

Background & Methods

Background

TechShop (<http://techshop.ws/>) is a chain of member-based workshops that lets people of all skill levels come in and use industrial tools and equipment to build their own projects. The company is looking to expand in major American cities. **This project will be located in Portland, Oregon.** Address: 1215 SW 16th Ave Portland, OR 97205

Methods

1. Download and load buildings_shape file of Portland¹ (over 500,000 features)
2. Isolate *Portland State University*, *Pacific Northwest School of Art*, and *TechShop* site. **Export new layers:** site and schools.
3. **Buffer** three-mile radius around site and **clip** the original buildings shape file to the buffer. Separate the file into three categories: **Commercial Office**, **Commercial Retail**, and **Industrial**.
4. Highlight seven businesses² that would use the TechShop and **draw polygons around buildings**.
 - 4.1. **Export** them as a **shape file** and connect with a **database**.
 - 4.2. Add new layer named “Featured Businesses” and start **editing session**. Fill out the **attribute table** with three fields: **Address**, **Company_Name**, **Company_Type**.
5. From the original buildings shape file, extract **Existing Parking** and **Vacant Lots** and **export** to a **new layer**. The **TechShop Transportation** map displays two buffer zones: 1/2 mile and 1/4 mile and parking.

¹ *Civic Apps*: <http://www.civicapps.org/datasets>

² *Portland Maps*: <http://www.portlandmaps.com/detail.cfm?x=7640687.004&y=682517.672>

Analysis & Results

Analysis

Where should the TechShop be located? It should be located by industry, transit, design schools, and should have ample parking.

- The four maps: **1. General Map of Portland, 2. TechShop and Surroundings, 3. TechShop and Transportation, and 4. Featured Businesses**, focus on transit, access, parking and adjacencies around the TechShop Site.
- The site location must satisfy two criteria: **zoning¹** and **TechShop floor plan square footage.²**
- The site is within a three-mile radius of industry and seven businesses that focus on art, architecture and design are within a 1/4 mile of the TechShop.
- Two colleges: *Pacific Northwest College of Art* and *Portland State University* are within a 2 mile radius of the site.
- Oregon Public Transit station and the 405 Freeway are within a 1/2 mile radius from the site and bike transit and bike ways are within 1/4 of a mile.
- Parking is far from the site, the closest parking meter and vacant lot are 1/4 of a mile.

Results

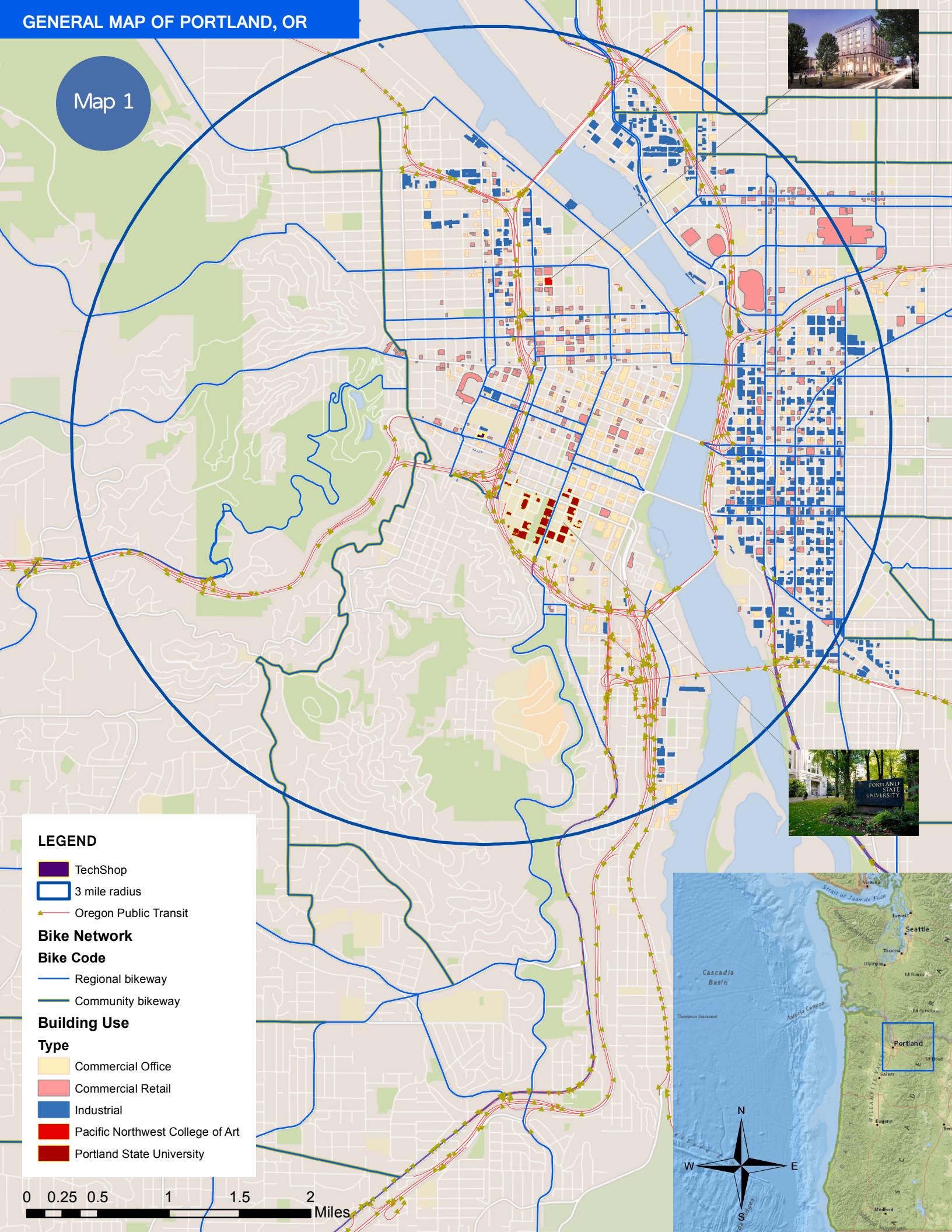
The site is close to industry, design schools and transportation. Parking is the only draw back of the location. It is too far from the site.

