COMPASS
COMMUNITY PLANNING ASSOCIATION
of Southwest Idaho

Working together to plan for the future

Land Use to Support the *Communities in Motion 2050* Public Transportation System

Report Number 04-2024 December 2023

1 | Introduction

By 2050, the Community Planning Association of Southwest Idaho (COMPASS) forecasts that Ada and Canyon Counties — the "Treasure Valley" — will be home to 1.075 million people. To support this growth, the region's long-range transportation plan, *Communities in Motion 2050* (CIM 2050), identifies the need for a robust public transportation system. This report will focus on what land use types are supportive of public transportation ("transit-oriented development") and to what extent the land use densities forecasted in the CIM 2050 Vision are supportive of the future public transportation system. The information provided in the report is not intended to be prescriptive, but rather informative.

This report was developed based on a fiscal year 2024 member agency request from the City of Boise.

Past Planning Efforts

Efforts to manage growth by building in areas with existing infrastructure have occurred since the early 2000s.

- 2005: Blueprint for Good Growth Consortium
- 2006: *Communities in Motion 2030*[i]
- 2007: *Communities in Motion* Implementation Guidebook[ii]
- 2010: *Communities in Motion 2035*[iii]
- 2010: Ada County Highway District Transportation and Land Use Integration Plan[iv]
- 2014: *Communities in Motion 2040*[v]
- 2018: *Communities in Motion 2040 2.0*[vi]
- 2018: Valley Connect 2.0[vii]
- 2021: COMPASS Complete Network Policy[viii]
- 2022: *Communities in Motion 2050*[ix]
- 2023: *Regional Housing Coordination Plan*[x]

Higher Density Development Supports Public Transportation

Relationships between public transportation ridership and higher density land uses are well documented. Higher population, housing, employment, and commercial densities near public transportation routes are associated with increased ridership. Ewing and Cervero found that even when accounting for self-selection bias, the built environment was shown to influence mode choice[xi]. A 2016 study of 110 small urban transit systems (service area population greater than 50,000 and less than 200,000) found that this relationship holds true even in smaller urban transit systems[xii].

Due to the strong relationship between higher density and increased public transportation use, this analysis will focus on forecasted households, population, and job densities.

2 | Peer Guidance on Transit Supportive Densities

Household Density Guidelines

Many public agencies provide guidelines for transit supportive household densities, ranging from 25 households per acre in the urban core, to 15 in the city center, to 10 in suburban areas (Table 1).

Table 1: Guidelines for Household/Dwelling Unit (DU) Densities

City/Area	*Plan Name*	*Urban Core (Downtown)*	*City Center*	*Suburban Center*
San Francisco Bay Metro Area	Metropolitan Transportation Commission Station Area Planning Manual[xiii]	16-60 du/ac (0.5 mi)	10-30 du/ac (0.5 mi)	5-20 du/ac (0.5 mi)
City of Sacramento	Sacramento Regional Transit Guide to Transit Oriented Development[xiv]	≥36 du/ac	≥20 du/ac (0.25 mi) ≥15 du/ac (0.5 mi)	≥15 du/ac (0.25 mi) ≥10 du/ac (0.5 mi)
City of South Salt Lake	South Salt Lake Transit Oriented Development (TOD) District[xv]	≥50 du/ac	25 du/ac (max)	n/a
Salt Lake Metro Area	Wasatch Front TOD Design Guidelines[xvi]	50 du/ac	40 du/ac	30 du/ac
Twin Cities Metro Area	Metropolitan Council Land Use Densities Rules of Thumb[xvii]	50 du/ac (bus) 75 du/ac (rail)	25 du/ac (bus) 40 du/ac (rail)	15 du/ac (bus) 30 du/ac (rail)
Indianapolis Metro Area	Indianapolis Metropolitan Planning Organization Transit Oriented Development Strategic Plan[xviii]	≥25 du/ac	≥15 du/ac	≥8 du/ac

Note: Typologies vary from plan-to-plan and were summarized using general descriptions. Densities are calculated based on gross acreage. Mileages, when noted, specify the area surrounding a station or stop where the corresponding level of density should occur.

Job Density Guidelines

Transit supportive job density guidelines range from a minimum of 150 jobs/acre in the urban core, to 60 jobs/acre in the city center, to 50 jobs/acre in the suburban center (Table 2).

