

# Assessing Fiscal Condition for Municipalities in Nebraska Using Data Visualization

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## Abstract

Fiscal health has become more and more important for governments at all levels after the Great Recession of 2007-09. Municipalities with small budget size may be even more vulnerable than large municipalities when facing fiscal distress or crisis. Thus, it is necessary to assess the fiscal condition of local governments.

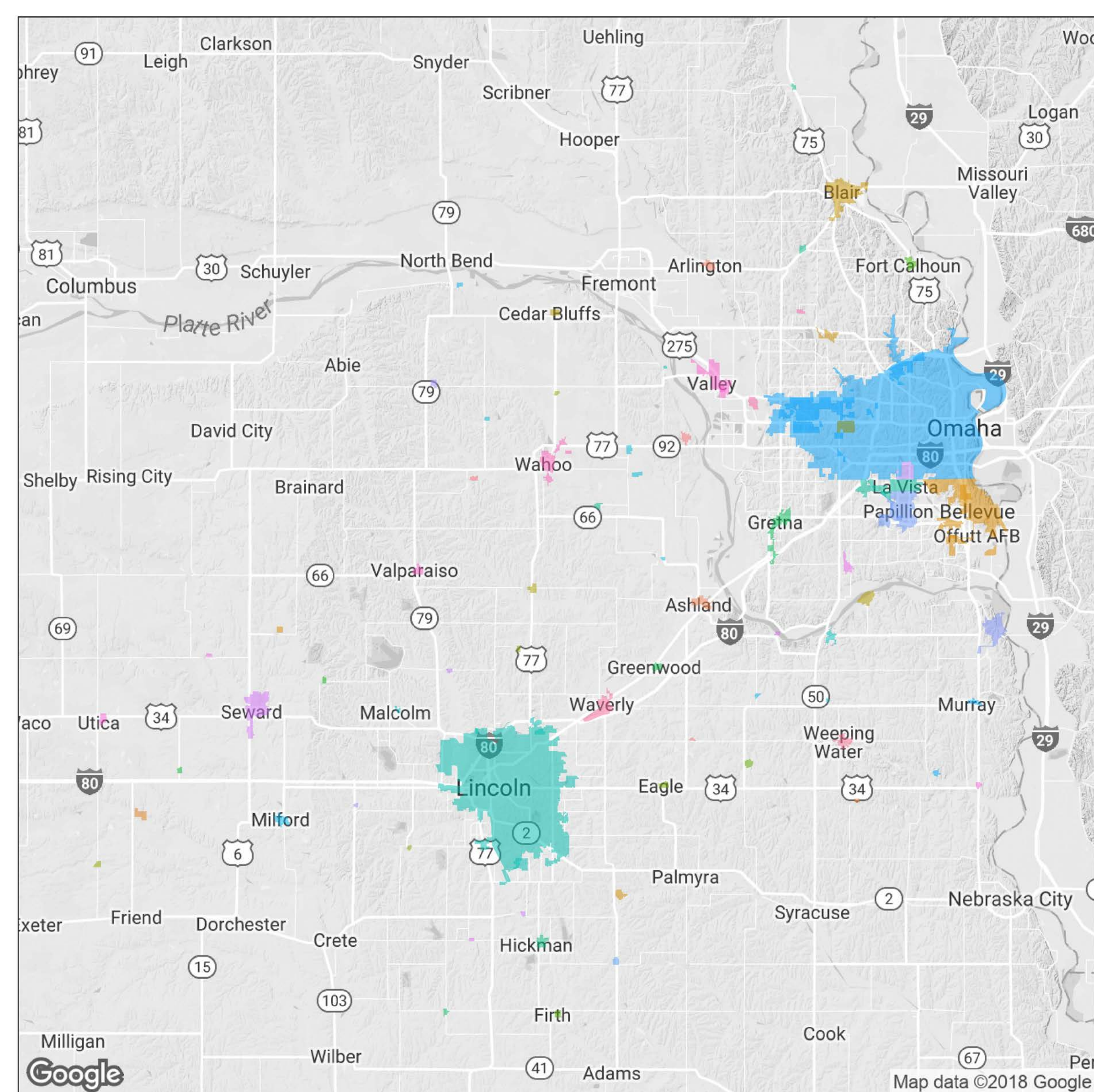
We focus on five indicators of fiscal condition:

- (1) revenue-expenditure ratio,
- (2) debt per capita,
- (3) debt-property value ratio,
- (4) cash reserve-expenditure ratio, and
- (5) property tax-revenue ratio