¹ *Urban Works:* http://urbanworksrealestate.com/listing/1215_sw_16th

² *TechShop website:* http://www.techshop.ws/Floor_Plan.html

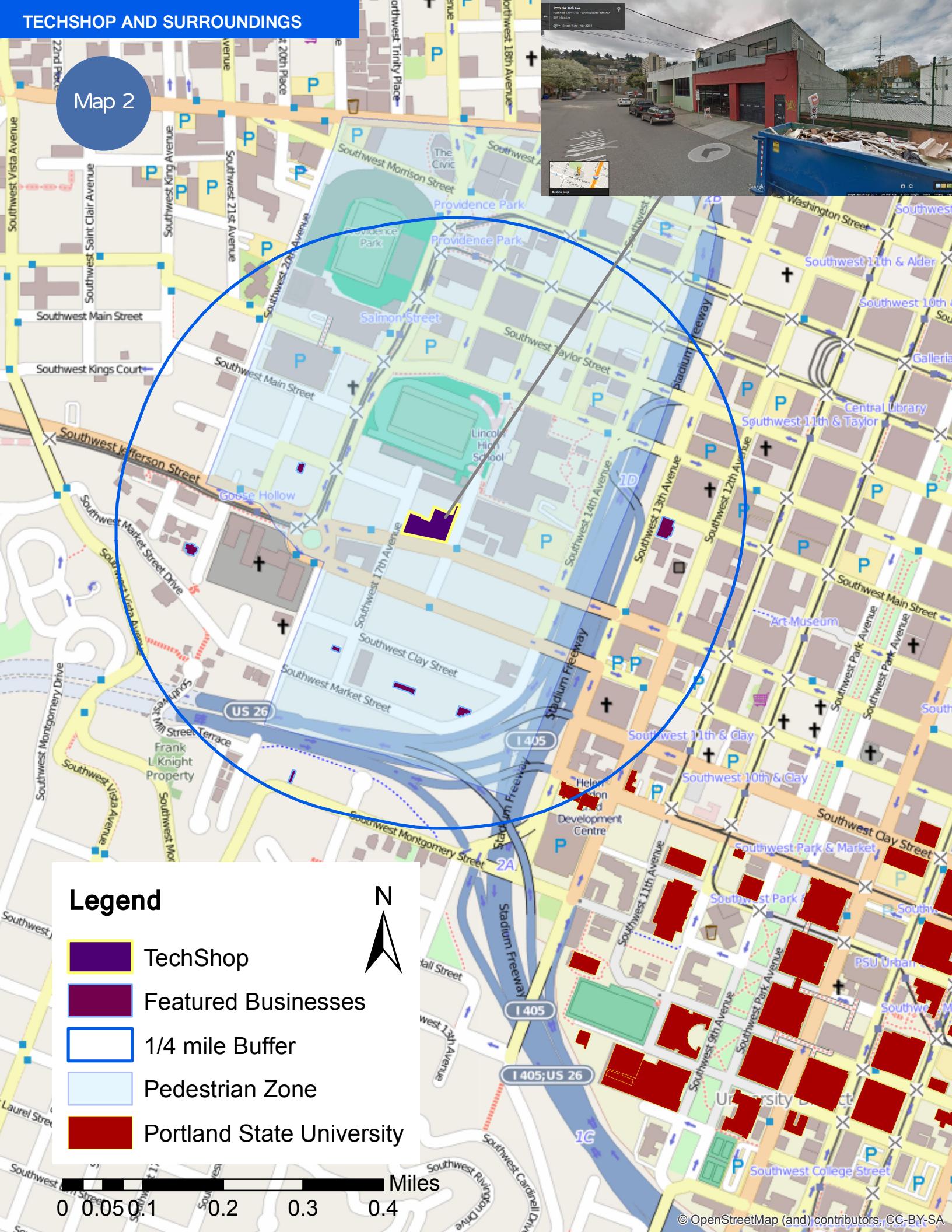
GENERAL MAP OF PORTLAND, OR

Map 1



TECHSHOP AND SURROUNDINGS

Map 2



Legend



-  TechShop
 -  Featured Businesses
 -  1/4 mile Buffer
 -  Pedestrian Zone
 -  Portland State University

