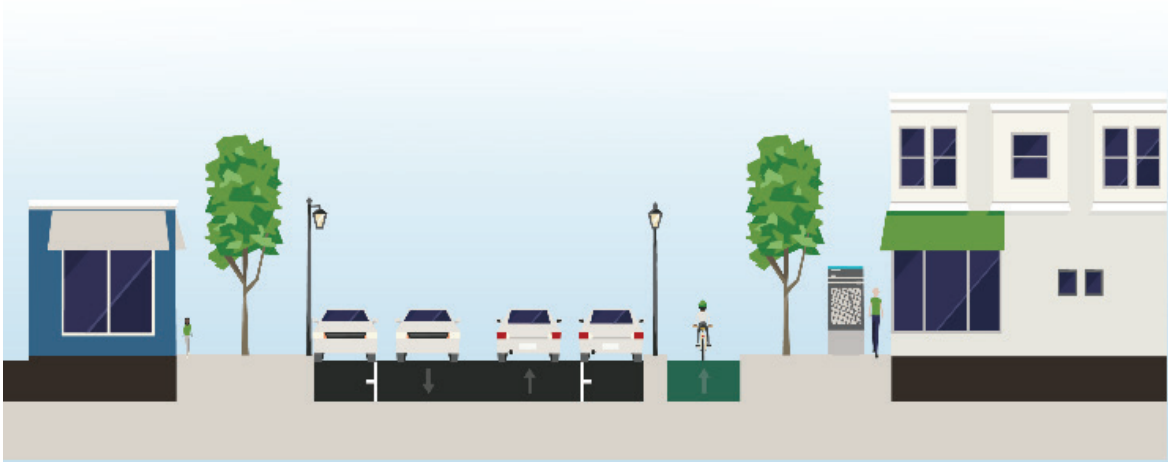

Activity Center Identification in Medford, OR

Winter 2014 • Planning Public Policy & Management

Bjorn Griepenburg • Community & Regional Planning
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UNIVERSITY OF OREGON

SCI
Sustainable Cities Initiative

Acknowledgements

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Suzanne Myers, Principal Planner

Chris Olivier, Planner II & GIS Specialist

Alex Georgevitch, Transportation Manager

About SCI

The Sustainable Cities Initiative (SCI) is a cross-disciplinary organization at the University of Oregon that promotes education, service, public outreach, and research on the design and development of sustainable cities. We are redefining higher education for the public good and catalyzing community change toward sustainability. Our work addresses sustainability at multiple scales and emerges from the conviction that creating the sustainable city cannot happen within any single discipline. SCI is grounded in cross-disciplinary engagement as the key strategy for improving community sustainability. Our work connects student energy, faculty experience, and community needs to produce innovative, tangible solutions for the creation of a sustainable society.

About SCYP

The Sustainable City Year Program (SCYP) is a year-long partnership between SCI and one city in Oregon, in which students and faculty in courses from across the university collaborate with the partner city on sustainability and livability projects. SCYP faculty and students work in collaboration with staff from the partner city through a variety of studio projects and service-learning courses to provide students with real-world projects to investigate. Students bring energy, enthusiasm, and innovative approaches to difficult, persistent problems. SCYP's primary value derives from collaborations resulting in on-the-ground impact and expanded conversations for a community ready to transition to a more sustainable and livable future.

SCI Directors and Staff

Nico Larco, SCI Co-Director and Associate Professor of Architecture

Marc Schlossberg, SCI Co-Director and Associate Professor of Planning, Public Policy, and Management

Bob Choquette, Sustainable City Year Program Manager

About City of Medford

Medford, located in Jackson County in Southern Oregon's Rogue Valley, has a population of 75,920 within a metropolitan statistical area of 206,310 people, the 4th largest in the state. The City was founded in 1883 at its present site because of its proximity to Bear Creek and the Oregon and California Railroad, becoming the County seat in 1927.

The downtown is a National Historic District and it is flourishing today due to support from the City's Urban Renewal Agency in cooperation with business and property owners. New construction, building restorations, infrastructure improvements and community events are creating a forward-looking downtown grounded in its diverse past. Streets have been realigned and improved with with new pedestrian and bicycle amenities.

Medford is the economic center for a region of over 460,000 people in Southern Oregon and Northern California. In the past, its economy was fueled by agriculture and lumber products. Although the lumber industry has declined, three lumber mills, Boise Cascade, Timber Products and Sierra Pine, remain. The area also is home to an expanding vineyard and wine industry that includes a large assortment of varietals and over 60 wineries. Lithia Motors, the 9th largest auto retailer in the U.S., has been headquartered in Medford since 1970.

The City is a regional hub for medical services. Two major medical centers employ over 7,000 people in the region. Medford is also a retirement destination, with senior housing, assisted living and other elder care services acting as an important part of the economy.

The Bear Creek Greenway extends from Ashland through central Medford and includes a 26-mile multi-use path, linking several cities and numerous parks. Roxy Ann Peak, one of Medford's most prominent landmarks, is a 3,573-foot dormant volcano located on the east side in Prescott Park, Medford's largest city park at 1,740 acres.

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Table of Contents

Executive Summary

The City of Medford seeks to identify activity centers to achieve an array of policy goals, including those that foster nodal development, increase residential density, and encourage alternate forms of transportation. Through the University of Oregon's Sustainable City Year Program, a class of graduate students from the Community and Regional Planning program identified and analyzed potential activity centers. This report synthesizes information and analyses compiled by four student teams. It contains a description of the class' methods, analysis of each activity center, limitations, next steps, and supplemental materials.

Students used a cluster-based analysis to gain an understanding of concentrations of population density, employment density, and commercial activity. After this analysis, four student teams conducted walkability assessments of the areas that most closely resembled activity centers. Walkability assessments were used to inform the creation of delineated boundaries for the four activity centers, along with their strengths and weaknesses.

On an aggregate level, the four activity centers combine for just 21% of the city's total land area but contain 45% of the total employment, 19% of the total housing supply, and 16% of the total population. The following descriptions were employed to best represent the mix of land uses in the activity centers:

- Downtown / Central Business District (CBD)
- Developing Mixed-Use Community
- Local Commercial Center
- Regional Commercial Center

Each team provided key recommendations to further establish these areas as activity centers based on the spatial analysis and walkability audits. There were two themes that emerged across the activity centers:

- Redesign streets, calm traffic, and increase pedestrian connectivity to encourage alternate forms of transportation.
- Use underutilized land to create more public spaces and/or increase density within activity centers.

The report addresses some key limitations and possible next steps for the City of Medford, which include policy measures to encourage sound urban design and mixed-use development in the activity centers through overlay zones and further analysis of all potential activity centers identified through the cluster-based analysis.

Introduction

The City of Medford partnered with the University of Oregon's Sustainable City Year Program—in this case graduate course Planning Analysis II—to identify, map, and analyze activity centers. Activity centers can serve a number of purposes and take many forms, often acting as hubs with a mix of land uses that can include some combination of retail, offices, multi-family housing, entertainment, public space, and/or educational institutions. Activity centers are becoming increasingly important as cities work to manage growth, prioritize areas for infrastructural investment, and refine policies to encourage efficient, sustainable urban development objectives. The case is no different in Medford, where population is projected to increase substantially in the coming decades. The City of Medford has four intended uses for activity centers, including:

- To assist in meeting the goals and policies of the Transportation System Plan.
- To meet the requirements of the Regional Transportation Plan (particularly the "Alternative Measures" section).
- To assist in meeting the requirements of the Bear Creek Valley Regional Plan and City of Medford Regional Plan Element related to conceptual land use plans for nodal development and residential density targets.
- To assist in meeting the goals and policies of the other elements of the City of Medford's Comprehensive Plan.

Using GIS data provided by the City of Medford, students identified areas with higher concentrations of population, employment, and commercial density. After presenting these initial findings to the city's Planning Department, students were given feedback and recommendations prior to conducting walkability analyses of physical characteristics at potential activity centers. Following this assessment, final boundaries, policy recommendations, and activity center typologies were provided to the Planning Department. A more in-depth description of the methodology is included in the following section.

Methodology

Cluster-Based Analysis

Although there is not a defined methodology for activity center identification, analyzing spatial distributions of population, employment, and commercial activities yielded a preliminary understanding of where the activity centers were most likely to be located. After the class performed a literature review **(Appendix O)**, groups gathered population and employment densities, specific commercial types and parcel characteristics. Combining these elements together, the class identified a number of potential major activity centers (MACs) throughout Medford, but ultimately selected the four with the strongest density levels. A more detailed description of the process is outlined below:

Population and Employment Density

After obtaining population and employment data from the 2010 US Census at the block group level, ArcMap was used to visualize areas with the highest density in Medford. Based on methodology used in other activity center analyses, block groups at or above the 90th percentile of density were visualized (population density >14 people/acre; employment density > 7 jobs/acre). Maps illustrating block groups with the highest population and employment densities can be found in **Appendix A and Appendix B**, respectively.

Commercial Activity

To determine commercial activity, floor-to-area ratio (FAR) was used for selected categories of commercial parcels that would give the most accurate depiction of potential activity. Rather than selecting all commercial parcels—which would include those more industrial in nature, for example—the following commercial codes were selected:

- (201) Commercial improved, zoned commercial
- (204) Commercial no significance partially exempt
- (209) MS improved, zoned commercial
- (211) Commercial residential zone improved
- (221) Commercial community zone improved

FAR—which conveys the intensity of land use, thus serving as a good indicator of the extent of activity on the site—is calculated by dividing the total floor area by the size of the parcel. Higher FARs are generally indicative of more walkable, dense environments. To find the most active areas, all parcels with FARs greater than 1.5 were chosen.

A quarter-mile buffer was then placed around these parcels to identify and include other commercial parcels within a walkable distance. If these buffer zones had more than 500,000 square feet of commercial space, they were

identified as potential activity centers. A map illustrating areas with high levels of commercial activity can be found in **Appendix C**.

Preliminary Activity Center Boundary Identification

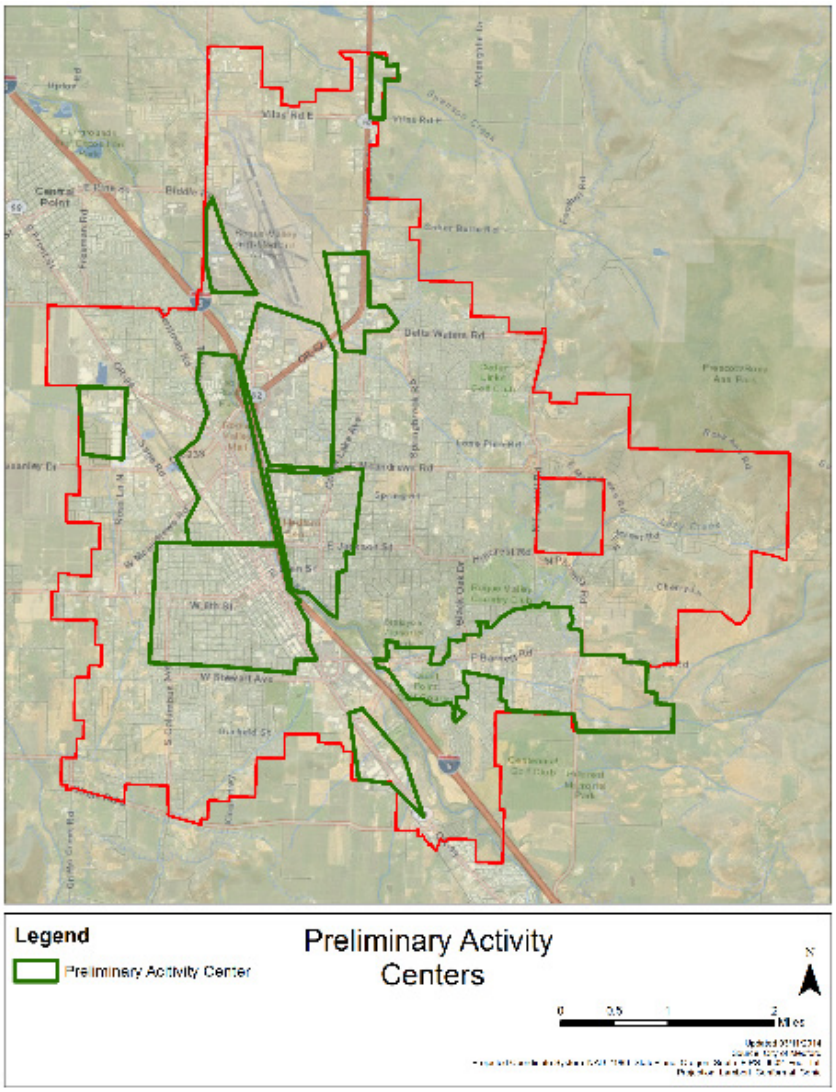


Figure 1: *Preliminary activity center boundaries. Map created by Taylor Eidt.*

The preliminary activity centers were identified using a combination of the three indicators (population density, employment density, and commercial activity) discussed above. This resulted in 10 potential MACs (found in **Appendix D**), with the class ultimately selecting the four with the strongest data for further, on-the-ground analysis. This analysis is detailed in the following sections.

Site Analysis

After reviewing the preliminary boundaries with planning staff, teams were given information and advice to help guide the walkability audit (a tool used to assess pedestrian facilities, destinations and environmental characteristics—both natural and built—along walking routes). Teams took data collections at a number of points, using two different audits—one created by the Centers for Disease Control and one created by the individual team.