Table 2: Guidelines for Job Densities

City/Area	*Plan Name*	*Urban Core (Downtown)*	*City Center*	*Suburban Center*
San Francisco Bay Metro Area	Metropolitan Transportation Commission Station Area Planning Manual[xix]	80 – 300 jobs/ac	10 – 60 jobs/ac	15 – 100 jobs/ac
Salt Lake Metro Area	Wasatch Front TOD Design Guidelines[xx]	100 jobs/ac	80 jobs/ac	60 jobs/ac
Twin Cities Metro Area	Metropolitan Council Land Use Densities Rules of Thumb[xxi]	200 jobs/ac	75 jobs/ac	50 jobs/ac

Note: Typologies vary from plan-to-plan and were summarized using general descriptions. Densities are calculated based on gross acreage.

Mixed Use Area Guidelines

When planning for mixed use areas, most public agencies use activity units. One activity unit (AU) equals one person or one job. Public agency guidelines for activity unit densities range from 75 au/acre in the urban core, to 45 au/acre in the city center, to 25 au/ac in the suburban center (Table 3).

Table 3: Guidelines for Activity Units (AU) (Persons + Jobs)

City/Area	*Plan Name*	*Urban Core (Downtown)*	*City Center*	*Suburban Center*
Charlotte Metro Area	Centralia Regional Council[xxii]	60 au/ac	n/a	10 au/ac
Fairfax County	Fairfax County High Quality Transit Network Study Executive Summary[xxiii]	50 au/ac	20 au/ac	4 au/ac
Austin Metro Area	Capital Area Metropolitan Planning Organization 2040 Regional Transportation Plan[xxiv]	75 au/ac (100 acres)	45 au/ac (100 – 640 acres)	25 au/ac (100 – 640 acres)
Seattle Metro Area	Puget Sound Regional Council Regional Centers Framework Update[xxv]	85 au/ac (320 – 640 acres)	45 au/ac (200 – 640 acres)	N/A

Note: Typologies vary from plan-to-plan and were summarized using general descriptions. Densities are calculated based on gross acreage. The Capital Area Metropolitan Planning Organization and Puget Sound Regional Council guidelines state that the expected size of activity centers should be between 100 and 640 acres.

Summary of Peer Agency Guidelines

As shown in the tables above, transit supportive density guidelines differ in each region based on local needs and preferences. Illustrative averages of transit supportive density guidelines are shown in Table 4, including local examples.

Table 4: Summary of Transit Supportive Density Peer Agency Guidelines

Typology	*Minimum Household Density*	*Minimum Job Density*	*Minimum Activity Unit Density (persons + jobs)*	*Transit Service*	*Size*	*Local Developments*
Urban Core (downtown) Urban cores provide the highest density of both commercial and residential uses and well-connected street patterns around the station or stop area.	25 du/acre	150 jobs/acre	75 au/acre	High-Capacity Transit	100 – 640 acres	 27th and Fairview Apartments, City of Boise (83 du/ac, 358 units, 4-story office, and retail)
City Center City centers have well-connected street patterns and a mixture of commercial and residential usage to support transit, but lower densities than the urban core typology.	15 du/acre	60 jobs/acre	45 au/acre	High-Capacity or Local Transit	100 – 640 acres	 Karcher Ranch, City of Nampa (19 du/ac, 192 households)
Suburban Center Suburban centers have limited connectivity in their street patterns, with lower densities than either urban cores or city centers, and higher levels of residential usage.	10 du/acre	50 jobs/acre	25 au/acre	Local Transit	100 – 640 acres	 Modern Craftsman, City of Meridian (11 du/ac, 122 households)

3 | Do forecasted densities support the future public transportation system?

By 2050 it is estimated that the Treasure Valley will be home to 1,075,000 people and 460,000 jobs. The CIM 2050 Vision (Figure 1) forecasts *where* those jobs and households will be and identifies concentrations of residential and commercial areas called **future activity centers**. Most other households and jobs are expected in the **future** and **existing neighborhoods** areas.

