

APPENDIX F

PLAN BUILDOUT ANALYSIS

This appendix provides an analysis of the Land Use Plan and what it means for the City if all vacant lands are built out. The analysis is included in this appendix, rather than in the body of this Plan, so City staff can update it from time to time as the Land Use Plan is amended. Buildout is the term used to describe the maximum number of people living and working within a given boundary applying projected densities per land use. The Arvada buildout Table E-1 identifies Arvada's future buildout for the planning boundary.

Buildout was identified by breaking development into three categories, existing development, potential new development, and redevelopment. These categories were then broken into four segments based on land use type: residential, redevelopment, non-residential, and open space and public facilities. Existing development acreage was calculated for each of the land uses segments by identifying the acres of developed residential zoned, employment zoned, and public zoned parcels within the current city limits. The total 2013 residential population and number of housing units originated from the American Community Survey, and the current number of employees was provided by BBC Research Associates.

EXISTING DEVELOPMENT

Table E-1 shows existing development in Arvada as of 2013. The estimate for existing residential development and existing jobs data is based on the U.S. Census 2013. Using a series of assumptions, Arvada has 44,431 housing units and 109,745 residents in 2013. Finally, estimates put 24,600 jobs in Arvada in 2011.

POTENTIAL NEW DEVELOPMENT

Table E-1 provides an estimate of potential development, based on the categories in the Land Use Plan. The acres of potential new development were broken down into the areas of vacant future land uses within the planning area. The projected number of housing units was calculated by multiplying the acres of vacant land by the average future land use density as described in the land use chapter. Population was then calculated by multiplying the number of housing units by the projected future number of people per household (2.4 as described in Appendix A). Future employment was calculated by determining the actual square footage of working space per acre of land based on the FAR (Floor Area Ratio 2005 Comprehensive Plan). Finally the total vacant square feet of each future land use was divided by the projected employee density. Employee densities, incorporated from the 2005 Comprehensive plan, are as follows:

- Commercial =1 job/500 square feet
- Industrial=1 job/450 square feet
- Public Quasi-Public=1 job/1000 square feet

New residential development units would occupy a total of approximately 5,805 acres. The future residential development could amount to 14,420 new housing units and 32,878 new people. These new residential units represent a mix of housing types ranging in the categories from Low Density Residential to High Density Residential. For purposes of analysis, we assume a future housing occupancy rate of 2.4 persons per household (with 95% of units occupied) to calculate housing units.

New non-residential land uses would occupy a total of approximately 2,067 acres. A total of 14.2 million square feet of new retail, office, and industry could develop, with potential for 27,101 jobs. This assumes one job for every 500 square feet of commercial space and one job for every 450 square feet of industrial space.

REDEVELOPMENT

Redevelopment accounts for land that has a changing land use identified by the Arvada Planning Department. Redevelopment population and employee numbers are calculated by subtracting acres from existing development that are being redeveloped in a different land use category and adding acres to new development for the new land use. For instance, if 20 acres of land is currently zoned as low density residential and will be redeveloped into high density residential, those 20 acres with a density of 4.5 dwelling units per acre would be subtracted from the existing development and 20 acres with a density of 18 dwelling units per acre would be added to the potential new development category. These Redevelopment areas include the Gold Line TOD Stations and Urban Renewal areas outside those TOD Stations. These areas anticipate 4,953 dwelling units to house 11,274 residents. These areas would also house an additional 3,916 jobs.

CITYWIDE BUILDOUT

Total buildout is the accumulation of the three categories accounting for currently developed lands, new development, and any areas that will be redeveloped into a new land use at a different population or employment density. All of the final calculations assume a 5% vacancy typically found in any community. Table E-1 estimates Arvada's total buildout potential, which is determined by combining the totals of the (A) existing development, (B) potential new development, and (C) redevelopment. Buildout according to the Land Use Plan would result in a total of approximately 58,852 residential units and 153,897 residents and 60,442 jobs.

