Exploring the Spatial Distribution of Creative and Cultural Businesses in Portland, OR

Introduction

Though industry and employment data is commonly aggregated and analyzed at the MSA, county, and state levels, it is rare that this data is analyzed on a more granular scale. Upon securing establishment-level business data for the entire city of Portland, we were interested in exploring patterns related to the spatial distribution of Portland's creative and cultural businesses. To this end, we developed research questions around which to organize our analysis.

For clarity we provide the following definition:

Creative and Cultural Businesses: According to Markusen et al (2008), creative and cultural businesses play a direct role in producing social meaning through texts and symbols. A few examples are television, radio, newspapers, magazine and book publishing, music recording and publishing industries, advertising, the performing arts, and architectural design.

Research Questions:
1. Are there observable trends related to the density of creative and cultural businesses in Portland's different neighborhoods?
2. Do creative and cultural firm location decisions in Portland correlate with the assumed "ideal" neighborhood, meaning those with numerous nearby amenities such as coffee shops, pubs, and restaurants?
3. How do Portland's neighborhoods compare to each other in terms of creative and cultural business density?

Data and Methods

Spatial and Attribute Databases:
Infogroup establishment level data (CSV file contains attributes such as physical location of business, detailed NAICS code, number of employees per location, and annual sales volume per location for nearly 45,000 businesses in the City of Portland. Each establishment is geocoded.)