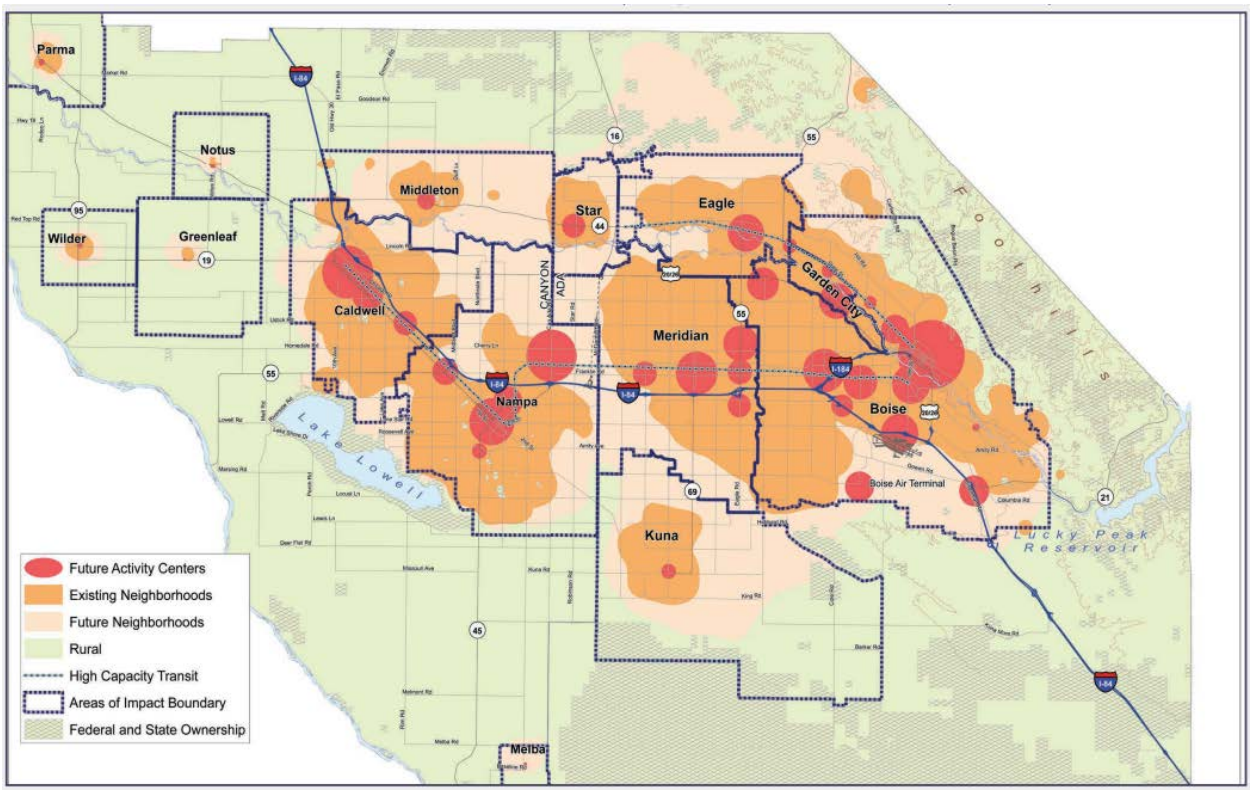

Figure 1: CIM 2050 Vision

The CIM 2050 public transportation system shows 35 public transportation routes (Figure 2) serving 12 communities (Table 5). Since many activity centers serve as key stop locations in the CIM 2050 public transportation system, it is expected that achieving transit supportive land use densities in activity centers is key to supporting the future public transportation system.

Note that about 18 discrete projects from the CIM 2050 public transportation system are expected to be funded by 2050, leaving the remaining routes unfunded.

