PLANNED GROWTH STRATEGY

PART 1

FINDINGS REPORT

Acknowledgements

COUNTY OF BERNALILLO
Juan Vigil, County Manager
Thaddeus, Lucero,
Community Services Director
Sandy Fish, Zoning, Building &
Planning Director

COUNTY COMMISSION
Steve D. Gallegos, Chair
Tom Rutherford, Vice-Chair
Tim Cummins
Les Houston
Ken Sanchez

CITY OF ALBUQUERQUE
Jim Baca, Mayor
Lawrence, Rael, Chief Admin. Officer
Connie Beimer, Deputy CAO
Fabrizio Bertoletti, Deputy CAO
Vickie Fisher, Deputy CAO

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Alan B. Armijo
Michael Brasher
Vincent E. Griego
Tim Kline
Mike McEntee
Greg Payne
Hess Yntema

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Susan Noftsker, Vice-Chair
Steven Becerra
Marion Cottrell
Richard Elwell
Duane Keating
Rex King

ENVIRONMENTAL PLANNING COMMISSION
Elizabeth Begay, Chair
Alan Schwartz, Vice-Chair
John Briscoe
Larry Chavez
Chuck Gara
Susan Johnson
Mick McMahan
Camilla Serrano

PLANNED GROWTH STRATEGY MANAGEMENT TEAM
Fabrizio Bertoletti
Thaddeus Lucero
Laura Mason

PLANNED GROWTH STRATEGY TECHNICAL COMMITTEE
Chris Blewett
Lou Colombo
Sandy Fish
Susan Jones
Nathan Masek
Bob McCabe
Frank Roth
Simon Shima
Barbara Taylor
Joel Wooldridge

The following City and County staff members contributed their expertise to the Planned Growth Strategy:

Ed Adams
Fred Aguirre
Richard Asenap
Randy Autio
Ken Balizer
Jim Barr
Larry Blair
Jacques Blair
Steve Boberg
Steve Bockemeier
Charles Bowman
Chip Berglund
Susan Calongne
John Castillo
Dewey Cave
Nano Chavez
Ray Chavez
Jay Czar
Sandy Doyle
Malcolm Fleming
Martin Garcia
Dolores Gomez
John Gregory
Roger Green
Jim Hamel
Dave Harmon
John Hartmann
Jim Hinde
Dan Hogan
Chris Hyer
Susan Kelly
Mary Lou Leonard
Louis Martinez
Jon Messier
Pat Montoya
Dennis Parker
Roger Paul
Marcy Pincus
Meg Randall
Ted Reddinger
Bruce Rizzieri
Roy Robinson
Shirley Salvi
Rene Sedillo
Tom Shoemaker
Al Soto
John Stomp
Robert White

PLANNED GROWTH STRATEGY ADVISORY COMMITTEE

Nadyne Bicknell – Shared Vision
Brian Burnett – Chamber of Commerce
Victor Chavez – Economic Forum
Ned Farquhar – 1000 Friends of New Mexico
Mardon Gardella – Federation of Univ. Neigh.
Barbara Garrity – 1000 Friends of New Mexico
James Folkman – Homebuilders Association
Bob Hoffman – Economic Forum
Claude Lewis –Districts 5 & 6 Coalitions
Orlando Olivas – S. Valley Coalition of Neighborhoods
Fred T. Rael – East Mountain Area
Angela Robbins –Albuquerque Public Schools
Vic Segura – District 4 Coalition
Hank Thierry – North Valley Area
Lawrence Wells – NAIOP
Anne Yegge – Sandia Heights Homeowners Association

PLANNED GROWTH STRATEGY POLICY COMMITTEE

Alan B. Armijo
Tim Cummins
Adele Baca-Hundley (past member)
Greg Payne
Lawrence Rael
Tom Rutherford
Barbara Seward (past member)
Juan Vigil
Hess Yntema

PLANNING CONSULTANTS

Parsons Brinckerhoff
Samuel Seskin
John Boroski
Lawrence Conrad
Karen Aspelin

Camp Dresser & Mckee, Inc.
Paul Gorder
Curtis McHaley

Ch2M-Hill
Mike Bitner
Joe Chwirka

Freilich, Leitner & Carlisle
Mark White, Esq.
Robert Freilich, Esq.

Friedmann Resources
Myra Segal Friedmann

Growth Management Analysts, Inc.
Arthur C. Nelson, Ph.D.

Lora Lucero, Esq.

Michael McKee, Ph.D.

Sites Southwest
Phyllis Taylor

Wilson & Co.
Steve Metro
Nancy Musinski

COMMUNICATIONS, EDITING, REPORT PRODUCTION
Janet Blair
Nancy C. Ford
Mona Gabaldon
Jesse Garves
Elaine Jones
Kenesson Design Inc.
Joe Lujan

STUDY INTERNS
Elisa Paster
Giovanna Rossi
Andrew Sussman

MANY OTHERS, INCLUDING:
Albuquerque Police Department
Dave Abrams, MRGCOG
Steve Burnstein, MRGCOG
Charles Easterling, Easterling & Assoc.
Makita Hill, City Planning
John Hooker, Village of Los Ranchos
Ken Hughes, State of New Mexico
Karen Marcotte, NAIOP
Joanne McEntire, Shared Vision
Signe Rich, Shared Vision
Ted Shogry, City OMOI
Neal Weinberg, City Planning

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Mark Sanchez, Director,
City Council Services
Jesse Garves, City Planning
Mona Gabaldon, City Planning
Frank Roth, City Council Services

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Glossary

mg/L	micrograms per liter
acre	area of land equal to 43,560 square feet; about 209 feet by 209 feet if the area is a square.
AGIS	Albuquerque Geographic Information System; a department in the City of Albuquerque government that produces and updates mapping of land usage, property boundaries, infrastructure systems, etc.
AMAFCA	Albuquerque Metropolitan Arroyo Flood Control Authority
basalt	durable, dense rock produced from hardened lava flow.
CPA	Community Planning Area
DASZ	Data Analysis SubZones
detention vs. retention	Detention ponds have an outlet, usually a drainpipe. Retention ponds do not have an outlet. They empty by evaporation and/or infiltration.
dip section	a roadway that crosses an arroyo without a bridge.
EPA	United States Environmental Protection Agency

GIS	geographic information system
gpcd	gallons per capita per day
GRT	gross receipts tax
hydrology	science that deals with the water cycle; precipitation, evaporation, and runoff.
mgd	million gallons per day
mgd	million gallons per day
MRGCD	Middle Rio Grande Conservancy District; an agency that implements and oversees Rio Grande flood protection between Cochiti Dam and the Bosque del Apache Grant south of Socorro.
MRGCOG	Middle Rio Grande Council of Governments
Near Heights	the part of the Northeast Heights that is closest to the Southeast Heights; located between Central Avenue and I–40.
O&M	operation and maintenance
playa	A natural, dry lake depression that has no outlet (Spanish for “shore” or “beach”).
ROW	right-of-way
V/C	volume-to-capacity

Section 1
Growth & Infrastructure

1.0 Introduction

Early in 1995, staff from the City of Albuquerque began work on the Transportation Evaluation Study. This project, managed by a team of staff from key departments throughout City government, had as its purpose the creation of a plan for integrating transportation and community development.

In 1997, Parsons Brinckerhoff staff and the project's technical and management committees finished their work. The resulting Final Report (June 1997) began with a presentation of a series of principles that participants proposed should govern future plans. These principles include the following:

- Assuring the orderly and efficient provision of urban services,
- Encouraging compact development without crowding,
- Preserving and enhancing neighborhood characteristics,
- Preserving and enhancing the natural environment,
- Managing circulation and accessibility for all modes of travel,
- Meeting and maintaining federal air quality standards,
- Developing partnerships with neighboring jurisdictions and the private sector,
- Assuring adequate funding for transportation project development, and
- Assuring public involvement in the planning process.

Applying these principles, authors of the report proposed the adoption of a "Future Place Image." This place image would consist of the orderly provision of urban services within an urban service area that would grow steadily, as needed. Within the urban service area, planners envisioned higher density centers and corridors, supported by a transportation system that offered multiple modes of travel. Lastly, the planners envisioned an institutional framework that supports the implementation of all of the above. The concluding chapter of the Final Report contained a series of strategies to implement their recommendations, organized around each of these key concepts.

In the fall of 1997, Bernalillo County staff participated in the City's effort to build on the Transportation Evaluation Study. Formally known as the Planned Growth Strategy, work began in the spring of 1998.

The integration of City and County policy makers and staff represents the successful implementation of one of the key concepts of the Transportation Evaluation Study. To further the prospects for additional planning and implementation, the City and the County commissioned the Parsons Brinckerhoff team to undertake technical analyses that would support further action on the plan.

In the summer of 1998, the Parsons Brinckerhoff team submitted to the City and the County a draft Interim Ordinance as their first work product. This ordinance became the basis for the eventual adoption of Council Bill R-70 by the City, the "growth policy framework" (R-91-1998 [section 3-8-6 Albuquerque Code of Resolutions] hereafter referred to as R-70). In this Resolution, City policy makers acknowledged the receipt of the Transportation Evaluation Study and committed themselves to completing the plan of work embodied in the scope of the Planned Growth Strategy Project. This includes the establishment of a policy framework providing overall direction for implementation of future growth policies. The Resolution contains:

- Recommendations for the structuring of capital improvements programs and plans to support the emergence of centers and corridors,
- The development of an impact-fee system based on the actual costs of providing services,
- The timing of road and utility construction to assure orderly growth,
- The encouragement of increased densities and mixed uses in centers and corridors, and
- The consideration of "whether, within the context of an amended comprehensive plan, the concept of urban service areas is, on balance, beneficial to the quality of life in Albuquerque, and if so, the determination of the most appropriate areas for urban services." On this last point the Resolution states that "such a determination would be based on an accurate and publicly reviewed inventory of available and developable land and planned in conjunction with projections of the resources available for expansion."

Later in 1998, Albuquerque Shared Vision, a not-for-profit civic organization committed to convening citizens to facilitate community development, held the first of several Forums in which participants articulated their concerns and goals for the Albuquerque region. The most recent of these, held in August of 1999, focused on the role of new planned communities. We acknowledge the debt all community-oriented residents owe to Shared Vision for their leadership in this important issue.

Local panel (left to right) Ned Farquhar, Larry Wells, Councillor Tim Cummins, Commissioner Barbara Seward, and Victor Chavez

This Findings Report, the first major deliverable of the Planned Growth Strategy Project, directly addresses the above requirements of R-70, the Planned Growth Strategy policy framework, and should provide the basis for decisions regarding the orderly provision of urban services called for in that Resolution. In Chapter 2 that follows, we address the question of how much land is available and suitable for development, as well as the issue of how much land is required in order to service the community's orderly growth. We do this through a careful analysis of both the supply and demand for land of all kinds in the County during the 1990s. This analysis is refined in the Planned Growth Strategy, Part 2 which addresses the Preferred Alternative.

In Chapter 3, we describe once again the alternative that emerged from the Transportation Evaluation Study, now called the Downtown Scenario. We further describe two other alternatives developed cooperatively with the City and the County. One, called the Balanced Scenario, retains the concept of compact urban form developed in the Transportation Evaluation Study but balances housing and jobs on both sides of the Rio Grande, rather than emphasizing employment on the east side. The third alternative, the Trend Scenario, represents consensus opinion regarding the likely evolution and growth of the metropolitan area assuming the continuation of current trends. This scenario involves the evolution of less centralized, less compact forms of development. It is by no means a worst-case scenario; it is intended to be a realistic assessment of the continuation of current trends.

These three scenarios are the basis of substantial technical evaluation. For each scenario, we estimate the capital costs associated with the provision of water, wastewater, drainage, street and transit transportation infrastructure. These types of infrastructure are, as a group, responsible for most of the (non-school) capital costs of government in the region. Information in Chapter 4 is designed to furnish policy makers and the general public with estimates of expenditures required to support orderly growth under each of the three scenarios.

In Chapter 5, we summarize the policy context for our ongoing work. We identify other projects, plans, studies, and initiatives that bear on the subject of orderly and efficient growth of the Albuquerque metropolitan area and identify their relationship to this planned growth strategy. In doing so, we remind the reader of the complex web of decisions that influence urban form in the region and the need for strong leadership to assure that the built environment meets citizens' expectations both for quality and efficiency.

In the period between January 1999, when we submitted the draft of this report, and today (December 2000), this report has undergone substantial revision and enhancement, as a result of input from the Planned Growth Strategy (PGS) Advisory Committee, and City and County staff. The cost data contained here reflect a deep understanding of actual conditions in the City and County. In all, the report better suits its original purpose—to inform important decision making about the costs of planned growth in the City and County. The authors thank all the staff and citizens who contributed valuable time to improve this product.

During this same period, work by staff and members of this consultant team has resulted in the development of a recommended Preferred Alternative for future growth, which is a combination of desirable aspects of several of the scenarios evaluated here. The Preferred Alternative is described in a separate report. Further, a specific implementation strategy was developed by Freilich, Leitner, and Carlisle. The Part 2 Report, also deals with fiscal issues related to the implementation strategy. This portion of the report was prepared by Growth Management Associates.

These products, as a group, will enable City and County elected officials to implement the commitments they have made in undertaking the Planned Growth Strategy.

In summary, as part of the larger PGS work effort, this Findings Report has been designed to address the following questions:

- How much land do the County and City need to accommodate orderly growth?
- How much public and private capital do we need to spend?
- How can citizens get the most from the dollars we need to spend to support growth?

With answers to these questions, we hope to further the implementation of the region's desired vision for planned growth.

2.0 Development Trends

2.1 Summary

The Albuquerque area's urban growth pattern is tied to the locations of vacant developable land and land that is suitable for redevelopment. The purpose of this analysis is to identify the current vacant and under-used land supply in the metropolitan area, quantify historic land absorption, and compare supply and demand.

The land supply analysis focuses on readily available information supplemented with original survey research. Information was analyzed for two types of geographic subareas. First, we examine a set of three concentric rings. The information was compiled for three areas: 1960 City Boundary, an area representative of older, established neighborhoods; the area generally served by the City's water system, which is representative of the area with existing urban services; and urban or urbanizing land in Bernalillo County that is outside the current Water Service Area.

- **1960 City Boundary**

  The area within the 1960 City Boundary is considered to be an infill area. Land within this area has had municipal infrastructure and services for many years, and new development within this served area is considered to contribute to Comprehensive Plan goals regarding a compact urban form.

- **Water Service Area**

  The current Water Service Area is served (though not completely) by City of Albuquerque water and sewer systems, and other municipal services are provided within the portion of the Water Service Area that is in the City limits. This area is the location of much of the new development in the urban area.

- **Outside the Water Service Area**

  The area outside the City's Water Service Area encompasses the remainder of land in Bernalillo County, excluding the East Mountains and the Indian reservation. It includes land served by other utility companies (principally New Mexico Utilities) and land that currently has no urban services. The City of Albuquerque provides all services but water and sewer to portions of this area that are within the municipal limits. Other portions of the area receive services other than sewer and water from Bernalillo County or smaller municipalities.

We also compile and analyze data by Community Planning Area. The Albuquerque area in the mid-1990s was divided into 10 such areas based mainly on residents' perceptions of community. Community Planning Areas are being used primarily for planning and organization of neighborhood groups. The analysis results are summarized in the following sections.

Historic Demand for Land

- Single family development accounted for 65% of land absorption from 1990–1997. Less than 10% of new single family units and 6% of land absorption were within the 1960 City Boundary.
- Multifamily housing accounted for 5% of land absorption. Most new construction from 1990–1997 was in the far northeast (Foothills Community Planning Area) and northwest.
- Multifamily housing accounted for 13% of total housing units built from 1990–1998. This may be a trend toward more compact development or part of the cyclical nature of multifamily construction.
- 45% of single family units were built in the northwest mesa (West Community Planning Area), and one-third of total land absorption was in this Community Planning Area. Densities were average for the community planning areas at five units per acre.
- Non-residential development accounted for 30% of total land absorption. Non-residential development is likely to occur in areas with an established population base. From 1990–1997, 34% of non-residential land absorbed was located in the 1960 City Boundary, 48% was in the Water Service Area, and 18% was Outside the Water Service Area.
- Parks and rights-of-way increase total land absorption by about 15%.