Regional Land Information System (RLIS) Portland Neighborhoods and Portland City Limits boundaries

Methods:
We first wrote a Python script that pulled establishment-level business data from Infogroup's infoconnect companies API, running a query that returned all records having an 8-digit NAICS code for Portland, OR. The establishment data were geocoded by Infogroup, and we mapped the data in ArcMap 10.2. The mapped establishment points were spot checked to verify that the geocoding was accurate. We then clipped the business data layer to fall within the City of Portland boundaries. Following this we referred to the research of Markusen et al. for a definition of 6-digit North American Industry Classification System (NAICS) industries that compose the core creative and cultural economy. We then created a new point file consisting of businesses in these industries. Using the kernel density tool in Spatial Analyst, we created kernel density maps to identify concentrations of creative economy businesses as well as amenities (NAICS Code 722) within the city. A standard cell-size of 200 x 200 feet (the average size of a Portland block) and a neighborhood of 1,000 x 1,000 feet (five block radius) was used to create the kernel density maps. This five block radius was chosen due to it falling within the quarter mile radius of "The 5-Minute Walk". "The 5-Minute Walk" is a standard metric for measuring the distance a person is willing to walk without driving or using some other form of transportation to reach an amenity. Finally, creative and cultural industry establishments were tabulated per neighborhood based on the RLIS neighborhood boundaries.
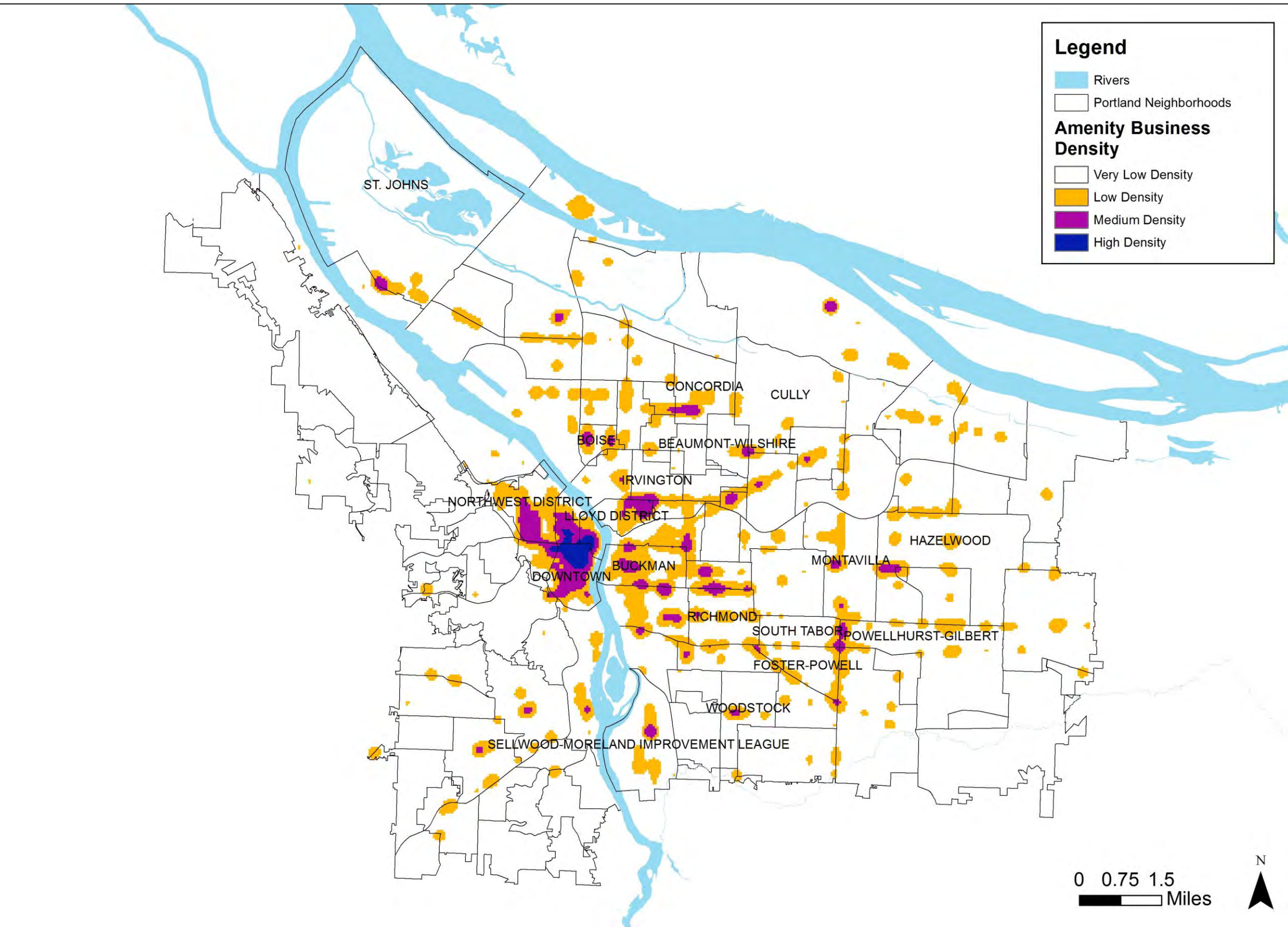
Results