Centers for Disease Control Audit Tool

The Centers for Disease Control (CDC) Walkability Audit Tool was one of two walkability audits utilized in our analysis. The audit contains nine questions that relate to particular aspects of the built environment that enhance walkability. The auditor has to rate each aspect on a scale of one to five. Questions also carried different weights, and were assigned high, medium, or low importance as illustrated below:

A. Pedestrian Facilities (High Importance)
B. Pedestrian Conflicts (High Importance)
C. Crosswalks (High Importance)
D. Maintenance (Medium Importance)
E. Path Size (Medium Importance)
F. Buffer (Medium Importance)
G. Universal Accessibility (Medium Importance)
H. Aesthetics (Medium Importance)
I. Shade (Low Importance)

To complement the CDC walkability audit, which asked for perceptions and was thus much more subjective, each team developed its own objective walkability audit.

Team-Developed Audit Tool

After reviewing activity center and walkability literature, including examples of walkability audits, teams developed assessments for use in Medford. Each team developed these tools independently of each other, so the audits do vary. The following characteristics reflect one team's approach to the audit.

- Land Use – Type, Vacant Land, Level of Mix
- Building Characteristics – Frontage, Setback, Design, Blank Walls, Access, Height
- Public Amenities – Public Space, Public Art
- Street Characteristics – Number of Lanes, Speed Limit, On-street Parking, Distance between Crosswalks, Direction of Traffic, Bike Facilities
- Sidewalk Characteristics – Sidewalk Width, Surface Quality, Utilities, Distance between Trees & Lighting, Public Seating, Bus Stops

Final Boundary Delineation

Upon calculating the total scores for each audit, the two were combined for an overall walkability score. In general, scores from the two audits were consistent. After uploading walkability scores into GIS, groups created a final boundary that captured analysis of each center's physical characteristics. This was extremely useful in identifying boundaries for the centers, which were often less walkable roads with high traffic volumes. Final boundaries and walkability analyses are included in the following sections.

Overview of Findings

The following section outlines key findings that came out of the final presentation to the City of Medford's Planning Department, including activity center typologies, density values, and trends in policy recommendations. Subsequent sections will provide a more in-depth look at each identified activity center.

After a preliminary spatial distribution analysis of population, employment, and commercial activities across the city, final activity center boundaries were delineated using a walkability and physical conditions assessment.

Activity Center Typologies

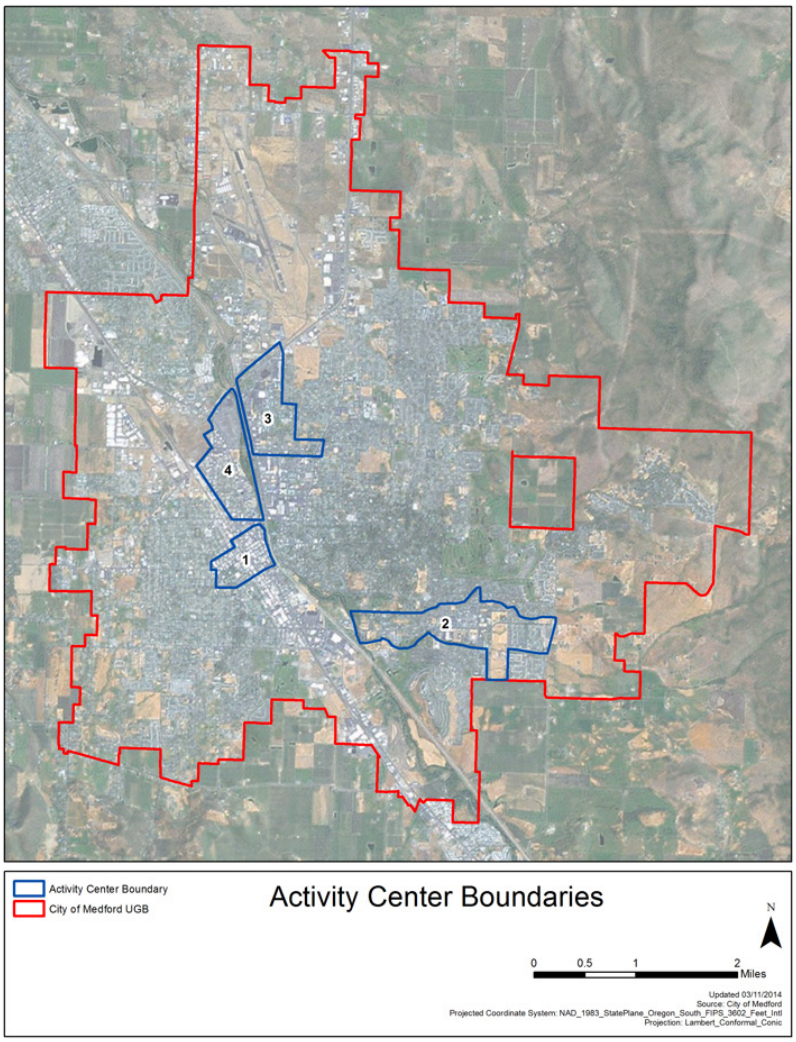


Figure 2: *Final activity center boundaries. Map created by Taylor Eidt.*

Based on the analysis that follows, the activity centers numbered in the map above received the following descriptors:

1 – Downtown / Central Business District (CBD)
2 – Developing Mixed-Use Community
3 – Local Commercial Center
4 – Regional Commercial Center

These typologies were chosen to best describe the mix of land uses and activities found within each center. They were largely informed by the following table, which captures employment, population, and housing density per acre, job-to-housing ratio, and average commercial floor-to-area ratio (FAR). **On an aggregate level, the four activity centers combine for just 21% of the city's total land area but contain 45% of the total employment, 19% of the total housing supply, and 16% of the total population.**

Activity Center	Employment Density (per acre)	Population Density (per acre)	Housing Density (per acre)	Job: Housing Ratio	Average Commercial FAR
Downtown (1)	26.0	4.5	2.4	10.9	0.63
Developing Mixed-Use Community (2)	3.2	3.6	1.8	1.8	0.30
Local Commercial Center (3)	4.7	2.6	1.4	3.4	0.27
Regional Commercial Center (4)	7.3	2.9	1.3	5.5	0.24
City Average - Areas Outside Activity Centers	1.8	4.5	1.9	1.0	0.23

Figure 3: Characteristics of selected major activity centers. Graphs depicting these density values across activity centers can be found in Appendix E-I. Employment, population, and housing densities convey the number of jobs, people, and housing units per acre. Job-to-housing ratio is simply the ratio of job density to housing density. Average Commercial floor-to-area ratio (FAR) compares the square footage of commercial buildings to their overall parcel sizes; higher FARs are indicative of more dense, urbanized areas.

As expected, the Downtown CBD uses land more efficiently than anywhere else in the city, with significantly higher employment density and average commercial FAR. The Developing Mixed-Use Community, which was identified in part because of the city's Southeast Plan, shows a better balance of uses. The Local and Regional Commercial Centers are both primarily employment-based, albeit with low land use intensity.

Policy Recommendation Trends

Policy recommendations were provided for each activity center to help guide future development patterns. The recommendations, which were informed by the entire analysis process, are included in full for each activity center in the subsequent sections. Below is a brief summary of trends found across the four activity centers.

Redesign Streets, Calm Traffic and Increase Connectivity to Encourage Alternate Transportation

Most of the activity center borders come in the form of large collector or arterial roads that act as boundaries to pedestrian activity. A number of recommendations encourage traffic calming measures and opportunities to reallocate portions of the right-of-way to enhanced pedestrian, bicycle, and transit facilities to better incorporate activity centers with their surroundings. Within the activity centers, it is vital to encourage pedestrian activity.

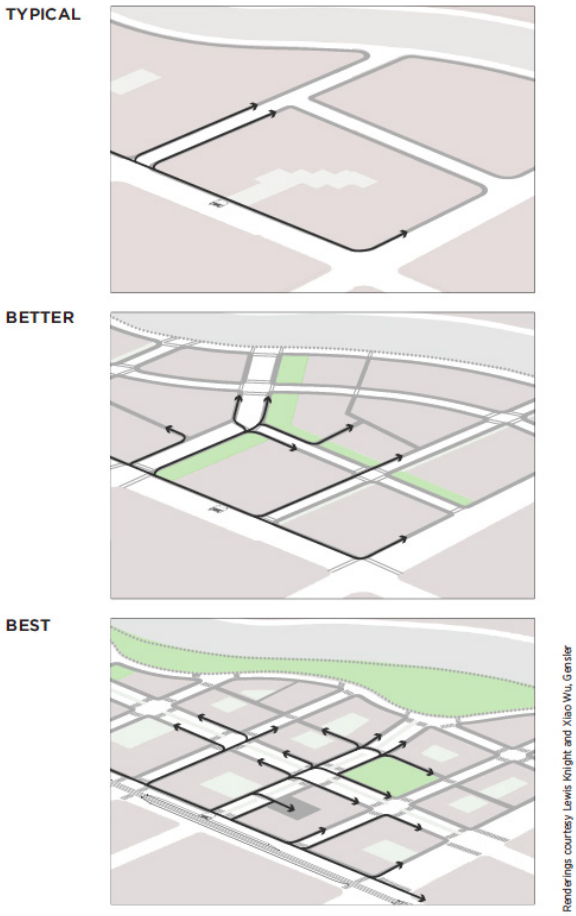


Figure 4: *Block structure, of walkability. Image courtesy of San Francisco Planning and Urban Research.*

More walkable environments are conducive to efficient land use and help encourage activity. Many of Medford's commercial areas have elongated blocks and limited pedestrian circulation opportunities. The large parking lots offer development opportunities to help create a better block pattern.

Use Underutilized Land to Create More Public Spaces and/or Increase Density

To increase vitality in activity centers and use land more efficiently, Medford should seek to accommodate a high proportion of its future population and employment within activity centers. Increasing density levels in activity centers ensures that people live near daily-need amenities in walkable environments. Most importantly, it will solidify and further establish activity centers as key nodes for the rest of the city.

Outside of the city core, there are large amounts of underutilized land, primarily in the form of vacant lots and surface parking. The city should further investigate land use patterns within activity centers and incorporate surface parking, right-of-way, and underdeveloped land into a refined Buildable Lands Inventory that focuses future development opportunities in these areas.

In efforts to intensify commercial and residential uses along commercial strip

corridors similar to those in Medford, the City of San Jose (CA) is rezoning a number of areas to create “urban villages.” These urban villages are meant to transform strip mall corridors into more dense, walkable, mixed-use areas. San Jose’s urban villages could serve as a model for redevelopment in Medford’s activity centers that are anchored by shopping centers and have large areas of surface parking.

Downtown / Central Business District

Description

Not surprisingly, the CBD is Medford’s most densely developed area. It has a number of advantages that distinguish it from other activity centers, including a walkable grid, the region’s transit hub, and a strong mix of uses that are conducive to activity: employment, retail, entertainment, services, educational institutions, and dining. As the CBD for the metropolitan area, this activity center’s role is to serve as the region’s economic center.

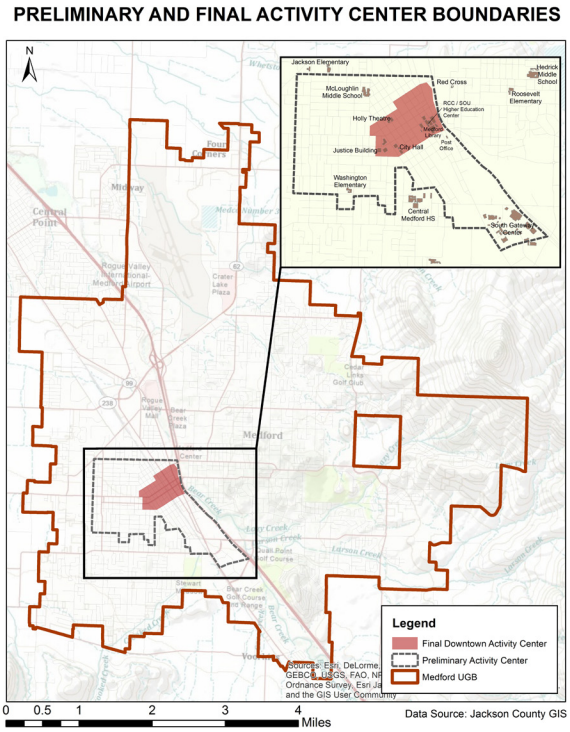


Figure 5: *Downtown / Central Business District activity center. Map created by Aniko Drlik-Muehleck.*

Land uses within the activity center are predominantly commercial (60%) and institutional/governmental (32%). Only five percent of the CBD’s land use is dedicated to housing. For demographics, see **Appendix J**.

Local Context

Prior to the walkability assessment, the preliminary activity center boundary included large portions of the residential area to the west and commercial areas to the north and south. These surrounding areas were found to be unsuitable for designation as an activity center due to incompatible land uses and/or urban design characteristics. The portions to the north and south of downtown are automobile-oriented and take the shape of a linear development pattern along the Highway 99 couplet. The area west of the activity center is primarily composed of single-family residential housing units, with little room for mixed-use and infill development. With I-5 and Bear Creek to the east, the

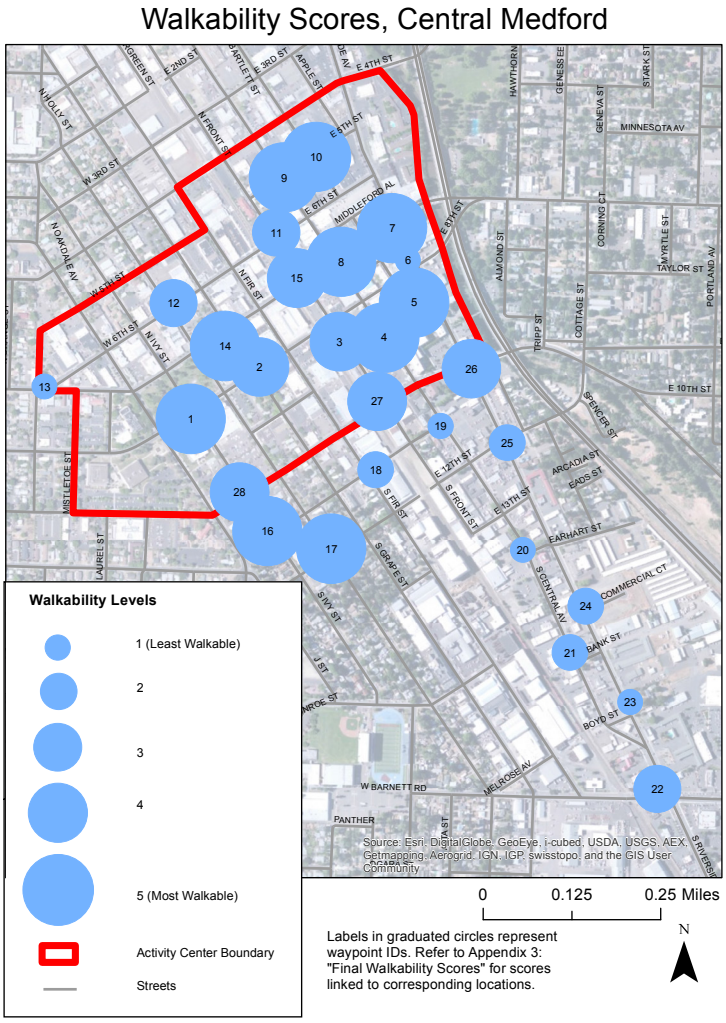


Figure 6: Walkability scores in the downtown area. Map created by Bjorn Griepenburg. Walking scores reflect individual group's scoring system and should not be compared to those in other activity centers. Higher scores mean more walkable environments.