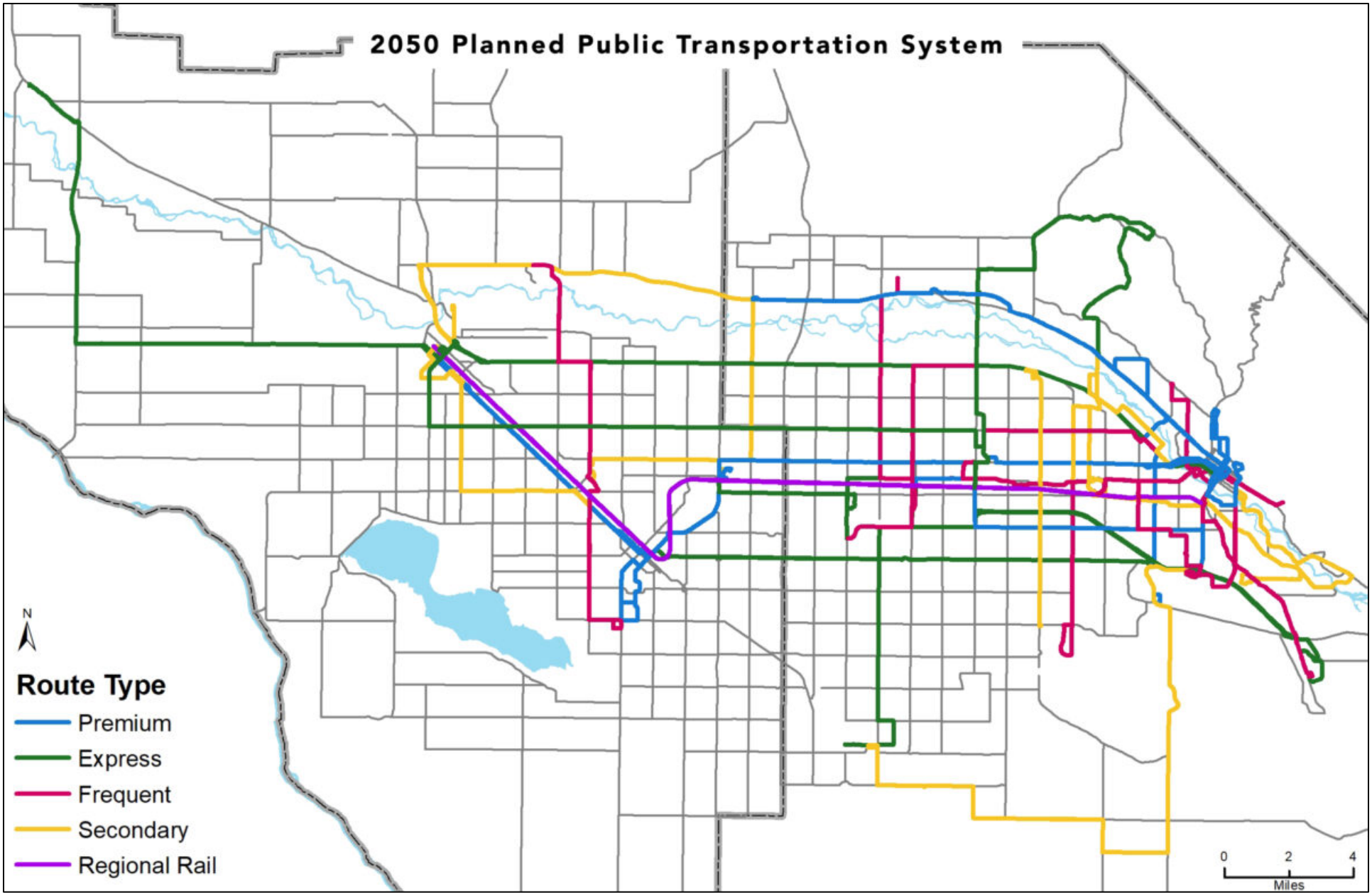

Figure 2: CIM 2050 Public Transportation System

Table 5: CIM 2050 Routes and Percent Jurisdiction (by Area of Impact Boundaries)

Express Routes			Secondary Routes			Frequent Routes			Premium Routes			Regional Rail		
100	56%	Meridian	**200**	100%	Boise	**300**	50%	Nampa	**400**	45%	Boise		35%	Nampa
	44%	Kuna	**201**	100%	Boise		25%	Caldwell		36%	Meridian		24%	Boise
101	38%	Meridian	**202**	94%	Boise		25%	Middleton		17%	Nampa		23%	Meridian
	37%	Eagle		5%	Garden City	**301**	100%	Boise		2%	Garden City		19%	Caldwell
	25%	Boise		1%	Eagle	**302**	68%	Boise	**401**	39%	Eagle			
102	38%	Meridian	**203**	80%	Boise		31%	Meridian		34%	Boise			
	36%	Caldwell		20%	Garden City		1%	Garden City		13%	Star			
	22%	Nampa	**204**	78%	Boise	**303**	62%	Meridian		12%	Garden City			
	4%	Boise		22%	Garden City		38%	Eagle		2%	Meridian			
103	36%	Nampa	**205**	73%	Boise	**304**	98%	Boise	**402**	100%	Boise			
	33%	Boise		27%	Garden City		2%	Garden City	**403**	68%	Boise			
	31%	Meridian	**206**	40%	Nampa	**305**	78%	Boise		32%	Meridian			
104	26%	Boise		36%	Star		17%	Meridian	**404**	84%	Boise			
	26%	Caldwell		24%	Meridian		5%	Garden City		16%	Garden City			
	16%	Meridian	**207**	57%	Kuna	**306**	93%	Boise	**405**	100%	Nampa			
	9%	Nampa		22%	Boise		7%	Ada Co.	**406**	61%	Nampa			
	8%	Eagle		21%	Ada Co.	**307**	100%	Boise		39%	Caldwell			
	8%	Garden City	**208**	51%	Caldwell	**308**	64%	Meridian		1%	Canyon Co.			
	6%	Star		47%	Nampa		30%	Eagle						
105	53%	Boise		2%	Middleton		6%	Boise						
	33%	Meridian	**209**	48%	Middleton									
	13%	Nampa		27%	Caldwell									
	1%	Ada Co.		23%	Star									
106	27%	Canyon Co.		2%	Canyon Co.									
	26%	Greenleaf												
	16%	Caldwell												
	16%	Parma												
	16%	Wilder												
107	42%	Ada Co.												
	32%	Eagle												
	20%	Boise												

Forecasted Densities in Activity Centers

It is expected that achieving transit supportive land use densities in activity centers is key to supporting the future public transportation system since many activity centers serve as key stop locations in the CIM 2050 public transportation system.