Total demand for land from 1990–1997 is shown in Table 1.

Table 1 Historic Land Absorption by Area, 1990–1997

Area	Average Annual Absorption (Acres)	Total (%)
1960 City Boundary	130	12
Water Service Area	537	50
Outside Water Service Area	409	38
Total	1,076	100

- Single family densities are more than twice as high in the older infill areas than at the fringe. (These are averages across areas; individual developments vary.) Multifamily and commercial densities are uniform and relatively low. Residential densities and non-residential floor area ratios are shown in Table 2.

Table 2 Development by Area, 1990–1997

Area	Single Family (units/ac)	Multifamily (units/ac)	Non-residential Floor Area Ratios
1960 City Boundary	5.7	21	.20
Water Service Area	4.5	18	.18
Outside Water Service Area	2.8	18	.16
Total	3.9	18	0.18

Land and Building Values

Residential

- New housing prices and existing home prices are highest in the northeast part of the urban area and lowest in the southwest.
- Existing neighborhoods provide moderately priced housing. Prices for existing homes generally parallel new home prices, with higher priced new housing in areas with high priced existing housing and lower priced new housing in areas with lower priced existing homes.

Non-Residential

- Over half of the existing retail space is within the 1960 City Boundary. Downtown has a high retail vacancy rate, with almost one-quarter of total space vacant. Downtown also has the lowest rents. In the second quarter of 1998, 1.5 million square feet of retail space were available.
- Three-fourths of existing office space is located within the 1960 City Boundary. The areas with the highest amounts of space are Downtown and Uptown. The highest vacancies are in Downtown and the area near Albuquerque International Airport. Most new office construction is taking place in the North I–25 area. In the second quarter of 1998, 1.1 million square feet were vacant.
- Most industrial space is within the 1960 City Boundary. Again, Downtown has the highest vacancy rate. Nearly half of all industrial square footage is in the North I–25 area. In the second quarter of 1998, 2.4 million square feet were vacant.
- Overall, five million square feet of non-residential space were vacant in mid-1998. Average annual construction, including public buildings and owner occupied buildings, is about 2.2 million square feet. Downtown appears to be the least competitive area in all non-residential categories.
- Most actively marketed vacant land is on the West Side and in the South Valley. Limited numbers of parcels are on the market in other areas, even though land is vacant.

Vacant and Redevelopable Land Supply

Vacant land in the urban area was estimated from Albuquerque geographic information system (AGIS) land use data. Areas not considered suitable or available for development in the context of this analysis are lands within Indian reservations, public open space, 100-year flood hazard areas, areas with poor soils, and landfills. Several large land areas at the urban fringe outside the Water Service Area have been subdivided into small parcels with multiple owners. Fragmented ownership is an impediment to development. Over the long term, flood hazard areas, poor soils, and fragmented ownership can be mitigated, but usually at increased cost.

Land potentially suitable for redevelopment was identified by comparing the value of site improvements to the value of the land. Parcels with improvements valued at less than the land value were identified as potential redevelopment parcels.

The total vacant land supply is 91,897 acres, of which 2,240 acres are located within the 1960 City Boundary, 12,232 acres are within the City of Albuquerque's Water Service Area, and 77,425 acres are Outside the Water Service Area. An additional 10,000 acres, 80% of which are located Outside the Water Service Area, are impacted by flood hazard areas and poor soils, impediments that can be mitigated.

The geographic distribution of vacant and redevelopable land by community planning area is shown in Table 3. To be conservative, land impacted by flood hazard areas and poor soils is not shown in the total.

Key findings of the analysis of land supply are as follows:

- Nearly 92,000 acres of vacant land that is not impacted by landfills, flood hazards, or poor soils exist within the study area. Of these, 2,240 acres are located within the 1960 City Boundary. An additional 12,232 acres are located outside the 1960 City Boundary but within the Water Service Area. These areas do not include land served by other utility companies, which also have potential for urban development.

Table 3 Vacant and Redevelopable Land by Community Planning Area, May 1998

CPA	Vacant Land	Redevelopable Land	Total
Central Abq.	337	111	448
E Gateway	867	251	1,118
Foothills	672	58	730
Mid-Heights	326	680	1,006
N Abq.	2,693	315	3,008
N Valley	2,415	2,143	4,558
Near Heights	894	277	1,171
South Valley	3,196	1,727	4,923
SW Mesa	15,438	322	15,760
W Side	8,685	322	9,007
NE Outside	132	0	132
SE Outside	9,485	0	9,485
SW Outside	20,640	0	20,640
NW Outside	26,117	0	26,117
Total	91,897	6,206	98,103

- Over 6,000 acres of land within the 1960 City Boundary and Water Service Area are potentially redevelopable, based on the value definition.
- The analysis of redevelopable land indicates a pattern of declining value of improvements and increasing land values in older commercial strips along most of the arterial streets within the 1960 City Boundary. Public incentives may be needed to encourage redevelopment of these properties.
- Vacancy rates for non-residential buildings are highest in the Downtown, and rents for non-residential space are lowest.

Comparison of Projected Demand with Land Supply

Three growth scenarios were developed for analysis. These are:

Trend Scenario. A continuation of historic development patterns with most new development at the fringe of the urban area. The Middle Rio Grande Council of Governments (MRGCOG) developed and used this scenario as a base case for regional planning purposes.

Balanced Scenario. A more compact urban form with a balanced distribution of employment east and west of the river. This scenario also emphasizes more intense development along Central Avenue and Isleta Boulevard to 4th Street. These corridors present opportunities for transit service.

Downtown Scenario. This scenario emerged from the Transportation Evaluation Study. It concentrates employment growth in the Downtown, University of New Mexico, and Uptown areas, creating a major employment center in central Albuquerque. Residential and employment densities are increased in these centers as well as in major transportation corridors.

Population and employment projections by area for each scenario are shown in Table 4.

Table 4 Population and Employment Projections to 2020

	1995		Trend Scenario		Balanced Scenario		Downtown Scenario	
CPA	Pop.	Emp.	Pop.	Emp.	Pop.	Emp.	Pop.	Emp.
Central Abq.	19,247	31,650	19,232	37,208	29,756	38,084	25,343	52,561
E Gateway	52,007	14,478	55,327	20,294	55,327	19,353	55,352	20,340
Foothills	45,431	8,565	52,324	12,538	52,114	11,950	52,649	11,057
Mid-Heights	82,276	64812	80,863	79,577	83,863	76,383	82,009	89,176
N Abq.	40,887	14231	56,755	19,019	54,986	17,820	58,447	18,445
N Valley	49,999	55887	57,342	91,361	60,318	82,343	60,147	88,212
Near Heights	77,991	63700	77,606	79,616	88,606	80,396	81,893	83,108
S Valley	43,009	9278	46,350	16,458	51,652	16,320	46,509	15,275
SW Mesa	33,887	6101	60,395	17,263	45,182	37,785	55,000	13,782
W Side	47,322	10634	106,244	40,717	93,196	34,222	104,862	37,500
SE Outside	8,717	20,350	20,558	26,238	29,758	30,548	18,659	19,620
SW Outside	11	90	28	194	27	94	9	90
NW Outside	1,311	86	6,784	6,926	1,545	3,225	1,099	86
Total	502,095	299,862	639,808	447,409	646,330	448,523	641,978	449,252

Future demand for land was estimated by area for each of these scenarios and compared to the supply. Table 5 summarizes the total demand for land and the supply of vacant and redevelopable land.

Table 5 Projected Demand for Land by Community Planning Area to 2020, Acres

			Total Demand for Land				
	Land Supply		Current Densities			25% More Efficient Use of Land*	
CPA	Vacant Land	Redevelopable Land	Trend	Balanced	Downtown	Balanced	Downtown
Central Abq.	337	111	82	187	362	150	290
E Gateway	867	251	337	311	340	249	272
Foothills	672	58	613	588	620	470	496
Mid-Heights	326	680	106	152	163	122	130
N Abq.	2,693	315	2,147	1,892	2,351	1,514	1,881
N Valley	2,415	2,143	2,674	3,253	3,335	2,602	2,668
Near Heights	894	277	235	340	321	272	257
S Valley	3,196	1,727	959	1,913	930	1,530	744
SW Mesa	15,438	322	1,756	2,317	1,328	1,854	1,062
W Side	8,685	322	5,899	4,600	5,639	3,680	4,511
NE Outside	132	0	28	26	28	26	28
SE Outside	9,485	0	1,177	2,078	716	1,663	573
SW Outside	20,640	0	7	1	0	1	0
NW Outside	26,117	0	860	1020		82	0
Total	91,897	6,206	16,880	17,760	16,133	14,215	12,912

* For an explanation of this standard, see the main section of this chapter.

The findings of the demand analysis are as follows:

- Vacant and redevelopable land within the Water Service Area can accommodate more growth than would occur under any of the three scenarios over the next 20 years.
- Occupancy of existing vacant space, additional redevelopment, or higher density new development will enable existing areas to accommodate more development than shown in the analysis. For example, under the Downtown Scenario, higher density non-residential development and absorption of existing commercial and office space will meet the demand for land in the Central Business District.
- Land holdings, recent annexations, and plans for Westland, Mesa del Sol, and Quail Ranch planned communities contain an inventory of vacant land equivalent to more than 50 years' demand in these market areas, even in the Trend Scenario. The total inventory of vacant land outside the Water Service Area is the equivalent of several decades of City and County land consumption. Phasing of urban services to the master planned communities proposed for these properties must be planned carefully.
- Public policies that encourage investment in established areas and discourage disinvestment are critical to realization of the vision of a compact urban area as envisioned in the Comprehensive Plan and the Transportation Evaluation Study.

2.2 Introduction

The Albuquerque area's potential for urban growth is tied to the locations of vacant developable land and land that is suitable for redevelopment. The purpose of this analysis is to identify the current vacant land supply in the metropolitan area, quantify historic land absorption, and determine the development potential of the remaining vacant land.

The land supply analysis focuses on readily available information wherever possible but is supplemented with original survey research. Information was analyzed for two types of geographic subareas. First, information was compiled for three concentric "rings" of the region—the 1960 City Boundary, the Water Service Area, and urban or urbanizing land Outside the Water Service Area. The second subareas used for analysis are Community Planning Areas, which allow analysis by geographic area of the City. Figure 1 (pg.13) shows the 1960 City Boundary and current Water Service Area. Figure 2 (pg.15) shows Community Planning Areas. Figure 3 (pg.17) shows the areas serviced by water and wastewater systems.

The area within the 1960 City Boundary is considered to be an infill area. Land within this area has had municipal infrastructure and services for many years, and new development within this served area is considered to contribute to Comprehensive Plan goals regarding a compact urban form.

The current Water Service Area is also served (though not completely) by City water and sewer systems. This area is the location of much of the new development in the urban area, and services are being extended to serve the area.

The area Outside the Water Service Area includes land served by other utility companies, principally New Mexico Utilities, and land that currently has no urban services. The City of Albuquerque provides all services but water and sewer to portions of this area that are within the municipal limits. Other portions of the area receive services other than sewer and water from Bernalillo County or smaller municipalities.

A number of maps were created for use in the analysis of growth trends, vacant and redevelopable land, and development constraints. A listing of maps used in the analysis is found in the References.

This chapter contains the following sections:

Historic Demand for Land. This section of the report documents the historic demand for land in the Albuquerque urban area, including the historic rate of land absorption by area and type of land use, characteristics of land development by area, and pricing information for residential and non-residential real estate.

Vacant and Redevelopable Land. This section documents the current supply of vacant developable land and estimates redevelopable land in the urban area.

Projected Demand for Land. This section evaluates growth projections for the urban area and estimates the future demand for residential and non-residential land by area.

Growth Related Policies. This section updates work completed in the Transportation Evaluation Study, a prior analysis of development policies. New plans and policies adopted since the completion of the Transportation Evaluation Study are summarized, and the implications of these policies for a local growth strategy are discussed.

2.3 Historic Demand for Land

The urban area's historic rate of new construction indicates the demand for land from 1990–1997. Demand for land is characterized by historic land absorption, residential densities, non-residential floor area ratios, and market segments as defined by price by area. This section summarizes demand for land and characteristics of development by area for the Albuquerque urban area.

2.3.1 Historic Land Absorption, 1990–1997

City of Albuquerque and Bernalillo County building permits from 1990–1997 were used to derive estimates of the total amount of land absorbed by development over this period. The study analyzed development by three main types: single family residential, multifamily residential, and non-residential. Total units and acreage were analyzed for residential absorption. Total square feet and acreage were analyzed for all other land uses.

The study also examined the geographical location of new construction. One set of tables (Tables 6–7; pg.21, 10–11; pg. 23, and 14–15; pg. 25) indicates whether the various types of development fell within (1) the 1960 City Boundary (the infill area), (2) the Water Service Area, or (3) the area Outside the Water Service Area that is bounded by the Sandia Mountains to the east, the Sandia Reservation and Sandoval County line to the north, the Bernalillo County and Isleta Reservation line to the south, and Rio Puerco to the west.

The areas outside the City's utility service area have on-site systems or are served by other utility companies, as shown in Figure 3 (pg. 17). Public utility systems enable relatively dense development, and on-site systems limit lot sizes to a minimum of 0.75 acre. New Mexico Utilities, which serves far northwest Albuquerque and Paradise Hills, provides both water and wastewater service. Development within the New Mexico Utilities service area is at typical urban densities. Sandia Utilities provides water service only. Densities in areas served by Sandia Utilities are similar to rural densities (1 du/ac).

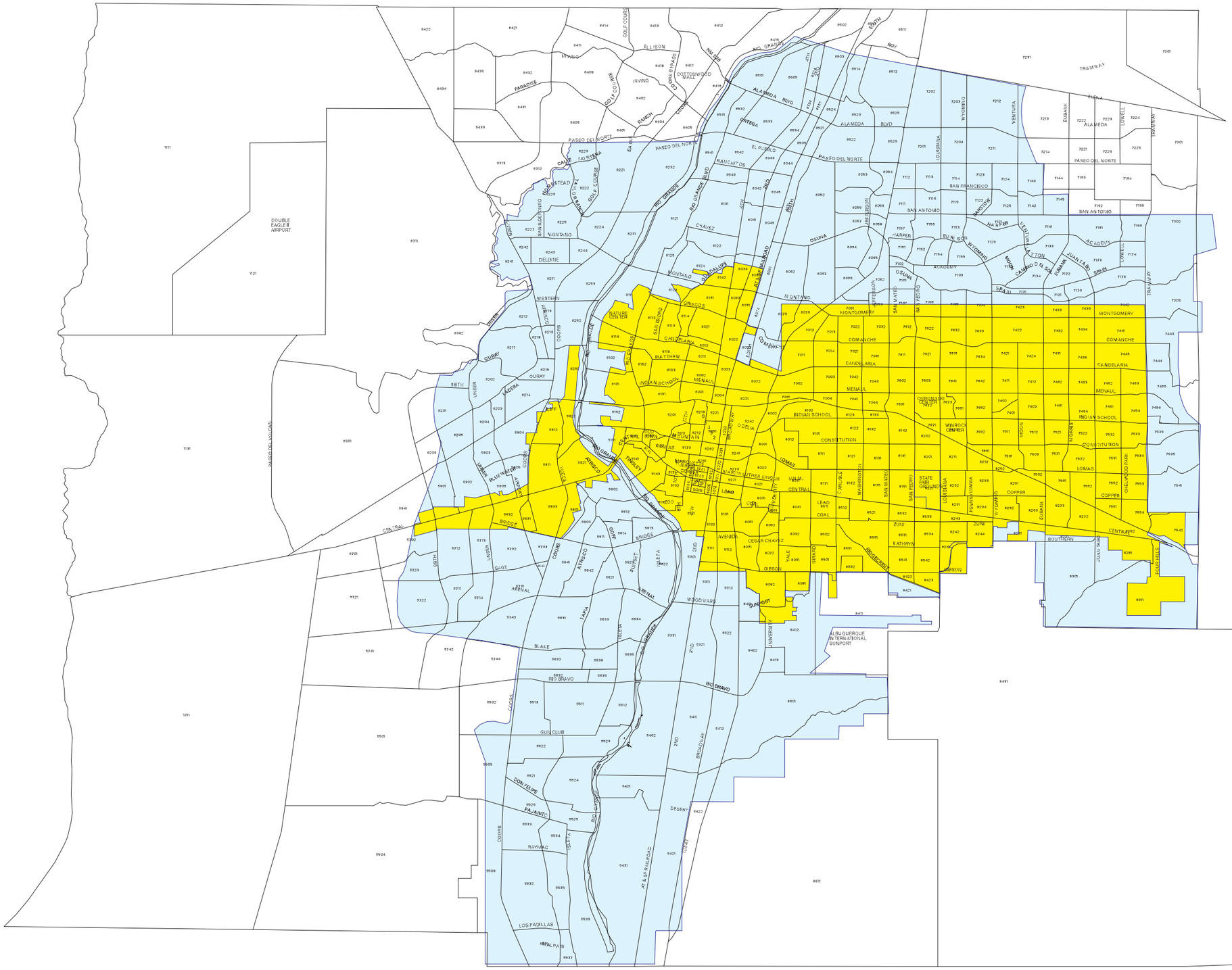
Figure 4 (pg.19) shows the locations of permits issued by the City of Albuquerque for these areas from 1990–1997. Geo-coded permit data were not available for Bernalillo County, so Figure 4 does not include the locations of development within the study area but outside the City Boundary.