CBD boundaries are clearly defined on all sides. There are opportunities for the periphery to serve as an extension to the north and south, albeit with much more significant needs for development and streetscape improvements.

Analysis

Walkability Assessment

Eight of the top ten walkability scores were found within the final activity center boundary, while eight of the lowest ten scores were found south of the activity center in the preliminary boundary. In general, higher scoring areas held the following characteristics:

- Wide, accommodating sidewalks – presence of pedestrian-level lighting, trees, no above-ground utilities, benches, disabled access, and good surface quality.
- Pedestrian-oriented buildings – short setbacks, active ground-level frontages, absence of blank walls, and high-quality facades.
- Pedestrian and bike-friendly roadways – slower traffic speeds, frequent crossing opportunities, two-way roads, fewer lanes, on-street parking, and presence of bike facilities.
- Other amenities – public art and bus stops.

Figure 7*: Interestingly enough, this activity center's boundaries nearly matched the endpoint for sidewalk enhancements.*

Lower scores were found in areas with higher traffic speeds, typically flowing in one direction, with three or more lanes. It is easy to see the difference in walkability by looking at the difference in the grid pattern. Elongated blocks oriented along arterial roadways tend to hamper walkability and offer few opportunities for pedestrian circulation, while forcing the majority of automobile traffic onto high-classification roads (as opposed to lower levels of traffic more evenly distributed across local roads).

Policy Framework

Examination of the Rogue Valley Transportation Plan's Land Use Element, City of Medford's Transportation System Plan, Comprehensive Plan, Land Development Code, and City Center Revitalization Plan yielded ample support

for the formal identification of this activity center. In particular, the city's expressed desire to make the downtown area a transit-oriented development (TOD) district with a mix of uses has been identified as important in guiding future development in the downtown area.

The area identified as the Downtown/ CBD activity center was also identified by the city as a TOD area in a 1999 study. The downtown possesses a number of historical buildings and design elements that set it apart from other proposed TOD sites in Medford and benefits from RVTD's only transit station.

The downtown area also contains three zoning classifications (Commercial-Community, Service/ Professional, Heavy) and one overlay district (Central Business District). The overlay district functions to recognize the historic character of downtown as an asset by providing necessary development and redevelopment guidelines. Dwelling units are allowed in all of the commercial classifications subject to standards established for housing within Multi-Family Residential at 30 dwelling units per acre, which supports mixed-use development. Additionally, The Comprehensive and City Center Revitalization Plans both include language supportive of the addition of residential uses to the existing commercial activity and transit options available in the downtown area.

Future Recommendations

As mentioned above, only five percent of the land use is currently dedicated to housing. An increase in population density in the downtown core would create activity in the downtown after employees leave the area, helping create a more vibrant area and enhancing the downtown's role as a dining and entertainment destination. Focusing some of the region's future population and employment growth in or near the downtown core represents a highly efficient land use practice.

The following recommendations reflect a vision to increase population density and create a more pedestrian-friendly downtown area.

Provide Incentives and Services Needed to Increase Residential Density

The CBD contains a wide mix of uses, but does not have all the daily-need amenities required by residents. The mix of uses and access to goods and services needs to be reviewed. For example, there are no grocery stores located in the core, something that may deter potential residents.

A number of cities have experimented with monetary incentives to encourage downtown living. The City of Knoxville, TN, for example, has implemented a program that promotes downtown living through fiscal incentives for developers, including tax-breaks and low-interest preservation loans.

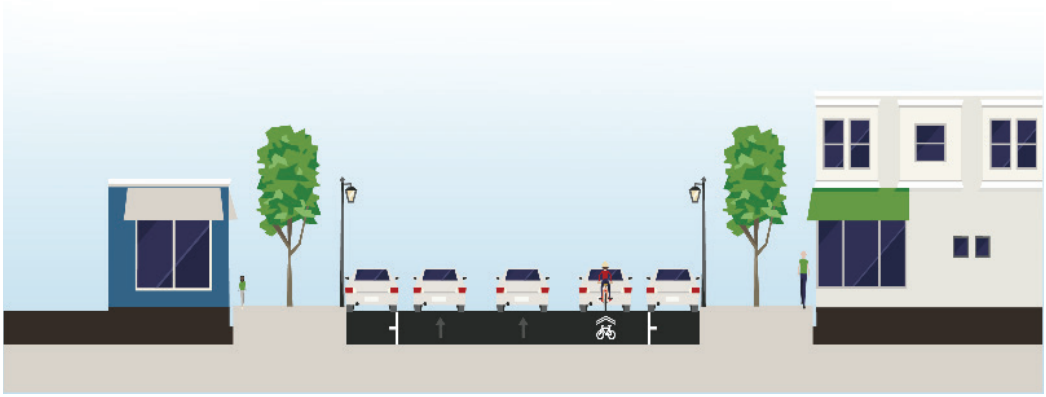
Retrofit Buildings for Residential Use and Promote Mixed-Use Developments that Include Residential Space

There is very little buildable land in the downtown area to pursue residential development, so a program that encourages the retrofitting of downtown buildings to accommodate apartments could be implemented. Commercial and retail buildings could easily be targeted and transformed into mixed-use buildings. This would help make the downtown area more vibrant and may attract new demographic groups, including young professionals.

Redesign Streets and Calm Traffic and Encourage Alternate Transportation

The downtown streets and sidewalks are generally walkable, but some improvements would further support the area as a destination, rather than a thruway. The one-way roads through the downtown area serve to move vehicles through the downtown, which does little to encourage drivers to stop and spend

Main Street between I-5 and Oakdale Current



Main Street between I-5 and Oakdale Proposed

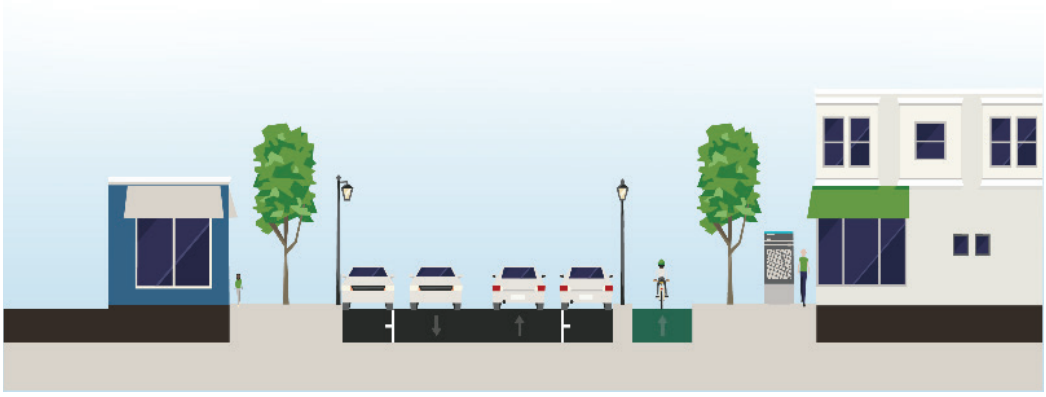


Figure 8: *Current and recommended street designs for Main Street between I-5 and Oakdale. Images created using Streetmix.net.*

time or money there. Perhaps more importantly, it creates a less pedestrian-friendly environment. It is recommended that the city consider transforming one-way streets to two-way streets where possible (recognizing the difficulty that would likely arise on the Highway 99 couplet) and perform road diets to reallocate portions of the right-of-way to parking, bicycle, or pedestrian facilities. Each of these actions would slow traffic and encourage alternate modes of transportation, each of which is listed as a priority in City's Transportation System Plan.

It is also recommended that the City utilize downtown as a key connecting point for the bicycle network, funneling routes into the area. Among the key recommended improvements includes an east-west route through downtown that allows for a bicycle connection between east and west Medford. Opportunities to create better connections with the Bear Creek Greenway should also be explored. In any street redesign projects, the City should consider the potential for protected (buffered) bicycle facilities.

Developing Mixed-Use Community

Southeast Medford Activity Center

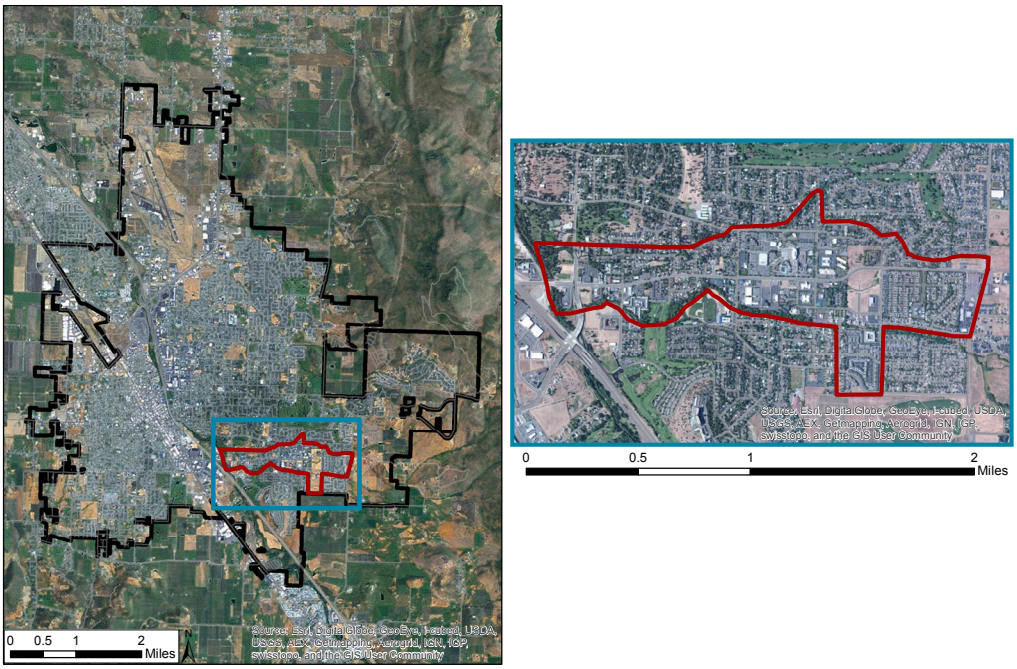


Figure 9: *Developing Mixed-Use Center. Map created by Eli Tome.*

Description

Although located away from the city's core—unlike the other activity centers, which are concentrated along the I-5 corridor—the Developing Mixed-Use Community has an impressive balance of residential and employment density. This activity center has the opportunity to build upon the efforts put forth in establishing the adjacent Southeast Transit-Oriented District (TOD), which is zoned to accommodate a mix of uses and locate high-density residential and employment centers near daily-need amenities. The center's employment hub is the Asante Rogue Regional Medical Center, which has drawn other medical offices to the area.

The activity center runs in a somewhat linear fashion along the East Barnett Road corridor, which carries the vast majority of the east-west traffic due to limited circulation opportunities in the area. Most of the activity center is located within one-quarter mile—considered to be a walkable distance—of a transit stop, bike path, or multi-use path.

Demographics can be found in **Appendix K**.

Local Context

The activity center is directly adjacent to an area targeted by the city as a TOD district. The area has easy vehicular access to the freeway and commercial areas along the I-5 corridor, along with bicycle access to the Bear Creek Greenway.