In CIM 2050, the activity center with the highest forecasted household density is the activity center along Curtis Road and Franklin Road. The activity center with the highest forecasted job density is on Overland Road and Eagle Road. The activity center on Overland Road and Eagle Road also has the highest density of activity units (Figure 3 and Table 6).

Currently none of the activity centers are forecasted to meet transit supportive densities, although several are close to densities of 25 activity units per acre which is consistent with densities in the suburban center typology. It is important to note that many of the activity centers in CIM 2050 are much larger than the recommended 100 to 640 acres. Of course, the larger the activity center, the more households and jobs are needed to reach transit supportive densities.

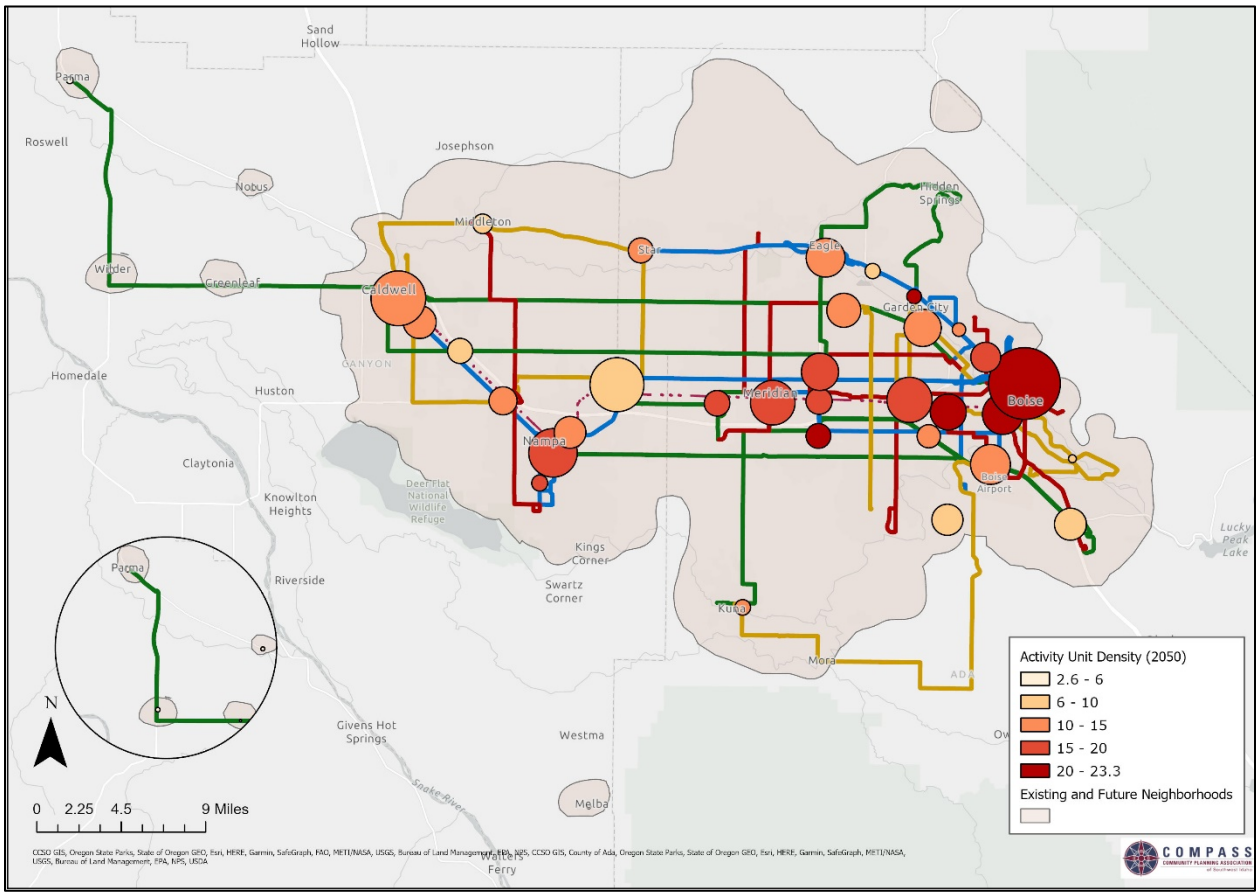

Figure 3: CIM 2050 Activity Centers by Activity Unit (Persons + Jobs) Densities

Table 6: CIM 2050 Activity Centers and Forecasted Land Use Densities

Name	Acres	Household Density (2050)	Job Density (2050)	Activity Unit Density (Persons + Jobs) (2050)
Overland and Eagle	354.0	2.9	17.6	23.3
Boise Depot High-Capacity Transit (HCT) Station/Boise State University	931.8	6.0	10.0	21.3
Downtown Boise	4,350.8	3.6	14.7	20.9
Curtis Rd HCT Station	730.6	6.9	6.6	20.4
Glenwood TOD Station	132.5	5.8	9.5	20.2
Ten Mile Rd HCT Station	369.5	6.6	6.2	19.6
Boise Town Square Mall HCT Station	1,235.6	3.6	11.4	18.7
Downtown Meridian HCT Station	1,158.5	3.1	9.2	16.2
30th/Whitewater Park TOD Station	574.9	5.9	4.0	16.1
Downtown Nampa HCT Station	1,337.8	4.7	4.6	15.9
NNU/Saltzer Hospital	144.3	3.5	7.9	15.9
Meridian Village	958.2	2.7	9.3	15.8
Eagle Rd HCT Station	385.3	0.4	14.7	15.7
Boise Research Center	672.4	2.3	9.2	14.6
Karcher Mall Station	444.1	2.6	8.5	14.5
Downtown Caldwell HCT Station	1,720.2	3.8	5.1	14.0
The College of Idaho HCT Station	615.0	4.2	4.2	13.8
Overland and Cole	305.8	2.3	6.6	11.9
Collister TOD Station	128.4	4.5	2.8	11.7
Boise Airport	901.1	3.0	5.1	11.5
Expo Idaho	783.9	3.7	4.4	11.3
Eagle Downtown	867.3	2.5	6.0	11.1
Kuna Downtown	138.3	2.6	3.8	10.7
Star Downtown	357.3	2.7	3.5	10.3
Lakeview Park HCT Station	615.9	2.2	4.5	10.1
Horseshoe Bend TOD Station	140.1	2.9	4.1	9.9
Idaho Center/CWI HCT Station	1,642.6	2.0	4.3	9.3
Bown Crossing	36.1	3.1	1.6	8.6
Ustick Rd HCT Station	531.6	2.0	3.4	8.3
Middleton Downtown	250.5	2.5	1.8	8.2
Syringa	574.9	2.1	2.4	7.1
Melba Downtown	9.0	1.1	3.1	6.2
Federal Way/Eisenman	626.6	0.6	5.0	6.1
Notus Downtown	16.9	1.5	1.4	5.8
