Appendix 5.14-1   Growth Assumption Memorandum

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TECHNICAL MEMORANDUM

DATE	September 9, 2021
TO	General Plan Team
ADDRESS	Via Email
FROM	Mark Teague
SUBJECT	**Population and Employment Figures**
PROJECT NUMBER	CRA-07.0

Overview

Predicting population growth is difficult at the best of times, and particularly difficult during a global pandemic. Unlike recessions that primarily affect income, the pandemic may change perspectives on employment, commuting, and both where and how we choose to live and work. Historic growth patterns traditionally relied upon to project future growth may be in question as more people may want to work from home, and businesses want to downsize their physical space while still expanding the number of employees. If commuting residents can change their job to work from home, the number of jobs in the City would increase at a greater rate than the population growth. The land use implications of these topics are addressed in the overall General Plan. This paper provides a range of growth population and employment projections based on the population estimates provided by the California Department of Finance (DoF), projections for population and employment by the Southern California Association of Governments (SCAG), and the Market Demand memo prepared by Strategic Economics, to estimate demand for housing, commercial, and industrial land. This memorandum also includes an estimate of building that would be anticipated from 2020-2040.

Terms & Assumptions

The following apply to this memorandum:
- **Planning Period**. This is the 20-year period for the General Plan Update that spans from 2020 through 2040.
- **Buildout**. The results from calculating the citywide projected land use development scenario for the planning period.
- **Capacity**. The calculation of the entire carrying capacity using development assumptions. This number is larger than buildout as it is mathematical calculation and does not consider site constraints, design, or other development decisions that might result in different development outcomes.
- **Estimate**. A current figure, usually from a state or regional source.

- **Projection**. A calculation of a future condition, typically starting with an estimate and applying a growth factor.
- **Population**. The City will use the 2040 projection of 233,088 as the planning period population for this planning effort. The figure is based on the land use scenario that is comprised of focus areas and citywide incremental growth used in the traffic analysis and subsequent reports.
- **Housing Types.** Single Family and Other Housing are considered to have a similar ratio to existing conditions, approximately 71 and 29 percent of the total housing stock respectively. While this ratio is expected to change over time, for this planning period the ratio will be static.
- **Persons per Unit**. The DoF 2020 estimate of 3.026 persons per single family unit and a planning estimate of 2.47 persons per other housing type, will be used in calculations.
- **Density**. While individual projects will have a range of densities, for calculations single family residential is assumed to average a density of 6 units per acre and other housing an average 12 units per acre.
- **Retail**. 1.400, employee per square feet of building; floor area ratio of 0.25. Retail land use is anticipated to be approximately 24 percent of the non-residential land.
- **Industrial**. 1.1,484, employee per square feet of building; floor area ratio of 0.60. Industrial land use is anticipated to be approximately 26 percent of the non-residential land.
- **Office**. 1.255, employee per square feet of building; floor area ratio is 0.80. Office land use is anticipated to be approximately 50 percent of the non-residential land.

Population and Housing Projections

POPULATION

The California Department of Finance Demographic Research Unit (DoF) tracks population in the state and provides the official population estimates by City and County. The E-5 Report is used by the state to distribute per capita funding. The population estimates are also used by SCAG for transportation planning. To establish a baseline, Table 1 shows the historic population change from 2000 through 2020[1]. Note that there is a slight discrepancy between the DoF projection for 2020 and the SCAG projection. For purposes of this memorandum, the DoF 2020 population estimate of 175,522 is used as a starting point unless otherwise stated.

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[1] There is a discrepancy between the DoF population estimate for 2020 (175,522) and the SCAG projection for 2020 (173,900). For purposes of this memorandum, the DoF estimate of 175,522 is used as the 2020 population unless otherwise stated.

