2018 value.
- 2050 employment by county for QCEW was calculated using Woods & Poole employment growth rates (2020-2050).

# Full County Employment Totals: BEA

Full Counties	BEA Wage & Salary			% in Partial TRM Counties		
	2016	2020	2050	2016	2020	2050
Wake County	574,867	643,362	1,219,411	100%	100%	100%
Durham County	214,306	237,238	407,014	100%	100%	100%
Orange County	79,532	84,149	126,913	100%	100%	100%
<b>W-D-O Total</b>	<b>868,705</b>	<b>964,749</b>	<b>1,753,338</b>			
Chatham County	15,683	16,949	30,026	63%	65%	78%
Franklin County	12,821	13,769	20,863	94%	95%	96%
Granville County	21,918	22,256	32,909	40%	41%	56%
Harnett County	27,308	29,071	40,771	30%	31%	42%
Johnston County	50,464	56,612	91,174	92%	93%	97%
Nash County	42,871	43,752	49,097	2%	2%	3%
Person County	10,989	10,614	11,996	94%	92%	92%
<b>Full Counties Total</b>	<b>1,050,759</b>	<b>1,157,772</b>	<b>2,030,174</b>			

**Notes:**

- Partial-county percentages for 2016 were calculated using LODES 2016 Census block-level employment; 2020 and 2050 percentages are based on a linear regression of LODES 2013-2018 trend except for Person County, which was held constant at 2018 value.
- 2020 BEA Wage & Salary employment by county = Woods & Poole employment growth rate (2019-2020) applied to 2019 (most recent year available).
- 2050 employment by county for BEA was calculated based on Woods & Poole employment growth rates (2020-2050).

# Partial County Employment Guide Totals: QCEW

TRM Study Area	2045 MTP		2050 MTP Option A: QCEW				
	2013	2045	TRMv6 2016	2016 Q2	EA 2020	2020 Q1	2050
Wake County	505,966	939,481	561,954	529,869	547,105	572,145	1,084,428
Durham County	192,877	343,082	217,114	196,974	201,052	220,686	378,617
Orange County	64,212	107,073	71,516	70,186	65,078	73,057	110,185
<b>W-D-O Total</b>	<b>763,055</b>	<b>1,389,636</b>	<b>850,584</b>	<b>797,029</b>	<b>813,235</b>	<b>865,888</b>	<b>1,573,230</b>
Chatham County (p)	9,339	17,926	11,358	9,133	9,355	10,213	21,689
Franklin County (p)	12,993	22,450	14,262	10,849	14,365	11,781	18,048
Granville County (p)	8,373	12,037	12,995	8,399	11,062	8,470	17,155
Harnett County (p)	5,805	9,743	9,027	7,338	5,878	8,164	15,424
Johnston County (p)	40,724	67,056	50,057	43,250	42,687	48,434	82,114
Nash County (p)	300	409	776	613	300	665	1,243
Person County (p)	9,979	11,680	10,779	9,531	9,693	8,938	10,102
<b>TRM Study Area Total</b>	<b>850,568</b>	<b>1,530,937</b>	<b>959,838</b>	<b>886,141</b>	<b>906,575</b>	<b>962,553</b>	<b>1,739,005</b>

**Notes:**

- EA 2020 = Employment Analyst 2020; employment at Anchor Institutions is still under revision.



# Partial County Employment Guide Totals: BEA

TRM Study Area	2045 MTP		2050 MTP Option B: BEA				
	2013	2045	TRMv6 2016	2016	EA 2020	2020	2050
Wake County	505,966	939,481	561,954	574,867	547,105	643,362	1,219,411
Durham County	192,877	343,082	217,114	214,306	201,052	237,238	407,014
Orange County	64,212	107,073	71,516	79,532	65,078	84,149	126,913
<b>W-D-O Total</b>	<b>763,055</b>	<b>1,389,636</b>	<b>850,584</b>	<b>868,705</b>	<b>813,235</b>	<b>964,749</b>	<b>1,753,338</b>
Chatham County (p)	9,339	17,926	11,358	9,907	9,355	11,031	23,425
Franklin County (p)	12,993	22,450	14,262	12,051	14,365	13,072	20,026
Granville County (p)	8,373	12,037	12,995	8,750	11,062	9,069	18,369
Harnett County (p)	5,805	9,743	9,027	8,192	5,878	9,126	17,241
Johnston County (p)	40,724	67,056	50,057	46,574	42,687	52,428	88,886
Nash County (p)	300	409	776	651	300	722	1,350
Person County (p)	9,979	11,680	10,779	10,318	9,693	9,794	11,070
<b>TRM Study Area Total</b>	<b>850,568</b>	<b>1,530,937</b>	<b>959,838</b>	<b>965,147</b>	<b>906,575</b>	<b>1,069,992</b>	<b>1,933,706</b>

**Notes:**

- EA 2020 = Employment Analyst 2020; employment at Anchor Institutions is still under revision.