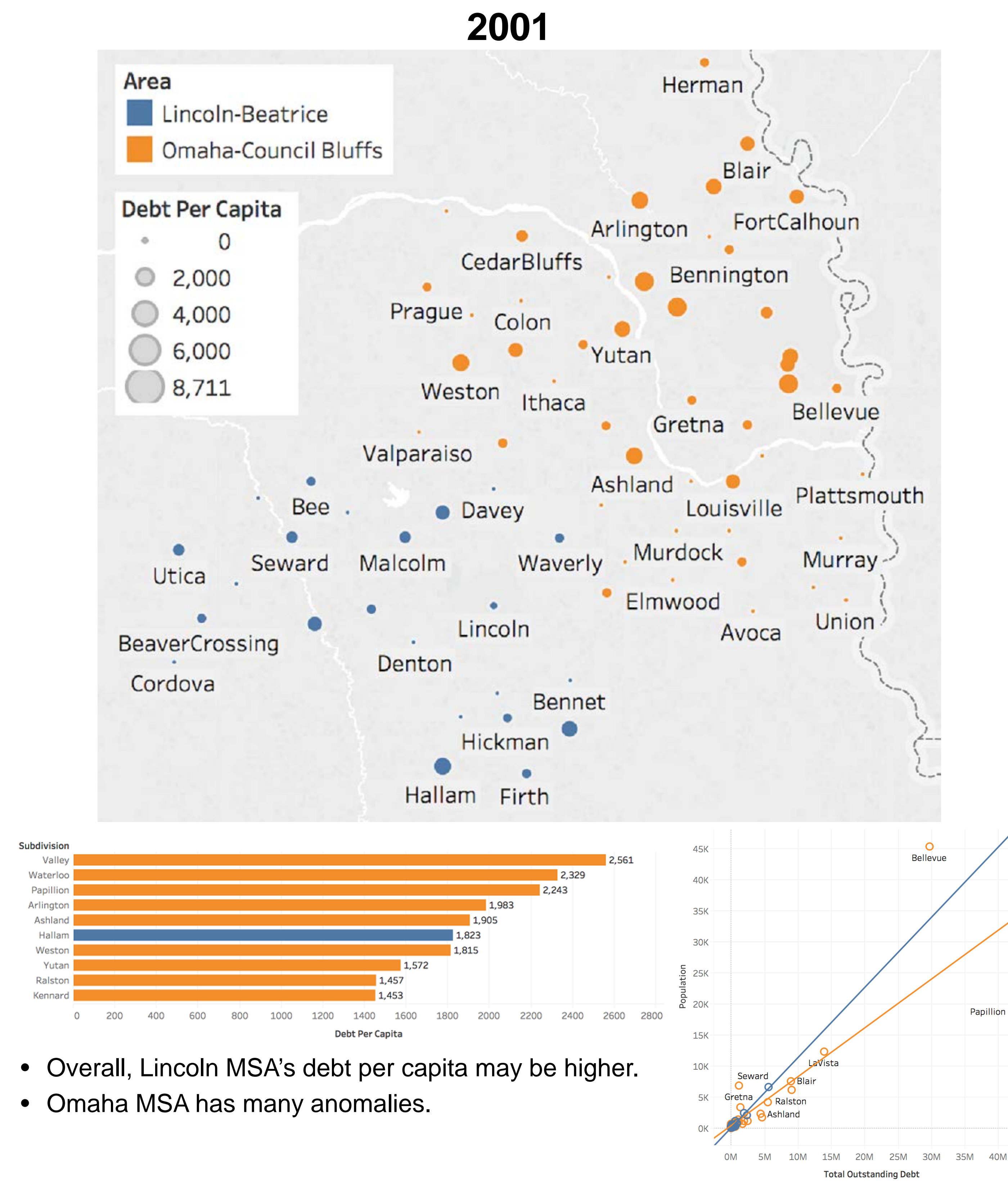
We collect data from 69 municipalities in Lincoln and Omaha Metropolitan Statistical Areas (MSAs), visualize the data using R and Tableau, and assess the municipalities' fiscal condition over time.