Land Use Residential	9 AVG (DU/AC)	(A) 2013 Existing Development			(B) Potential New Development			(C) Redevelopment			Total Buildout (A+B+C)		
		2 Acres	7 Units	7 Population	3 Acres	Units	Population	8 Acres	Units	Population	Acres(A+B)	Units	Population
Low Density Residential	1.0				3,541	3,541	8,073						
Suburban Residential	4.5				1,389	6,252	14,254						
Medium Density Residential	8.0	14,976	44,431	109,745	178	1,421	3,239				20,781	58,852	142,623
High Density Residential	15.0				40	605	1,380						
Mixed-Use: Residential Emphasis (residential at 60% of total) 10	8.0				350	1,680	3,830						
Mixed-Use (residential at 25% of total) 10	12.0				307	922	2,102						
Residential Sub-total					14,976	44,431	109,745	5,805	14,420	32,878			

Non-Residential	6 AVG (FAR)	2 Acres	11 SF	11 Employees	3 Acres	SF	Employees	8 Acres	SF	Employees	Acres	SF	EMP
Clear Creek I-76 Community Plan Area	0.20	3,189	12,800,000	24,600	165	1,437,654	2,732				5,256	27,063,925	51,701
Neighborhood/Community Commercial	0.20				673	5,864,999	11,143						
Industrial	0.15				10	68,356	130						
Industrial/Office	0.15				656	4,283,145	8,138						
Mixed-Use: Residential Emphasis (commercial at 25% of total) 10	0.20				350	762,141	1,448						
Mixed-Use (commercial at 75% of total) 10	0.20				3	18,637	35						
Office/Industrial/Retail	0.20				65	565,749	1,075						
Employment Subtotal		3,189	12,800,000	24,600	2,067	14,263,925	27,101						

Open Space and Public Facilities	6 AVG (FAR)	2 Acres	3 Acres	SF	Employees	8 Acres	SF	Employees	Acres	SF	EMP
Public owned Open Space and Parks			423								
Public lands not owned by the city		3,197	1,074						5,277	5,078,320	4,824
Public/Quasi-public Facilities	0.20		583	5,078,320	4,824						
Public Sub-total			3,197	2,080	5,078,320	4,824					

Redevelopment	9 AVG (DU/AC)	6 AVG (FAR)	Acres residential	Units	Population	Acres Commercial	SF	EMP	8 Acres	Units	Population	SF	EMP	Acres	Units	Population	SF	EMP
Gold Line TOD Stations	12.00	0.20	-84	-250	-589	-122	-489,683	-979	160	4,294	9,790	2,408,241	4,576					
Urban Renewal Areas outside of TOD Stations	12.00	0.20	0	0	0	0	-598,317	-1,137	59	909	2,073	766,750	1,457	219	4,953	11,274	2,086,991	3,916
Other Sub-total			-84	-250	-589	-122	-1,088,000	-2,116	219	5,203	11,863	3,174,991	6,032					

TOTAL	Acres	Total Units	Total Population	Total Non-Residential SF	Total Employment	Jobs:Housing Balance
	31,534	58,852	153,897	34,229,236	60,442	1.0

Sources:

1. U.S. Census, Zip Code Business Patterns, 2007-2011
2. 2012 City of Arvada Zoning GIS Data
3. 2014 City of Arvada Future Land Use Data
4. 2014 City of Arvada Parcel data
5. 2013 Steve Fisher Demographic Profile (Appendix A)
6. Clarion Associates 2005 Comprehensive Plan Buildout Table B-1
7. U.S. Census, American Community Survey 2013
8. City of Arvada Staff
9. 2014 Comprehensive Plan
10. Mixed Use Residential and commercial percentages based on (Clarion Associates 2005 Plan)
11. BBC Research and Consulting

Assumptions:

- A. Future Average DU/Acre from Future Land Use Plan in 2014 Comprehensive Plan
- B. Current People per household of 2.48 (Steve Fisher report Appendix A)
- C. People per household in 2035 of 2.4 (Steve Fisher report Appendix A)
- D. Occupancy rate of 95% (Clarion Associates 2005 Plan)
- E. Current job/housing balance of .55 (BBC research)
- F. Total Employment 24,600 (BBC and U.S. Census 2014). Note that Clarion Associates 2005 Plan used DRCOG estimate of 42,644 that included unincorporated county, sole proprietorships, and others not included in the officially reported data.
- G. Potential development C=1 job/500 (Clarion Associates 2005 Plan)
- H. Potential development SF I=1 job/450 SF (Clarion Associates 2005 Plan)
- I. Potential development PQP=1 job/1000 SF (Clarion Associates 2005 Plan)
- J. Existing Employment density Emp= 1 job/1475 SF based on zoning acreages and BBC research 2014
- K. Existing development does not include built areas outside of city limits and within the planning area.
- L. Future development does include vacant areas outside the city limits but within the planning area.
- M. The Units per acre for the existing developed acres in the redevelopment rows were based on the existing units per acre for the whole city.