Table 1 Historic Population Estimates 2000 - 2020

Year	Total	Household	Total	Single Family	Multi Family	Vacancy Rate	Persons per Household
2000	127,743	124,117	42,134	33,124	9,010	3.02%	3.037
2005	156,854	153,466	50,993	38,213	12,780	3.51%	3.119
2010	165,269	162,145	56,618	40,363	16,255	3.95%	2.982
2015	173,346	170,439	58,575	41,559	17,016	3.91%	3.028
2020	175,522	172,605	59,440	42,407	17,033	4.02%	3.026

Source. Department of Finance E-5, January 2020

From Table 1, the estimated average annual growth rate was determined for 20-, 10-, and 5-year periods. These percentages, 1.6%, 0.60%, and 0.25% were then applied to the 2020 population estimate to result in the estimates shown in Table 2. As can be seen in the Table, the last five years have not seen a significant rate of population change when compared to the 10- and 20-year percentage of change. In addition to the historic-forward projections, the SCAG 20-year estimate is also provided. Finally, an average of the 20-year historic-forward percentage and the SCAG 20-year estimate is included. It is normal for the percentage of population growth to decline over time because as the base population increases it takes a larger increment of change to maintain the percentage.

Table 2. Population Projections Based on Historic Growth Rates 2020-2040

	5 year DoF	10 year DoF	20 year SCAG w/ DoF 2020	20 year SCAG Original	Average of DoF & SCAG 20 year	20 year DoF
Year	0.25%	0.60%	0.76%	0.81%	1.21%	1.60%
2020	175,522	175,522	175,522	173,900	175,522	175,522
2025	177,727	180,851	182,313	181,047	186,355	190,020
2030	179,960	186,342	189,366	188,488	197,857	205,716
2035	182,221	192,000	196,691	196,235	210,069	222,708
2040	184,510	197,830	204,300	204,300	223,034	241,104

For purposes of the General Plan Environmental Impact Report, the 20-year SCAG w/ DoF 2020 projection of 204,300 represents the low population projection for 2040. The buildout population is projected to be 288,033 which is considered the high projection for 2040. To be conservative, the high projection will be used in all analysis.

RESIDENTIAL ACREAGE PROJECTIONS

Using the population projections from Table 2, development assumptions can be applied that can project housing units approximated by type. For the calculations, the DoF 2020 estimate of 3.026 persons per single family dwelling is assumed, and an estimate of 2.5 persons for all other types of dwellings. The projected population increase was divided into single family (71.34%) and all other housing (28.66%) using the 2020 ratio provided by DoF. These ratios were kept constant over the planning period. As an aggregate, the projections assume an average of 6.0 units per acre for single family, and 12 units per acre for all other housing types. Table 3 shows the resulting units and acreage based on the 20-year SCAG w/ DoF 2020. Table 3 also includes the calculated results of achieving buildout by 2040 with the higher annual growth rate.

Table 3 New Residential Unit and Acreage Projections 2020 – 2040

Calculated Annual Growth Rate 0.76%	20 SCAG w/ DOF 2020	Total Units	Single Family	Other Residential	Buildout 1.43%	Total Units	Single Family	Other Residential
Year	Population				Population			
2020	175,522	59,440	42,407	17,033	175,522	59,440	42,407	17,033
2025	182,313	2,380	1,602	778	188,420	4,521	3,041	1,480
2030	189,366	2,471	1,663	808	202,266	4,853	3,266	1,587
2035	196,691	2,567	1,727	840	217,130	5,209	3,505	1,704
2040	204,300	2,666	1,794	872	233,088	5,592	3,762	1,830
Total New	28,778	10,084	6,786	3,298	57,566	20,175	13,574	6,601
Grand Total	204,300	69,524	49,193	20,331	233,088	79,615	55,981	23,634

MARKET DEMAND

The population and housing projections in in Table 3 take the historic population growth and project them forward for the planning period. The Strategic Economic market demand analysis provided both a conservative and high scenario for the projection of dwelling units. Table 4 shows the resulting units, acreage and 2040 population if the same development assumptions as used in Table 3 are applied to both the conservative and high scenarios.