A second set of tables (Tables 8–9; pg.22, 12–13; pg. 24, and 16–17; pg. 26) assigns the various types of development to one of the City's 10 Community Planning Areas. This further clarifies which parts of the City are experiencing fast or slow growth. Not all development is accounted for by building permits. To obtain a more accurate estimate of total land absorption, the land used each year for public rights-of-way and parks were added to the estimate.

Figure 1
Planned Growth Strategy Areas

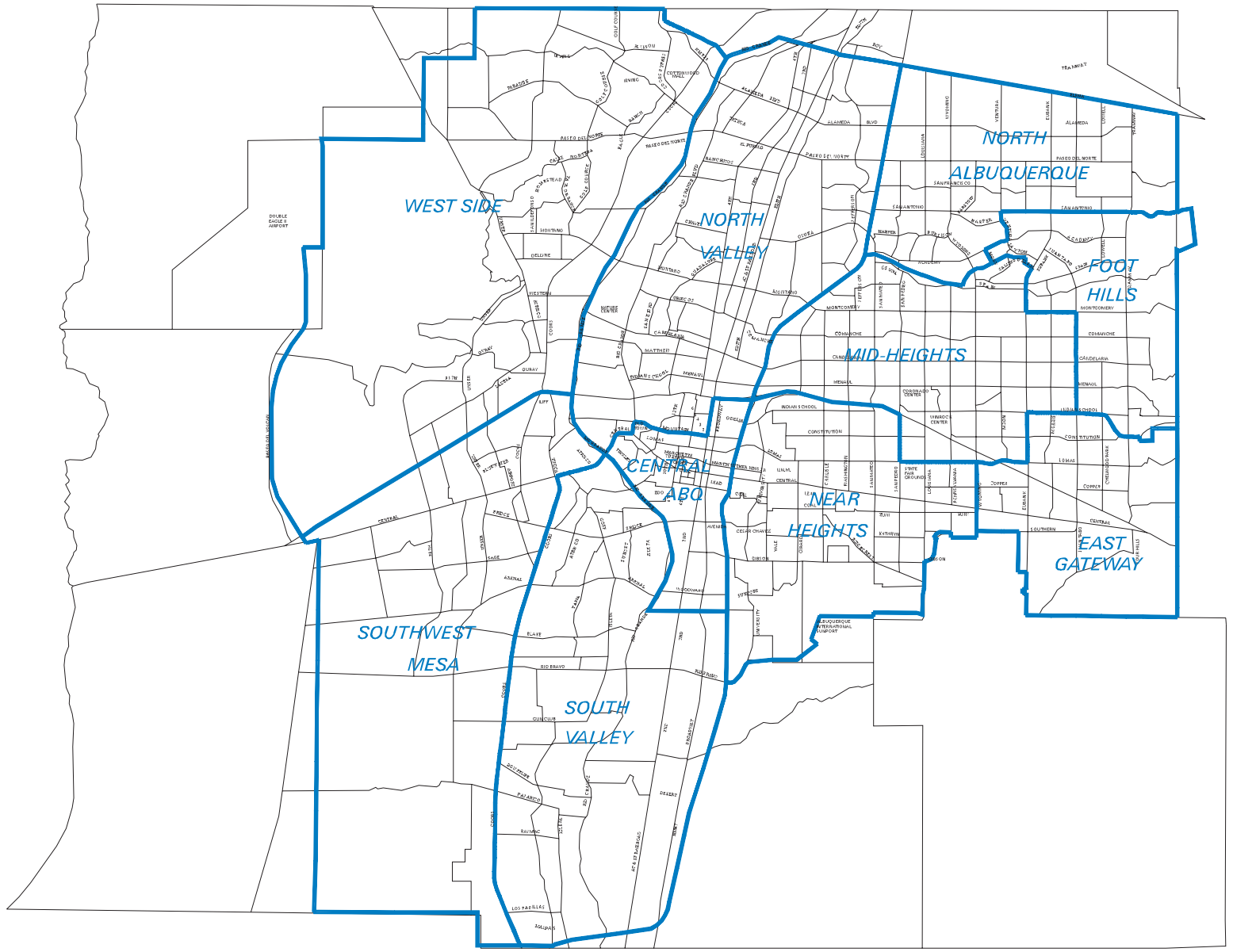
Legend

- 1960 Limits
- Water Service Area



Scale: 1 inch = 2 miles

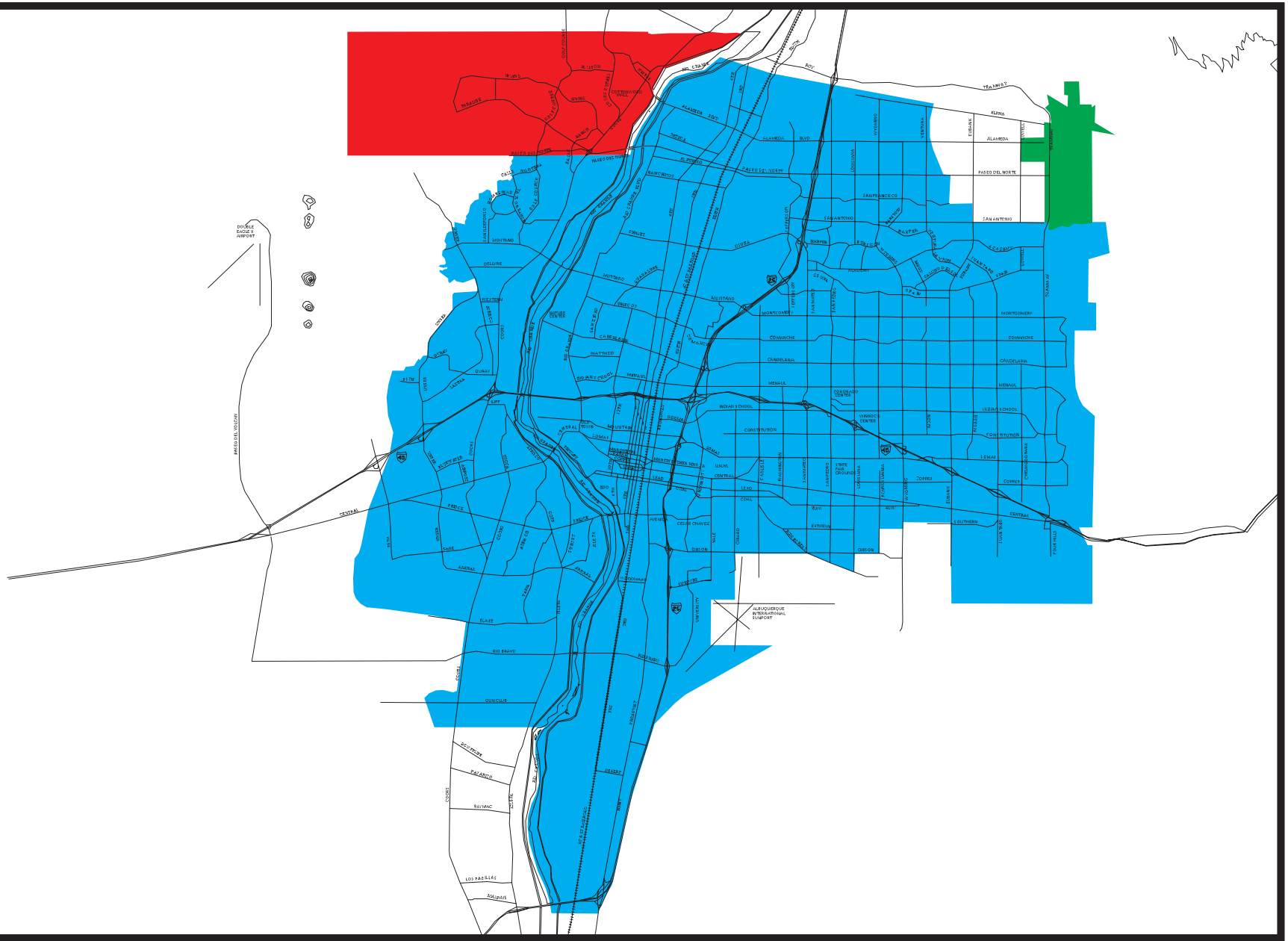
Map Printed November 30, 1998



Community Planning Areas

Figure 2
Planned Growth Areas with Community Planning Areas

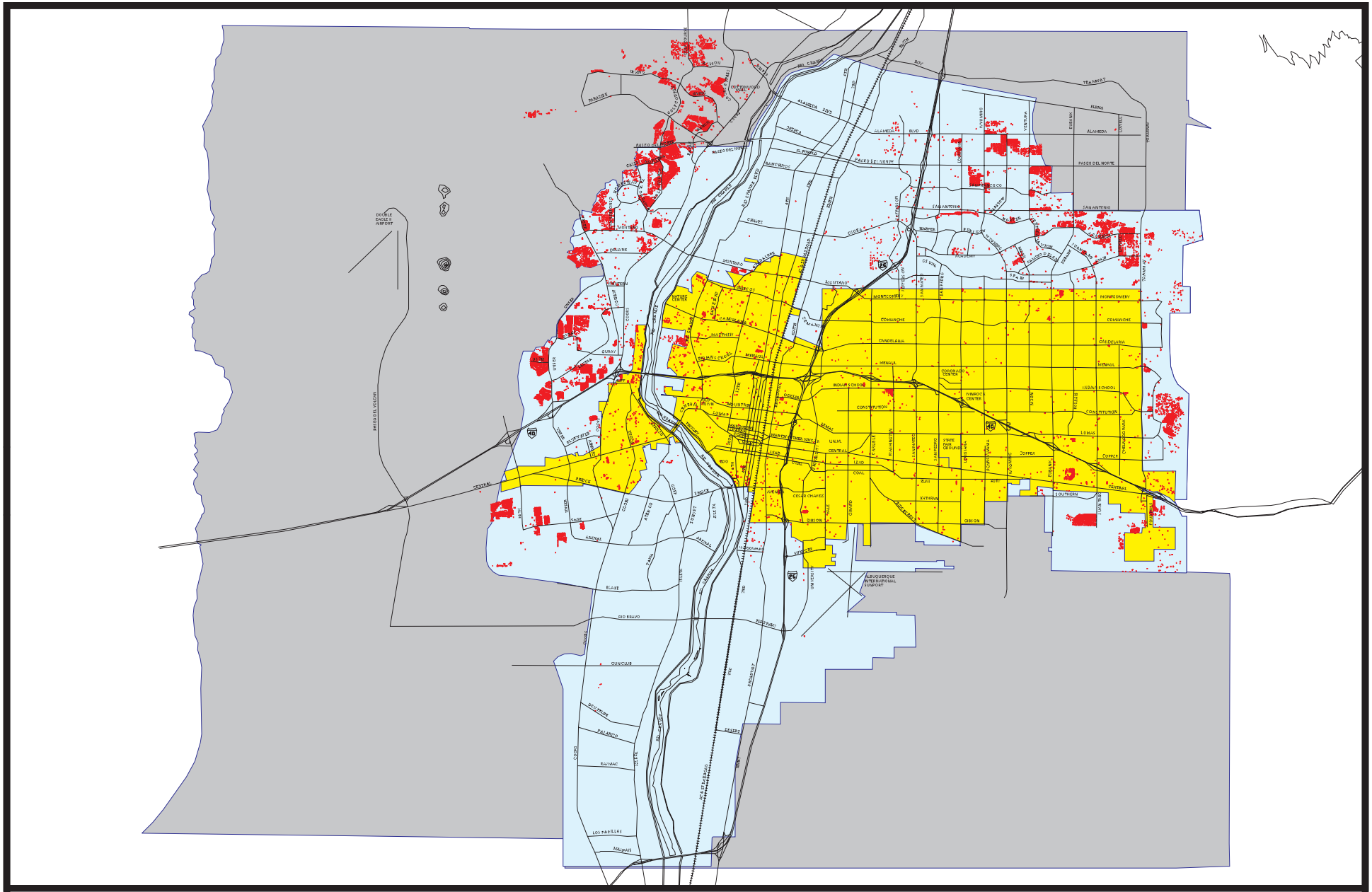
Scale: 1 inch = 3 miles
Map Printed November 30, 1998



City of Albuquerque
New Mexico Utilities
Sandia Utilities

Figure 3
Water & Wastewater Service Areas

Scale: 1 inch = 3 miles
Map Printed November 30, 1998



1960 Limits
Water Service Area
Outside Water Service Area
Building Permits

Figure 4
Location of New Construction 1990-1997

Scale: 1 inch = 3 miles
Map Printed November 30, 1998

Residential Land Absorption

Single Family Development

Single family housing is the largest category of land development, accounting for approximately 65% of all land used for urban development in the urban area. The category includes single family houses, townhouses and patio homes, and mobile homes. As shown in Tables 6 and 7, most new residential construction has taken place outside the 1960 City Boundary. Less than 10% of new single family units, using 6% single family acres, can be classified as infill.

Table 6 Single Family Residential Land Absorption by Year and Area, Units

Area	1990	1991	1992	1993	1994	1995	1996	1997	Total	Avg.
1960 City Boundary	124	129	154	157	233	280	328	266	1,671	209
Water Service Area	926	988	1,497	1,915	2,023	1,706	1,665	1,447	12,167	1,521
Outside Water Service Area	219	113	461	410	807	1,073	987	1,083	5,153	644
Total	1,270	1,230	2,112	2,482	3,063	3,059	2,980	2,796	18,991	2,374

Note: Some columns may not total correctly due to rounding. Totals are correct.
Source: City of Albuquerque and Bernalillo County Building Permits

Table 7 Single Family Residential Land Absorption by Year and Area, Acres

Area	1990	1991	1992	1993	1994	1995	1996	1997	Total	Avg.
1960 City Boundary	19	21	32	32	43	48	69	30	294	37
Water Service Area	174	183	312	399	509	423	361	322*	2,683	335
Outside Water Service Area	83	47	180	156	343	391	268	391*	1,859	232
Total	276	251	524	587	895	862	698	743	4,836	605

*Acreage data estimated.
Note: Some columns may not add due to rounding. Totals are correct
Source: City of Albuquerque and Bernalillo County Building Permits

Most single family development in Albuquerque takes place in new subdivisions located at the edges of the urban area. Tables 8 and 9 show the number of single family units and acreage for Community Planning Areas.