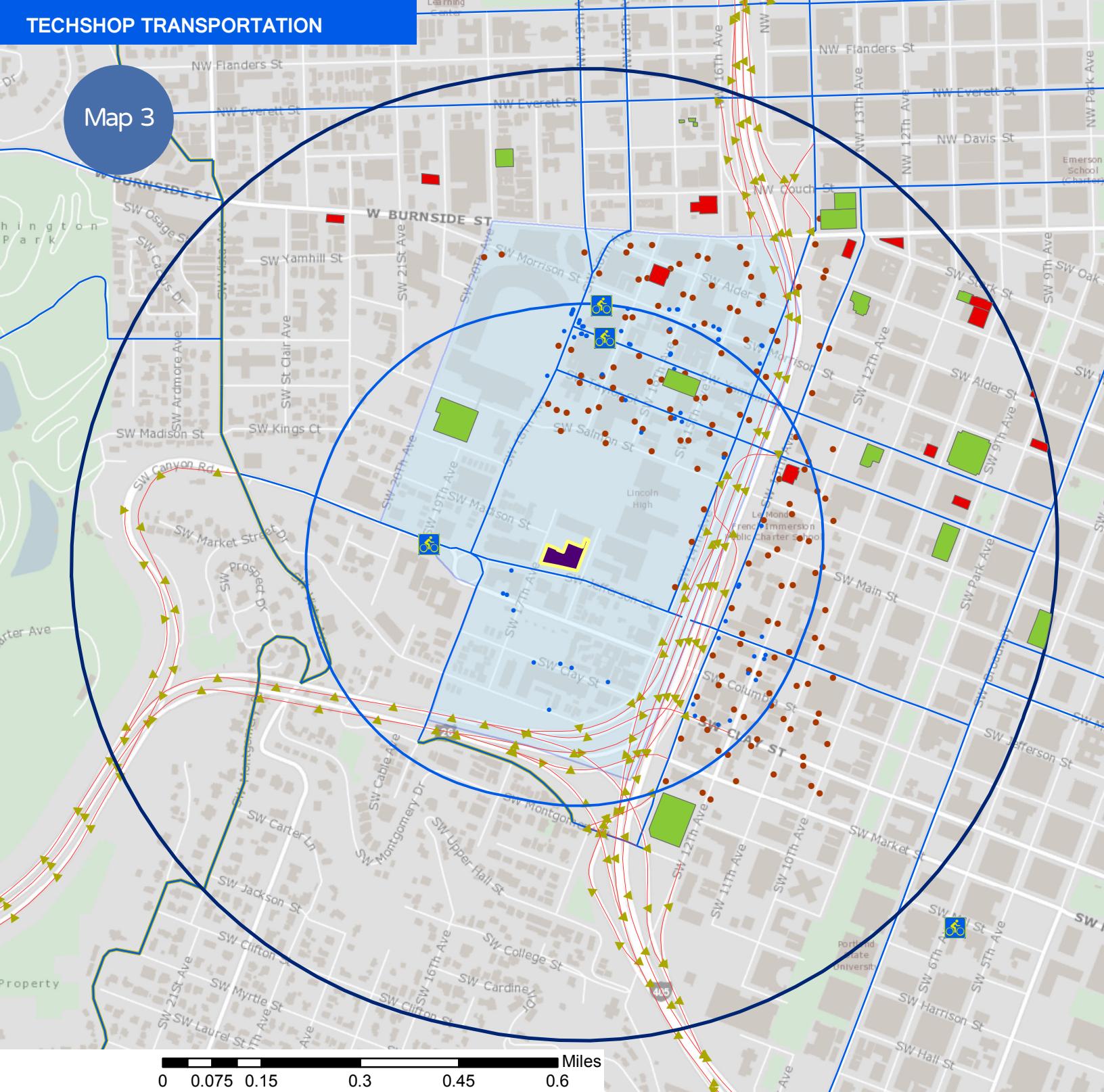
Miles

0 0.05 0.1 0.2 0.3 0.4

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TECHSHOP TRANSPORTATION

Map 3



LEGEND

- Parking Meters
 - Bicycle Parking
 - Bike Transit Facility
 - Oregon Public Transit
- Building Use**
- | usage | Symbol |
|------------------------|------------|
| Parking | Green |
| Vacant | Red |
| 1/2 mile from TechShop | Light Blue |
| 1/4 mile from TechShop | White |
- Bike Network**
- Bikeways**
- Regional bikeway
 - Community bikeway
- TechShop
- Pedestrian Zone