# Next Steps

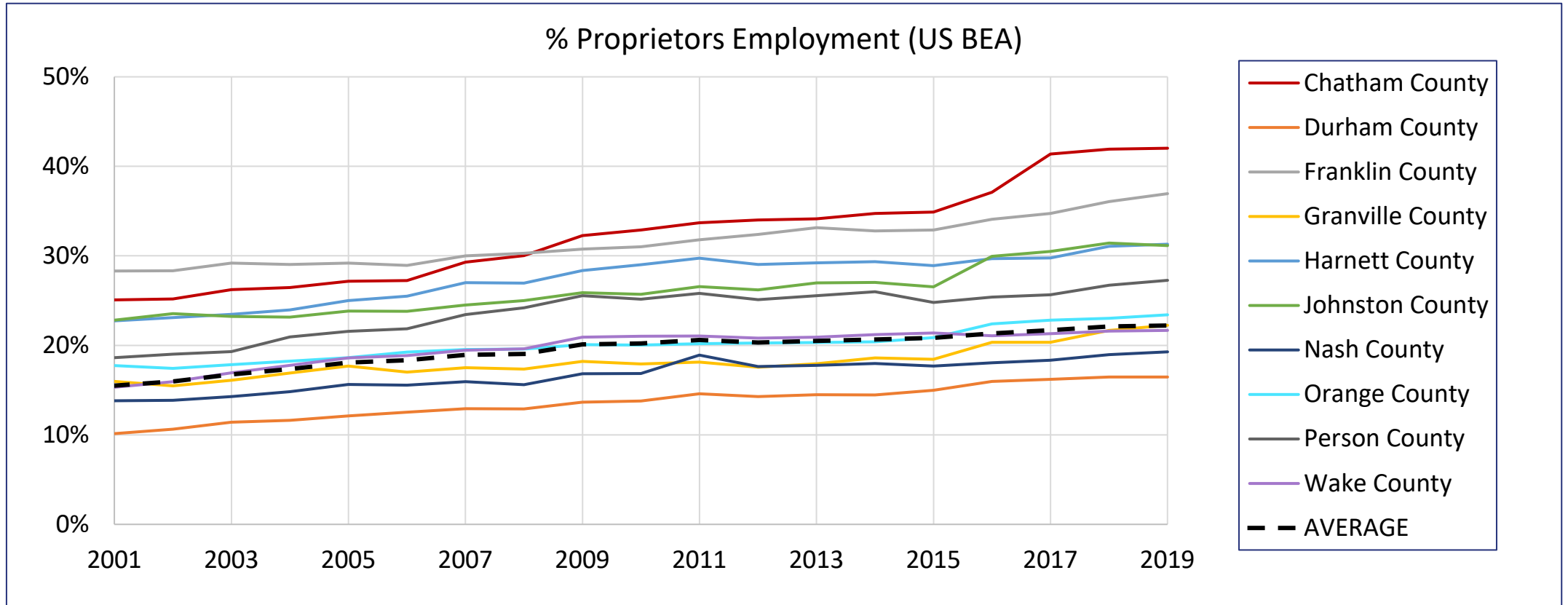
- Settle on initial county guide totals (2016, 2020, 2050) for Deficiency and Needs analysis
- Reconcile TRM and Employment Analyst with 2016 and 2020 guide totals
- Allocate 2020-2050 employment growth between 5 TRM job categories
  - Intent is to use method from 2045 MTP; seeking more detailed documentation
- Adjust guide totals for scenario model runs based on anchor institutions and QCEW establishment-level data