Analysis

Walkability Assessment

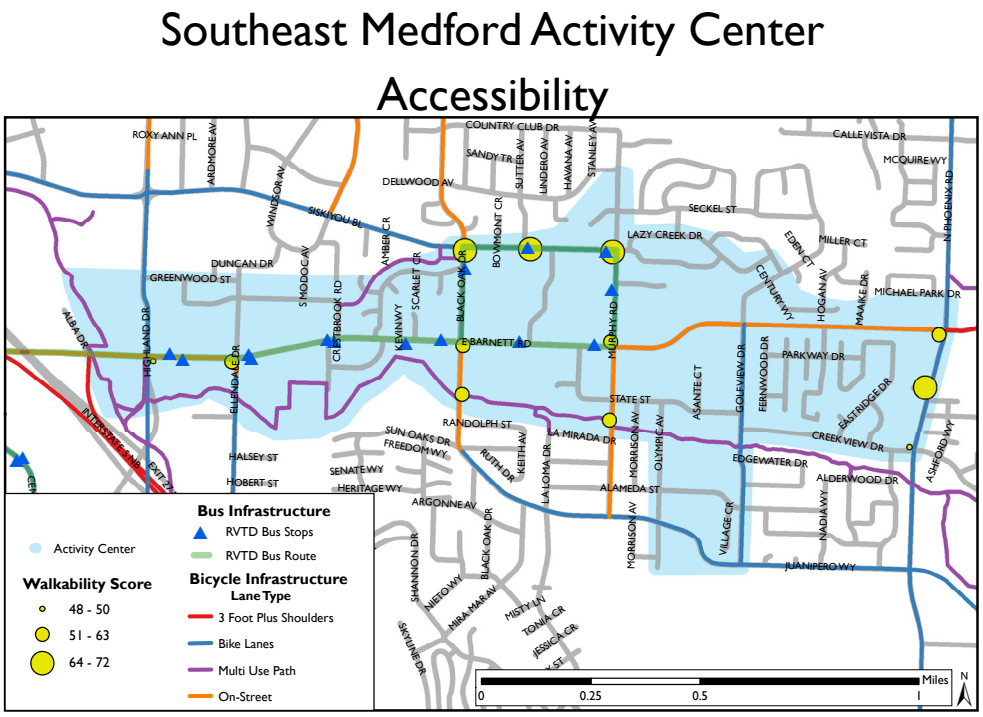


Figure 10: *Alternate transportation accessibility. Map includes walkability scores, RVTD services, and bicycle facilities in the Developing Mixed-Use Center. Created by Eli Tome.*

Walkability in the activity center varies between the high-traffic roads, such as Siskiyou Boulevard, East Barnett Road, and North Phoenix Road, and residential collector streets. Although there are pleasant aesthetics created via landscaping throughout the area, the elongated block structures, lack of pedestrian buffer, high vehicular speeds, and absence of bike network connectivity all convey room for improvement. In a number of cases, larger roads lacked the visibility needed to create safe crossing points for pedestrians. Along Barnett Road, in particular, pedestrian islands and bike lanes were not consistently available.

The commercial corridors lacked active frontage along the roadways, while local collectors had poor sidewalk connectivity, in some instances. The need

for better urban design practices have been acknowledged and implemented, in the case of the Barnett and Phoenix Road intersection, where improvements include widened sidewalks, a landscape buffer separating pedestrians from vehicular traffic, clearly marked crosswalks, and bike racks.

Policy Framework

The policy framework chosen to guide the analysis of this activity center came from the neighboring Southeast Plan. Key themes that are reinforced by the Developing Mixed-Use Community include the following:

- Encourage high employment and population developments.
- Mix land uses in a manner that reduces automobile dependence.
- Extend the Bear Creek Greenway to provide the area with safe bicycle facilities and a strong connection to the Bear Creek corridor, which includes downtown Medford.
- Increase transportation options via access to transit and walkable roads.
- Use sound urban design practices.

Future Recommendations

Improve Transportation Options, Especially Along the Barnett Road Corridor

Steps should be taken to address features listed above that hamper the activity center's walkability and bikeability. Barnett Road, which is the key corridor, should be prioritized for improvements that attract users of all types. It is currently five lanes across, suggesting that there is likely room to reallocate to widen sidewalks and/or create better bicycle facilities. Opportunities to improve pedestrian circulation should be explored, given the area's poor connectivity.

Areas being looked to as future commercial and mixed-use corridors or hubs within the activity center should be pedestrian-focused, with traffic speeds slowed to 25 miles per hour. Larger roads in the area currently have vehicular speeds ranging from 30 to 45 miles per hour, which is not conducive to pedestrian activity. Calming traffic, narrowing crossing distances, and adding increased vegetation should be prioritized throughout the site.

Use Underutilized Land to Create More Public Spaces and Increase Density

Although the area does not have much underutilized land, the vacant lots along Golf View Drive and Barnett Road could be a key opportunity to create more public space and/or increase density levels in the area. The activity center core is strongly lacking in open space, although it is bordered to the east and west by open areas. More public space within the center itself would help improve social cohesion and further establish activity in the area.

Mix Land Uses Effectively

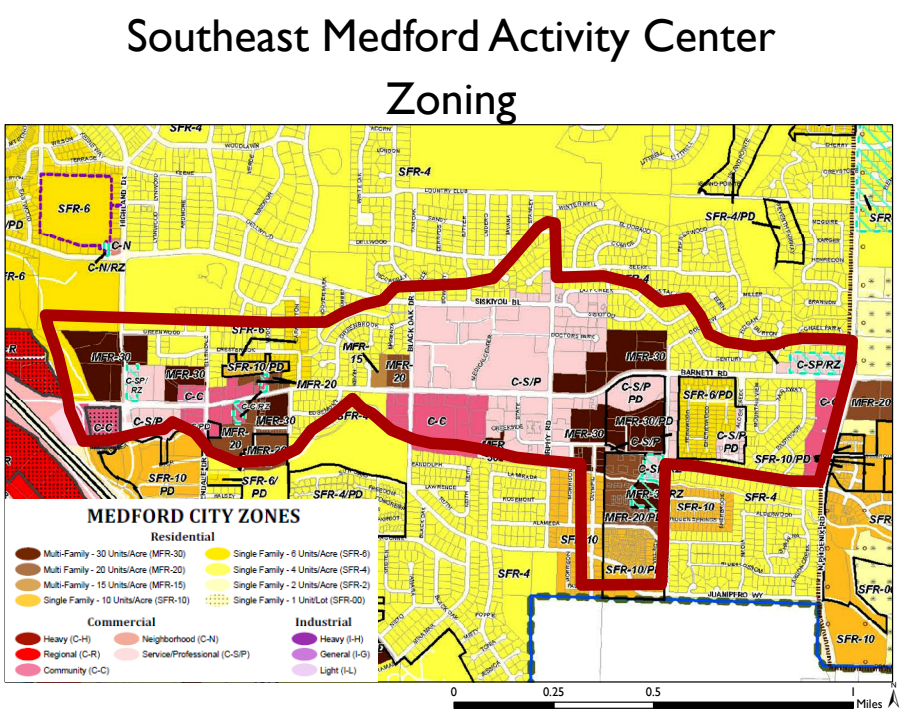


Figure 11*: Zoning within the Developing Mixed-Use Center. Zoning supports a variety of uses conducive to higher employment and population densities than the surrounding areas.*

Although the activity center has commercial and residential areas in proximity, the land uses are fairly segregated and could be better integrated, in some cases. The establishment of developments that are mixed-use or some form of centralized area that combines housing with daily-need amenities would serve the area well.

Key to any mixed-use community is an area that serves as a hub for activity. The Southeast Plan identifies the intersection of Phoenix and Barnett Roads and its immediate surroundings as an opportunity to create a center that will provide nearby residents with easy access to retail and dining options.

Local Commercial Center

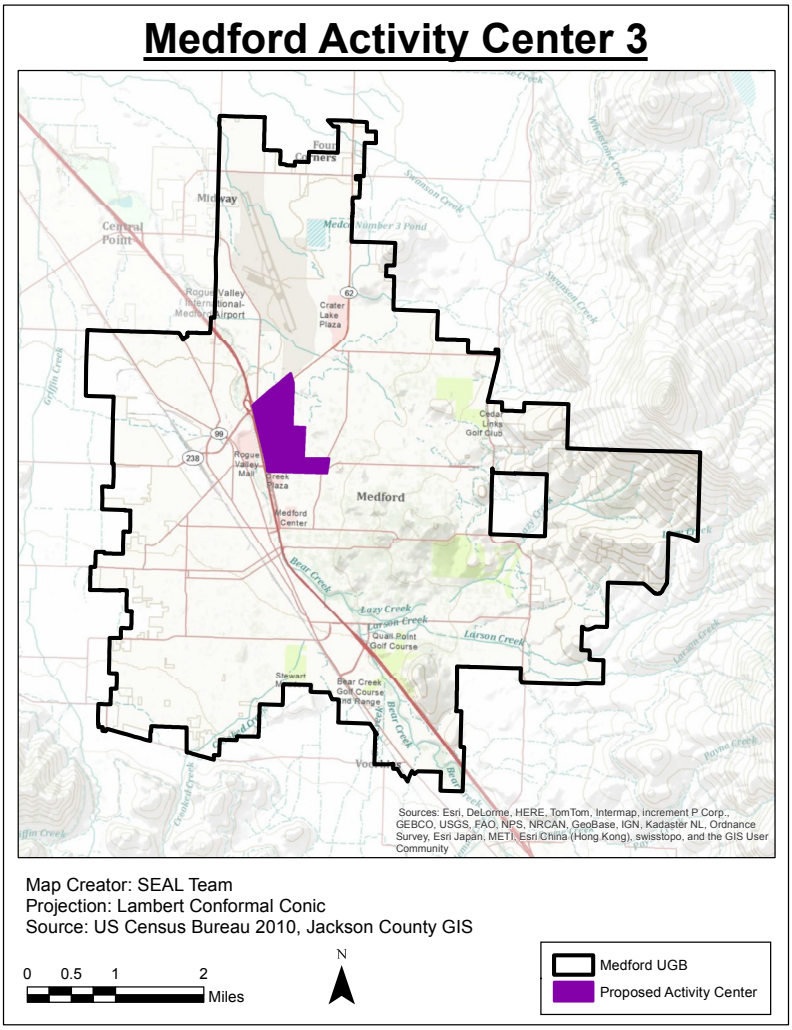


Figure 12: *Local Commercial Center context. Map created by Stephen Dobrinich.*

Description

The Local Commercial activity center is primarily defined by its expansive amount of commercial land, which makes up over half of the activity center's land area. The commercial uses serve adjacent residential areas, but also attract patrons from the greater Medford area thanks in large part to the center's proximity to I-5 and Crater Lake Highway. The key corridor in the proposed activity center is bounded by Poplar Drive and Biddle Road, which are the only roads connecting Crater Lake Highway and East McAndrews Road.

The majority of the activity center is low-density development, with the exception of the 70 acres classified as Urban High-Density Residential at 20-30 multi-family units per acre. Demographics can be found in **Appendix L**.

Local Context

As mentioned above, the center functions to serve commercial needs of nearby residential areas, but is also situated in an area that attracts those travelling via I-5 and Crater Lake Highway. The site has clear borders on three of the four sides: to the north by Crater Lake Highway and the Medford Airport, to the west by I-5, and to the south by East McAndrews Road. The site and its surroundings have poor street connectivity, which, combined with the proximity to the freeway and highway and automobile-oriented nature of the site, results in high traffic on arterial and collector roads both through and around the site.

Analysis

Walkability Assessment

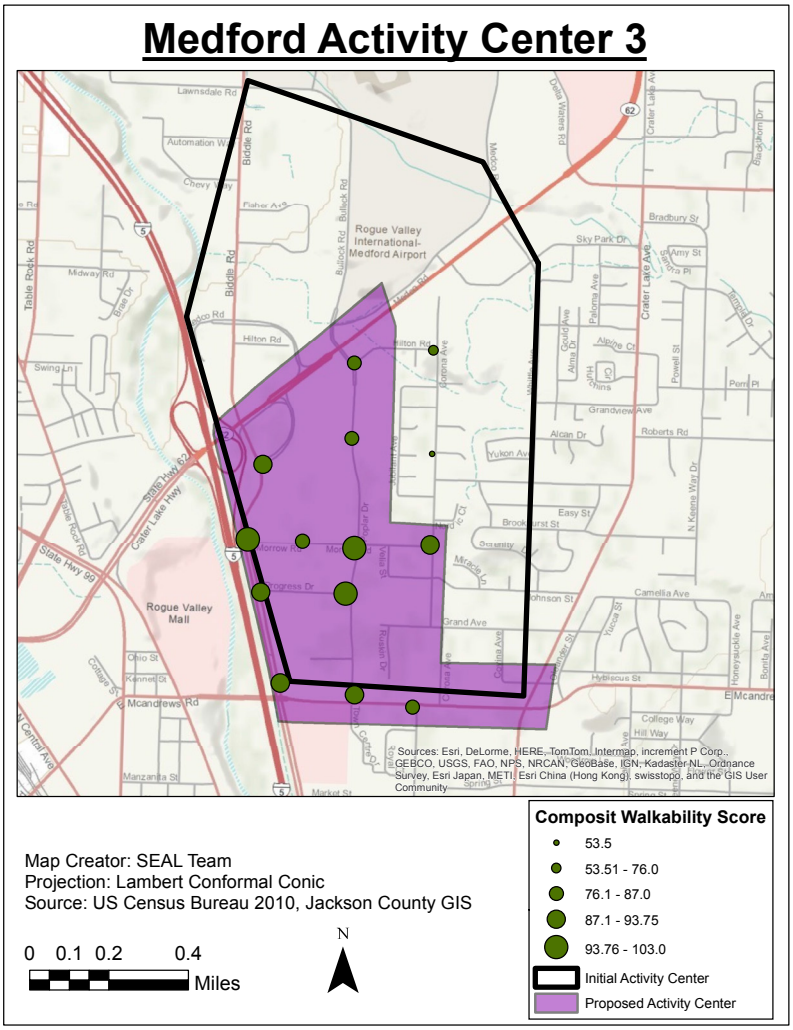


Figure 13: *Walkability scores in the Local Commercial Center. Map created by Stephen Dobrinich.*

The area performed poorly on the walkability assessment, primarily for reasons listed above; the center's roads and businesses are automobile-oriented. The only strengths noted were the presence of street lighting and well-paved sidewalks throughout the site.

Key weaknesses identified included the following:

- Lack of sufficient crosswalks and traffic calming elements on Poplar Drive.
- Poor connectivity between the residential and commercial zones, particularly for pedestrians.
- Absence of trash cans and public seating.
- No street-side business access; commercial areas fronted by large parking lots.
- Commercial areas not built to human scale.
- Poor bike facilities and network.

Policy Framework

The Transportation System Plan, Regional Transportation Plan, Bear Creek Valley Regional Plan, and Comprehensive Plan each contain policies that support the improvements needed to help make the Local Commercial Center a stronger activity hub. Key among these policies are those that inform the recommendations for this activity center, which are outlined below.

