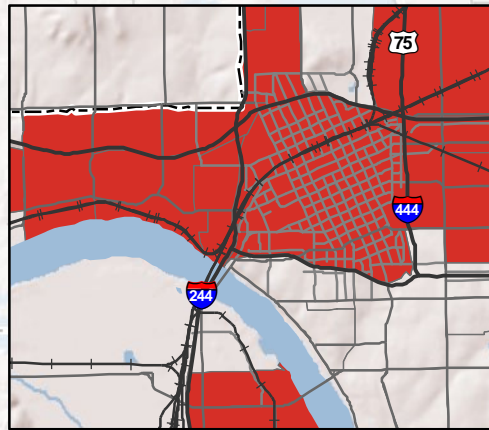


# Economically Distressed Areas\*

## Cluster/Outlier Analysis

Downtown Tulsa Inset



### Legend

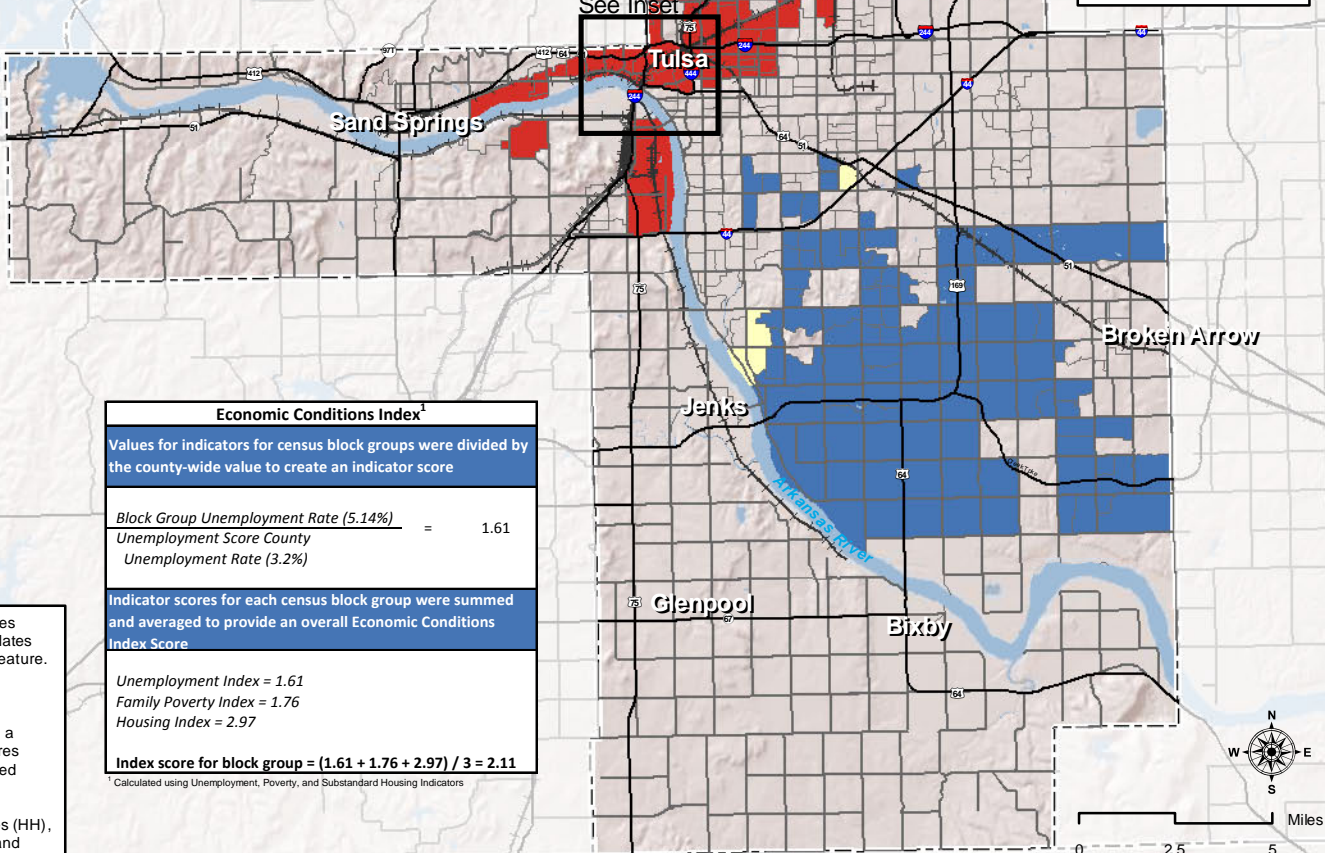
- Expressways and Highways
- Arterial Streets
- Railroads
- Bodies of Water
- County Boundaries

### Block Group Cluster/Outlier Analysis\*\*

- No Significant Clustering
- HH - Concentration of Block Groups with High Distress Score Values
- HL - Areas of High Distress surrounded by Areas of Low Distress
- LL - Concentration of Block Groups with Low Distress Score Values

\* Development of the economic conditions index compares census block group demographics to the average score for the county. The housing index is the average of 3 variables to measure for substandard environments. The 3 variables included homes built before 1970, housing value for all owner-occupied housing units less than \$90,000, and homes lacking complete plumbing. The housing index was then averaged along with the family poverty index and the unemployment index to create an overall economic conditions index. The higher the index score, the greater the level of distress in a census block.

See Economic Conditions Index Table at left for calculation example.



| Economic Conditions Index <sup>1</sup>  |        |
|---|--------|
| Values for indicators for census block groups were divided by the county-wide value to create an indicator score            |        |
| $\frac{\text{Block Group Unemployment Rate (5.14\%)}}{\text{Unemployment Score County Unemployment Rate (3.2\%)}}$          | = 1.61 |
| Indicator scores for each census block group were summed and averaged to provide an overall Economic Conditions Index Score |        |
| Unemployment Index = 1.61   |        |
| Family Poverty Index = 1.76   |        |
| Housing Index = 2.97  |        |
| <b>Index score for block group = <math>(1.61 + 1.76 + 2.97) / 3 = 2.11</math></b>   |        |

<sup>1</sup> Calculated using Unemployment, Poverty, and Substandard Housing Indicators

\*\* Given a set of weighted features, the Cluster and Outlier Analysis tool identifies clusters of features with values similar in magnitude. The tool also identifies spatial outliers. To do this, the tool calculates a Local Moran's I value, a Z score, a p-value, and a code representing the cluster type for each feature. The Z score and p-value represent the statistical significance of the computed index value.

### Interpretation

A positive value for I indicates that the feature is surrounded by features with similar values. Such a feature is part of a cluster. A negative value for I indicates that the feature is surrounded by features with dissimilar values. Such a feature is an outlier. The Local Moran's index can only be interpreted within the context of the computed Z score or p-value.

The COType field distinguishes between a statistically significant (0.05 level) cluster of high values (HH), cluster of low values (LL), outlier in which a high value is surrounded primarily by low values (HL), and outlier in which a low value is surrounded primarily by high values (LH).

