



## North Carolina Department of Commerce

Pat McCrory, Governor

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### Measuring Economic Distress in North Carolina

In response to S.L. 2014-100, the Department of Commerce has undertaken a re-examination of the State's County Development Tiers System. Our focus has been on how to assess local/regional economic distress considering events or occurrences that negatively impact the following: county unemployment rates; median household income; population growth rates; and assessed property values. We spent additional time studying the feasibility of making adjustments at the sub-county level, such as U.S. Housing and Urban Development entitlement designations. The review also focused on quality and timeliness as key components in the data selection criteria and recommendations.

After examining our current structure, studying similar measurement systems in other states, and re-evaluating the purpose and uses of the Tiers, we present the following recommendations:

- I. Adopt new data measures**
- II. Remove artificial exemptions**
- III. Utilize an index scoring system**
- IV. Continue assessing distress at the county level and avoid making sub-county adjustments**
- V. Replace the Tier structure with a calculated distress index**
- VI. Calculate the distress index every two years**

#### Background

The Tiers System has evolved over the years – in its intent, use, and reflection of local economic distress. Tiers were first established in 1996 for the sole purpose of implementing tax credits for the William S. Lee Act. The State was divided using five Tiers measured by counties' unemployment rate, average annual household income, and population growth rate. By 2001, exemptions were added to include counties with low populations and/or high poverty; and a provision was included requiring that Tier 1 status (the most "distressed" tier) be maintained for qualifying counties for a minimum of two consecutive years. In 2007, Article 3J replaced the William S. Lee Act for awarding tax credits for business investments. The number of Tiers was reduced to three and adjusted property tax base was added to the Tier assignment formula.

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In the absence of 3J job development tax credits, *county Tier designations have much less impact on the Department of Commerce's economic development programs or activities.* The greatest impact a county's Tier designation has is in:

- determining the qualifying amount for a JDIG award;
- distributing Industrial Development Fund monies;
- establishing eligibility for a JMAC award;
- allocating financial and planning assistance through the Main Street Program;
- determining award amounts for OneNC; and
- assessing a county's required match for or a CDBG grant.

Since its development, the Tiers have been included in a broad range of non-economic development programs – from the spay and neuter program in the Department of Agriculture to institutional performance accountability within the State Board of Community Colleges. It is believed that a number of private non-profit organizations also use the Tier system in their administration of services and awards.

#### Analysis & Recommendations

Any re-evaluation of the Tiers system must take into account the system's ability to achieve certain goals. The Department of Commerce strongly believes that the Tiers should:

- Align data elements with the State's economic development goals;
- Use current, reliable, timely, and high-quality data;
- Implement a methodology that is easy to understand;
- Eliminate special provisions/exemptions that do not help identify distress or meet economic development goals; and
- Accurately identify areas of distress.

To help identify areas of “distress,” a definition is required. For the purposes of this report the Department of Commerce defines *economic distress* as “a condition arising from: low quality jobs; a large unemployed population; a large share of households having difficulty economically supporting themselves; and/or a lack of economic mobility.” With this definition and our guiding principles outlined, the Department of Commerce recommends the following:

## I. Adopt new data measures

The current data measures in the Tiers calculations should be replaced with data measures that are as timely as possible, meet a high quality standard, and better assess distress. The new factors focus on three drivers of economic distress: joblessness, job quality, and household income.

Variable	Application to Economic Distress	Frequency	Source
Annual Unemployment Rate	Joblessness	Monthly	BLS
Average Annual Wage	Job quality	Quarterly	BLS
Median Household Income	Household economic well-being	Annual	Census

The Department recommends dropping adjusted property tax base per capita and population growth from the Tiers calculation. While important measures, these are more symptomatic of poor economic conditions and less root causes of distress. County’s average annual wages should be included in their place. This data better assesses local job quality and is updated every quarter. The wage data stems from quarterly contribution reports filed by nearly all employers (estimated 95% of NC employers). This measures the value of jobs in an area, which is different from household income. Aside from focusing on individuals rather than a households, the average annual wage is tied to the county where the job resides, not where the employee lives. This can better depict economic conditions for a county where its residents earn good incomes but travel outside the county to do so.