The largest amount of single family development over the past eight years occurred in the West Side Community Planning Area, which is the northwest mesa of Albuquerque. This area accounted for 45% of the units built and more than 36% of the acres developed within the 10 Community Planning Areas.

The four other fastest developing Community Planning Areas for single family

housing were North Albuquerque, Foothills, Southwest Mesa, and East Gateway (for number of units) or South Valley (for acreage). These areas are all located at the urban fringe.

Table 8 Single Family Residential Land Absorption by Year and Community Planning Area, Units

CPA	1990	1991	1992	1993	1994	1995	1996	1997	Total	Avg.
Central Abq.	10	18	20	12	12	23	44	16	155	19
E Gateway	118	134	136	240	332	202	212	123	1,497	187
Foothills	244	276	466	278	221	133	176	220	2,014	252
Mid-Heights	1	3	0	3	9	31	16	13	76	10
N Abq.	219	262	485	439	611	363	332	432	3,143	393
N Valley	52	53	95	136	133	121	128	114	832	104
Near Heights	7	3	7	43	48	16	39	29	192	24
S Valley	80	42	74	72	98	117	82	86	651	81
SW Mesa	67	30	37	48	87	562	529	375	1,735	217
W Side	405	402	756	1,194	1,502	1,488	1,421	1,380	8,548	1,069
Total	1,203	1,223	2,076	2,465	3,053	3,056	2,979	2,788	18,843	2,355

Note: Some columns may not add due to rounding.
Source: City of Albuquerque and Bernalillo County Building Permits

Table 9 Single Family Residential Land Absorption by Year and Community Planning Area, Acres

CPA	1990	1991	1992	1993	1994	1995	1996	1997	Total	Avg.
Central Abq.	1	3	2	2	2	3	6	2	21	3
E. Gateway	18	23	31	48	60	32	35	23	270	34
Foothills	42	46	94	55	93	60	43	48	481	60
Mid-Heights	0.1	0.4	0	0.6	1	2	2	1	7	1
N Abq.	60	54	132	120	226	145	115	105*	852	107
N Valley	19	18	33	43	50	43	33	22	261	33
Near Heights	1	0.5	1	8	7	3	11	2	34	4
S Valley	43	31	68	67	84	87	81	26*	461	61
SW Mesa	16	8	19	20	35	99	126	44	367	46
W Side	60	62	134	211	305	385	247	243	1,647	206
Total	260	246	514	575	863	859	699	516	4,532	566

* Excludes county acreage
Note: Some columns may not add due to rounding.
Source: City of Albuquerque and Bernalillo County Building Permits

Multifamily Development

Only a few multifamily projects have been built per year since 1990. As a result, the rate of multifamily construction varies significantly from year to year, and the location of new construction also varies. Multifamily units accounted for only 13% of the total housing units built between 1990–1993, but increased to 34% of the total over the next four years. It is difficult to forecast whether this is a trend toward more compact growth or part of the cyclical nature of multifamily construction. As shown in Table 10, most multifamily construction has taken place in the Water Service Area or Outside the Water Service Area in the northwest mesa. However, in 1996, almost half of new multifamily units were built within the 1960 City Boundary

.

Table 10 Multifamily Residential Land Absorption by Year and Area, Units

Area	1990	1991	1992	1993	1994	1995	1996	1997	Total	Avg.
1960 City Boundary	146	47	63	113	75	16	465	22	947	118
Water Service Area	281	216	6	182	1,135	514	493	306	3,133	392
Outside Water Service Area	0	0	0	0	617	1,360	72	1,154	3,203	400
Total	427	263	69	295	1,827	1,890	1,030	1,482	7,283	910

Source: City of Albuquerque and Bernalillo County Building Permits

Multifamily construction is cyclical, with annual absorption since 1990 ranging from two to 131 acres. An average of 50 acres per year are absorbed for multifamily construction. Table 11 summarizes land absorption by community planning area.

Table 11 Multifamily Residential Land Absorption by Year and Area, Acres

Area	1990	1991	1992	1993	1994	1995	1996	1997	Total	Avg.
1960 City Boundary	4	2	2	5	2	1	27	1.5	45	6
Water Service Area	5	10	.28	15	67	39	26	13	175	22
Outside Water Service Area	0	0	0	0	32	91	4	53	180	23
Total	9	12	2	20	101	131	57	68	400	50

Source: City of Albuquerque and Bernalillo County Building Permits

The West Side Community Planning Area captured the largest share of multifamily units, nearly half the total units and acres, as shown in Tables 12 and 13. This pattern followed the trend of single family housing development. The closest competitor was the Foothills area in the northeast.

Table 12 Multi-Family Residential Land Absorption by Year and Community Planning Area, Units

CPA	1990	1991	1992	1993	1994	1995	1996	1997	Total	Avg.
Central Abq.	0	0	0	0	0	3	10	3	16	2
E Gateway	0	0	0	0	0	16	4	3	23	3
Foothills	244	262	9	10	734	298	124	4	1,685	211
Mid-Heights	0	1	56	200	0	0	6	0	263	33
N Abq.	40	0	0	76	424	0	0	294	834	104
N Valley	0	0	4	0	4	2	10	20	40	5
Near Heights	143	0	0	4	0	1	170	10	328	41
S Valley	0	0	0	0	0	90	12	0	102	13
SW Mesa	0	0	0	0	32	0	464	0	496	62
W Side	0	0	0	4	633	1,480	230	1148	3,495	437
Total	427	263	69	294	1,827	1,890	1,030	1,482	7,282	910

Source: City of Albuquerque and Bernalillo County Building Permits

Table 13 Multi-Family Residential Land Absorption by Year and Community Planning Area, Acres

CPA	1990	1991	1992	1993	1994	1995	1996	1997	Total	Avg.
Central Abq.	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.3	1.0	0.1
E Gateway	0.0	0.0	0.0	0.0	0.0	1.0	0.4	0.2	2.0	0.3
Foothills	5.0	12.0	0.3	0.4	48.0	26.0	5.0	0.5	97.3	12.2
Mid-Height	0.0	0.0	2.0	8.0	0.0	0.0	0.4	0.0	10.0	1.3
N Abq.	1.0	0.0	0.0	11.0	23.0	0.0	0.0	15.0*	50.0	6.0
N Valley	0.0	0.0	0.2	0.0	0.3	0.2	0.4	0.7	1.8	0.2
Near Heights	4.0	0.0	0.0	0.2	0.0	0.1	7.0	0.5	11.7	1.5
S Valley	0.0	0.0	0.0	0.0	0.0	6.0	0.5	0.0*	7.0	0.9
SW Mesa	0.0	0.0	0.0	0.0	0.0	0.0	31.0	0.0	31.0	3.9
W Side	0.0	0.0	0.0	0.1	31.0	97.0	13.0	51.0	192.1	24.0
Total	10.0	12.0	2.5	19.7	102.3	130.4	58.1	68.2	403.9	50.5

* Excludes County acreage

** Missing some acreage

Source: City of Albuquerque and Bernalillo County Building Permits

Non-Residential Land Absorption

Non-residential development (commercial, office, institutional, and industrial) accounted for only 30% of the acres developed in the Albuquerque area over the past eight years. This type of development was more evenly distributed among the three areas of the city than residential development. While nearly half of the new non-residential square footage was built in the current Water Service Area (compared with 58% of residential units), more than a third occurred within the 1960 City Boundary (compared with 10% of residential units). The outside area captured less than 20% of the total non-residential square footage (Tables 14 and 15; pg. 25).

Table 14 Non-Residential Land Absorption by Year and Area, Square Feet

Area	1990	1991	1992	1993	1994	1995	1996	1997 *	Total	Avg.
1960 City Boundary	511,771	412,846	561,899	876,614	1,147,777	718,889	1,061,665	0	5,291,461	755,923
Water Service Area	813,995	716,486	418,888	932,215	810,215	1,719,181	2,043,797	0	7,454,777	1,064,968
Outside Water Service Area	336,518	219,095	191,913	111,608	155,445	1,381,426	465,665	0	2,861,670	408,810
Total	1,662,284	1,348,427	1,172,700	1,920,437	2,113,437	3,819,496	3,571,127	0	15,607,908	2,229,701

* Some data are not available for Bernalillo County (26 of 181 building permits)

Source: City of Albuquerque and Bernalillo County Building Permits

Table 15 Non-Residential Land Absorption by Year and Area, Acres

Area	1990	1991	1992	1993	1994	1995	1996	1997*	Total	Avg.
1960 City Boundary	49	46	114	68	131	80	124	0	612	87
Water Service Area	153	105	67	136	108	206	194	0	969	138
Outside Water Service Area	29**	24	33	7	38	179	93	0	403	58
Total	231	175	214	211	277	465	411	0	1,984	283

* Data are not available for Bernalillo County (76 of 181 building permits)

** Does not include a 660-acre City composting facility, which was a one time project not consistent with long-term trends.

Source: City of Albuquerque and Bernalillo County Building Permits

In Community Planning Areas, the North Valley outstripped the West Side in non-residential development every year but 1995. This was due to heavy commercial and industrial development along the north I–25 corridor. The Near Heights ranked third in capturing new square footage and acreage. The Mid-Heights ranked fourth in new square footage while North Albuquerque was fourth in the number of acres absorbed by non-residential development. (Tables 16 and 17 (pg. 26).

Parks and Rights-of-Way

The study estimated annual acreage needed for rights-of-way and parks to account for land absorption not included in building permits. The study estimated rights-of-way—land used for streets, drainage, utility easements, and trails—to be 27% of the developed acreage. This percentage was derived from statistical analyses done earlier for the City of Albuquerque's Wastewater Facility Plan.

Right-of-way needs will vary with the amount of infrastructure in place at the time of new development. Total land absorbed by rights-of-way is only the incremental addition required at the time of development. For example, development of a lot in an existing subdivision does not entail additional street

Table 16 Non-Residential Land Absorption by Year and Community Planning Area, Square Feet

CPA	1990	1991	1992	1993	1994	1995	1996	1997	Total	Avg.
Central Abq.	7,781	19,904	52,108	73,468	2,090	17,480	6,086	1,894	180,811	22,601
E Gateway	92,536	165,039	346,176	147,466	334,445	47,869	182,494	173,267	1,489,292	186,162
Foothills	33,860	18,651	4,863	21,692	41,640	110,089	51,300	200,429	482,524	61,066
Mid-Heights	109,966	95,027	73,416	521,970	132,124	364,099	554,678	204,105	2,055,385	256,923
N Abq.	200,206	114,792	26,124	307,163	121,981	181,445	291,203	82,907	1,325,821	165,728
N Valley	395,216	419,028	223,689	511,861	760,681	1,113,528	1,231,200	969,407	5,624,610	703,076
Near Heights	312,657	127,587	92,578	140,990	513,418	213,506	365,614	381,266	2,147,616	268,452
S Valley	16,119	23,767	17,519	43,695	44,685	57,047	148,092	12,295	363,219	45,402
SW Mesa	54,973	9,858	164,103	405	48,853	233,535	277,059	286,550	1,075,336	134,417
W Side	224,135	354,774	140,828	135,429	94,956	1,479,698	455,793	384,587	3,270,200	408,775
Total	1,447,449	1,348,427	1,141,404	1,904,139	2,094,873	3,818,296	3,563,519	2,696,707	18,020,814	2,252,602

Table 17 Non-Residential Land Absorption by Year and Community Planning Area, Acres

CPA	1990	1991	1992	1993	1994	1995	1996	1997	Total	Avg.
Central Abq.	.29	3	47	.56	.14	5	.75	0	57	7
E Gateway	9	9	51	14	28	13	12	40	176	22
Foothills	11	3	1	1	10	7	5	19	57	7
Mid-Heights	13	9	6	43	27	41	87	28	254	32
N Abq.	13	8	10	50	26	58	38	3	206	26
N Valley	42	91	23	61	75	109	117	113	631	79
Near Heights	32	11	10	19	50	13	26	8	169	21
S Valley	3	9	10	10	17	22	20	3	94	12
SW Mesa	11	1	29	0	17	48	15	26	147	18
W Side	90	32	26	10	26	149	92	42	467	58
Total	224	176	213	209	276	465	413	282	2,258	282

right-of-way. For this study, no new rights-of-way are assumed within the 1960 City Boundary. Only 25% of new development in the Water Service Area is assumed to require additional rights-of-way (an additional 6.75% overall). Most development Outside the Water Service Area is assumed to be new development, with the full 27% of land area for rights-of-way added to the net acreage accounted for in building permits.

There were several standards available for projecting the amount of acreage that will be needed for parks. The City's Park Dedication Ordinance (Sections 14-9-

1 et seq. ROA 1994) requires a neighborhood park dedication of 170 square feet of land for every townhouse, single family residence, or mobile home built, and 85 square feet for every apartment. Its purpose is to provide developed park space within one-half mile of every home, where practicable, "to supply areas for recreational opportunities and visual relief to the population of the City." The City's "Goals for Park Development" (Albuquerque Code of Resolutions, 3-6-1), adopts a standard of 1.5 acres per every 1,000 people for neighborhood parks and two acres per 1,000 people for district and other large urban parks.

Table 18 shows the fairly generous assumptions of this study regarding average annual acres needed for parks. This estimate of land absorption for parks combines the need for neighborhood, district, and regional parks into a standard of 3.5 acres per 1,000 people. An assumption of 2.5 persons per housing unit resulted in 400 units per 1,000 people or 380 square feet of park space per unit. The analysis assumes that no new parks are needed within the 1960 City Boundary and that half the new residential development within the Water Service Area resulted in acquisition of new park land. An average of 17 acres of new park land is estimated to be needed each year.

Table 18 Average Acres Required for Parks Annually (3.5 acres per 1,000 persons)

CPA	Ave SF Units	Average Multiunit	Average Total Units	Park Space (Sq. Ft.)	Total Park Acres	Modified Park Acres*
1960 City Boundary	209	118	327	124,260	3	0
Water Service Area	1521	392	1913	726,940	17	8
Outside Water Service Area	644	400	1044	396,720	9	9
Total	2374	910	3284	1,247,920	29	17

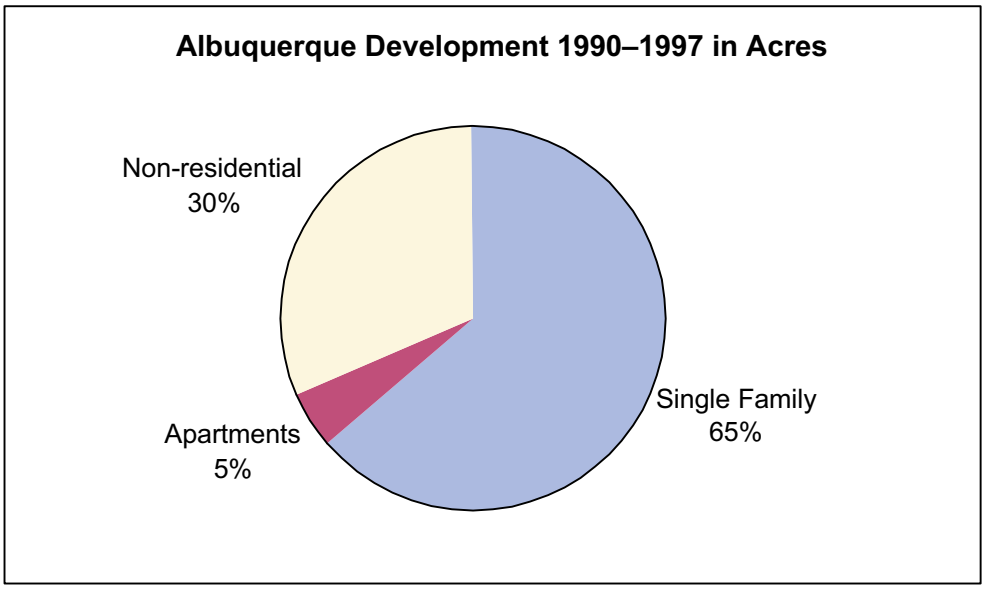
* Assumes no parks needed within 1960 City Boundary and half of vacant land inside Water Service Area is already developed.