Table 4 Market Based Population and Housing Projections

	Conservative Scenario					High Scenario				
		Single Family		Other Residential			Single Family		Other Residential	
	Population	Units	Acres	Units	Acres	Population	Units	Acres	Units	Acres
2020	175,522	42,407		17,033		175,522	42,407		17,033	
2025	185,193	3,196	534	2,365	945	194,289	6,202	1,034	4,690	1,875
2030	195,587	3,435	573	2,490	995	215,798	7,108	1,184	5,204	2,081
2035	206,772	3,696	616	2,628	1,051	240,460	8,150	1,359	5,774	2,309
2040	218,797	3,973	663	2,774	1,109	268,723	9,340	1,558	6,408	2,563
Total New		14,300	2,386	10,257	4,100		30,800	5,135	22,076	8,828
Grand Total		56,707		27,920			73,207		39,109	

As shown in Table 4, the market-based projections would result in an annual growth rate of 1.11 percent for the conservative scenario, and 2.15 for the high scenario. These rates would exceed the SCAG projections for the planning period and, in the case of the high scenario, be above the previous 20-year historic population growth of the City. The conservative scenario is in line with the buildout projection shown in Table 3.

NON-RESIDENTIAL PROJECTIONS

Table 5 takes the SCAG employment projections for the City, calculates the annual job growth rate (1.02%) for the planning period, and applies the resulting number to the 2020 existing jobs estimate of 85,379. The resulting job to housing ratio will improve from the existing 49 percent to 54 percent over the 20-year horizon.

Each of the job growth projections were then assigned one of three categories: retail (24%), office (50%), and industrial (26%) based on the existing SCAG estimate for job types in the City.

Table 5. SCAG Employment Growth Projections 2020 – 2040

	Retail			Office			Industrial		
	Jobs	Sq.Ft.	Acres	Jobs	Sq.Ft.	Acres	Jobs	Sq.Ft.	Acres
2020	85,379								
2025	1,067	426,800	39	2,224	611,600	19	1,155	1,714,020	66
2030	1,122	448,800	41	2,341	643,775	20	1,216	1,804,544	69
2035	1,181	472,400	44	2,460	676,500	21	1,279	1,898,036	73
2040	1,242	496,800	46	2,590	712,250	22	1,347	1,998,948	77
Total New	4,612	1,844,800	169	9,615	2,644,125	81	4,997	7,415,548	284
Grand Total	25,103			52,305			27,196		

NON-RESIDENTIAL MARKET ANALYSIS

Strategic Economics projections for building square feet is shown in Table 6 and compared to the totals in Table 5. As shown in the table, the SCAG projection is similar to the market demand projections, though slightly higher for retail and office space.

Table 6. Strategic Economics Building Need Projections 2020-2040

	Retail	Office	Industrial
Conservative Scenario	700,000	2,000,000	5,800,000
High Scenario	1,300,000	2,500,000	16,700,000
SCAG Projection from Table 5	1,844,800	2,644,125	7,415,548

Land Use Unit and Job Projections by Focus Area

Table 7 shows the projected buildout figures for the focus areas identified in the General Plan and the City as a whole. These figures are used in the traffic model and subsequently the noise, air quality, and GHG analysis. Note that the figures represent an assumption of 50 percent of the mathematical potential for each land use designation. This assumption reflects several factors that could slow development such as owner choice of whether to develop, site restrictions or characteristics that might affect design, and market conditions that would lead an owner to delay development plans.

Table 7: Land Use Projections By Focus Area and Remainder of City for Buildout

| Focus Areas | Scenario | Residential | | Non-Residential [1] Jobs | | |
		Population	Units	Retail / Commercial	Office	Industrial / Flex
	Existing	11,224	3,798	774	511	96
Alta Loma TC	No Project	10,409	3,876	896	325	165
	Plus Project	11,334	4,017	843	703	91
	Existing	**25,258**	**9,871**	**2,678**	**3,274**	**4,168**
Civic Center / Haven	No Project	9,469	3,866	2,850	3,497	3,683
	Plus Project	**33,544**	**13,583**	**3,854**	**4,323**	**4,245**
	Existing	6,989	2,466	1,297	2,069	2,217
Cucamonga TC	No Project	9,971	3,949	3,179	3,418	2,197
	Plus Project	7,930	2,881	1,513	2,407	2,368
	Existing	1,287	521	1,603	3,204	4,318
Rancho Cucamonga Station	No Project	15,447	6,653	1,077	1,625	1,637
	Plus Project	10,015	4,180	2,828	4,600	4,342
	Existing	6,593	2,359	447	238	172
Red Hill Gateway	No Project	8,563	3,399	1,762	770	747
	Plus Project	8,013	2,971	915	775	165
	Existing	3,748	1,432	8,855	344	531
Victoria Gardens / Epicenter	No Project	4,070	1,606	6,453	1,002	978
	Plus Project	22,495	9,290	9,742	1,039	486
	Existing	121,230	40,348	9,306	7694	10335
Remainder of City	No Project	138,630	50,006	11,973	10,230	10375
	Plus Project	140,564	49,558	12,067	13,220	15262
	Existing	176,329	60,795	24,960	17,334	21,837
Totals	No Project	196,559	73,355	28,190	20,867	19,782
	Plus Project	233,895	86,480	31,762	27,067	26,959
	Existing		175,522			
Net Change from Existing	No Project	20,230	12,560	3,230	3,533	-2,055
	Plus Project	57,566	25,685	6,802	9,733	5,122