County annual unemployment rates should continue as a metric of distress since it best measures the degree to which the local labor force is attached to the county economy (i.e. joblessness.) These rates are computed by the Department of Commerce in cooperation with the U.S. Bureau of Labor Statistics (BLS). This data is available for the previous month and meets very strict BLS estimation standards. US Census’s American Community Survey (ACS) also computes an unemployment rate for counties and sub-county geographies, but the data differs from what is reported statewide and nationally through the BLS and is considered less accurate. The ACS relies on a five-year average of sample data with high margins of error – e.g. Tyrrell County is estimated to have an unemployment rate of 18.2% plus or minus 6.4 percentage points for 2009-2013 (the latest time period available). At smaller geographies, such as Census Tracts, the margins of error can be much greater – sometimes larger than the estimates themselves.

While there are some concerns with the time lag involved in the Median Household Income data derived from the Census’s Small Area Income and Poverty Estimates (SAIPE), it is the best and most timely data measuring household income and should continue as a distress factor. The data has lower margins of error than poverty estimates through the SAIPE or through the ACS at sub-county levels.

## **II. Remove artificial exemptions**

The purpose of the Tiers has been to identify areas of distress and local needs for economic improvement. The exemptions for population and poverty rates alter the Tiers rankings in ways that do not necessarily reflect distress or the economic development goals of North Carolina. For instance, Camden County is the 19<sup>th</sup> least-distressed county in the state, based on the current 2015 Tier data and methodology. However, Camden qualifies as a Tier 1 solely because it has fewer than 12,000 residents. Since encouraging county population-growth (or discouraging small population sizes) is not an economic development goal of the Department of Commerce or the State, it should be excluded as a factor in determining distress. Including poverty is unnecessary since it is already taken into account to a degree by measuring household income and is somewhat duplicative to add as an exemption.

## **III. Utilize an index scoring system**

The current methodology for calculating the Tiers is to individually rank each variable for all counties and sum up each county's total. This does not accurately reflect the various degrees of distress when comparing counties; thus potentially allowing big differences in rankings to result from very minor differences in performance. For instance, in the current 2015 Tiers calculation, the difference in the unemployment rate between the county with the 41<sup>st</sup> highest rate (Avery) and the 50<sup>th</sup> highest rate (Catawba) was 0.15 percentage points. This was the same margin of difference between the 69<sup>th</sup> highest rate (Transylvania) and the 70<sup>th</sup> (Lincoln). When scoring based on rankings, a nine-point difference in ranking can sometimes be enough for a county to change Tiers.

A better method is to create an index in which all counties are judged against the state average. The scores for each data measure are then averaged together, where the State average equals 1.0. Those counties out-performing the State would be greater than 1.0 and those underperforming would be less than 1.0. The advantage of this system is that the index value shows the intensity of a county's divergence from the state average, rather than just its order in the ranking. See Appendix A for a list of county index scores and their current 2015 Tier.

## **IV. Continue assessing distress at the county level and avoid making sub-county adjustments**

The Department of Commerce's Labor and Economic Analysis Division (LEAD) examined the potential of using sub-county geographies and data sets, including the U.S. Housing and Urban Development's Empowerment and Enterprise Zones. Data quality and timeliness are of significant concern at sub-county levels such as zip codes, census tracts, and block groups. The U.S. Census's American Community Survey (ACS) is the primary source of economic data at small geographies. Due to sampling, data for areas with small populations are averaged over five years. For some factors that

do not have much year-to-year variance, such as adult educational attainment, the source is fine. However, the unemployment rate can swing significantly over such a period and is too long to consider using to measure current economic distress. In addition, ACS data at sub-county geographies can have significant margins of error – sometimes larger than the estimate itself. For instance, the 2009-2013 average estimate of the number of unemployed persons in Census Tract 613.02 in Iredell County was 76 people, plus or minus 78 people.