Absorption Summary

In general, development in Albuquerque (single and multifamily residential and non-residential) absorbed a total of 7,220 acres over the past eight years for an average of 938 acres per year. Single family homes accounted for 65% of the total, non-residential development for 30%, and multifamily units for only 5%, as seen in Figure 5 (pg. 28). This excludes parks, open space, and rights-of-way. It also excludes development in the East Mountains and the Indian Reservations.

Single family residential lots absorbed a minimum of 251 acres in 1991 and a maximum of 895 acres in 1994, with an average of 605 acres per year over the 1990–1997 period. Multifamily sites consumed a minimum of two acres in 1992 and a maximum of 131 acres in 1995, with an average of 50 acres per year. Finally, non-residential absorbed a low of 175 acres in 1991 and maximum of 465 in 1995, with an average of 283 annually.

Figure 5 Development by Type



As seen in Table 19, single family and multifamily residential units absorbed an average of 655 acres or 70% of the total acres absorbed over the past eight years, while non-residential accounted for 283 or 30%. Rights-of-way accounted for an estimated 125 acres, and parks accounted for an estimated 17 acres.

Table 19 Total Average Acres Absorbed Annually 1990–1997

Area	Res.	Non-Res.	Subtotal	Parks*	Total	ROW**	Total
1960 City Boundary	43	87	130	0	130	0	130
Water Service Area	357	138	495	8	503	34	537
Outside Water Service Area	255	58	313	9	322	87	409
Total	655	283	938	17	955	121	1,076

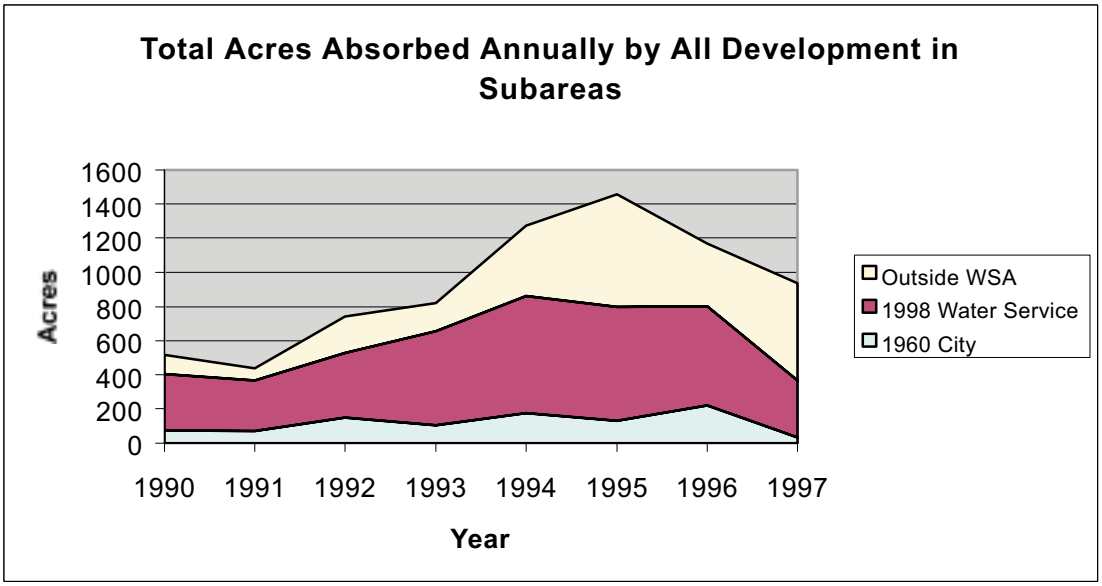
* Assumed 3.5 acres per 1,000 persons or 380 square feet per residential unit for parks

** Assumed 27% of total acreage is right-of-way per Albuquerque Wastewater study statistical calculations, no new right-of-way is needed within 1960 City Boundary, and 25% of right-of-way is still needed in the 1998 Water Service Area.

Subarea Absorption

On average, the current Water Service Area outside the 1960 City Boundary experienced the most residential and non-residential development as measured in acreage-52%-from 1990–1997. The 1960 City Boundary captured 14% of the total development and the subarea Outside the Water Service Area captured 34%. The change in numbers of acres absorbed by the three subareas over time is shown in Figure 6 (pg. 29).

Figure 6 Annual Land Absorption



By subarea, the greatest number of single family dwellings (12,167) was built within the Water Service Area, consuming 2,683 acres, exclusive of parks and rights-of-way. Even though fewer than half that number of dwellings (5,153) were built Outside the Water Service Area, their lower density absorbed 1,859 acres, 1.7 times the land area per unit as homes in the Water Service Area. Only 1,671 homes, or about 9% of the total, were built within the 1960 City Boundary on 294 acres.

A summary of development by Community Planning Area is shown in Table 20. Overall, the West Side Community Planning Area experienced the most residential and non-residential development by far as measured by acres absorbed. Development there consumed 2,306 acres, nearly twice the amount absorbed in

Table 20 Total Residential and Non-Residential Absorption by Community Planning Areas, Acres

CPA	1990	1991	1992	1993	1994	1995	1996	1997	Total	Avg.
Central Abq.	1	6	49	3	2	8	7	2	79	10
E Gateway	27	32	82	62	88	46	47	63	448	56
Foothills	58	61	95	56	151	93	53	68	635	79
Mid-Heights	13	9	8	52	28	43	89	29	271	34
N Abq.	74	62	142	181	275	203	153	123	1213	152
N Valley	61	109	56	104	125	152	150	136	894	112
Near Heights	37	12	11	27	57	16	44	11	214	27
S Valley	46	40	78	77	101	115	102	29	588	74
SW Mesa	27	9	48	20	52	147	172	70	545	68
W Side	150	94	160	221	362	631	352	336	2306	288
Total	494	434	730	803	1241	1454	1170	866	7193	899

Note: Some columns may not add due to rounding.

the Community Planning Area with the second-highest amount of development, North Albuquerque. Not surprisingly, the Central Albuquerque Community Planning Area had the fewest developed acres over the past eight years.

2.3.2 Characteristics of Land Development by Area

Land development characteristics include densities (units per acre) for residential development and floor area ratios (the ratio of building area to land area) for non-residential development. A comparison of single family densities by area is shown in Table 21.

Table 21 Single Family Residential Land Density by Year and Area, Units per Acre

Area	1990	1991	1992	1993	1994	1995	1996	1997	Avg.
1960 City Boundary	6.5	6.1	4.8	4.9	5.4	5.8	4.8	8.9	5.7
Water Service Area	5.3	5.4	4.8	4.8	4.0	4.0	4.6	4.5	4.5
Outside Water Service Area	2.6	2.4	2.6	2.6	2.4	2.7	3.7	2.8	2.8
Average	4.6	4.9	4.0	4.2	3.4	3.5	4.3	3.8	3.9

Housing in older established areas is typically higher density than housing on the edges of the City. Net single family infill densities (excluding rights-of-way) average five to six units per acre. In the Water Service Area, densities are four to five units per acre. Densities vary slightly from year to year, but lot size trends have not changed significantly during the past eight years. However, individual developments vary from these averages.

The area Outside the Water Service Area includes low density developments such as North Albuquerque Acres and portions of the South Valley as well as suburban development served by New Mexico Utilities. Overall, the average net density of new single family residential development Outside the Water Service Area is 2.8 units per acre compared with 5.7 within the City infill area.

Community Planning Areas span both the 1960 City Boundary and Water Service Area subareas. Single family densities varied considerably by Community Planning Area. They ranged from 1–3 acres in the North and South Valleys and North Albuquerque to 7–10 units per acre in Central Albuquerque and the Mid-Heights, respectively.

Densities in the West Side Community Planning Area, which captured nearly 40% of the City's single family market over the past eight years, were average for all the Community Planning Areas at five units per acre.

Table 22 (pg.31)shows multifamily densities by area. Multifamily projects are very similar for all areas of Albuquerque, with a typical density of 18–20 units per acre. Densities of multifamily units outside the city infill area are only slightly lower than inside.

Table 22 Multifamily Residential Land Density by Year and Area, Units per Acre

Area	1990	1991	1992	1993	1994	1995	1996	1997	Avg.
1960 City Boundary	37	24	32	23	38	16	17	15	21
Water Service Area	56	22	21	12	17	13	19	24	18
Outside Water Service Area	0	0	0	0	19	15	18	22	18
Total	47	22	30	15	18	14	18	22	18

Table 23 Non-Residential Floor Area Ratio by Year and Area

Area	1990	1991	1992	1993	1994	1995	1996	1997*	Avg.
1960 City Boundary	0.24	0.21	0.11	0.30	0.20	0.21	0.20	0	0.20
Water Service Area	0.12	0.16	0.14	0.16	0.17	0.19	0.24	0	0.18
Outside Water Service Area	0.27	0.21	0.13	0.37	0.09	0.18	0.11	0	0.16
Total	0.17	0.18	0.13	0.21	0.18	0.19	0.20	0	0.18

Some columns may not add due to rounding. Totals are correct.

* Data unavailable for 1997

Non-residential density is measured by floor area ratio, or the ratio of the total building square footage to the lot square footage. Floor area ratios are low generally in Albuquerque due to parking and landscape requirements and a prevalence of one-story buildings. As shown above in Table 23, the floor area ratio is somewhat higher in the infill area and lower in the Water Service Area.

2.3.3 Pricing Data by Area

Land prices, residential sales information and non-residential lease rates are reported to illustrate differences in pricing from area to area. Demand is influenced by price, and a planned growth strategy must assure a broad range of prices and types.

Housing and Residential Land

The starter home market is located in the southwest near Westgate Heights, in the southwest quadrant of the City. Homes in this area range in price from $75,000–$125,000. An average of 217 homes have been built in the southwest over the past nine years, with over 500 units built in 1995 and 1996.

Moderately priced homes are still available in the northwest mesa, although home prices are increasing in newer subdivisions surrounding Cottonwood Mall. Housing prices in northwest subdivisions range from $115,000–$175,000 in Ventana Ranch up to $300,000 closer to Coors Road. An average of 750 units per year, representing 40–50% of the Albuquerque market, are built in this area.

Lot prices for builders in Ventana Ranch are currently about 22–23% of total home price. For example, a 50 foot lot is $27,000–$29,000 for a $115,000–$130,000 home. A 60 foot lot is priced in the mid-$33,000s for a $130,000–$145,000 home price, and a 65 foot lot is priced at about $35,000 for a $145,000–$175,000 home. Lot prices in the Seven Bar area west of Cottonwood Mall are priced at about 24–28% of home prices. The top lot price for builders in this area is about $36,000.

The highest prices for new homes are in the far northeast, with home prices starting at about $130,000 for the most affordably priced product.

Table 24 shows existing home sales for 1995, the first year for which these data were compiled, and 1998 and 1999 grouped as closely as possible to the 1960 City Boundary and Water Service Area. Average home prices are lowest within the 1960 City Boundary, increasing in the newer areas Outside the Water Service Area, although there are price variations within each major area. The most affordable housing overall is in the southwest.

Table 24 Albuquerque Area Existing Home Sales, 1995, 1998, and 1999*

Area	Total Sold 1999	Ave. Price 1999	Total Sold 1998	Ave. Price 1998	Total Sold 1995	Ave. Price 1995	Ave. Annual Increase (%)*
1960 City Boundaries							
Downtown	96	$108,741	96	$107,405	92	$116,958	(2.80)–(1.81)
Near Heights	574	$129,017	649	$124,861	613	$117,420	2.07–2.38
NE Heights	977	$133,356	962	$130,789	986	$127,195	0.93–1.19
SE Heights	316	$134,825	318	$130,025	291	$114,415	4.36–4.19
Four Hills	74	$207,778	66	$211,912	65	$207,454	0.71–0.04
Subtotal	2,037	$133,905	2,091	$130,320	2,047	$124,539	1.52–1.83
Water Service Area							
Far NE Heights	1,067	$192,263	1,062	$188,241	942	$182,333	1.07–1.34
N Valley	305	$187,700	331	$201,119	298	$162,906	7.28–3.61
NW Heights	765	$131,043	764	$128,558	811	$120,955	2.06–2.02
Southwest	334	$ 94,412	322	$ 96,735	492	$ 87,301	3.48–1.98
Subtotal	2,471	$159,520	2,479	$159,681	2,543	$142,096	3.97–2.93
Outside Water Service Area							
Paradise Hills	347	$153,641	352	$149,995	193	$140,676	2.16–2.23
Sandia Heights	127	$287,230	106	$265,624	90	$269,936	(0.54)–1.56
N Abq. Acres	87	$338,403	76	$337,840	44	$289,127	5.33–4.01
Subtotal	561	$212,536	534	$199,682	327	$196,227	0.58–2.02
Total	5,069	$155,094	5,104	$151,837	4,917	$138,387	3.14–2.89

* First percentage is for 1995–1998 period, second percentage is for 1995–1999 period.

Negative figures in parentheses.

Source: Albuquerque Board of Realtors, Southwest Multiple Listing Service

Existing single family home prices in the Greater Albuquerque area have increased about 3% per year since 1995 (not adjusted for inflation), encouraged by declining interest rates, according to the Albuquerque Board of Realtors. (Inflation based on the Consumer Price Index—Urban during the 1995–1999 period averaged 2.25%.per year.) About 5,100 single family detached homes sold during 1998, at an average price of $151,837 and 5,069 single family homes sold in the following year at an average price of $155,094. Overall, home prices are lowest within the 1960 City Boundary and highest Outside the Water Service Area.

The level of existing home sales activity was about the same in 1995, 1998, and 1999. Sales activity has shifted geographically, however. On the West Side, home sales in Paradise Hills have increased, but sales in older northwest neighborhoods and in the southwest have decreased. Activity in Sandia Heights and North Albuquerque Acres, which are a very small part of the urban area total, has increased. All other areas appear to be at about the same level as in 1995.

The subareas with the greatest increase in the average cost of a single family house were the North Valley and the SE Heights. The latter is a gentrifying area with reasonably low priced houses. The subareas with a declining or flat trend in the sales price of single family houses were Downtown and Four Hills.

Reporting areas for the Board of Realtor data do not exactly correspond with Community Planning Areas, but the data have been matched as closely as possible in Table 25. The lowest home prices are in the southwest and Central

Table 25 Albuquerque Area Existing Home Sales, 1995, 1998, and 1999* by Community Planning Area

Area	Total Sold 1999	Ave. Price 1999	Total Sold 1998	Ave. Price 1998	Total Sold 1995	Ave. Price 1995	Ave. Annual Change (%)*
Central Abq.	96	$108,741	96	$107,405	92	$116,958	(2.80)–(1.81)
Old NE/SE Heights (Near Heights, Mid-Heights)	1,867	$132,271	1,929	$128,669	1,890	$122,057	1.77–2.03
New NE Heights (North Abq., Foothills).	1,281	$211,603	1,244	$203,975	1,076	$194,027	1.68–2.19
N Valley	305	$187,700	331	$201,119	298	$162,906	7.28–3.61
Northwest	1,112	$138,095	1,116	$135,319	1,004	$124,746	2.75–2.57
Southwest (SW Mesa, S Valley)	334	$ 94,412	322	$ 96,735	492	$ 87,301	3.48–1.98
Four Hills (E Gateway)	74	$207,778	66	$ 211,912	65	$207,454	0.71–0.04
Total	5,069	$155,094	5,104	$ 151,837	4,917	$138,387	3.14–2.89

* First percentage is for 1995–1998 period. Second percentage is for 1995–1999 period. Negative figures in parentheses.

Source: Albuquerque Board of Realtors, Southwest Multiple Listing Service.