Key supportive policies include those in the Transportation System Plan that facilitate increased pedestrian and bicycle activity through balanced street function and land use alterations that impact type, density, and design in a manner that encourages alternate modes of travel.

To assist with the requirements of the Bear Creek Valley Regional Plan's call for nodal development, the Regional Transportation Plan includes two key alternative measures that are especially applicable to this activity center. Identification of this center as a Mixed-Use/Pedestrian-Friendly area would create 2020 benchmark targets for a minimum number of dwelling units and employment. To help achieve this, Comprehensive Plan Policy 1-2 states that the city "shall encourage the redevelopment of underutilized employment sites." Key under this policy is Implementation 1-8(b), which requires "integrated commercial centers, rather than individual linear developments, whenever feasible."

Future Recommendations

Increase Density by Targeting Underutilized and Underdeveloped Parcels for Future Development

Increasing density of all types would be beneficial in this activity center, although employment density should be prioritized to broaden the mix of uses found in the commercial-dominated area. To do so, underutilized parcels of

land should be prioritized. The area contains a large amount of land devoted to parking in commercial areas that can be repurposed. Exploring shared parking policies and reducing minimum parking requirements can help alleviate parking concerns and ensure that space devoted to parking is used as efficiently as possible.

Redesign Streets, Calm Traffic and Increase Connectivity to Encourage Alternate Transportation, Especially Between Residential and Commercial Areas

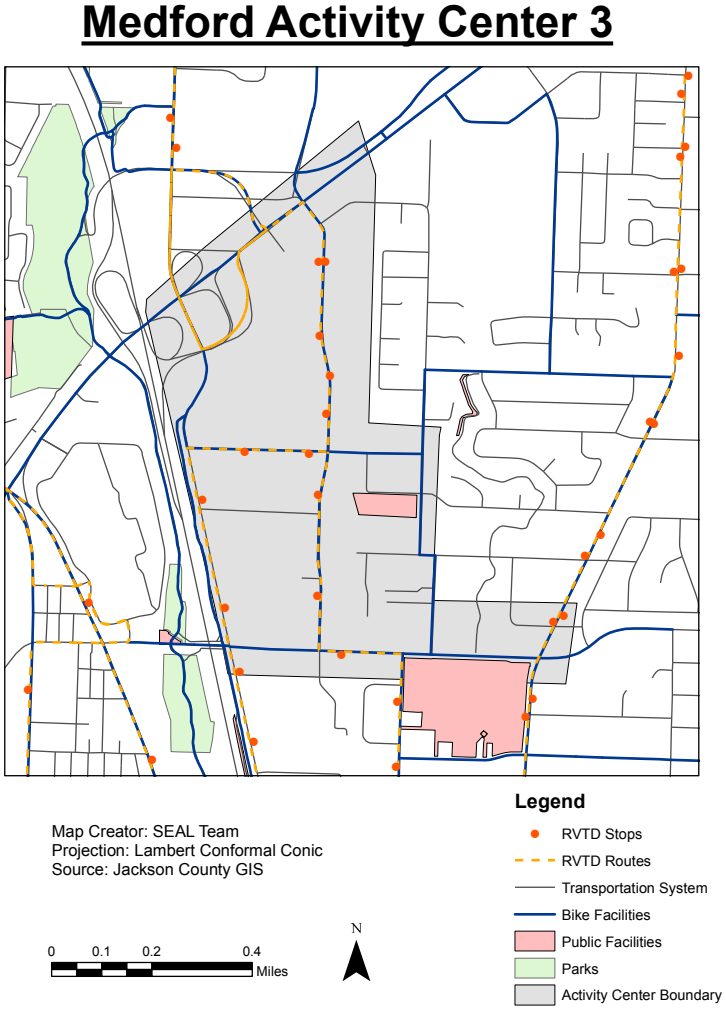


Figure 14: *Bicycle facilities and RVTD Routes in the Local Commercial Center. Map created by Stephen Dobrinich.*

More pedestrian and bike-friendly measures are recommended around the site as a whole, but should be prioritized on the site's two main roads, Poplar Drive and Biddle Road. Using traffic calming measures, such as decreased speed

limits, curb extensions, increased vegetation, and visible pedestrian crossing points would help slow speeds and make the area safer for users of all types. It is also recommended that the city perform a “road diet” on Poplar Drive, converting the four-lane road to three lanes with a center turn lane and wide bike lanes.

Opportunities to increase connectivity—especially between residential and commercial uses--in the area should be explored to establish some form of grid pattern. Parking lots and underdeveloped space can be repurposed to create new roadways and connections. This, in conjunction with the recommendation below, would have an “urbanizing” effect that would ensure more efficient land use and a more vibrant, active area.

Employ Design Standards to Create a Pedestrian-Scaled Activity Center

Creating active frontage along roadways—rather than parking lots—would also help create a more pedestrian-friendly activity center and help establish urban placemaking principles. New developments should “hide” parking lots in the rear and/or utilize on-street spaces to enable street-side access. These changes, in addition to signage restrictions, would help make the area more pedestrian-scaled.

Regional Commercial Center

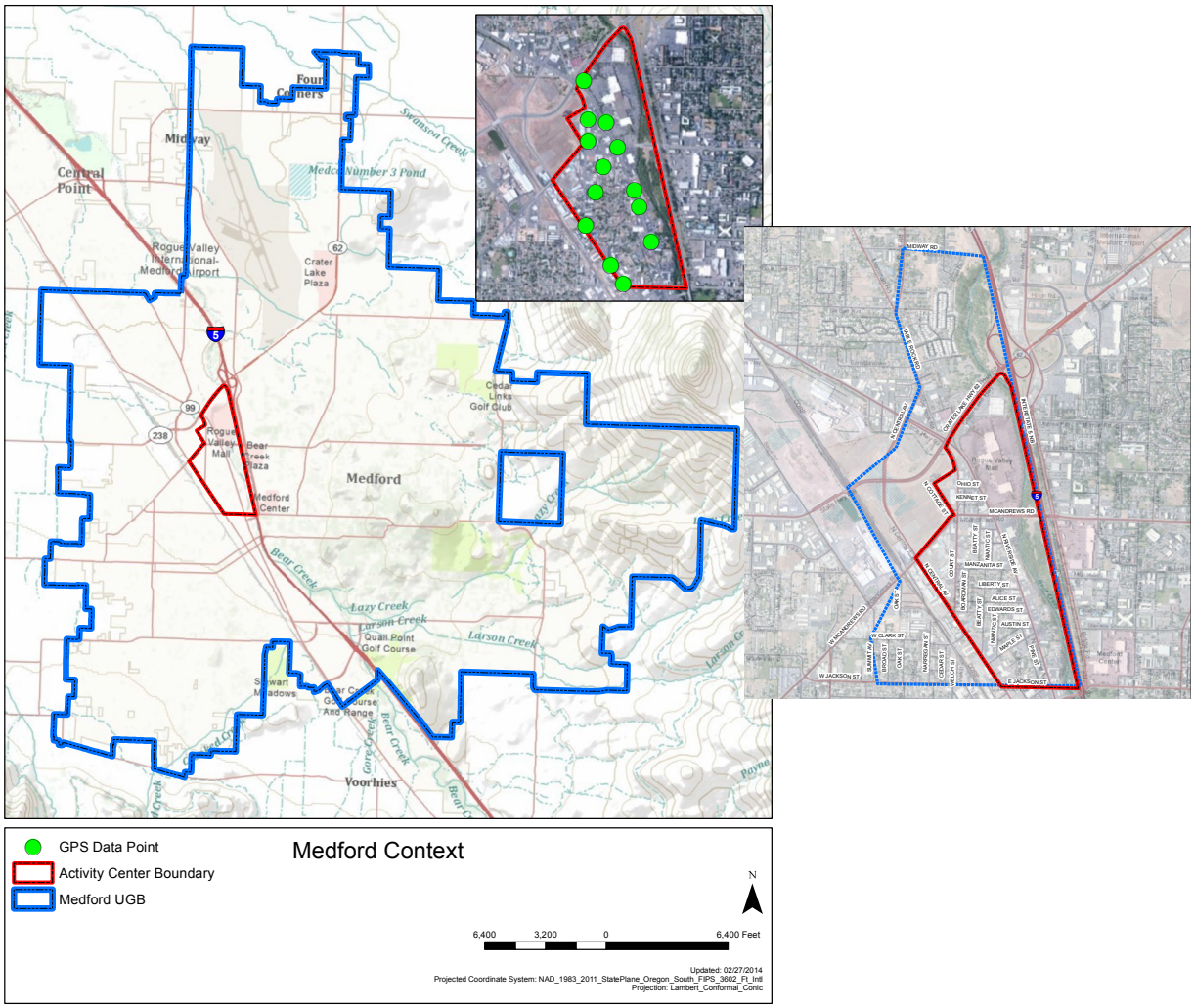


Figure 15: *Regional Commercial Center context and boundary. Maps created by Taylor Eidt.*

Description

The Regional Commercial Center draws its name primarily from the presence of the Rogue Valley Mall, but includes other uses conducive to activity center formation. The center has a residential core surrounded by a commercial boundary area with high-classification roads. There is a variety of commercial activity, ranging from more local uses at the southern portion of the center to regional draws to the north. Due the linear nature of the center and its natural and built boundaries—which include a railway, freeway, creek, and number of high-classification roads—it is unlikely that this activity center will be able to expand beyond its defined boundaries. Likewise, the site's development pattern does not offer much continuity with areas beyond these boundaries.

Residential density zoning includes Single Family Residential at 10 units per acre up to Multi Family Residential at 20 units per acre, although the General Land Use Plan Map indicates a desire for higher residential density in the future. Demographics can be found in Appendix M.

Local Context

The site runs in a linear fashion along the I-5 corridor just east of downtown, bounded by Crater Lake Highway to the north, East Jackson Street to the south, I-5 to the east, and North Central Avenue to the west. While the northern portions of the site are clearly influenced by proximity to I-5 and Crater Lake Highway, the residential core and areas to the south hold a stronger connection to the downtown core.

It should be noted that there are large retail developments immediately to the northwest of the site that are not captured in maps created for this project; these sites could have a significant impact on the area's function as an activity center and require new boundary delineation.

Analysis

Walkability Assessment

The walkability assessment included an in-depth look at the activity center's bounding arterial roads and core residential roads. As mentioned above, the boundaries are clearly defined in large part because of the barriers posed to pedestrian mobility by high capacity thoroughfares. Issues noted on the boundary roads included the following:

- Absence of intermediate crosswalks (lots of jaywalking).
- Presence of lengthy crosswalks with short crossing times.
- High vehicular speeds.
- Inadequate buffer between automobiles and bikes/pedestrians.
- Inadequate bike facilities (conflicts between bikes and pedestrians observed).
- Lack of vegetation and shade.
- Lack of trash cans and benches.
- Few Americans with Disabilities Act compliant ramps and crossings.

At least one internal road in the residential area at the center's core was largely lacking in basic pedestrian infrastructure, including sidewalks and shoulders. The area does have on-street parking, although it does not act as a buffer for pedestrians on streets without sidewalks; rather, it forces pedestrians into the same shared space with automobiles. Although a number of communities around the world are experimenting with shared roadways that are similar to these, they tend to contain a number of traffic calming measures, such as signage, vegetation, pavement coloration, and intersection treatments to make it clear that the space is shared between cars, bikes, and pedestrians.

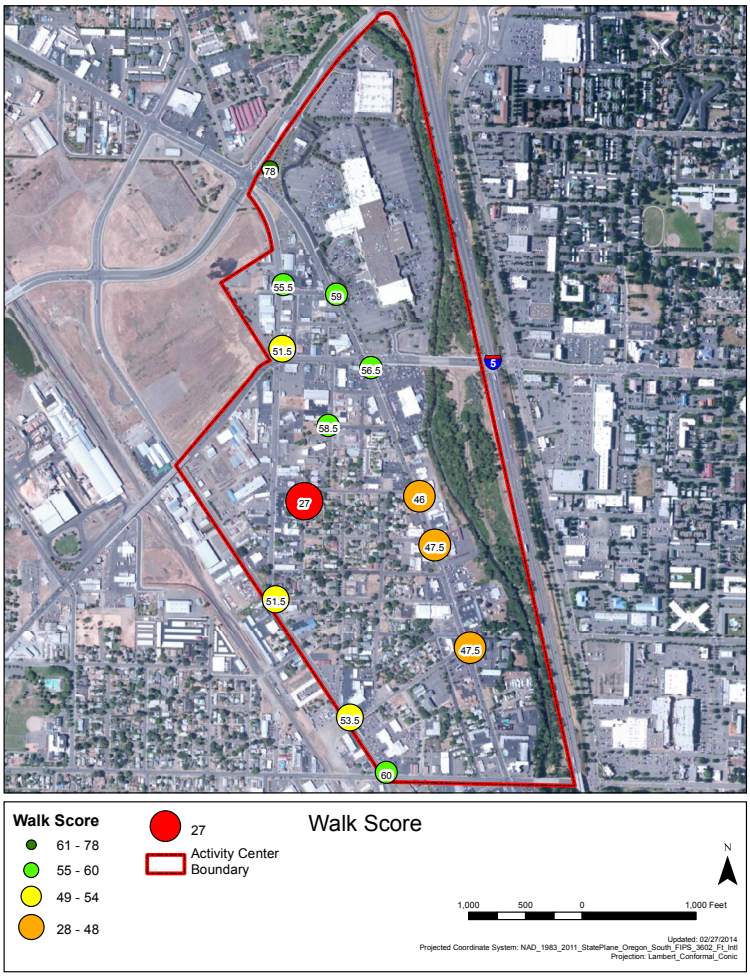


Figure 15: Regional Commercial Center context and boundary. Walking scores reflect individual group's scoring system and should not be compared to those in other activity centers. Higher scores mean more walkable environments. Maps created by Taylor Eidt.