LEAD also researched neighboring and competitor states for models. Arkansas, Georgia, Mississippi, South Carolina, and Tennessee utilize either a three- or four-tier system for segmenting counties – all for the main purpose of implementing tax credits. *No state was found anywhere maintaining a Tiers system for economic development that was not tied to a tax credit.* Only Georgia has any sub-county flexibility – which utilizes ACS poverty rates by Census Tract and can have high margins of error. LEAD found no acceptable data set that would meet our criteria of being current, reliable, and high-quality. In addition, the Department of Commerce feels that any addition of sub-county consideration is more likely to displace economic activity that would happen naturally (moving it from one part of the county to another) than to incent new activity to occur.

If the legislature feels compelled to address low-wealth segments of counties, the Department of Commerce suggests examining multi-county regions instead. South Carolina currently permits one county to join with another to form a “multi-county industrial park.” Under this arrangement, a county agrees to share the property taxes with a “partner” county. This partnership raises the value of permissible tax credits by \$1,000 per job. North Carolina allows similar agreements and has examples of multi-county collaborations for the purpose of qualifying for tax credits.

## **V. Replace the Tier structure with a calculated distress index**

Since the Tiers system is used by several programs known and unknown throughout state government and the private sector, there is reason for the State to continue maintaining and reporting measures of distress at the county level. However, due to the diversity of programs using the Tiers and the difference in purpose and intent of the system from its origin, it is recommended that North Carolina make a change. The Department of Commerce recommends replacing the Tiers system with the previously mentioned distress index, which can be scored, ranked, and presented similarly to the Tiers but without the state-certified divisions. The advantage of this would be that existing programs that utilize the Tiers can establish their own cut-offs for determining distress and allocating resources based on their needs. For instance, if a program wants to divide counties using the 40-40-20 county Tier formula, they can continue to do so using the distress index and ranking. If a program wants to focus efforts on only those counties performing below the State benchmark, regardless of the number of counties that may include, they can.

Two statutes important to the Department of Commerce already use this type of methodology. Current laws that reference the Tiers statute and regulate the distribution of grants through both the Industry Development Fund and CDGB are based on the top 25 most distressed counties, not the actual Tier designation.

## **VI. Calculate the distress index every two years**

Significant economic improvements often take more than one year to happen. This is the reason why the Tiers statute was changed to allow counties to maintain Tier 1 status for a minimum of two consecutive years. Rather than calculating rankings annually, the Department of Commerce recommends deriving a new distress index every two years (based off of the most recent year's data). This will give some certainty to counties, program administrators, economic developers, and businesses about their economic standing and allow more time for programs to make an impact.

However the State chooses to assess local needs, the Department of Commerce advises on focusing on the guiding principles built upon in this report:

- Align data elements with the State's economic development goals;
- Use current, reliable, timely, and high-quality data;
- Implement a methodology that is easy to understand;
- Eliminate special provisions/exemptions that do not help identify distress or meet economic development goals; and
- Accurately identify areas of distress.

We believe these recommendations follow a reasoned, data-driven, and logical approach for improving upon the Tiers and provides valuable insight on ways to improve North Carolina's economic development system.