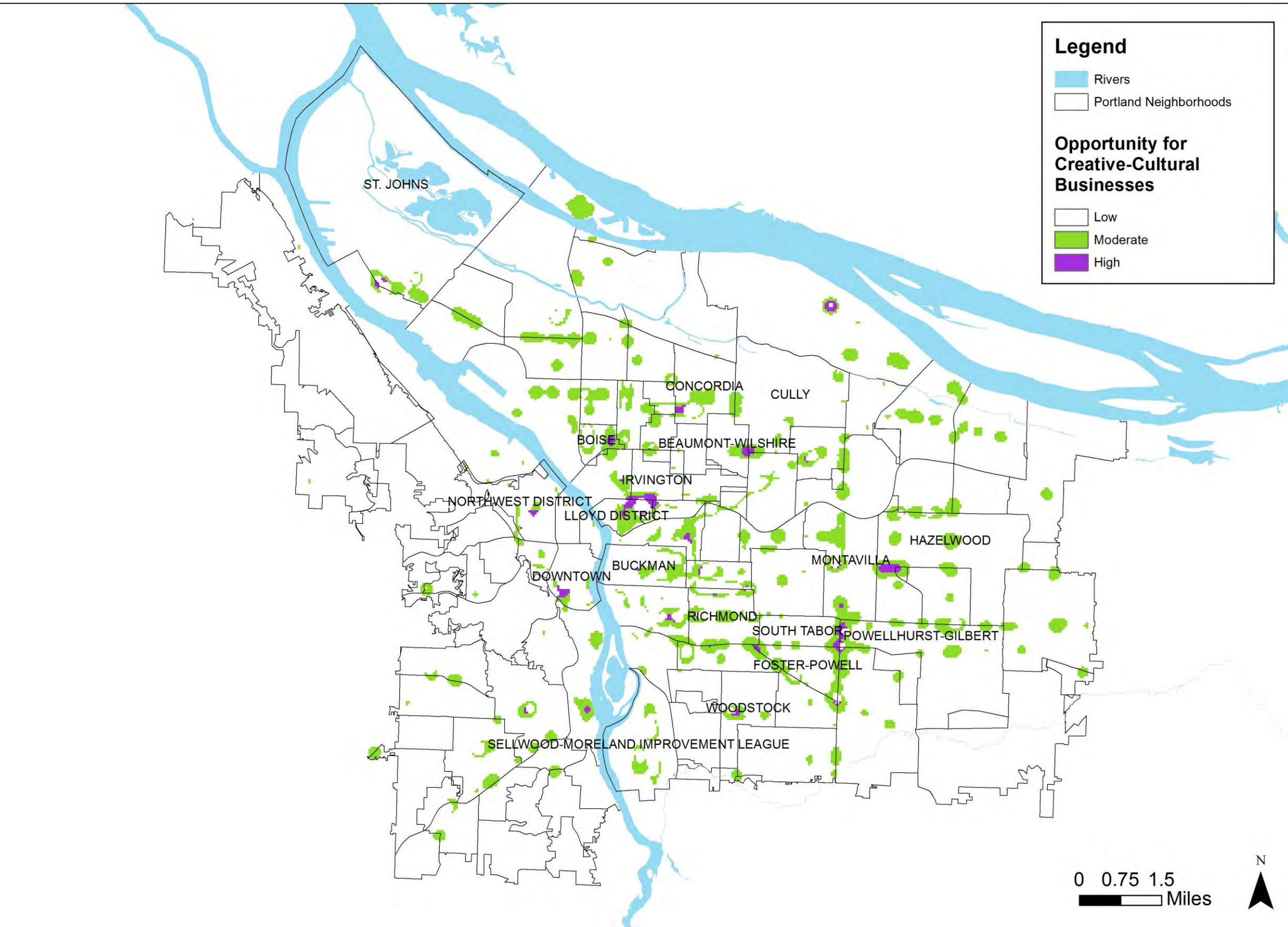**Figure 1. Creative and Cultural Business Context Map, Portland, OR**