Albuquerque, and the highest prices are in the newer parts of the northeast heights. Housing prices are trending upward in most areas, but average home prices in Central Albuquerque have declined over the past four years. It can be observed that the Central Albuquerque market was far less robust than the markets in all the other parts of the City. Sales prices in the Four Hills area, although relatively high, have not increased over the analysis period.

Home prices have increased the most in the North Valley, although the average price in the larger areas shown in Table 25 (pg. 33) masks the variations among smaller areas.

Non-Residential Space and Land

Lease rates and vacancy rates indicate the general health of a real estate submarket. The following tables summarize overall lease rates and vacant space for retail, office, and industrial buildings of over 10,000 square feet in the Albuquerque area.

Table 26 Retail Markets in Albuquerque, Second Quarter 1998

Area	Total Retail Centers	Total Square Feet	Vacancy (%)	Average Asking Rent*
1960 City Boundary				
Downtown	10	530,735	23.14	$9.19
Uptown	28	2,829,075	5.40	$86–$11
Mid NE Heights	76	3,810,010	9.28	$11.46
South Metro	43	2,101,197	7.44	$9.31
Water Service Area				
Far NE Heights	43	2,996,497	6.71	$12.35
North Valley/North I-25	16	783,300	7.79	$9.94
Northwest Mesa**	28	3,651,174	11.63	$95–$13
Overall	237	16,701,988	8.84	

Source: CREI Research 1998.

* When two rent figures are shown, the first is regional mall rates and the second is all other.

** Includes Rio Rancho

Real estate information for non-residential submarkets of Albuquerque is available by areas that vary from the areas selected for analysis in the Planned Growth Strategy. As a result, information is generally representative of areas within the 1960 City Boundary and the Water Service Area, but does not match precisely.

Retail

Table 26 contains information about retail markets in Albuquerque. Downtown is the smallest submarket with 530,735 square feet of leasable area. It has the highest vacancy rate, with nearly one-fourth of the leasable area vacant. Uptown has the lowest vacancy rate, at just over 5%. Other than Downtown, submarkets have similar vacancy and rent characteristics.

Table 27 Office Markets in Albuquerque, Second Quarter 1998

Area	Total Projects	Total Square Feet	Vacancy (%)	Average Asking Rent*
1960 City Boundary				
Downtown	42	2,932,493	16.35	$13.18
Uptown	47	2,186,406	8.89	$14.73
Midtown	25	1,114,432	9.22	$11.67
South Metro/Airport	31	1,163,728	10.04	$12.53
Water Service Area				
NE Heights	41	1,285,119	9.39	$13.07
North Valley/North I-25	32	1,084,696	6.05	$14.18
Outside Water Service Area				
Northwest Mesa*	18	384,305	11.79	$14.16
Overall	236	10,151,179	11.08	$13.44

Source: CREI Research, 1998.

* Includes Rio Rancho. Area is split between Outside Water Service Area.

Office

Office space is classified according to building characteristics. Prime locations for Class A space are Downtown and Uptown. No suburban space is considered to be Class A. Class B and Class C space are older buildings in good to average locations with lower rental rates. Figures reported below are averages over all building classifications. Office space characteristics are shown in Table 27.

Nearly 75% of office development is located within the 1960 City Boundary. Downtown has the highest vacancy rate of any area. New office development is taking place in the North I–25 corridor.

The northwest has historically had low demand for office space. To date, the area is largely residential, with retail and service businesses moving into the area in recent years to serve the population on the West Side. However, as the West Side population continues to increase, demand for office and industrial space will increase.

Industrial

Most industrial development is concentrated in areas within the 1960 City Boundary and in the Water Service Area. The largest industrial area is the North I–25 area, which extends along I–25 north of I–40. Some of this area is within the 1960 City Boundary, but most is outside it and within the Water Service Area, as shown in Table 28 (pg. 36).

Industrial buildings are a mix of office and warehouse or manufacturing space. Average rents vary with the percentage of buildings that tend to be office space,

Table 28 Industrial Markets in Albuquerque, Second Quarter 1998

Area	Total Projects	Total Square Feet (Estimate)	Total Available Square Feet	Vacancy Rate (%)	Average Asking Rent*
1960 City Boundary					
Downtown	19	4,400,000	429,130	9.86	$3.82
NE Heights	8	5,200,000	234,921	4.51	$7.03
SE/Airport	16	2,600,000	194,455	7.42	$5.07
Water Service Area					
North Valley/North I-25	63	14,700,000	1,303,275	8.91	$5.85
Northwest Mesa*	8	4,196,766	164,967	3.86	$6.72
Southwest	7	2,500,000	122,386	4.88	$4.17
Overall	121	33,596,766	1,590,628	7.29	$5.46

Source: CREI Research 1998.
Includes Rio Rancho

since office space rents are higher than warehouse or manufacturing space rents. Rents and vacancy rates vary by area of town, but not by whether the area is in older or newer parts of the urban area.

2.4 Vacant Land

2.4.1 Vacant Land Prices

Residential

In the third quarter of 1998, the Home Builders of Central New Mexico listed 478 available home lots for sale in about 20 major subdivisions or phases of subdivisions in the Albuquerque area, excluding Rio Rancho, Los Lunas, the East Mountains, and Placitas. These included lots available to the public, as opposed to lots sold in bulk to homebuilders. Lot sizes for single family detached homes ranged from approximately 5,000 square feet to just under 1.5 acres, although one subdivision offered lots as large as 1.8 acres. Prices ranged from $49,000–$340,000, except for townhouse lots of 3,000 square feet selling for $25,000–$28,000.

The northeast offered the largest number of lots available to the public—340—at a range of $54,000–$340,000. Lots in the northeast ranged from 5,000 square feet to over one acre. Large lot sizes in North Albuquerque Acres and the foothills of the Sandias are dictated by topography and utilities.

More than 600 lots in the Northwest Mesa were presold to builders, with only 51 listed as available to the public for from $49,000–$69,000. Lot frontages ranged from 45 feet to 65 feet, with a typical lot depth of 110 feet. Only one development, a custom home subdivision built on difficult soils, offered average lots as large as an acre.

A total of 56 lots in three infill subdivisions was available in the North Valley. Lot sizes for single family detached homes ranged from 6,000–14,053 square

Table 29 Non-Residential Land Market in Albuquerque 1997–1998*

Area	Total Parcels	Total Acres	Aver. Parcel Size (AC)	Median Parcel Size (AC)	Size Range (AC)	Aver. Price/ Acre	Aver. Price/ SF
1960 City Boundary							
Downtown	2	12.60	6.30	6.30	4.00–8.60	$318,560	$7.32
Uptown	4	8.11	2.03	1.99	1.52–2.62	$399,336	$9.17
NE Heights	10	59.27	5.93	3.25	0.92–22.00	$357,288	$8.29
SE Hts./ Airport	8	101.59	12.70	2.61	to 48.00	$191,849	$4.38
Water Service Area							
Far NE	9	23.82	2.65	2.00	1.18–6.25	$401,418	$7.03
N Valley	22	273.44	12.43	6.37	1.29–66.13	$295,080	$4.87
S Valley	11	882.47	80.22	9.60	3.00–565.00	$103,760	$5.29
Outside Water Service Area							
West Mesa	51	2,691.72	52.78	6.07	0.92–2000	$230,176	$5.12
Total	117	4,053.02	21.88	4.66	0.92–2000	$287,183	$6.43

Source: NAIOP 1997–98 Commercial Space Directory. Geographic boundaries do not exactly match the three service boundaries

feet in size. Their prices ranged from $58,000–$74,000. Townhouse lots were priced at $25,000–$28,500 for about 3,000 square feet.

In the Southwest Mesa, 21 lots were listed for sale in one subdivision, with a price of $18,000 per lot. Most subdivisions in the southwest are built out by builders specializing in affordable housing priced under $100,000. Few lots are available for purchase by individuals. The low lot prices in this area are essential for builders to be able to provide lower priced new homes.

No data are available for individual infill lots.

Non-Residential Land

Vacant non-residential land prices vary by area. On average, the highest prices are within the 1960 City Boundary, and the lowest prices are in the South Valley on a per acre basis. The largest supply of land being actively marketed is in the West Mesa. (Table 29.)

2.4.2 Vacant Land Supply

The vacant land supply as of May 1998 was used as the benchmark for this analysis. Figure 7 (pg.43) shows the locations of vacant land in the metropolitan area. Vacant land was identified through AGIS, which contains all platted parcels in the urban area and zoning by four-digit land use code. Vacant land in the AGIS is identified by broad use category, based upon the zoning of the property.

Land with potential impediments to development has been eliminated from the vacant land supply. Within the Albuquerque urban area are more than 115,000

Table 30 Vacant Land Not Impacted by Poor Soils, 100-Year Flood Zones, Open Space, Landfills, and Indian Reservations, May 1998

Area	Residential	Residential/ Agricultural	Non-Residential	All Categories
1960 City Boundary	937	0	1,303	2,240
Water Service Area	4,682	3,030	4,520	12,232
Outside Water Service Area	13,534	51,579	12,312	77,425
Total	19,153	54,609	18,135	91,897

acres of vacant land as of May 1998. Subtracting land that has soils identified in the soil survey of Bernalillo County as having limitations for construction of dwellings and basements, 100-year flood zones, acres designated as current or proposed open space, Indian lands, and landfills leaves more than 90,000 acres available for development. Because poor soils and flood zones can be mitigated, total land area is shown with and without these constraints (Tables 30 and 33 and 31–32, respectively).

Following this analysis, Albuquerque City Planning staff in February/March of 1999 began the first phase of a field study to fine tune the vacant land data generated by AGIS. Staff visited 414 sites (2,020 acres) within the 1960 City Boundary that were identified as vacant and at least one acre or larger in size. Staff verified the vacant status and evaluated the development potential of these parcels. They found that 313 of the sites (1,735 acres) were indeed vacant. Moreover, 234 of these vacant sites (1,421 acres) or 82% were judged to have good development potential. Development potential of the rest was considered fair (12%) or poor (6%). Staff also found that 52 sites (65 acres) were already developed and 49 sites (220 acres) were under development.

Table 31 Vacant Land Not Impacted by Open Space, Landfills, and Indian Reservations, May 1998

Area	Residential	Residential/ Agricultural	Non-Residential	All Categories
1960 City Boundary	974	0	1,260	2,234
Water Service Area	5,377	3,542	4,970	13,889
Outside Water Service Area	16,353	55,469	13,473	85,295
Total	22,704	59,011	19,703	101,418

In addition, staff estimated a total of 1,647 sites (446 acres total) smaller than one acre were vacant within the 1960 City Boundary. This resulted in an estimated grand total of 2,181 vacant acres—1,735 acres surveyed and 446 acres unsurveyed—within the 1960 City Boundary during the first quarter of 1999. The number is close to the 2,240 acres found vacant in Table 30.

While more costly, development can take place in flood zones and on poor soils when these conditions are mitigated. For example, a portion of Ventana Ranch, currently being developed on the West Side, is shown as an area of poor soils. Excluding these constraints that can be mitigated, the available supply rises to more than 100,000 acres, as shown above in Table 31.

Tables 32 and 33 summarize vacant land by Community Planning Areas and for areas outside the designated Community Planning Areas. This includes all vacant properties that are designated in the AGIS land use file as vacant residential or vacant non-residential. Many parcels within the 1960 City Boundary are known to be small.

Community Planning Areas with the greatest supply of vacant land are located near the urban fringe. These include North Albuquerque, the South Valley, and the West Side.

Table 32 Vacant Land Not Impacted by Open Space, Landfills, and Indian Reservations, May 1998, by Community Planning Areas

CPA	Residential	Residential/ Agricultural	Non-Residential	All Categories
Central Abq.	82	0	262	343
E Gateway	597	51	319	967
Foothills	735	4	103	842
Mid-Heights	68	0	271	339
N Abq.	999	2,010	293	3,302
N Valley	619	846	1,109	2,573
Near Heights	147	27	680	854
S Valley	828	1,425	1,474	3,727
SW Mesa	3,019	12,235	1,368	16,622
W Side	5,795	4,316	1,641	11,753
NE Outside	167	74	3	244
SE Outside	9,603	45	99	9,747
SW Outside	69	20,142	1,294	21,505
NW Outside	4	17,830	10,794	28,628
Total	22,732	59,005	19,710	101,446

Table 33 Vacant Land Not Impacted by Poor Soils, 100-Year Flood Zones, Open Space, Landfills, and Indian Reservations, May 1998, by Community Planning Areas

CPA	Residential	Residential/ Agricultural	Non-Residential	All Categories
Central Abq.	81	0	256	337
E Gateway	511	47	309	867
Foothills	572	4	96	672
Mid-Heights	62	0	264	326
N Abq.	762	1,729	202	2,693
N Valley	593	811	1,011	2,414
Near Heights	141	0	753	895
S Valley	727	1,087	1,382	3,196
SW Mesa	2,777	11,465	1,196	15,439
W Side	3,410	4,065	1,210	8,685
NE Outside	77	52	2	132
SE Outside	9,386	11	88	9,485
SW Outside	68	19,485	1,087	20,640
NW Outside	3	15,821	10,293	26,117
Total	19,170	54,577	18,149	91,898

The fringe areas of Albuquerque, including North Albuquerque (substantial portions vacant), the Southwest Mesa (Atrisco Land Grant, 1,972 acres and Pajarito Land Grant, 8,445 acres) and the northwest outside of Community Planning Areas (8,872 acres), contain areas of premature platting, shown in Figure 8 (pg.45). Platting and fragmented ownership makes development difficult, but not impossible. For the most part, these areas are outside the Water Service Area. As the urban area has expanded, land assembly and development has occurred. In North Albuquerque Acres, for example, 40% of the total land area is developed. In the Pajarito Land Grant, only 4% is developed, and in the Atrisco Land Grant 20% is developed. A few acres of the land west of Paradise Hills are developed, and about 20% is open space.

2.4.3 Redevelopable Land Supply

Potential redevelopable sites were identified by comparing assessed building value to assessed land value. Parcels with a building value equal to or less than the land value were considered to be redevelopable. Assessed value information was obtained from the Bernalillo County Assessor, who has building and land values for all parcels within the County. To make sure that the redevelopable land estimates do not include land that is not redevelopable, a conservative approach was taken by excluding the following types of parcels:

- Private schools
- Board of Education (Albuquerque Public Schools) properties
- City and County properties
- Cemeteries
- Mobile home parks
- Golf courses
- Residential properties of 0.5 acre or less
- Residential properties with homes valued at $50,000 or more, and
- All buildings over $1 million

Some of the excluded sites might be suitable for redevelopment. For example, buildings valued at more than $1 million could include properties such as older shopping centers and excess parking. These sites are often designed to incorporate infill projects, and many could serve as potential redevelopment sites.

An estimated 1,521 acres of redevelopable land are located within the 1960 City Boundary, as shown in Table 34. The average parcel size is 0.85 acre. An estimated 3,996 acres of redevelopable land are located outside the 1960 City Boundary but within the current Water Service Area. The average size of redevelopable parcels in the Water Service Area is 3.2 acres. Several large parcels, including the 430-acre Sundt property at Osuna and the North Diversion Channel and the Coronado Airport, provide opportunities for large-scale redevelopment.

The location of redevelopable parcels is shown in Figure 9 (pg.49). Most parcels are

small. Non-residential parcels are located along most older arterial streets and throughout older parts of the North I–25 area. Most residential parcels are larger parcels in the North and South Valley, where the land value has outstripped the value of the original rural residential or agricultural improvements.

Table 34 Estimated Redevelopable Land by Area, 1998

Property Class	Count of Parcels in the 1960 City Boundary	Sum of Acres in the 1960 City Boundary	Count of Parcels in the Water Service Area	Sum of Acres in the Water Service Area	Total Parcels	Total Acres
Combination of Uses	0	0	11	416	11	416
Non-residential	1,522	1,338	531	2,040	2,053	3,378
Residential	82	137	488	1,351	570	1,488
Vacant Buildings	192	46	230	189	422	235
Total	1,796	1,521	1,260	3,996	3,056	5,517

Most redevelopable parcels are small, as shown in Tables 35 and 36. Most parcels within the 1960 City Boundary are commercially zoned and/or in commercial use. As shown in Figure 9 (pg.49), these parcels tend to be located along arterial streets. In the Water Service Area outside the 1960 City Boundary, over half of the redevelopable land is commercial property, but there is residential and mixed-use property suitable for redevelopment as well.