Wilder Downtown	21.2	1.3	1.6	5.1
Greenleaf Downtown	5.0	1.2	1.0	4.6
Parma Downtown	27.3	0.9	0.5	2.6

How Many More People and Jobs?

To achieve even 10 households per gross acre in activity centers, over 200,000 additional households would be needed in the activity centers across the two counties. To achieve 15 households per gross acre, over 350,000 additional households would be needed (Table 7). This estimate shows transit-supportive household densities if the entire area within all activity centers was developed residential. It does not anticipate a mix of uses.

Table 7: Households (CIM 2050 Activity Centers)

	Existing (2022)	**Forecasted** (2050)	**10 DU/acre**	**15 DU/acre**
Households	55,879	77,862	289,529	434,293
Acres	28,953	28,953	28,953	28,953
Population	124,203	164,376	434,293	651,440
% Increase		39%	272%	458%

Note: Since population forecasts were unavailable for unconstrained estimates, a household size of 1.5 was used to estimate population.

To achieve 50 jobs per gross acre in activity centers over 1.2 million more jobs would be needed in the activity centers in Ada and Canyon Counties. To achieve 60 jobs per gross acre, over 1.7 million more jobs would be needed (Table 8). This estimate shows transit-supportive job densities if the entire area within the activity centers was developed as commercial. It does not anticipate a mix of uses.

Table 8: Jobs (CIM 2050 Activity Centers)

	Existing (2022)	**Forecasted** (2050)	**50 jobs/acre**	**60 jobs/acre**
Jobs	140,885	184,200	1,447,644	1,737,173
Acres	28,953	28,953	28,953	28,953
% Increase		31%	686%	843%

Again, these estimates assume either all residential or all commercial land use in activity centers. In reality, most activity centers will not be fully residential or commercial, but instead have a mix of residential and commercial land use. The ratio of commercial to residential land use will depend on local decision making and market conditions.

Existing and Future Neighborhoods

In addition to activity centers, the CIM 2050 Vision shows residential and commercial growth in existing neighborhood and future neighborhood areas (see Figure 1).

The CIM 2050 Vision forecasts most of the future population in future and existing neighborhoods, not activity centers. While activity centers, future neighborhoods, and existing neighborhoods are all forecasted to grow in absolute numbers, the ratio of households, jobs, and population in activity centers vs future/existing neighborhoods is forecasted to decrease slightly from 2022 to 2050 (Figure 4).