FEATURED BUSINESSES AROUND TECHSHOP

Map 4

Table

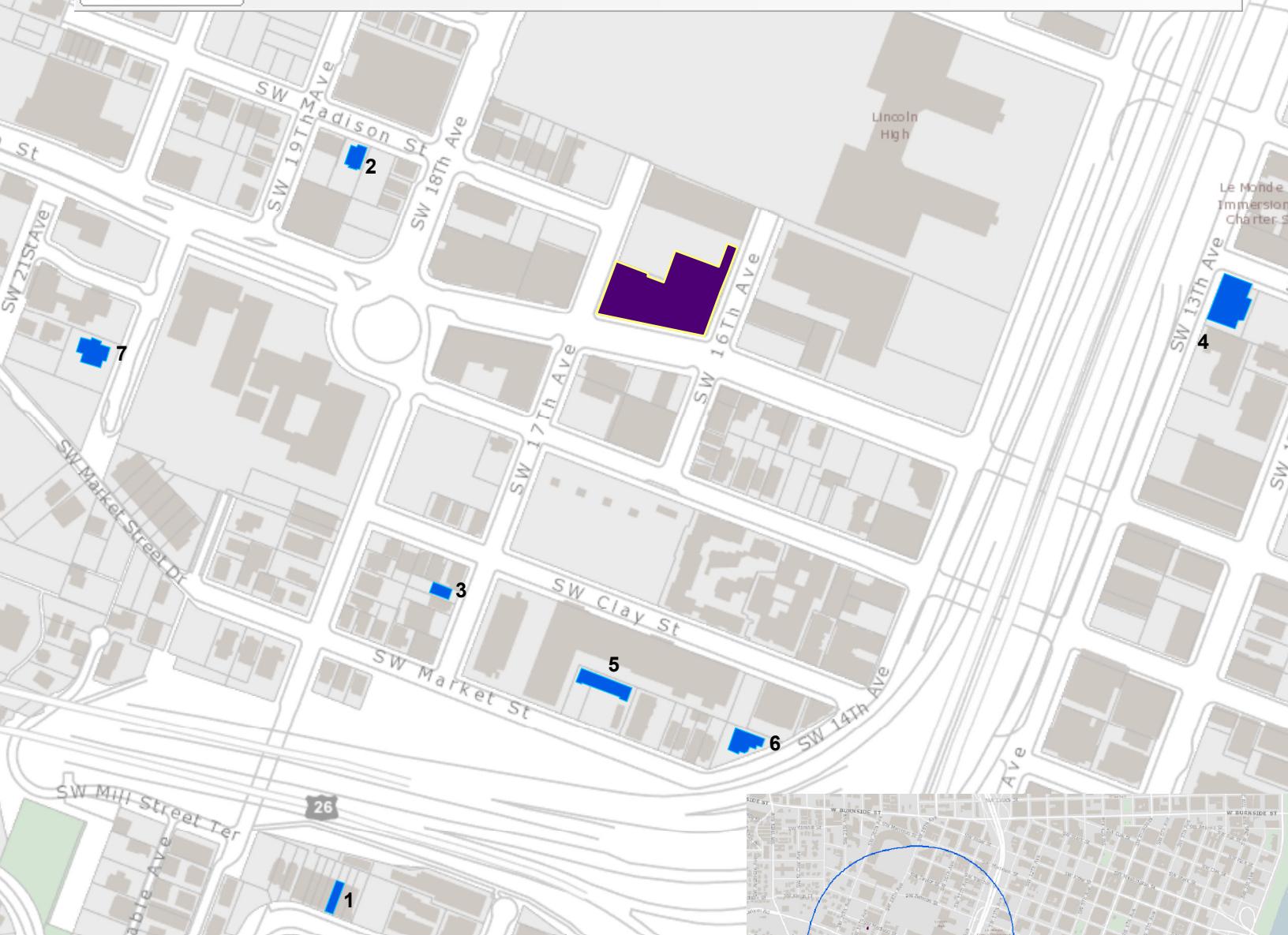


Featured Businesses

OBJECTID *	Shape *	Shape_Length	Shape_Area	Address	Company_Type	Company_Name
1	Polygon	0.00049	0	1631 SW Montgomery Street	Design	Analytic Animations Research
2	Polygon	0.000511	0	1822 SW Madison Street	Design	CEM Research
3	Polygon	0.000425	0	1511 SW 17th Avenue	Architecture	GNICH Architecture Studio LLC
4	Polygon	0.001051	0	1200 SW Main Street	Art	Jan Desyliva
5	Polygon	0.000973	0	1541 SW Market Street	Design	Noetic Design
6	Polygon	0.000706	0	1525 SW 14th Street	Architecture	Architecture Robertson Inc.
7	Polygon	0.00074	0	1425 SW 20th Avenue	Architecture	William Hawkins Architecture

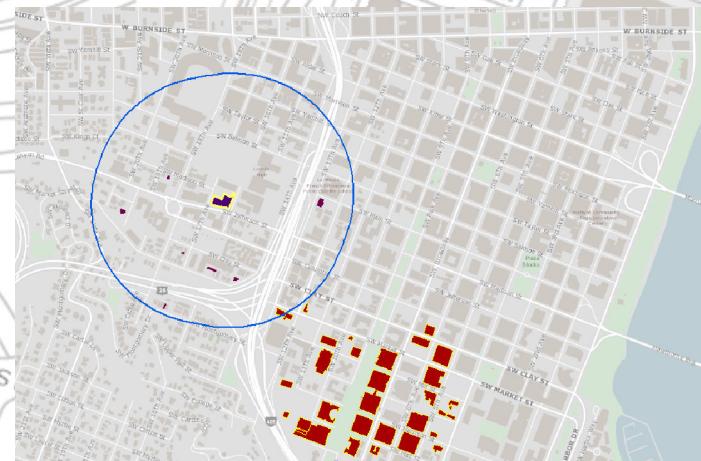
0 | (0 out of 7 Selected)

Featured Businesses



LEGEND

- TechShop
- Featured Businesses



Data & Sources

Layers

- Portland color and grey Base Map (ArcGIS Online)
- Portland OpenStreet Base Map (ArcGIS Online)
- Building_Footprints (.shp) <http://www.civicapps.org/datasets/building-footprints-portland>
- Bicycle Network (.shp) <http://www.civicapps.org/datasets/bicycle-network>
- Bicycle Parking (.shp) <http://www.civicapps.org/datasets/bicycle-parking>
- Bicycle Transit Station (.shp) <http://www.civicapps.org/datasets/bicycle-network>
- Parking Meters (.shp) <http://www.civicapps.org/datasets/parking-meters>
- Pedestrian Districts (.shp) <http://www.civicapps.org/datasets/pedestrian-districts>
- Transit Stations (.shp) <http://www.civicapps.org/datasets/transit-stations>

Sources

1. **Civic Apps:** <http://www.civicapps.org/datasets>
2. **ESRI My Map:** http://www.kironroy.net/techshop_gis.html
3. **Pacific Northwest School of Art** (photograph): <http://untitled.pnca.edu/articles/show/6360>
4. **Portland State University** (photograph): <http://www.businessweek.com/articles/2014-01-22/portland-states-business-school-joins-the-mba-building-boom>
5. **Portland Maps:** <http://www.portlandmaps.com/detail.cfm?x=7640687.004&y=682517.672>
6. **TechShop website:** http://www.techshop.ws/Floor_Plan.html
7. **Urban Works:** http://urbanworksrealestate.com/listing/1215_sw_16th