*Appendix A*

**Proposed Economic Distress Index vs Current 2015 Tier\***

County	12-Month Unemployment Rate Index (Oct 2013-Sept 2014)	Ave Annual Wage Index (Jul 2013-June 2014)	Median Household Income Index (2012)	Distress Index*	Index Rank (1 = Most Distressed)	Current 2015 Tier Distress Score (1 = Most Distressed)	Current 2015 Tier Distress Rank (1 = Most Distressed)	Current 2015 Tier
Alamance	1.02	0.81	0.92	<b>0.916</b>	71	228	66	<b>2</b>
Alexander	1.07	0.68	0.88	<b>0.877</b>	55	203	50	<b>2</b>
Alleghany	0.89	0.62	0.75	<b>0.755</b>	19	166	32	<b>1</b>
Anson	0.84	0.71	0.72	<b>0.754</b>	18	67	10	<b>1</b>
Ashe	0.82	0.70	0.75	<b>0.760</b>	20	177	38	<b>1</b>
Avery	0.90	0.63	0.77	<b>0.767</b>	22	217	59	<b>2</b>
Beaufort	0.83	0.78	0.85	<b>0.820</b>	39	174	37	<b>1</b>
Bertie	0.71	0.65	0.67	<b>0.679</b>	4	25	1	<b>1</b>
Bladen	0.68	0.74	0.72	<b>0.718</b>	9	99	14	<b>1</b>
Brunswick	0.91	0.79	1.08	<b>0.924</b>	74	321	88	<b>3</b>
Buncombe	1.34	0.85	0.95	<b>1.049</b>	92	330	90	<b>3</b>
Burke	0.93	0.76	0.85	<b>0.845</b>	47	143	27	<b>2</b>
Cabarrus	1.11	0.83	1.23	<b>1.054</b>	93	331	91	<b>3</b>
Caldwell	0.91	0.73	0.78	<b>0.804</b>	31	123	22	<b>2</b>
Camden	0.99	0.89	1.19	<b>1.022</b>	88	290	81	<b>1</b>
Carteret	1.08	0.67	1.08	<b>0.943</b>	78	342	96	<b>3</b>
Caswell	0.95	0.67	0.88	<b>0.831</b>	46	179	39	<b>1</b>
Catawba	0.92	0.84	0.93	<b>0.896</b>	60	221	61	<b>2</b>
Chatham	1.45	0.74	1.23	<b>1.140</b>	96	371	100	<b>3</b>
Cherokee	0.76	0.66	0.69	<b>0.704</b>	7	128	23	<b>2</b>
Chowan	0.82	0.74	0.83	<b>0.796</b>	27	167	33	<b>1</b>
Clay	1.02	0.63	0.82	<b>0.824</b>	41	265	74	<b>1</b>
Cleveland	0.93	0.79	0.85	<b>0.855</b>	49	158	30	<b>2</b>
Columbus	0.75	0.73	0.75	<b>0.742</b>	15	68	11	<b>1</b>
Craven	0.86	0.89	1.04	<b>0.931</b>	75	209	53	<b>2</b>
Cumberland	0.85	0.88	1.00	<b>0.909</b>	68	187	42	<b>2</b>
Currituck	1.23	0.74	1.21	<b>1.062</b>	94	368	99	<b>2</b>
Dare	0.86	0.67	1.15	<b>0.890</b>	57	303	85	<b>2</b>
Davidson	0.97	0.77	0.97	<b>0.902</b>	63	222	62	<b>2</b>
Davie	1.10	0.73	1.11	<b>0.980</b>	83	274	76	<b>2</b>
Duplin	0.91	0.71	0.80	<b>0.804</b>	32	168	34	<b>2</b>
Durham	1.23	1.47	1.13	<b>1.277</b>	99	337	94	<b>3</b>
Edgecombe	0.58	0.75	0.71	<b>0.678</b>	3	31	3	<b>1</b>
Forsyth	1.05	1.06	0.95	<b>1.020</b>	87	271	75	<b>3</b>
Franklin	1.08	0.83	0.94	<b>0.950</b>	80	242	69	<b>2</b>
Gaston	0.96	0.82	0.92	<b>0.903</b>	64	202	47	<b>2</b>
Gates	0.99	0.66	0.98	<b>0.878</b>	56	180	40	<b>1</b>

