# Introduction

Lincoln is the capitol city of Nebraska.  It is the home of the University of Nebraska at Lincoln.  It has a population of 287,000 and the city limits encompass an area of approximately 96 square miles. The ability to pinpoint areas of the city and surrounding area which are ripe for economic development could aide entrepreneurs, developers, and city planners to focus efforts and resources where they will provide an optimum return.
For this project, I will split the city of Lincoln, Nebraska into a 26x26 grid of ¼ square mile regions and explore the makeup of these regions by applying machine learning principles to FourSquare places data.  Using insights gained from this analysis, I will categorize each region on the grid by the types of venues they contain.

## Business Problem

Can FourSquare places data be used to identify suitable locations for commercial development or expansion and minimize search time and costs?  Based on this data, could a recommendation be made for a suitable location within the city of Lincoln for an entrepreneur to open a new Chinese restaurant?

## Target Audience

The target audience of this project could include entrepreneurs seeking opportunity for new business development, commercial real estate brokers, and city planners and other government agencies.

# Data

- Latitude and Longitude coordinates of a suitable city center for Lincoln, Nebraska
  - Coordinates of the city center will be obtained by converting an address to coordinates using the Nominatim geocoding tool
- Latitude and Longitude of all points in a grid overlay of the city
  - The grid overlay and associated Latitude and Longitude coordinates will be calculated using Python.
- Venue data from FourSquare for each region in the grid
  - Venue data will be retrieved from the FourSquare places api and will leverage the explore endpoint