Legend
- Creative-Cultural Businesses
- Major Arterial
- Rivers
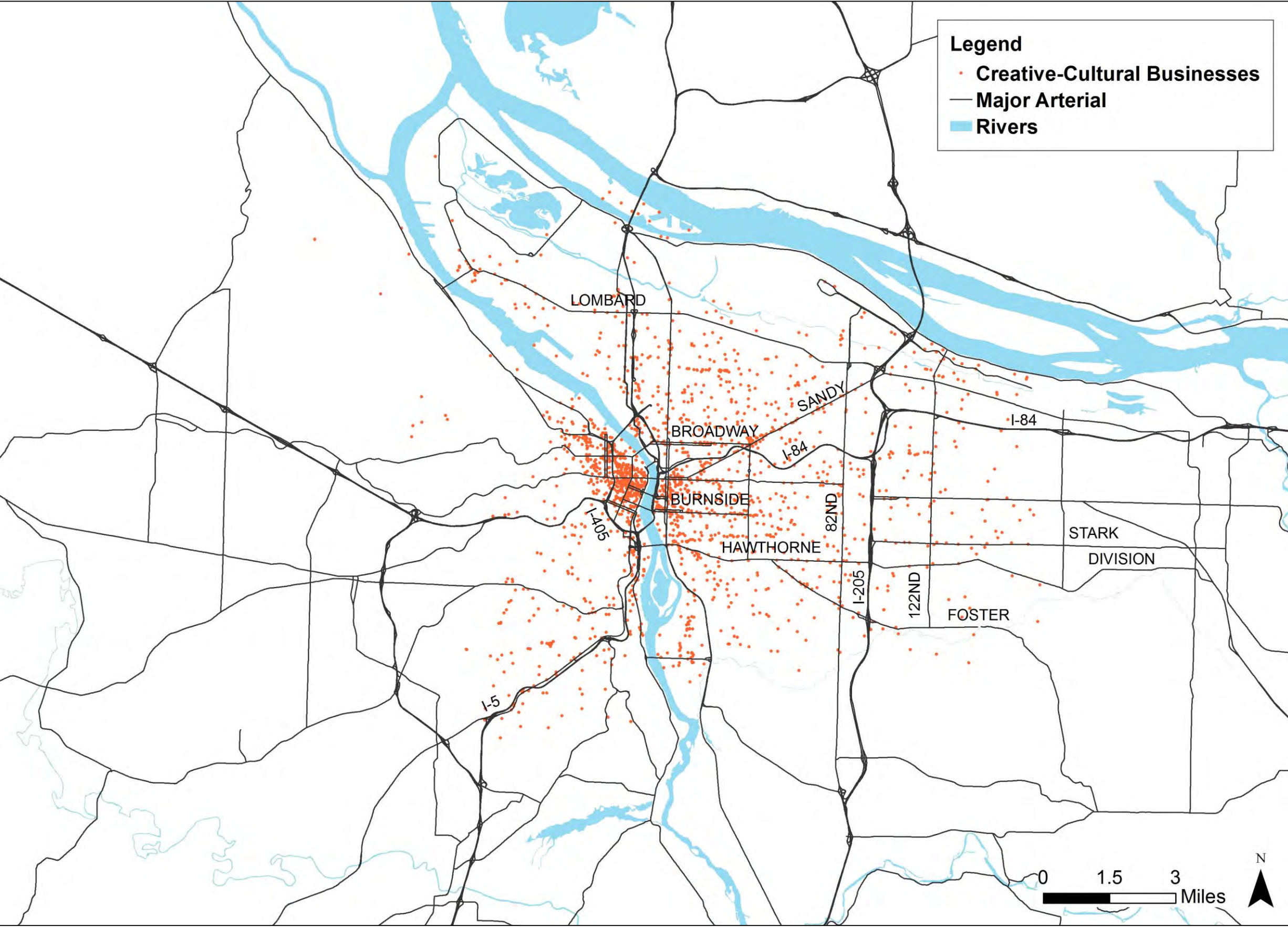
Data Source: Business data from Infogroup; RLIS rivers and arterials