Within the 1960 City Boundary, nearly 60% of parcels are less than 0.5 acre in size. Only nine parcels are 10 acres or more, but these account for nearly 40% of the land area. In the Water Service Area parcels are larger, with 65 parcels of 10 acres or more totaling nearly half of the land area.

Table 35 Redevelopable Land by Parcel Size, Number of Parcels, 1998

Location	LT 0.5 ac.	0.5–0.9 ac.	1–1.9 ac.	2–4.9 ac.	5.0–9.9 ac.	10.0+ ac.	Total
1960 City Boundary							
Commercial	885	318	178	127	28	9	1,545
Residential	0	0	74	13	1	0	88
Mixed-Use	0	0	0	0	0	0	0
Vacant Building	170	7	5	2	0	0	184
Total	1,055	325	257	142	29	9	1,817
Water Service Area							
Commercial	94	120	114	143	46	39	556
Residential	0	0	320	144	20	17	501
Mixed-Use	0	1	3	3	1	5	13
Vacant Building	133	50	38	8	3	4	236
Total	227	171	475	298	70	65	1,306

Table 36 Redevelopable Land by Parcel Size, Acres, 1998

Location	LT 0.5 ac.	0.5–0.9 ac.	1–1.9 ac.	2–4.9 ac.	5.0–9.9 ac.	10.0+ ac.	Total
1960 City Boundary							
Commercial	227	224	248	385	187	150	1,421
Residential	0	0	100	38	8	0	145
Mixed-Use	0	0	0	0	0	0	0
Vacant Building	28	5	6	7	0	0	46
Total	255	229	354	430	194	150	1,613
Water Service Area							
Commercial	31	90	163	440	325	1,278	2,326
Residential	0	0	433	430	124	417	1,404
Mixed-Use	0	1	4	12	6	400	422
Vacant Building	34	35	49	24	22	60	223
Total	65	125	649	905	477	2,154	4,375

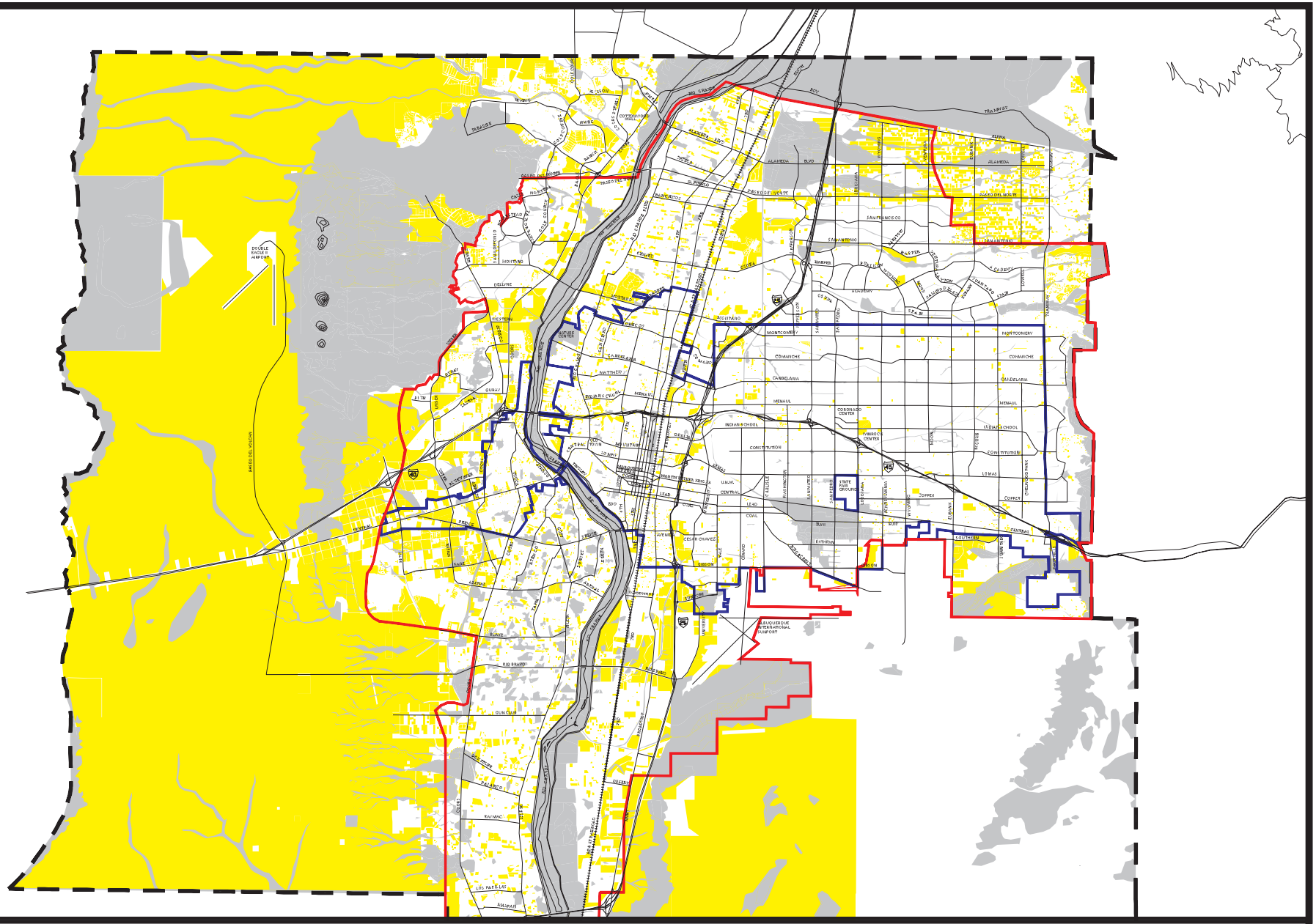
Note: Some columns may not add due to rounding.

Smaller redevelopable parcels present several limitations. First, they may not be available for sale, and second, their small size may accommodate a limited number of potential uses. As arterial streets in older Albuquerque neighborhoods have been widened, the depth of older strip commercial properties has decreased to a size that limits design flexibility.

Retail patterns have changed dramatically in the past 20 years. Rather than shopping at smaller independently owned stores, consumers do much of their shopping at larger discount stores. Grocery stores have increased in size to accommodate a wider range of non-food merchandise. A small modern grocery store is about 40,000 square feet in size, and a large "super center" may be 80,000 to over 100,000 square feet in size. In Albuquerque, larger stores and newer shopping centers are located on sites or in centers of 10 acres or more. A number of new retail centers have been built on infill sites. Examples of new retail center locations include San Mateo and I–40 (The Pavilions at San Mateo: Circuit City, Old Navy, Linens and Things, Just for Feet), Eubank and Lomas (Target, Office Depot, Best Buy) and Eubank near Central (Wal-Mart, Sam's Club, PetSmart, Home Depot).

A few retailers specialize in renovating older properties. In Albuquerque, John Brooks supermarkets and Wild Oats Markets have renovated commercial space of 20,000–30,000 square feet in older centers. MacFrugals, Lots Off, 50 Percent Off, Family Bargain stores and Hobby Lobby are other retail stores that have taken over space vacated by grocery and discount stores.

Because the sizes of most redevelopable parcels are small, a growth strategy for Albuquerque should encourage assembly into larger tracts, redevelopment of older strip centers as office or specialty retail, or redevelopment as residences. Prototype designs would be useful to illustrate how these parcels can be reused.

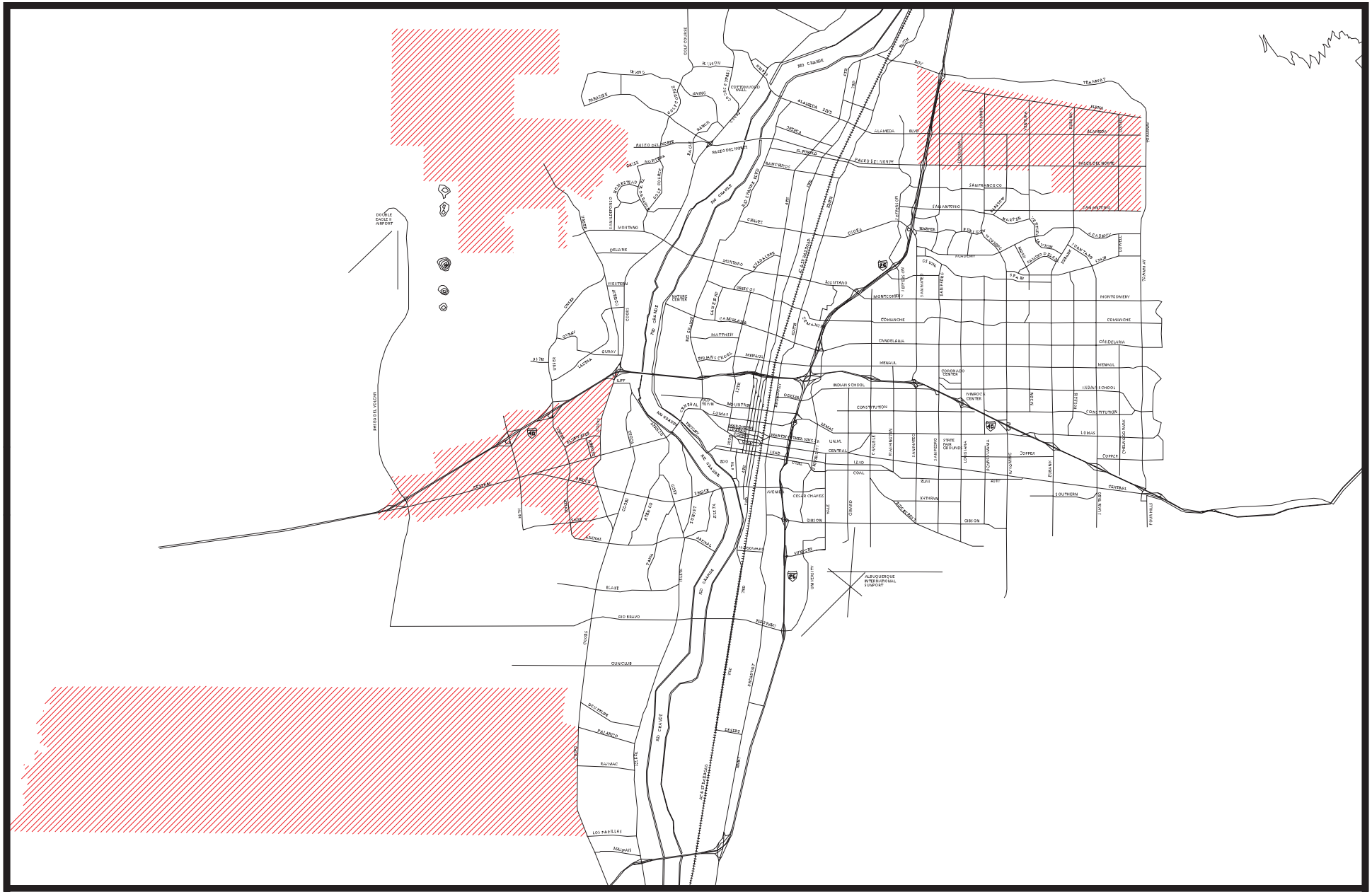


DEVELOPED LAND
UNDEVELOPED LAND
LAND CONSTRAINTS

1960 CITY LIMITS
WATER SERVICE AREA

Figure 7
Vacant Developable Land

Scale: 1 inch = 3 miles
Map Printed November 30, 1998



Impacted Areas

Figure 8

Areas Impacted by Fragmented Ownership

Scale: 1 inch = 3 miles

Map Printed November 30, 1998

Land use policy should be compatible with City and County goals. The Albuquerque/Bernalillo County Comprehensive Plan encourages a rural environment in the Valley areas. Redevelopment of large rural parcels may not be desirable under this policy. Compatibility of infill with existing neighborhoods is also a concern.

Findings of this analysis are as follows:

- Nearly 92,000 acres of vacant land that is not impacted by landfills, flood hazards, or poor soils exist in the study area. Of these, 2,240 acres are located within the 1960 City Boundary, which represents Albuquerque's older established neighborhoods. An additional 12,232 acres are located outside the 1960 City Boundary but within the Water Service Area. These areas do not include land served by other utility companies, which also have potential for urban development.
- Approximately 6,000 acres of land within the 1960 City Boundary and Water Service Area are potentially redevelopable.
- The analysis of redevelopable land indicates a pattern of declining value of improvements and increasing land values in older commercial strips along most of the arterial streets within the 1960 City Boundary. Public incentives may be needed to encourage redevelopment of these properties. Such incentives might include streetscape and façade improvements to fix deteriorating commercial strips, direct property acquisition and project packaging to encourage private development, writing down the cost of land, and upgrading infrastructure at public expense.
- Vacancy rates for non-residential buildings are highest in the Downtown, and rents for non-residential space there are low.

2.5 Projected Demand for Vacant Land

Projected demand for vacant land was estimated based on the historic relationship between development and growth. Projections of population and employment growth for Bernalillo County were developed by the MRGCOG for 2020. This analysis compares the differences in demand for land between three scenarios for the distribution of growth in the study area.

2.5.1 Historic Demand and Demographic Change

From 1990–1995 the urban area population increased from 465,621–502,095 and employment (jobs) increased from 242,635–299,862. During the same time period, 2,705 acres of residential land and 1,108 acres of non-residential land were absorbed to accommodate this growth.

The relationship between growth and land absorption varied by area, as shown in Table 37 (pg.48). Development within the 1960 City Boundary is much denser for both population and employment than in the area Outside the Water Service Area.