Policy Framework

The guiding policy strategies that are applicable to this activity center come from the city's Potential Uses of Activity Centers document, which outlines how transportation and growth management policies can foster highly livable and functional activity centers.

Policy 8-A of the Transportation System Plan (TSP) focuses development and redevelopment on sites best supported by the overall transportation system without increasing automobile dependence; given the area's proximity to downtown and non-residential uses, this is a valid measure to work towards for the center. Plans to increase residential density in the center's core and within one-quarter mile of a transit stop further support this policy, although significant improvements to the area's pedestrian and bike facilities need to be made.

Policies 10-A of the TSP and 1-2 of the Comprehensive Plan seek to encourage sustainable growth practices that minimize infrastructural costs by incorporating compact development, utilizing existing infrastructure, and developing on vacant or under utilized land. As mentioned above, increasing residential density in the activity center core would serve these policies well. Additionally, space in the public right-of-way—especially along the site's arterial roads—could be reallocated to better serve uses conducive to activity.

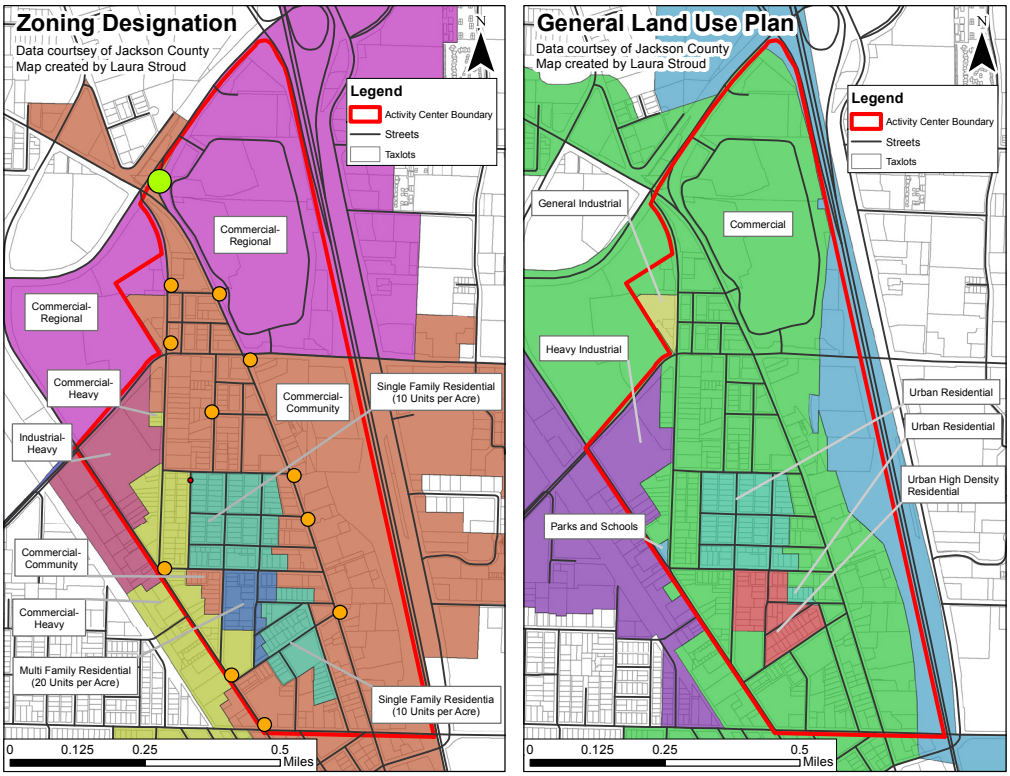


Figure 17: *Regional Commercial activity center Zoning and General Land Use Plans. The areas potential future high density residential development and intensified land use patterns could make this a viable activity center that serves Medford's downtown well. Map created by Laura Stroud.*

Future Recommendations

Increase Residential Density and Explore Feasibility of Transit-Oriented Development

As an area close to the city's downtown and a variety of uses, increasing residential density in this activity center's core represents an efficient use of land, is unlikely to lead to a significant increase in vehicle miles travelled, and will create a stronger case for a walkable center that is no longer accessed solely by automobile. This will hold especially true if the area is considered as a candidate for transit-oriented development due to service by RVTD's Route 40 and proximity to the region's transit hub in downtown Medford. Land use

changes and improvements to the center's streets, as detailed below, could increase the viability of transit use in the area.

Redesign Streets, Calm Traffic and Increase Connectivity to Encourage Alternate Transportation

Arterial roads that currently isolate the site should be addressed to create a better transition between the activity center and its surroundings. Among key improvements that need to be made are increased crossing opportunities with better visibility and safety measures (such as pedestrian islands), curb extensions, increased sidewalk widths, vegetation (to provide a buffer and shade), and exclusive bike facilities. By reallocating some of the right-of-way from automobiles to active transportation modes, the boundaries will likely be "softened," opening the center up to surrounding areas and establishing a better connection between the site and the rest of Medford's core area.

Limitations

There are a few areas in which this methodology could be improved to generate more concise results. Although the combination of spatial analysis and the walkability assessment yields a good understanding of the areas in question, activity center boundaries are a basic guideline of areas in which activity exists or has the potential to exist in the future. In its final presentation to the city staff, the class concluded that the entire process used is sufficient only for preliminary activity center identification.

The preliminary analysis was guided by data at the census block level, which, in addition to the buffer analysis used to determine commercial activity, could leave the mapping process susceptible to generalization of density levels. One of the primary concerns was the lack of information about commercial land uses; although we used designations that seemed conducive to the formation of activity centers, there is a chance that some commercial uses were improperly identified or left unaccounted. More detailed land use information would have helped better understand the types of businesses in the centers.

It should be noted that only four of the preliminary activity centers were chosen for the walkability audit; one per class group. Finally, there was variety in the walkability assessments used by each of these groups. Although teams employed the Centers for Disease Control audit, each team also created its own assessment and scoring system. Thus, walkability scores and characteristics defining the quality of the pedestrian experience across each activity center are inconsistent. It is recommended that the city creates a standardized walkability analysis in any future projects that employ an assessment of the built environment.

Conclusion

Across the country, cities like Medford are working to use infill and mixed-use development to accommodate growth in a sustainable manner. Doing so reaps a number of benefits: it locates more residents near daily-need amenities, increases vibrancy and livability, stimulates the local economy, builds stronger communities, encourages alternate forms of transportation, and limits the need for sprawling development patterns. As a city projected to grow substantially in the coming decades, it will be crucial for Medford to utilize its existing activity centers to limit greenfield development.

Three of the four activity centers studied in this report are aligned with the Highway 99 / I-5 corridor. Medford's primary commercial activity has situated itself to accommodate access from throughout the region, leading to automobile-dominated areas. As mentioned throughout the report, there are great opportunities to reallocate underutilized portions of the right-of-way and surface parking lots to create more dense and walkable environments.

Based on the recommendations included in this report, the city should consider creating overlay zones for targeted activity centers similar to the Southeast Plan. These zones can include design standards that influence future development and land use patterns. It is also recommended that the city further examine each of the preliminary activity centers and their potential to serve the needs of local neighborhoods. The City of Eugene and City of Portland have both undertaken efforts to map 20-minute neighborhoods to ensure that all residents live within a walkable distance of daily needs. Following a more extensive activity center analysis, a 20-minute neighborhood analysis is a logical next step.

Appendix A | Population Density (90th Percentile Census Blocks)

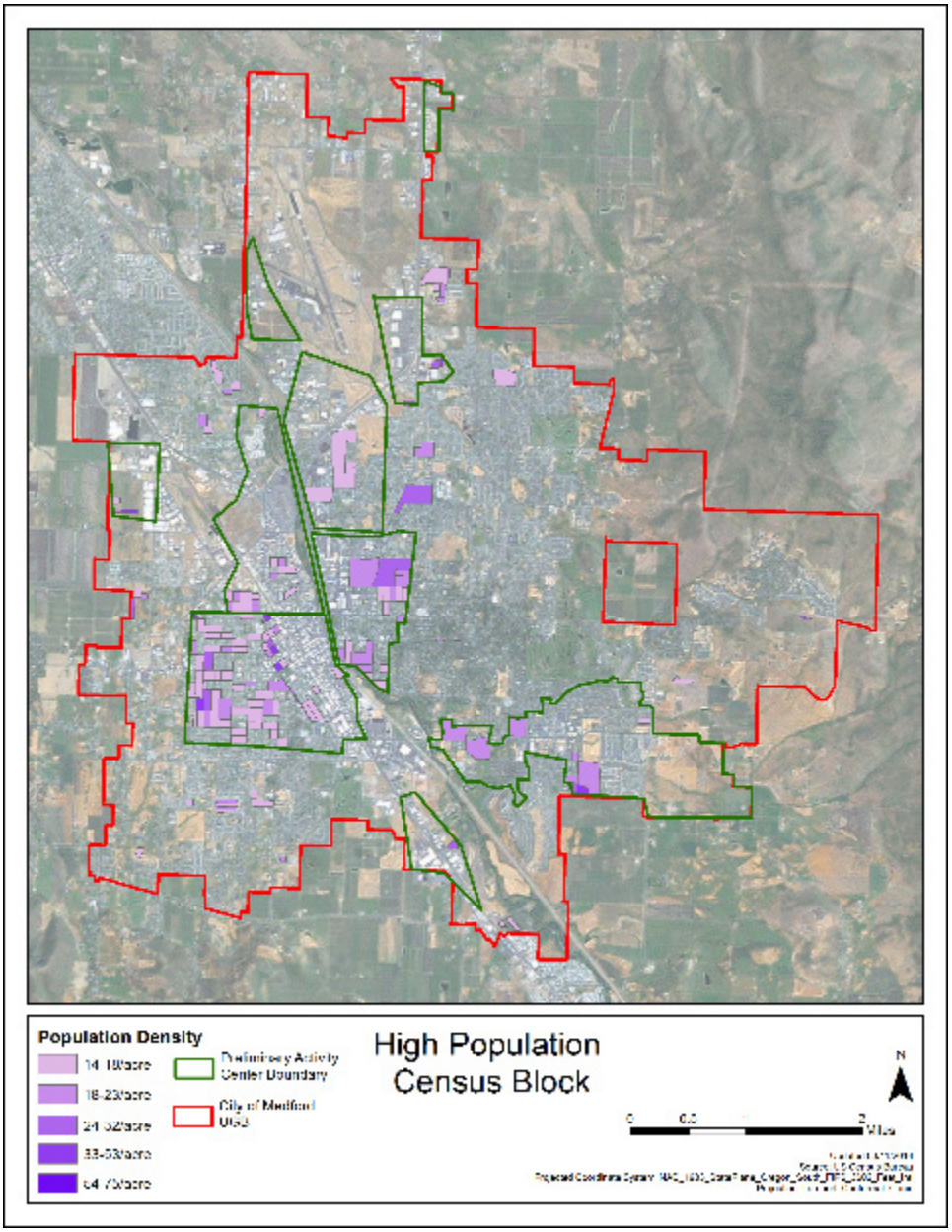


Figure 18: *Census blocks with population density levels of at least 14 people per acre. Map created by Taylor Eidt.*

Appendix B | Employment Density (90th Percentile Census Blocks)

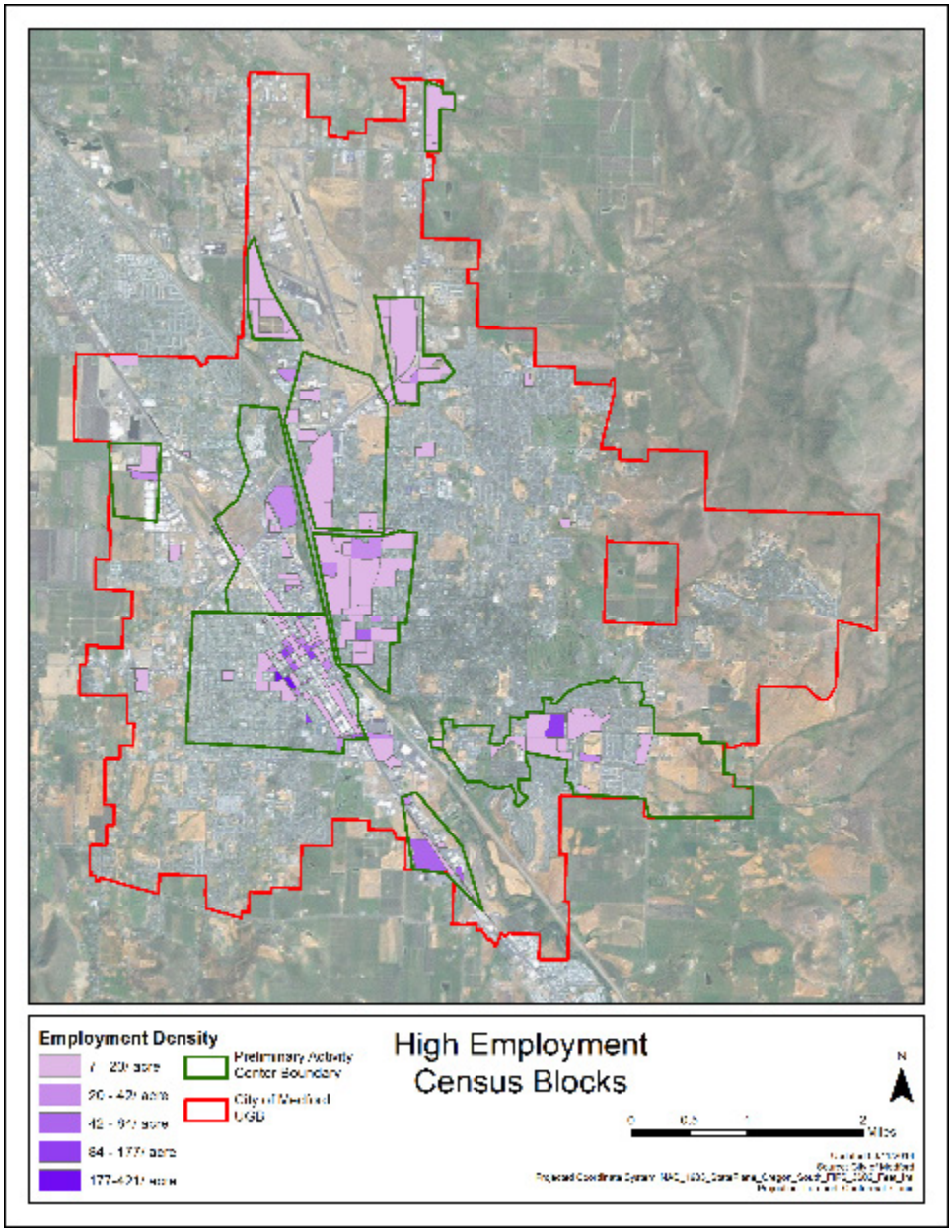


Figure 19: *Census blocks with employment density levels of at least 7 people per acre. Map created by Taylor Eidt.*