## Municipalities of Varying Sizes

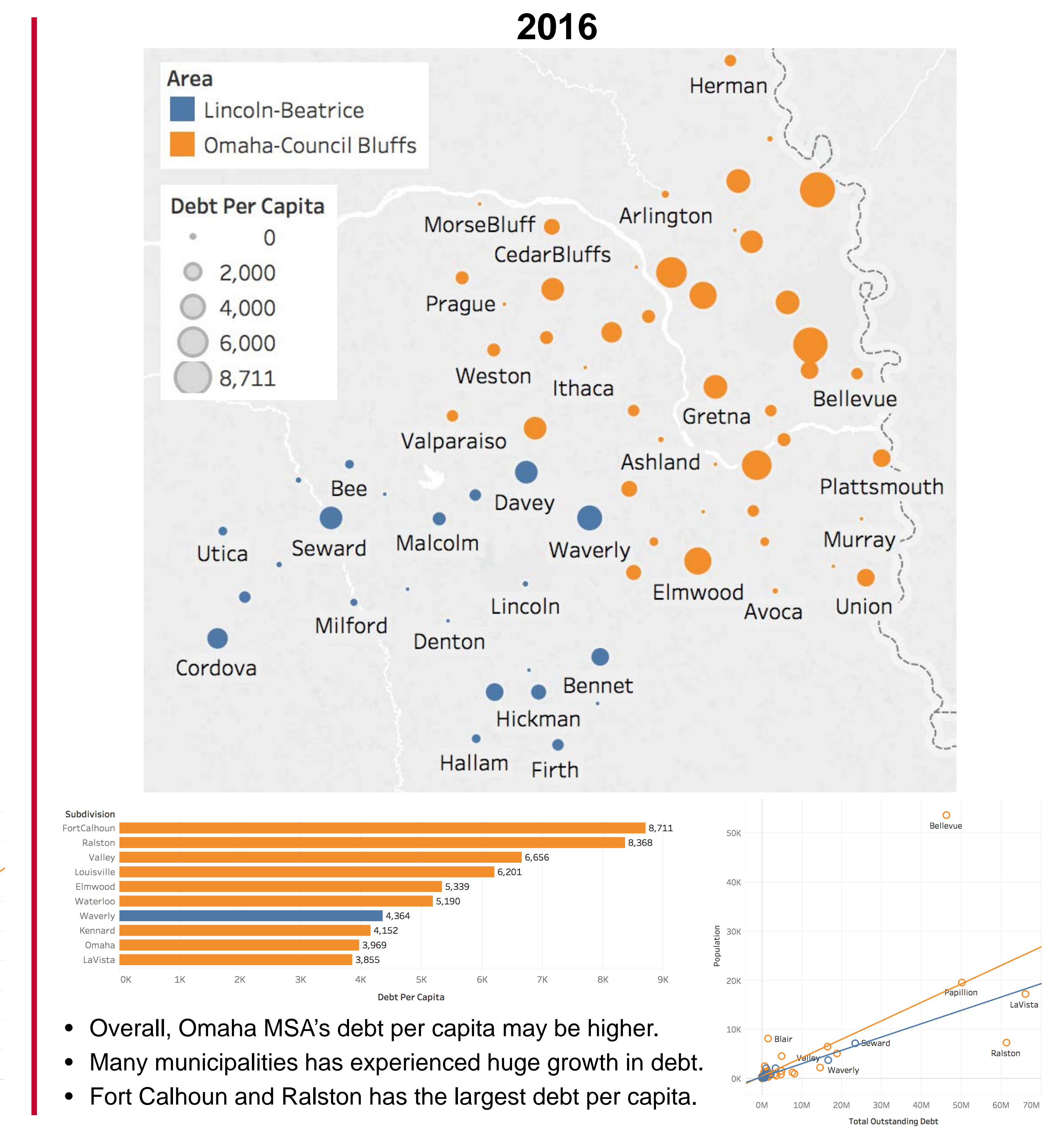
- Lincoln, Omaha, and 67 smaller municipalities in Lincoln & Omaha MSAs
- 16 years (2001-2016)



## Example: Debt per Capita Changes over Time



- Overall, Lincoln MSA's debt per capita may be higher.
- Omaha MSA has many anomalies.



- Overall, Omaha MSA's debt per capita may be higher.
- Many municipalities has experienced huge growth in debt.
- Fort Calhoun and Ralston has the largest debt per capita.

## Research Contribution

- We can find anomalies with the help of maps and plots.
- We compare the two MSAs' fiscal condition and examine the spatial patterns and changes over time.
- Municipalities can view their fiscal condition relative to neighboring municipalities.

## Future Directions

- We will construct two different types of models (spatial model & multiple regression models) to examine the determinants of the five indicators of fiscal condition.

## Data and Funding Sources

- Data used in this project are collected from Nebraska Auditor of Public Accounts, Census Data, and American Community Survey (ACS) Data.
- This project is funded by the UNO Center for Urban Sustainability.