County	12-Month Unemployment Rate Index (Oct 2013-Sept 2014)	Ave Annual Wage Index (Jul 2013-June 2014)	Median Household Income Index (2012)	Distress Index*	Index Rank (1 = Most Distressed)	Current 2015 Tier Distress Score (1 = Most Distressed)	Current 2015 Tier Distress Rank (1 = Most Distressed)	Current 2015 Tier
Graham	0.56	0.70	0.73	<b>0.661</b>	2	133	25	<b>1</b>
Granville	0.96	0.90	1.02	<b>0.959</b>	81	227	65	<b>2</b>
Greene	0.95	0.67	0.78	<b>0.798</b>	28	102	15	<b>1</b>
Guilford	0.95	0.99	0.96	<b>0.964</b>	82	253	71	<b>2</b>
Halifax	0.66	0.72	0.69	<b>0.689</b>	6	44	5	<b>1</b>
Harnett	0.87	0.71	1.00	<b>0.860</b>	51	217	59	<b>2</b>
Haywood	1.20	0.74	0.89	<b>0.943</b>	77	279	80	<b>3</b>
Henderson	1.33	0.79	1.00	<b>1.041</b>	91	317	87	<b>3</b>
Hertford	0.84	0.77	0.70	<b>0.773</b>	23	66	9	<b>1</b>
Hoke	0.92	0.78	0.99	<b>0.897</b>	61	230	67	<b>2</b>
Hyde	0.84	0.64	0.78	<b>0.753</b>	17	213	56	<b>1</b>
Iredell	1.03	0.97	1.10	<b>1.034</b>	90	314	86	<b>3</b>
Jackson	1.13	0.72	0.82	<b>0.891</b>	58	278	79	<b>1</b>
Johnston	1.15	0.79	1.08	<b>1.005</b>	86	295	82	<b>3</b>
Jones	0.89	0.72	0.78	<b>0.793</b>	26	197	45	<b>1</b>
Lee	0.78	0.83	0.96	<b>0.857</b>	50	209	53	<b>2</b>
Lenoir	0.89	0.75	0.79	<b>0.806</b>	34	106	16	<b>1</b>
Lincoln	1.02	0.77	1.06	<b>0.947</b>	79	277	78	<b>3</b>
Macon	0.95	0.70	0.81	<b>0.819</b>	38	236	68	<b>1</b>
Madison	1.22	0.67	0.83	<b>0.909</b>	67	263	73	<b>2</b>
Martin	0.86	0.66	0.73	<b>0.750</b>	16	95	13	<b>1</b>
McDowell	0.91	0.72	0.81	<b>0.813</b>	36	169	35	<b>2</b>
Mecklenburg	0.98	1.34	1.23	<b>1.183</b>	97	331	91	<b>3</b>
Mitchell	0.83	0.71	0.80	<b>0.778</b>	25	148	28	<b>2</b>
Montgomery	0.91	0.73	0.78	<b>0.806</b>	33	169	35	<b>1</b>
Moore	1.04	0.80	1.10	<b>0.980</b>	84	329	89	<b>3</b>
Nash	0.75	0.81	0.91	<b>0.821</b>	40	122	21	<b>1</b>
New Hanover	1.04	0.90	1.13	<b>1.023</b>	89	341	95	<b>3</b>
Northampton	0.80	0.71	0.69	<b>0.733</b>	14	79	12	<b>1</b>
Onslow	0.99	0.71	0.98	<b>0.894</b>	59	245	70	<b>2</b>
Orange	1.43	1.13	1.17	<b>1.245</b>	98	346	97	<b>3</b>
Pamlico	0.88	0.61	0.91	<b>0.799</b>	30	204	51	<b>2</b>
Pasquotank	0.73	0.78	0.97	<b>0.827</b>	43	140	26	<b>1</b>
Pender	0.89	0.71	0.96	<b>0.852</b>	48	276	77	<b>3</b>
Perquimans	0.84	0.69	0.94	<b>0.824</b>	42	225	64	<b>1</b>
Person	0.98	0.82	0.94	<b>0.913</b>	70	216	58	<b>2</b>
Pitt	0.99	0.90	0.87	<b>0.919</b>	72	202	47	<b>2</b>
Polk	1.39	0.64	0.92	<b>0.985</b>	85	297	83	<b>2</b>
Randolph	1.06	0.74	0.93	<b>0.908</b>	65	214	57	<b>2</b>
Richmond	0.76	0.71	0.68	<b>0.715</b>	8	48	6	<b>1</b>
Robeson	0.69	0.69	0.66	<b>0.682</b>	5	38	4	<b>1</b>
Rockingham	0.87	0.78	0.83	<b>0.828</b>	44	119	19	<b>1</b>