Figure. 2. Creative and Cultural Businesses by Neighborhood

Portland Neighborhood	Amenity Business	Creative-Cultural Business
GOOSE HOLLOW	54	48
KERNS	53	56
OLD TOWN/CHINATOWN	65	57
SELLWOOD-MORELAND IMPROVEMENT LEAGUE	56	58
SOUTH PORTLAND	41	74
HOSFORD-ABERNETHY	88	116
NORTHWEST DISTRICT	145	173
BUCKMAN	132	175
PEARL	103	175
DOWNTOWN	369	358

Data Source: Business data from Infogroup; RLIS neighborhood boundaries

Figure 3. Amenity Business Density Map, Portland, OR

Legend
- Rivers
- Portland Neighborhoods

Amenity Business Density
- Very Low Density
- Low Density
- Medium Density
- High Density

Data Source: Business data from Infogroup; RLIS rivers and neighborhoods

Figure 4. Creative-Cultural Business Density Map, Portland, OR

Legend
- Rivers
- Portland Neighborhoods

Creative-Cultural Business Density
- Very Low Density
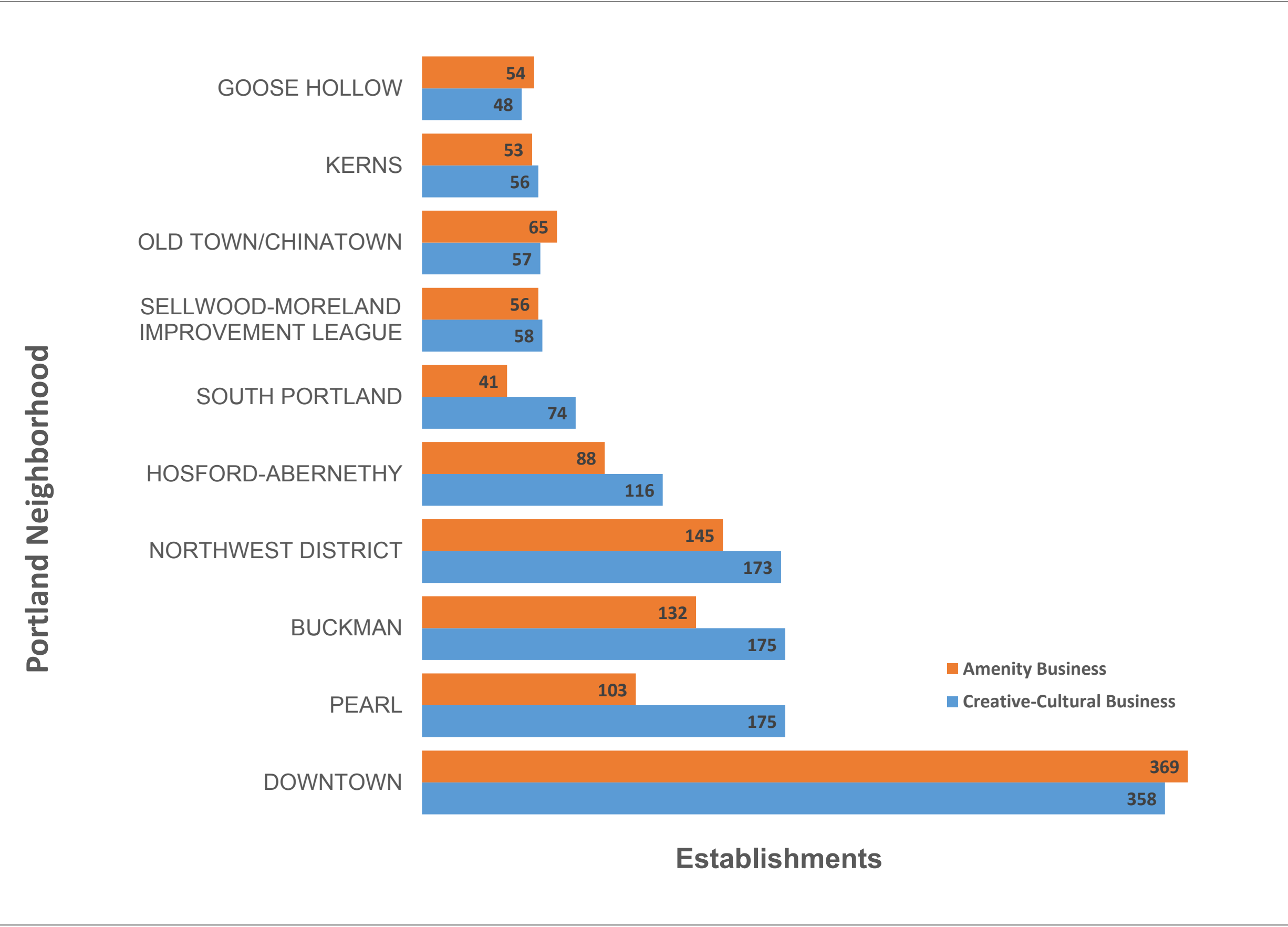- Low Density
- Medium Density
- High Density