Appendix C | Commercial Floor-to-Area Ratios

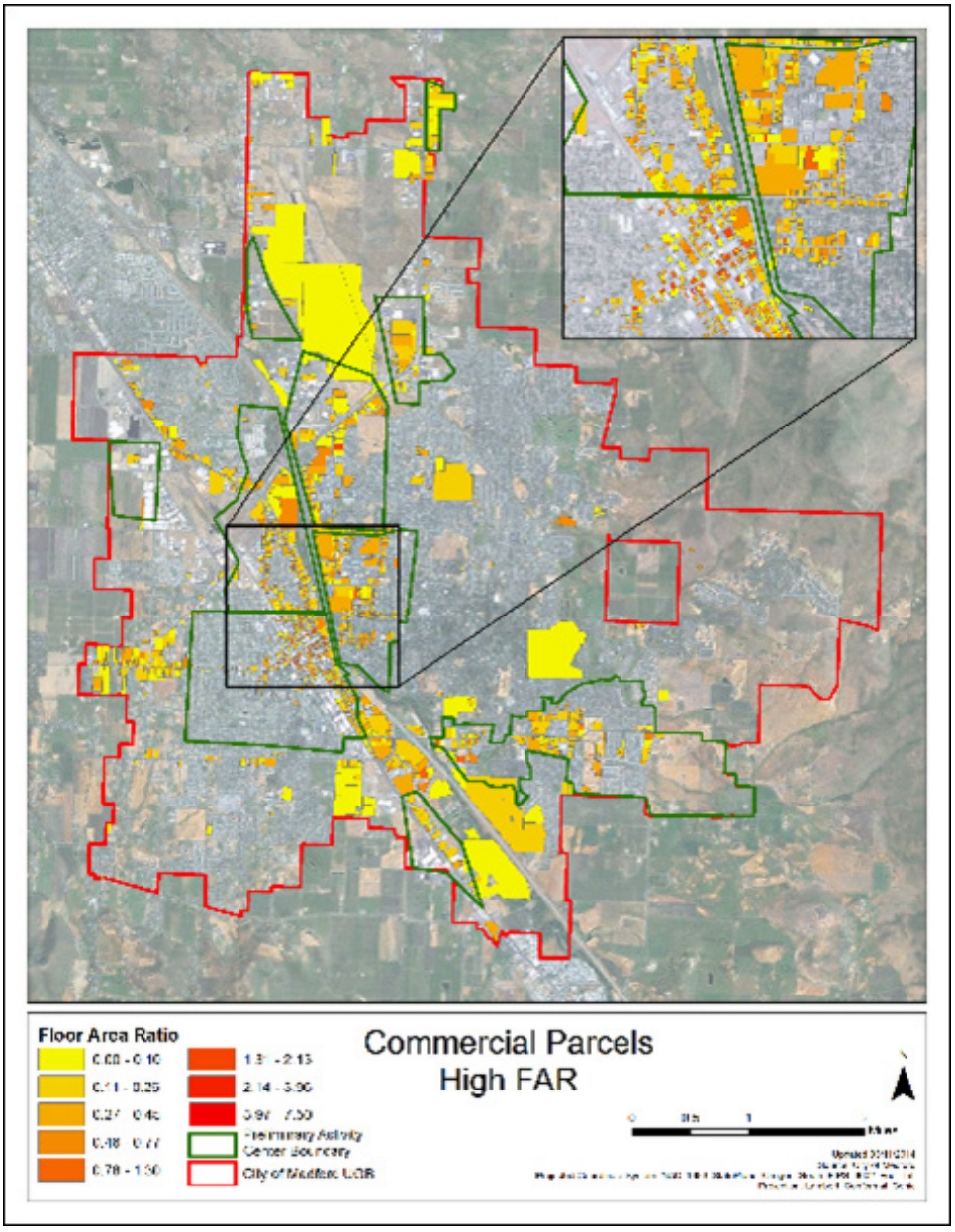


Figure 20: *Commercial activity levels, as displayed through floor-to-area ratios. Map created by Taylor Eidt.*

Appendix D | Preliminary Activity Center Boundaries

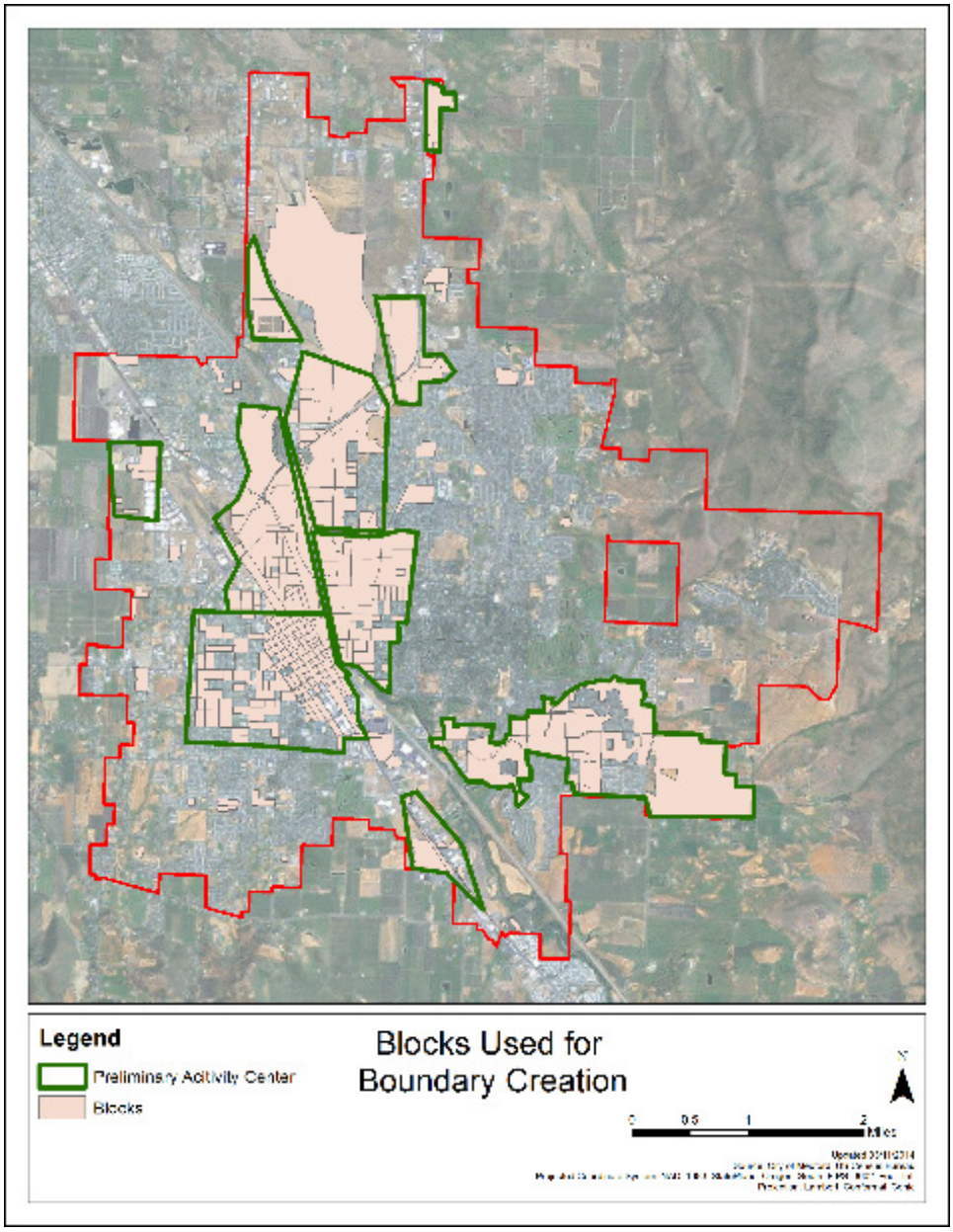


Figure 21: *Preliminary activity center boundaries, based on spatial analysis. Blocks highlighted are those with high population, employment, and/or commercial land use density. Map created by Taylor Eidt.*

Appendix E | Population Density

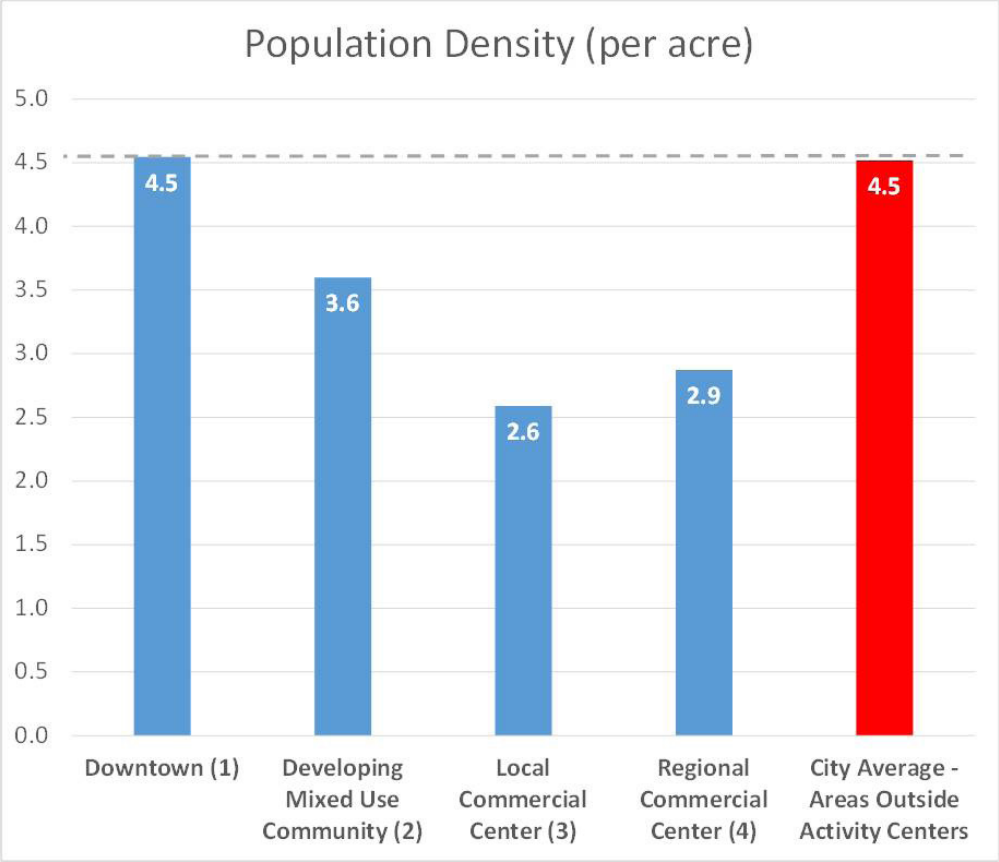


Figure 22: *Population density levels among activity centers. Graph created by Bjorn Griepenburg.*

Appendix F | Employment Density

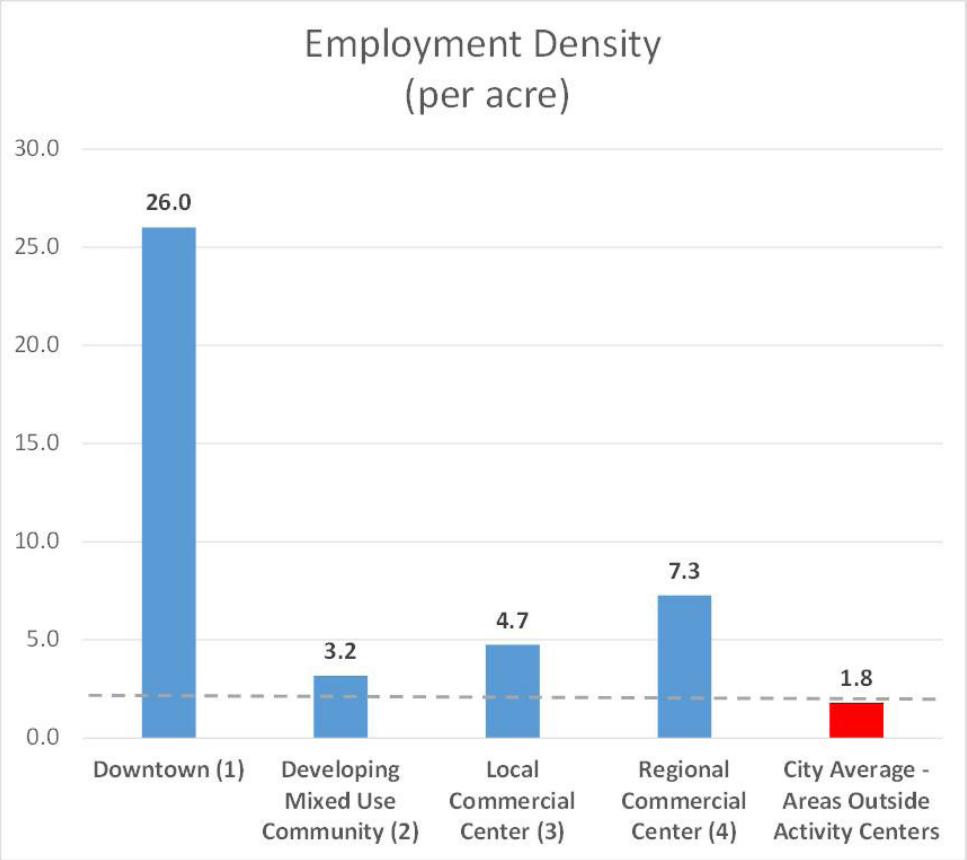


Figure 23: *Employment density levels among activity centers. Graph created by Bjorn Griepenburg.*