# **Additional Slides**

# 2020-2050 Employment Growth Assumptions

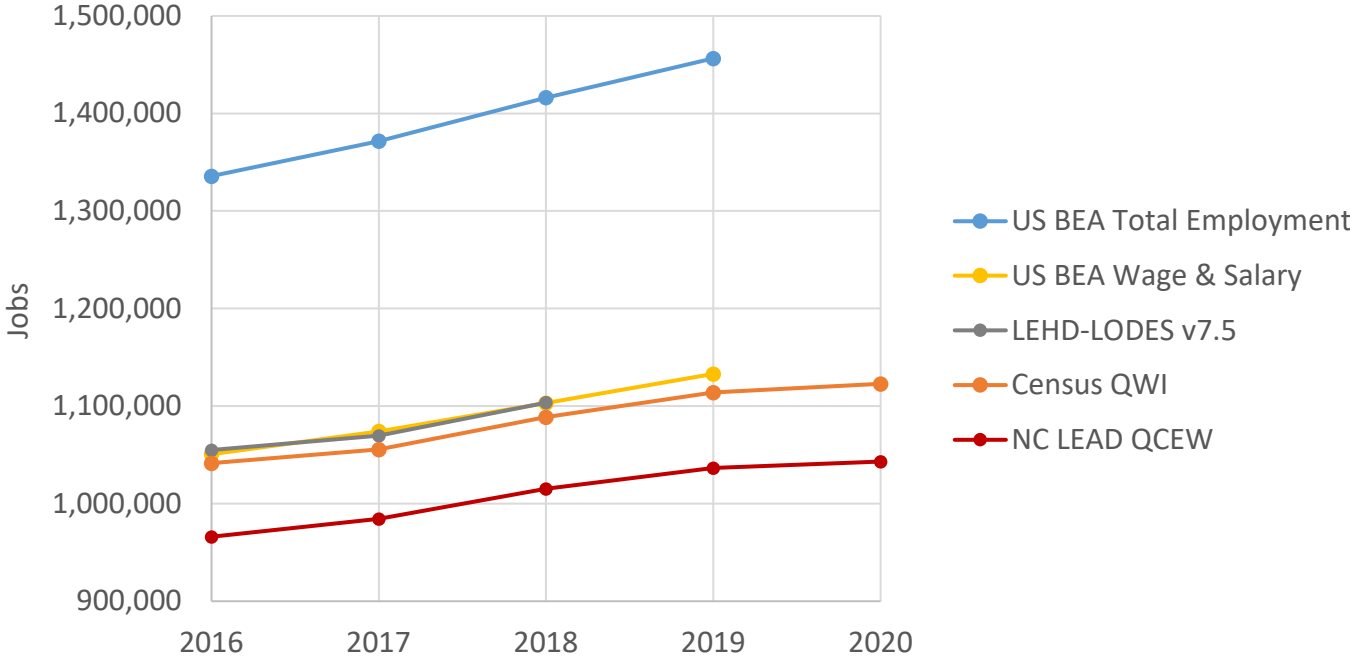
## All Counties:

- Proprietors employment (as % of total employment) will remain constant at 2019 levels between 2020 and 2050