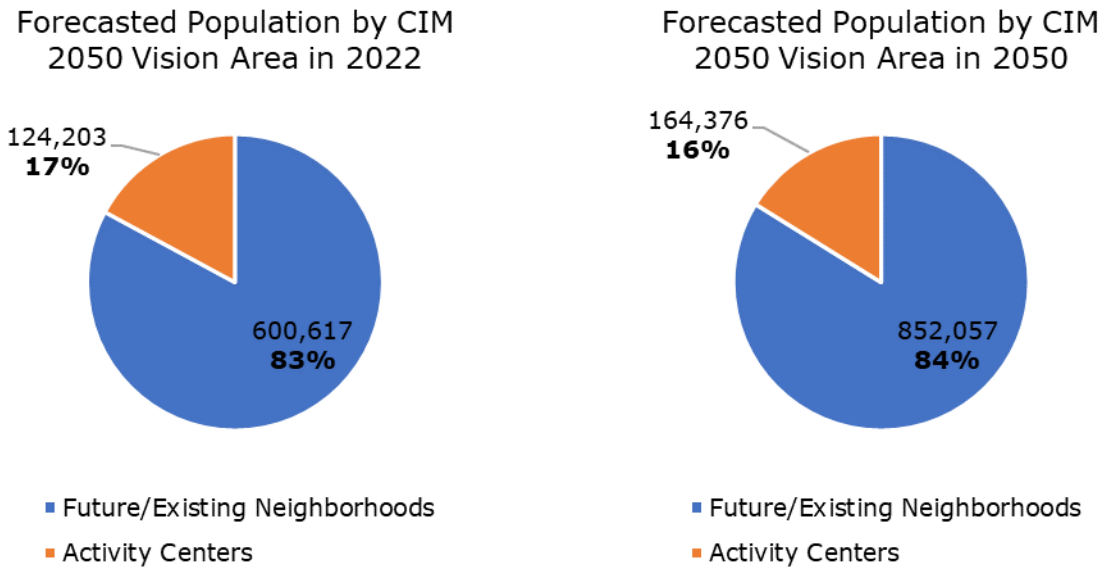

Figure 4: Forecasted Population in Future Neighborhoods and Activity Centers in 2022 and 2050 (does not include population in rural areas)

If all new households and jobs forecasted in existing/future neighborhood areas were instead built in activity centers, activity unit densities (persons + jobs) would be consistent with the suburban center typology. While local land use plans do not show this happening, this illustrates what could happen if local municipalities concentrated growth in activity centers.

4 | Considerations

There are several considerations to keep in mind when planning for future density to support public transportation.

Transit Catalyzes Development

First, transit supportive densities are not required in order to build transit. Often building transit before achieving transit supportive densities can allow an area to avoid some of the adverse impacts of traffic congestion in the first place. Today, many cities and transit agencies are conducting transit-oriented development studies to identify areas to build higher density along existing transit lines.

Incremental Gains in Density Drive Ridership

Developing density is not an all or nothing endeavor. While the CIM 2050 Vision does not forecast the region achieving transit supportive land use densities in activity centers by 2050, it does show an estimated 40% increase in household density and 30% increase in job density in activity centers by 2050. Research shows that even small increases in density lead to increases in ridership[xxvi].

Density is Most Effective Near Stops/Stations

Density drives ridership when it occurs near a public transportation stop or station. Since most people are willing to walk 10 minutes, or about a half mile, to access public transportation, adding density within a half mile of transit stops or stations is ideal. The importance of building density near stops and stations is illustrated by ridership in Los Angeles versus New York. The Los Angeles-Long Beach-Anaheim metropolitan area has a higher overall household density than the New York-Northern New Jersey-Long Island City metropolitan area. However, since density in New York is concentrated around the public transportation system, average weekday ridership over 10 times greater[xxvii] than Los Angeles[xxviii].

Service Characteristics Matter

People use public transportation if it takes them where they need to go in a reasonable amount of time and money. Thus, service characteristics such as service frequency and fare prices affect ridership. Since density increases demand for public transportation service, service frequency and span should also increase supply to serve that demand. Low fares can also incentivize ridership. In fact, some transit agencies – especially those in small urban, resort, and university areas – have zero-fares to incentivize people to use public transportation[xxix].

Design Matters

Lastly, urban design plays an important role in getting riders to stops or stations safely, conveniently, and comfortably. Design elements such as unobstructed pedestrian and bicycle facilities, street furniture, landscaping, and reduced parking activate the streetscape and increase connectivity to public transportation services. A diverse mix of residential and commercial uses also reduces the need for people to travel longer distances and further activates the public space.