County	12-Month Unemployment Rate Index (Oct 2013-Sept 2014)	Ave Annual Wage Index (Jul 2013-June 2014)	Median Household Income Index (2012)	Distress Index*	Index Rank (1 = Most Distressed)	Current 2015 Tier Distress Score (1 = Most Distressed)	Current 2015 Tier Distress Rank (1 = Most Distressed)	Current 2015 Tier
Rowan	0.98	0.88	0.89	<b>0.921</b>	73	207	52	<b>2</b>
Rutherford	0.74	0.70	0.76	<b>0.732</b>	13	114	18	<b>1</b>
Sampson	1.05	0.73	0.83	<b>0.869</b>	54	185	41	<b>2</b>
Scotland	0.53	0.75	0.70	<b>0.660</b>	1	27	2	<b>1</b>
Stanly	1.08	0.71	0.95	<b>0.912</b>	69	223	63	<b>2</b>
Stokes	1.14	0.65	0.94	<b>0.909</b>	66	202	47	<b>2</b>
Surry	0.96	0.71	0.82	<b>0.828</b>	45	148	28	<b>1</b>
Swain	0.76	0.72	0.80	<b>0.760</b>	21	201	46	<b>1</b>
Transylvania	0.99	0.70	0.90	<b>0.864</b>	52	262	72	<b>2</b>
Tyrrell	0.91	0.60	0.68	<b>0.729</b>	12	132	24	<b>1</b>
Union	1.15	0.87	1.36	<b>1.125</b>	95	335	93	<b>3</b>
Vance	0.70	0.72	0.76	<b>0.728</b>	11	54	7	<b>1</b>
Wake	1.28	1.13	1.42	<b>1.279</b>	100	365	98	<b>3</b>
Warren	0.73	0.70	0.73	<b>0.719</b>	10	113	17	<b>1</b>
Washington	0.84	0.86	0.72	<b>0.809</b>	35	61	8	<b>1</b>
Watauga	1.10	0.74	0.85	<b>0.899</b>	62	298	84	<b>3</b>
Wayne	0.98	0.76	0.86	<b>0.867</b>	53	189	43	<b>2</b>
Wilkes	0.89	0.72	0.78	<b>0.798</b>	29	165	31	<b>2</b>
Wilson	0.70	0.91	0.83	<b>0.814</b>	37	121	20	<b>1</b>
Yadkin	1.23	0.69	0.89	<b>0.933</b>	76	191	44	<b>2</b>
Yancey	0.90	0.63	0.80	<b>0.777</b>	24	211	55	<b>2</b>

\* Each index value is a representation of the county's performance relative to the State's. For all variables, a higher index value indicates greater prosperity and a value of 1.00 is equivalent to the State's. For variables in which *higher* values indicate greater prosperity (e.g. average annual wage & median household income), the county values are divided by the State value. So if the State average annual wage is \$50,000 and a county's average wage is \$25,000, the value of the index would also be 0.5. For the unemployment rate, where a *lower* rate indicates greater prosperity, the state value is divided by each county's. For example, if the state average unemployment rate is 5%, and a county's unemployment rate is 10%, the value of the index would be 0.5, indicating that the State's rate is 50% lower than the county's. For Alamance County:

1. Their 12-Month Unemployment Rate Index (1.02) indicates North Carolina's rate (6.7%) is 2% *higher* than the county's (6.5%);
2. Their Average Annual Wage Index (0.81) indicates a wage (\$35,916) that is 81% of NC's (\$44,297); and
3. Their Median Household Income Index (0.92) indicates income (\$41,394) that is 92% of NC's (\$45,195).

The three indices are averaged to reach a Distress Index Score for each county. A total index score greater than 1.00 is considered more prosperous than the State, while a score lower than 1.00 is considered less prosperous.