Data Source: Business data from Infogroup; RLIS rivers and neighborhoods

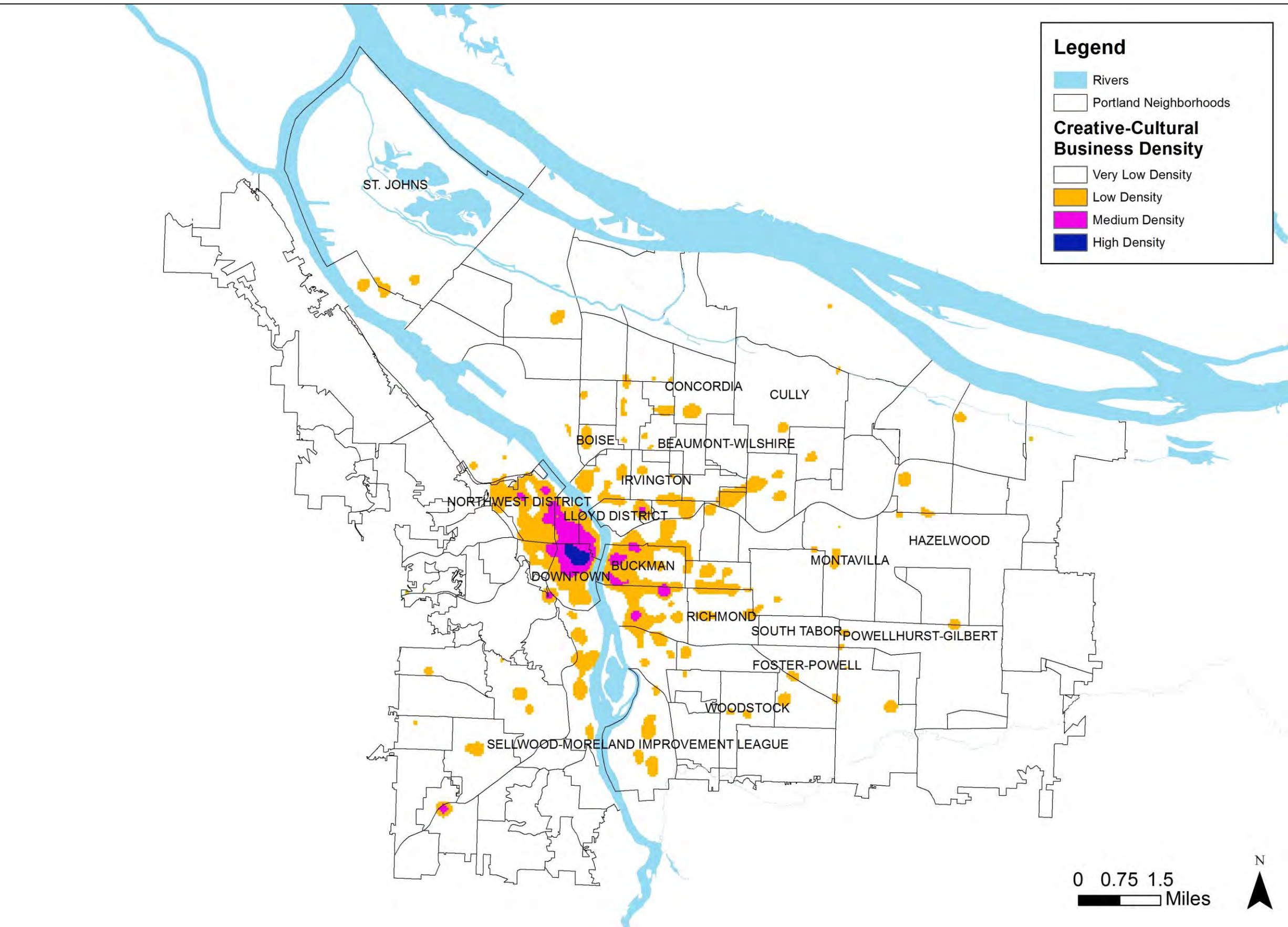**Figure 5. High Opportunity Areas for Creative-Cultural Business Development**