Appendix G | Housing Density

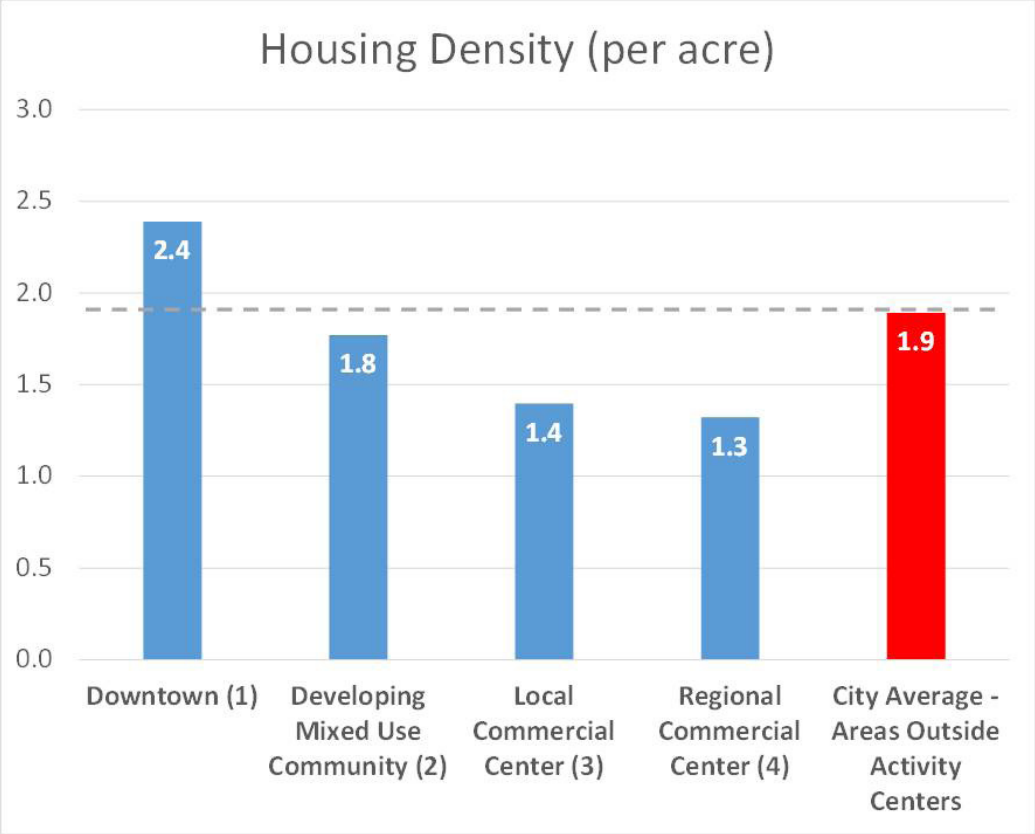


Figure 23: *Housing density levels among activity centers. Graph created by Bjorn Griepenburg.*

Appendix H | Job-to-Housing Ratio

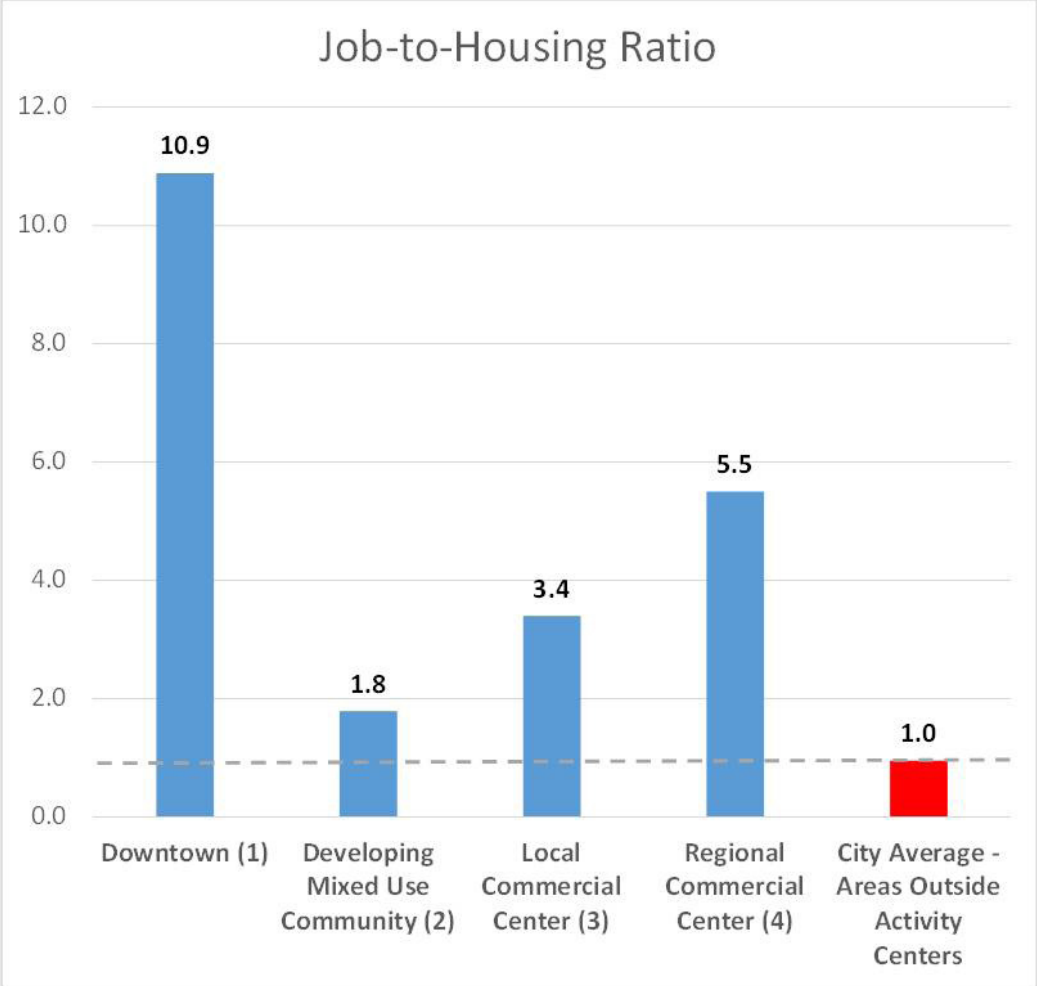


Figure 24: *Job-to-Housing ratio levels among activity centers. Lower ratios are indicative of a better mix of uses. Graph created by Bjorn Griepenburg.*

Appendix I | Average Commercial FAR

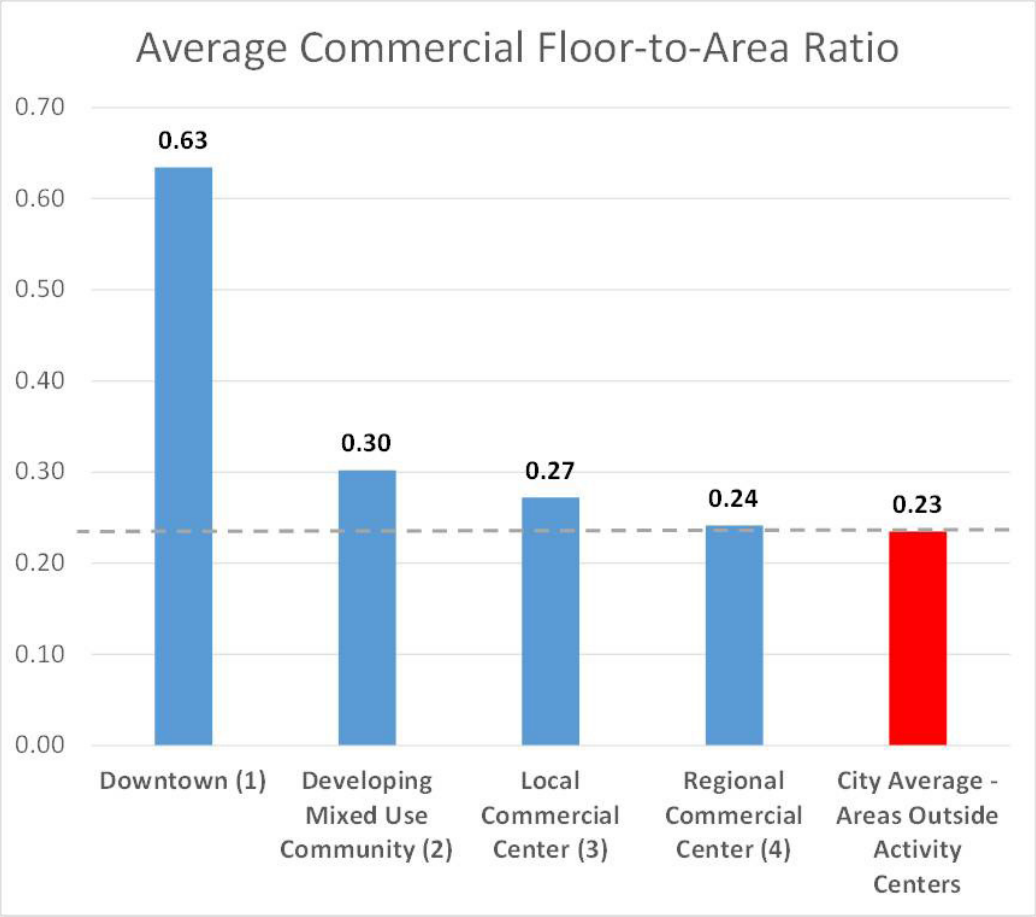


Figure 25: *Housing density levels among activity centers. Graph created by Bjorn Griepenburg.*

Appendix J | Downtown / CBD Demographics

Population

Based on available data from Jackson County, the proposed CBD boundary has a total population of 547 people with a population density of 40 persons per acre. Block level data indicates the majority of the CBD contains an average of 0-2 persons per acre. The number of persons per acre increases toward the west outside the boundary, which is primarily single family housing.

Income and Poverty

The CBD spans county tracts 100, 201, and 202. These tracts are relatively small in comparison to others in the county. At the county level, median income ranges from $23,796-$84,348 with an average of $54,539. The tracts that intersect the CBD range from $23,796-$45,186. The three intersecting tracts range from 23.4%-37.3% of the households living below the poverty level.

Appendix K | Developing Mixed-Use Community Demographics

NOTE: Zip Code-level demographics were used by this group.

Population

The highest percentage of residents of this activity center (about 22%) are between the ages of 55-64, likely due to proximity to medical services and retirement communities. Interestingly, the second highest group is 21-34 (17%).

Income and Poverty

The median income for this zip code is $43,700, with 28% of all households making below $25,000 per year.

Appendix L | Local Commercial Center Demographics

Income and Poverty

The average income by census tract shows two income categories ($47,500-55,436 and $55,436-66,133) being separated by Crater Lake Highway, with higher earning households living north of the highway.

Poverty in the area is relatively concentrated south of Crater Lake Highway between Morrow, Corona, and Roberts Streets, an area with 18-30% of all households living in poverty (compared to between 7-12% for the remaining households).

Appendix M | Regional Commercial Center Demographics

Population

The area contains a higher population of Hispanic and Latino population than the rest of the city, at 33% (compared to 13.8% citywide). Also of note are 27% of the area's thousand-plus residents being under 18 years old, larger than any other age category.

Income and Poverty

Over 80% of those living within the census tract have a household income below the city's median income, with over 60% of households earning less than $20,000 annually. In addition, childhood poverty rates are nearly 80%. Nearly 35% of residents are unemployed.

Appendix N | Literature Review

Casello, JM and Smith, TE (2006)

- High employment density needed in center or nearby
- “Trip attracting strength”
- Areas with low employment density can serve as activity centers if clustered around areas with high employment density

Lee, C and Moudon, AV (2006)

Lee, C and Moudon, AV (2003)

- Focus on assessment of physical conditions
- Environmental factors and influences on travel behavior (mode, trip distances, and trip types)

Pan, Q and Ma, L

- Use GIS to visualize cut-off thresholds (minimum number of jobs and job density needed: 10,000 jobs and 10 jobs/acre)
- Examine housing prices near activity centers

SaadAllah, DM, El Bastawissi, IY and Ayad, HM (2013)

- Commercial centers explain economic activities are organized
- Focus on places with high economic activity outside of the Central Business District
- Should have higher population density, employment and commercial facilities, civic and social space, and accessible transportation

References

Casello, JM and Smith, TE (2006). Transportation activity centers for urban transportation analysis. *Journal of Urban Planning and Development*, 247-257.

Lee, C and Moudon, AV (2006). Quantifying land use and urban form correlates of walking. *Transportation Research Part D, 11*, 204–215.

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Pan, Q and Ma, L. Employment subcenter identification: a GIS-based method. http://proceedings.esri.com/library/userconf/proc04/docs/pap2074.pdf

SaadAllah, DM, El Bastawissi, IY and HM Ayad (2013). Identification of evolving metropolitan sub-centers: a GIS-based method. *World Academy of Science, Engineering, and Technology, 76*, 474–481.