The Ada County Highway District's *Livable Street Design Guide*[xxx] provides an example of how streets can be designed to support drivers, public transportation riders, bicyclists, and pedestrians (Figure 5).

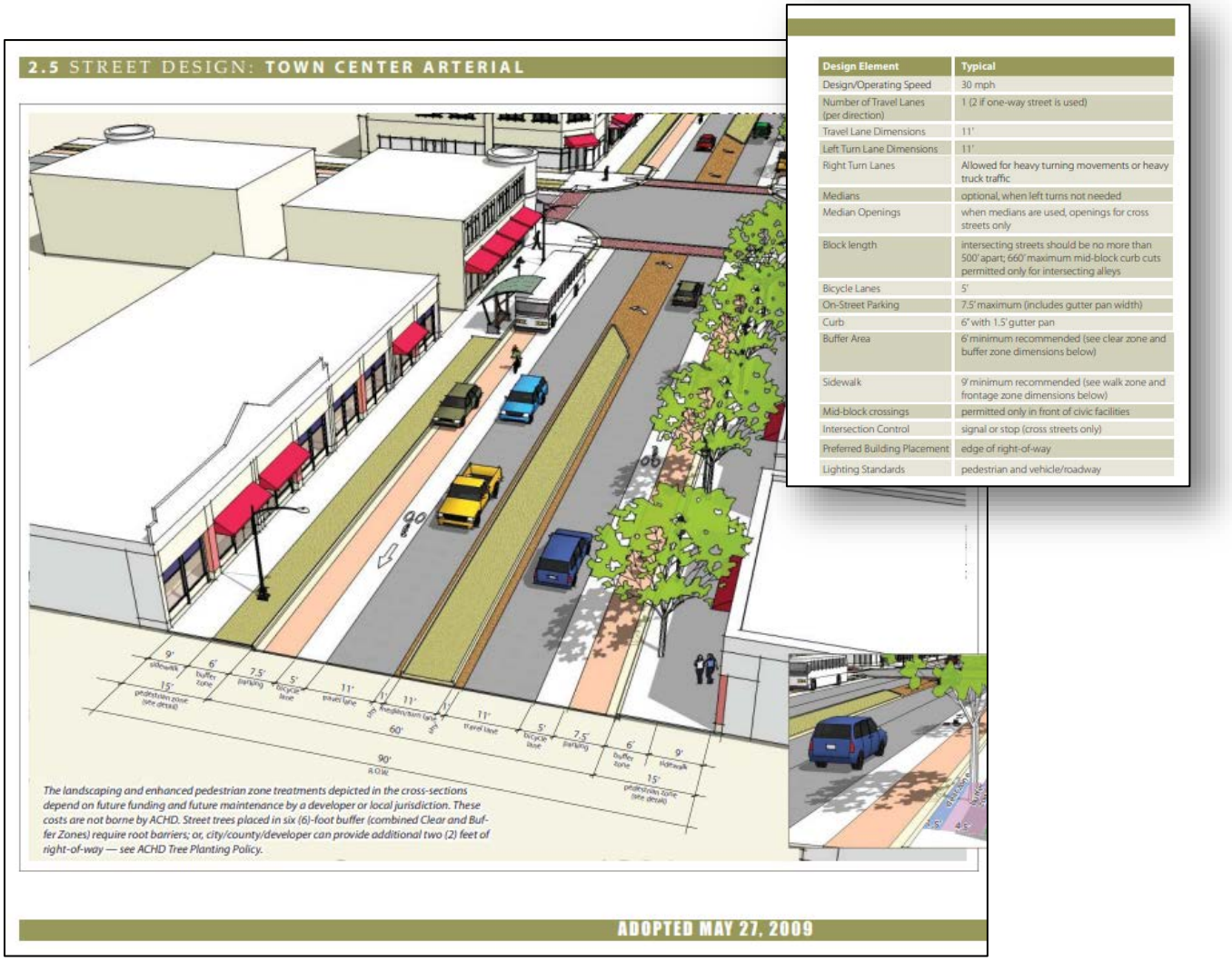

Figure 5: Town Center Arterial Rendering from the Ada County Highway District's Livable Street Design Guide Showing Multiple Modes on a Single Roadway

5| Conclusion

As the population of the Treasure Valley increases, there is a growing need for a cohesive regional vision for how to phase implementation of the public transportation system shown in CIM 2050 and implement land use changes that are needed to support that future system. Ultimately, land use decisions today will greatly impact the viability of public transportation in the future. Continued discussions and regional coordination throughout the development of the next long-range transportation plan will be critical in identifying strategies and policies to better coordinate land use decisions and transportation planning.

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