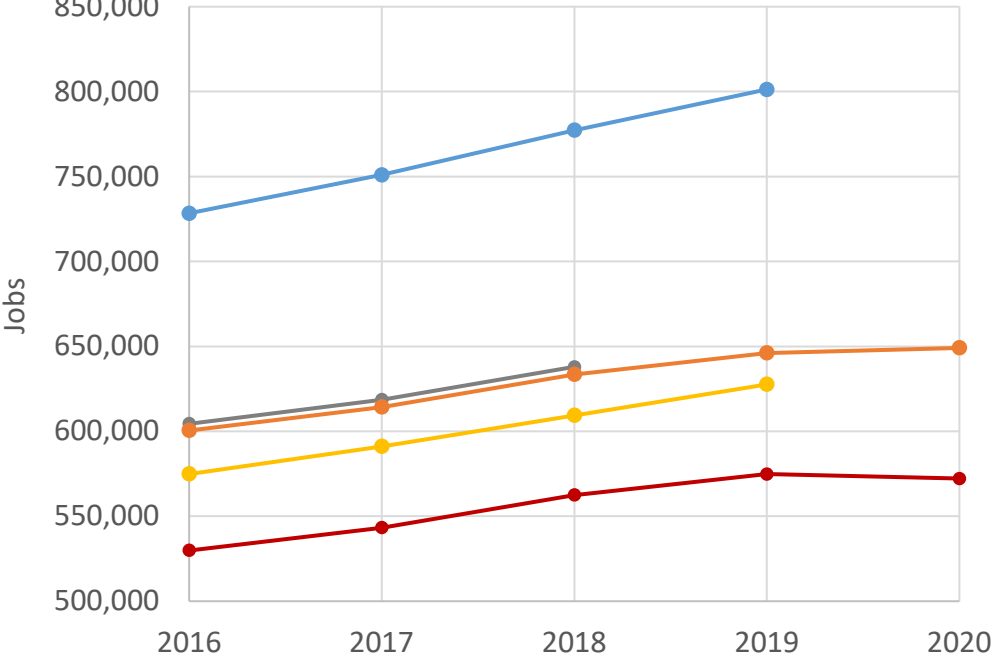


# Comparison of Employment Data Sources

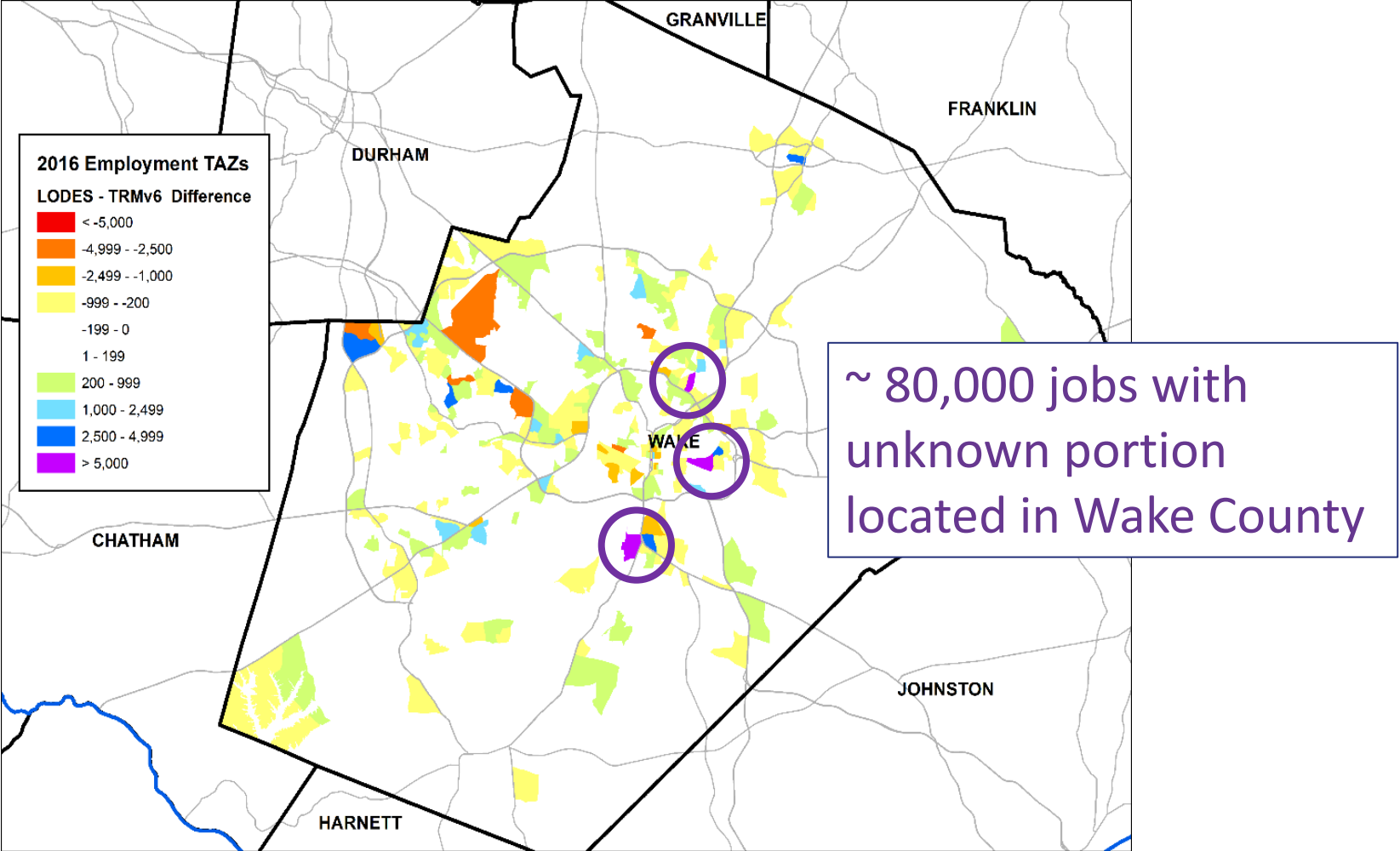
10 TRM Counties



Wake County

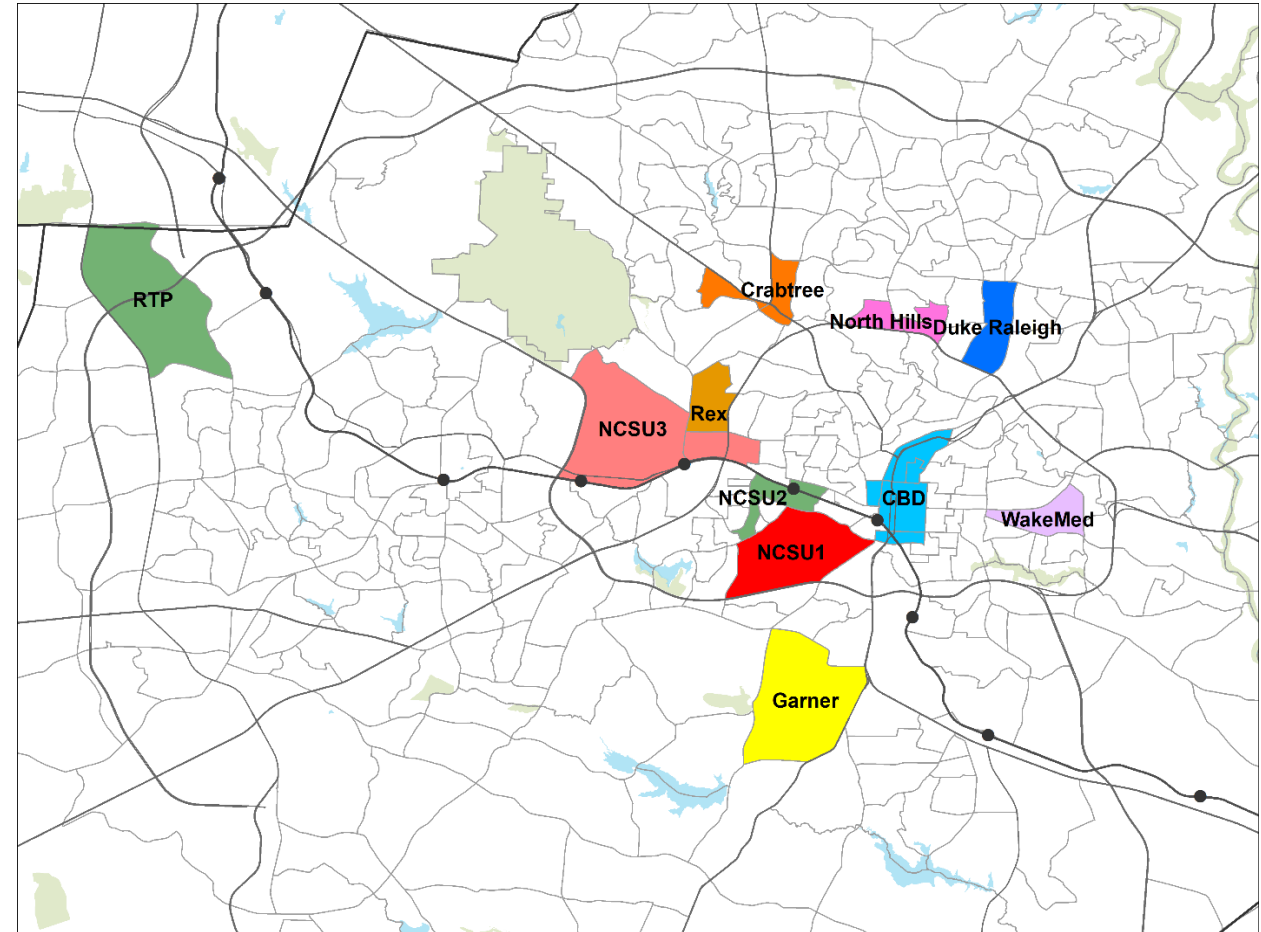


# LEHD-LODES Headquartering of State Employment



# Comparison with Streetlight Data (2020)

	LODES 2017 Jobs	Streetlight HBW Trips	DIFF (LODES - Streetlight)	% Diff
CBD	43,321	25,320	18,001	58%
Crabtree	8,248	2,966	5,282	36%
Duke Raleigh	59,460	6,316	53,144	11%
Garner	25,744	3,482	22,262	14%
NCSU1	3,977	5,877	-1,900	148%
NCSU2	370	7,925	-7,555	2142%
NCSU3	12,675	9,339	3,336	74%
North Hills	5,103	6,020	-917	118%
Rex	8,634	3,863	4,771	45%
RTP	10,568	8,814	1,754	83%
WakeMed	21,690	5,819	15,871	27%
TOTAL	199,790	85,743	114,047	43%



Streetlight data provided by CAMPO on 11/10/20  
 HBW Trips are the average values for weekdays (M-F) in February (2/1/2020 – 2/29/2020) all day (12am – 12am).