Legend
- Rivers
- Portland Neighborhoods

Opportunity for Creative-Cultural Businesses
- Low
- Moderate
- High

Data Source: Business data from Infogroup; RLIS rivers and neighborhoods

Figure 6. High Opportunity Areas for Amenity Business Development

Legend
- Rivers
- Portland Neighborhoods

Opportunity for Amenity Businesses
- Low
- Moderate
- High
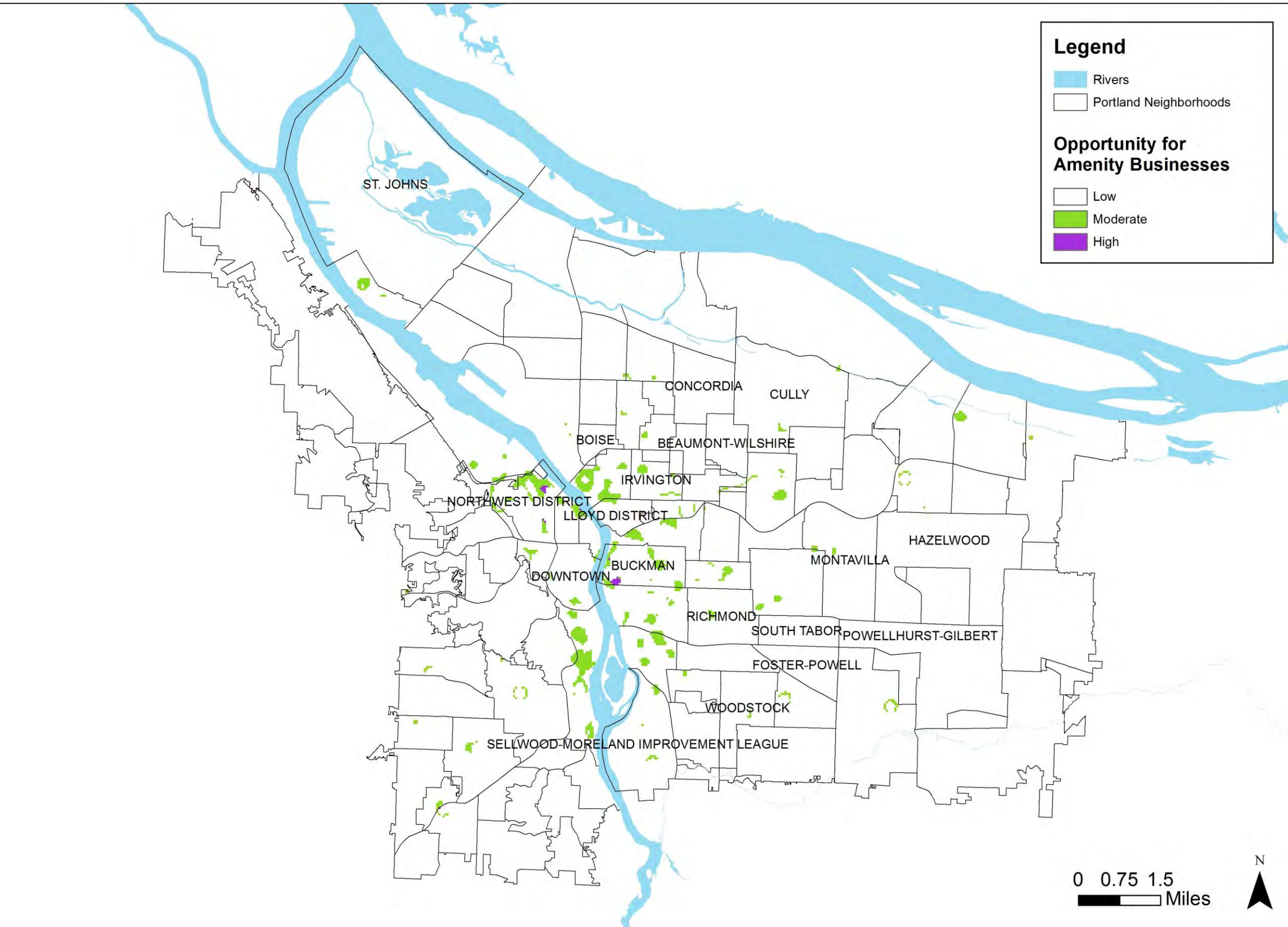
Data Source: Business data from Infogroup; RLIS rivers and neighborhoods

Conclusions

It was not surprising to find that many of Portland's creative and cultural businesses are concentrated in the central city. However, upon teasing out business establishment data at the Portland-block level, some interesting trends emerged. There are specific areas of the city with high concentrations of amenities and also specific areas of the city with high concentrations of creative and cultural businesses and employment. Due to many residents of Portland identifying geographically with their neighborhood more so than with a census tract or a zip code, we chose to tabulate much of our analysis at the Portland neighborhood level. See Figure 2 for a comparison of the top ten neighborhoods with the highest number of creative and cultural businesses. The chart also visualizes the number of amenity businesses in each of the ten neighborhoods. By doing separate analyses of areas with high concentrations of amenity businesses and creative and cultural businesses, we were able to identify a subset of locations that might be ideal targets for increased development of amenities to serve local businesses. We also identified areas that might be good targets for incentivizing location of creative firms (see Figures 5 and 6).

There are pockets of higher density of amenity businesses in the neighborhoods of Powell-Hurst Gilbert, Montavilla, Foster-Powell, Concordia, and St. Johns. There are more but these are a few that jumped out in our analysis. These neighborhoods may offer opportunities for creative and cultural businesses to locate near these amenity businesses.

We recognize that there is more at play in firm location decisions than simply the number and nearness of drinking and eating places, but that is certainly somewhere to start. As the City continues to hone its economic development planning around attraction of creative economy businesses—under the guise that these firms drive entrepreneurship, innovation, and job growth in our new economy (Portland Development Commission, 2009) —it is important to have a clear notion of areas that would be conducive to incentivizing the presence and clustering of these firms. Similarly, in terms of planning an informed retail development strategy, it is important to have a concept of underserved customer bases that would be good opportunity areas for increased commercial development.

Works Cited

Markusen, Ann, Gregory H. Wassall, Douglas DeNatale, and Randy Cohen. "Defining the creative economy: Industry and occupational approaches." *Economic Development Quarterly.* 22, no. 1 (2008): 24-45.

Portland Development Commission, *Economic Development Strategy: A Five Year Plan for Promoting Job Creation and Economic Growth,* 2009. http://pdxeconomicdevelopment.com/.

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