[1] *Other land uses such as agriculture, art, entertainment, recreation, and public/institution represent a net zero change in projected jobs and are not included in the table.*

Job Assumptions for Analysis

The regional traffic model has different input labels than the general plan land use designations. The labels reflect traffic patterns and mix used in the analysis to determine impact. Table 8 shows

the projected non-retail jobs square feet assumed in the traffic model. While most of the land considered in Table 8 is within the Southeast Industrial Quadrant (SEIQ), not all the industrial land in the City is within that region of the City. The growth in employees shown in Table 8 (14,240) is slightly different than the total for office / industrial flex shown in Table 7 (14,855) due to rounding.

Table 8: 2040 Regional Traffic Model Non-Retail Employment Job Growth Assumptions

Land Use	Growth in Employees [1]	Daily Trip Rate (per employee)	Growth in Sq.Ft.
Manu_Emp (Manufacturing)	3,000	5.51	3,000,000
Whole_Emp (General Industrial)	2,000	6.25	2,000,000
Trans_Emp (Warehousing+Fulfillment)	6,000	7.45	6,000,000
Prof_Emp (Office)	3,240	6.32	1,080,000
Total Office + Industrial	14,240		12,080,000

[1] The growth in employees shown in Table 8 (14,240) is slightly different than the total for office / industrial flex shown in Table 7 (14,855) due to rounding.

General Plan Capacity

Table 9 reflects the maximum capacity of the General Plan without taking into consideration site design or other factors that might reduce the development potential. Note that the figures are purely hypothetical and do not represent buildout of the General Plan. The City would need to grow at an average annual rate of 2.35 percent for the next twenty years to reach the theoretical general plan capacity shown in Table 9.

Table 9: Maximum Theoretical General Plan Capacity

General Plan Designation	Acres	Max DU Total	Potential Pop Total	Max Sq.Ft. Total
Natural Open Space	1,472	-	-	-
Rural Open Space Preserve	767	-	-	-
Rural Open Space	3,029	6,058	3,830	-
General Open Space	3,966	-	-	-
Semi-Rural Neighborhood	2,614	5,227	16,517	-
Traditional Neighborhood Low	587	2,348	7,420	-
Traditional Neighborhood Moderate	1,300	10,402	26,298	22,656,057
Traditional Neighborhood High	17	245	605	-
Suburban Neighborhood Very Low	4,096	16,385	51,777	-
Suburban Neighborhood Low	2,512	35,161	86,848	-
Suburban Neighborhood Moderate	386	11,580	28,603	-
Urban Neighborhood	165	8,259	16,319	2,878,083
Neighborhood Corridor	174	5,219	9,023	3,031,037
Neighborhood Corridor Low	93	1,298	2,245	1,615,282

City Corridor Moderate	287	11,491	19,869	7,508,336
City Corridor High	640	38,386	66,369	41,802,447
Neighborhood Center	282	6,766	3,342	4,912,003
Traditional Town Center	269	8,071	9,969	7,031,852
City Center	457	45,663	56,395	39,781,758
21st Century Employment District	467	19,598	14,521	20,326,432
Office Employment District	122	3,649	1,803	5,298,069
Neo-Industrial Employment District	1,818	43,623	10,774	47,504,992
Industrial Employment District	1,129	-	-	29,512,982
Totals	**26,649**	**279,429**	**432,527**	**233,859,330**