Appendix F: Build-Out Calculations & Methodology

SOCIOECONOMIC BUILD-OUT PROJECTIONS

The following report provides a description of the assumptions and methods used to determine population, housing, and employment projections for the Colorado River Corridor Concept Plan.

Assumptions & Methodology

The projections developed represent a range of estimates for potential population, dwelling units, and employment for the 30,500 Acre Corridor. The concept plan serves as the basis for these projections. A key assumption in understanding the magnitude of these projections is that the projections reflect a theoretical build-out of all areas, rather than what is likely to appear on the ground over the next 20 years.

Land use designations differ among jurisdictions for a variety of reasons including unique physical and geographic characteristics, market forces, and varying community desires. There are no industry standards for population density or building intensity that can be applied to the new land use designations created for the concept Plan. City of Austin GIS data, Travis County Tax Plat data, Envision Central Texas, Travis County Green Print, plans of cities within Central Texas and contemporary planning experience have been used to define the factors below to estimate the future socio-economic environment.

Residential: Population, Dwelling Units & Potential Workers

Land Area in Acres: Land use acreages were derived from the conceptual plan. All calculations were performed in ArcGIS.

DU/AC (net dwelling units per acre): A range of dwelling units per acre were identified. These ranges have been established based on actual product types and account for roads, rights-of ways, detention, easements and public facilities typically found in residential areas such as elementary schools, parks, etc.

Dwelling Units (DU): Dwelling unit projections are estimated by multiplying the number of gross acres by the DU/AC factor for each land use designation. For example,100 acres of Single Family with a density range of 4 DU/AC would result in a range of 400 DUs.

Average Household Size: Based on US Census data (2000) an average household size for the Austin-San Marcos MSA of 2.4 was established and adjusted based on Residential Land Use.

Single Family: 2.4
TH/Condo: 2.2
Apartments: 1.75

Population: Population is determined by multiplying the projected number of dwelling units by the average persons per household factor. For example, 1,000 dwelling units with an average persons per household size of 2.4 would yield 2400 residents.

Participation Rate: Participation rate, the percent of the total population that is either employed or not employed but actively seeking employment. The Bureau of Labor Statistics identifies an employment rate of 50% for the Austin-San Marcos MSA. This number will adjust by 8% to reflect the current unemployment rate for those seeking work for a participation rate of 58%.

Potential Workers: Potential workers are determined by multiplying the total population projected for each residential land use by the participation rate. For instance, a Single Family Medium Density land use that yields a population of 15,000 would, in turn, yield 9000 potential workers (15,000 x .57 = 9000).

Non-Residential: Building Square Footage & Employment

Employment generation for Commercial land uses were calculated using the following method:

Land Area in Acres: Land use acreages were derived from the conceptual plan. All calculations were performed in ArcGIS.

Gross Square Feet: To convert gross acres to gross square feet, gross acres are multiplied by 43,560 SF. For example, 50 gross acres of Office equals 2,178,000 gross square feet.

Floor Area Ratio (FAR): Floor Area Ratio, or FAR, indicates the ratio of gross building square footage permitted on a parcel to net square footage of the parcel. FAR's for Retail, Office, R&D and Civic land uses are identified below.

Note: These are probable FAR's not maximum FAR's allowable.

Land Use	Urban	Neighborhood	Rural
Retail	1:1	0.5:1	0.25:1
Office/ R&D	2:1	0.8:1	0.5:1
Light Industrial	0.7:1	0.4:1	0.2:1
Civic/ Insti.	1:1	0.5:1	0.25:1

Building Square Footage: Building square footage for the land use designations listed in the table above are calculated by multiplying the Net Square Feet of each land use designation by the corresponding FAR. For instance, 20,000 square feet of Retail with an FAR of 1 would yield 20,000 square feet of building space.

Square Feet (SF)/Employee factor: This factor indicates the number of square feet of building space per employee and is used to estimate the number of jobs for a given land use designation. These factors for the commercial land use designations are listed in the table below.
Land Use Designation SF/Employee

Retail	500 sf
Office	300 sf
R&D	800 sf
Civic	500 sf

Employment: Employment for Retail, office, R&D uses is calculated by dividing the total number of building square feet by the SF/Employee factor. For example, 300,000 square feet of commercial office building space would yield 1,000 employees.

Jobs-to-Workers Ratio

The jobs-to-workers ratio is an indicator of the potential employment opportunities for the local labor supply. The ratio is calculated simply by dividing the number of jobs yielded by the employment generating land use designations by the number of potential workers generated by the residential land use designations.

Jobs-to-Housing Ratio

The jobs-to-housing ratio identifies potential imbalances between housing and employment opportunities. The ratio of jobs to housing is estimated by dividing the number of total number of projected jobs by the total number of projected dwelling units.

SOURCES:

Bureau of Labor Statistics
US Census Bureau
Austin Chamber of Commerce