2.5.2 Planned Growth Strategy Scenarios Development

Three land use scenarios were developed to evaluate infrastructure costs. These scenarios illustrate different distributions of growth during the period 1995–2020. Estimates of 1995 population and employment and 2020 projections produced by

Table 37 Historic Growth and Land Absorption

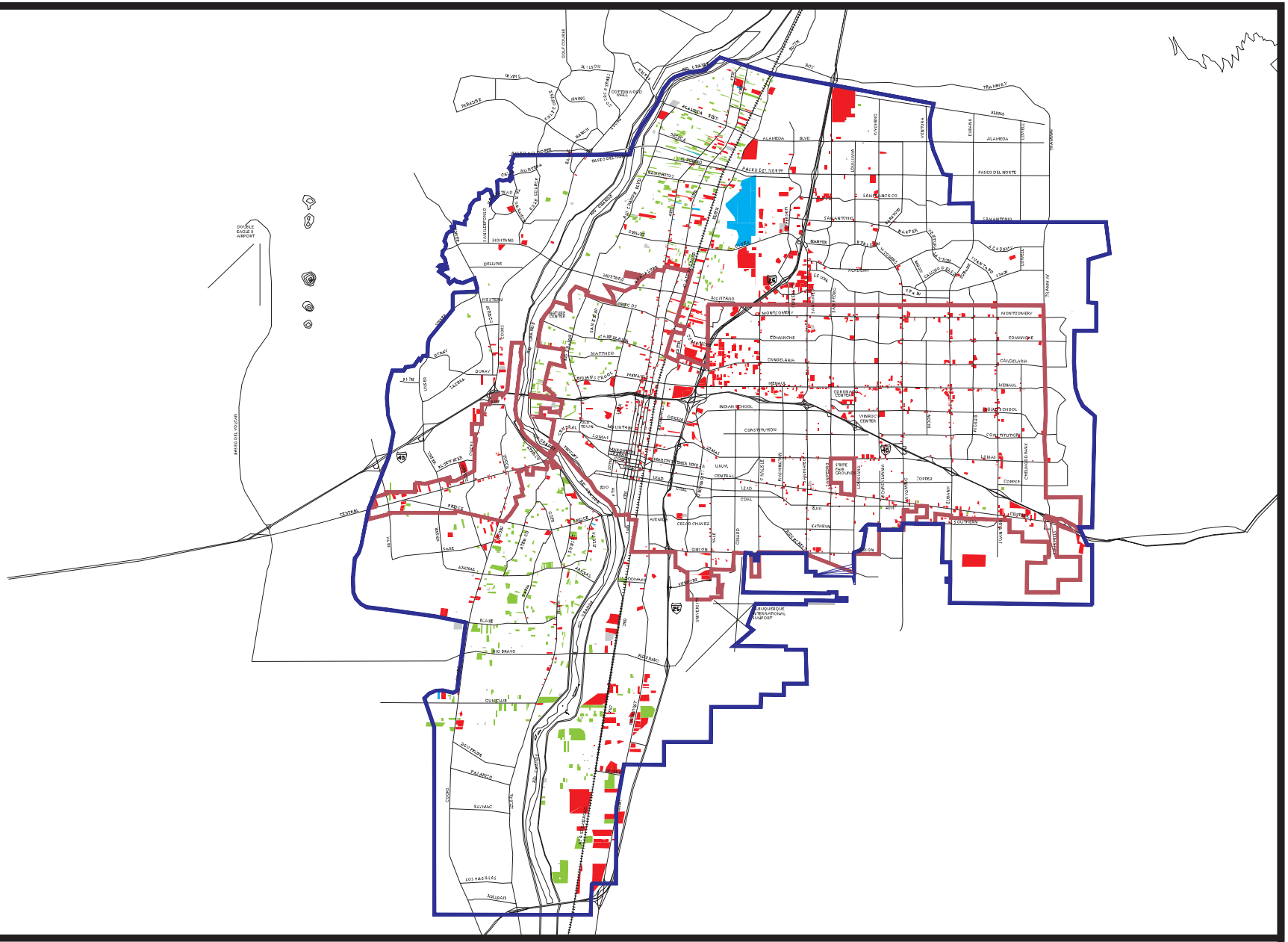
	1990	1995	Growth	Total Land Absorption 1990–1994 (Acres)	Average Land Used per Person (Acres)
Population					
1960 City Boundary	259,783	262,472	2,689	162	.060
Water Service Area	169,685	195,936	26,251	1,702	.065
Outside Water Service Area	36,153	43,687	7,534	841	.112
Total	465,621	502,095	36,474	2,705	.074
Employment					
1960 City Boundary	155,192	184,342	29,150	408	.014
Water Service Area	60,720	86,450	25,730	569	.022
Outside Water Service Area	26,723	29,070	2,347	131	.056
Total	242,635	299,862	57,227	1,108	.019

the MRGCOG provide the total growth in Bernalillo County in all scenarios. These scenarios were developed by an ad hoc committee composed of planners and engineers from City and County agencies. The three scenarios are:

Trend Scenario. MRGCOG 2020 projections were assumed to represent current trends. The trend is toward dispersed suburban growth on the West Mesa and at Mesa del Sol. The most significant employment growth is projected for the North I–25 area.

Downtown Scenario. This is a modified version of the land use alternative contained in the Transportation Evaluation Study, prepared for the City in 1997, that was designed as a transit-oriented land use pattern. It emphasizes employment growth in three major centers: the central business district, Uptown, and the area surrounding the University of New Mexico. Population growth is more compact than in the Trend Scenario, with a concentration of population growth along key corridors linking the major centers.

Balanced Scenario. This scenario was developed in conjunction with County staff. It emphasizes a balance of population and employment east and west of the Rio Grande, with concentrations of population and employment to support transit along two key corridors: (1) Central Avenue from Atrisco Business Park to the New Mexico State Fairgrounds and north on Louisiana Boulevard to Uptown and (2) a north/south corridor along Isleta from Rio Bravo to Bridge, east to 4th Street and north to Osuna along 4th Street. Population growth is concentrated along these corridors, with a corresponding increase in population-serving employment. More employment is located west of the Rio Grande compared to the Downtown Scenario. Key new employment centers are the Atrisco Business Park, Mesa del Sol, and a redeveloped New Mexico State Fairgrounds site.



Redevelopable Land by Property Class
- Residential
- Commercial
- Combination
- Vacant Buildings

1960 City Limits

Water Service Area

Figure 9
Redevelopable Land

Scale: 1 inch = 3 miles

Map Printed November 30, 1998

Figures 10–15 (pg.53-63) illustrate differences in the distribution of growth from 1995–2020. See Chapter 3.0 for more information on the three scenarios.

2.5.3 Projected Land Absorption

A summary of projected population and employment growth by area is shown in Table 38 (pg. 52). County control totals for 2020 are the same in all projection scenarios. However, the scenarios differ slightly in the amount of growth distributed to the urban area. A higher proportion of growth is projected within the 1960 City Boundary and Water Service Area in the Downtown and Balanced scenarios than in the Trend Scenario.

In the Trend Scenario, very little population increase occurs within the older areas of Albuquerque as defined by the 1960 City Boundary. A population increase of 1,400 is projected under the Trend Scenario. Both the Balanced and Downtown Scenarios assume more infill in older neighborhoods. The Balanced Scenario places an emphasis on balanced employment on both sides of the river and population growth in the Central Avenue and Isleta-4th Street corridors. This scenario shows an increase in population of 28,819 within the 1960 City Boundary, and the Downtown Scenario shows a population increase of 16,453 in the 1960 City Boundary.

Within the Water Service Area and outside the 1960 City Boundary, the Trend Scenario projects population growth of 52,836. The Balanced Scenario projects growth of 48,243, and the Downtown Scenario projects growth of 62,369 in this area.

All of the scenarios recognize that some portion of study area growth to 2020 will take place outside of the existing Water Service Area. From 1995–2020, the Trend Scenario projects an increase of 83,468 residents, or 54% of total study area population growth, Outside the Water Service Area. Both the Balanced and Downtown Scenarios project a much more compact urban form, with population growth Outside the Water Service Area of 67,173 (44% of study area population growth) and 61,061 (38% of growth), respectively. As described later in this section, much of the growth outside the City of Albuquerque's Water Service Area is projected to take place within the service areas of other utilities, principally New Mexico Utilities on the West Side.

The major differences in employment distribution among the scenarios are in the Downtown Scenario, which projects that half of study area employment growth will take place within the 1960 City Boundary. However, both the Balanced and Downtown Scenarios place more employment in areas with existing urban services than the Trend Scenario.

Projected demand for land by area for each scenario is compared to the available developable and redevelopable land supply in Table 39 (pg.66). The total amount of land available in all areas can accommodate projected growth in all scenarios. Residential infill as projected in the Balanced Scenario could be accommodated through higher densities, use of non-residentially zoned land for residential use, or additional redevelopment. As described below, the impact of a 25% more efficient use of land was explored for the Balanced and Downtown Scenarios. Twice the development projected in any of the scenarios could be accommodated in the Water Service Area.

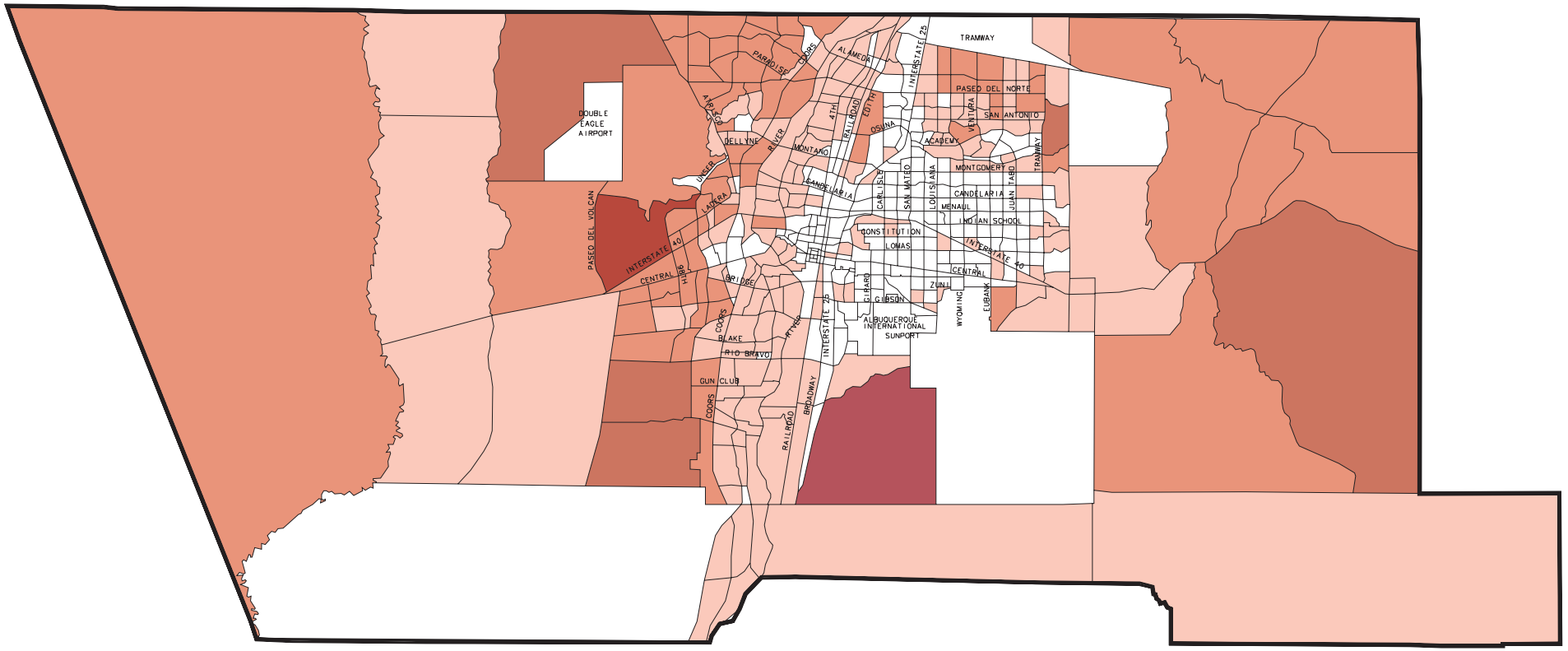
The analysis was done in two ways as shown in Table 39 (pg. 66). The first projection of demand for land does not assume changes in density. For example, all development projected in the 1960 City Boundary is assumed to occur at the same density as during the period from 1990–1995. Differences among the scenarios are the result of more or less development occurring in higher or lower density areas. In the second approach, a 25% more efficient use of land is assumed for residential development, and higher-than-average floor area ratios are assumed in the Downtown Core.

Table 38 Projected Total Population and Employment by Area

	Total County	Study Area	1960 City Boundary	Water Service Area	Outside Water Service Area
Population					
1990	480,577	465,621	259,783	169,685	36,153
1995	520,201	502,095	262,472	195,936	43,687
2020	673,734				
Trend		639,808	263,872	248,772	127,165
Balanced		646,330	291,291	244,179	110,860
Downtown		641,978	278,925	258,305	104,748
Employment					
1990	244,307	242,636	155,192	60,720	26,723
1995	302,702	299,862	184,342	86,450	29,070
2020	455,182				
Trend		447,409	230,308	145,962	71,139
Balanced		448,529	232,297	152,255	63,976
Downtown		449,252	259,919	143,053	46,280

The Balanced and Downtown Scenarios make the assumption of a 25% increase in land use efficiency. This efficiency can be based on two factors. The first is related to the number of persons or employees within large parts of the urban area. Efficiency, in this sense, can be achieved by building in an orderly way from the edge of development and not passing over large tracts of land. Secondly, efficiency also can be achieved by decreasing the lot size and increasing the Floor Area Ratio for non-residential development. The Scenarios assume moderate changes in both approaches. The study did not assume, for example, that there was a shift to a greater percentage of higher density housing, such as townhouses and apartments, being built. The percentages of single family detached, townhouses, and apartments followed past patterns.

This approach is based on the following. First, a compact urban form is supported by adopted City/County Comprehensive Plan policy that is more conservative in its impact on the environment, intrinsically more efficient, encourages sociability and the formation of community, and supports an effective public transit system and the use of other alternative modes of transportation.



2020 Population Growth by DASZ

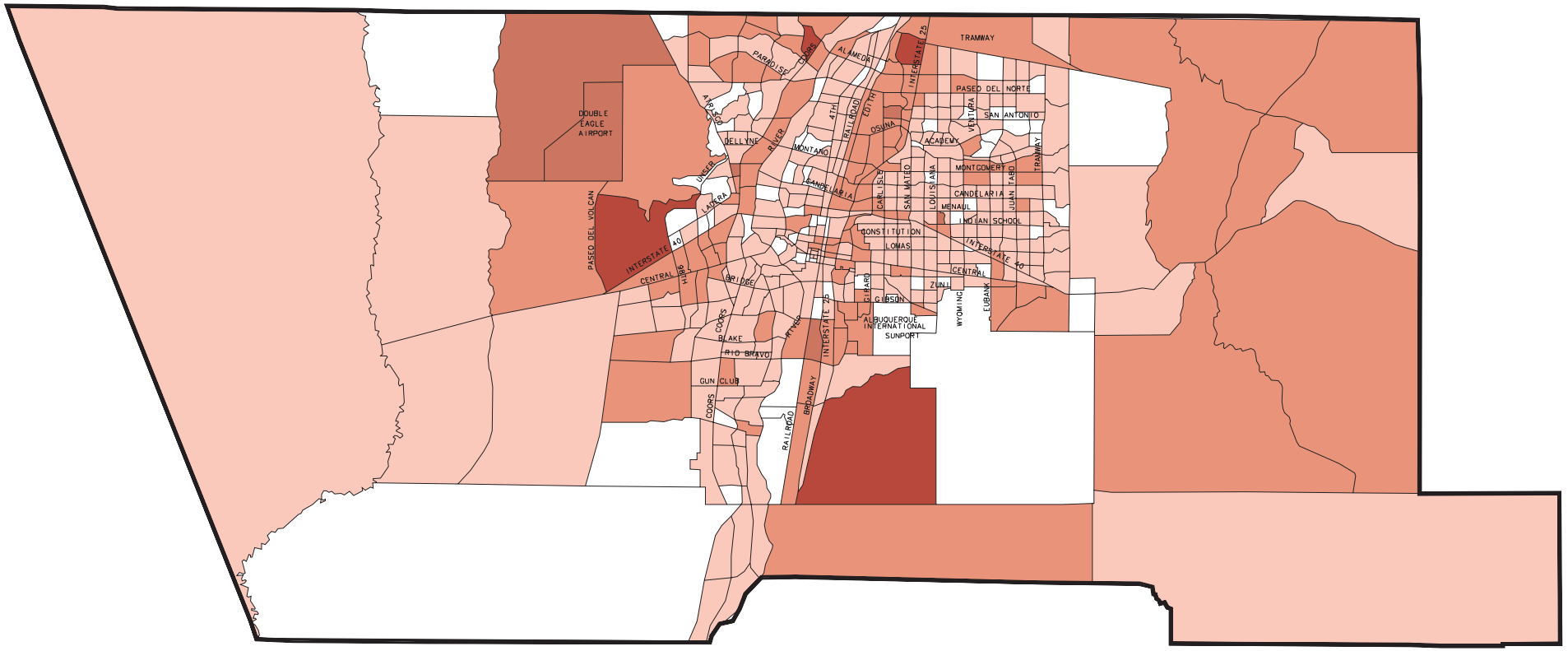
- 0
- 1 - 500
- 501 - 3000
- 3001 - 6000
- 6001 - 9000
- 9001 - 12000

Figure 10

Projected Population Growth by DASZ, 1995 to 2020
Trend Scenario

Scale: 1 inch = 6 miles

Map Printed November 30, 1998



2020 Employment Growth by DASZ

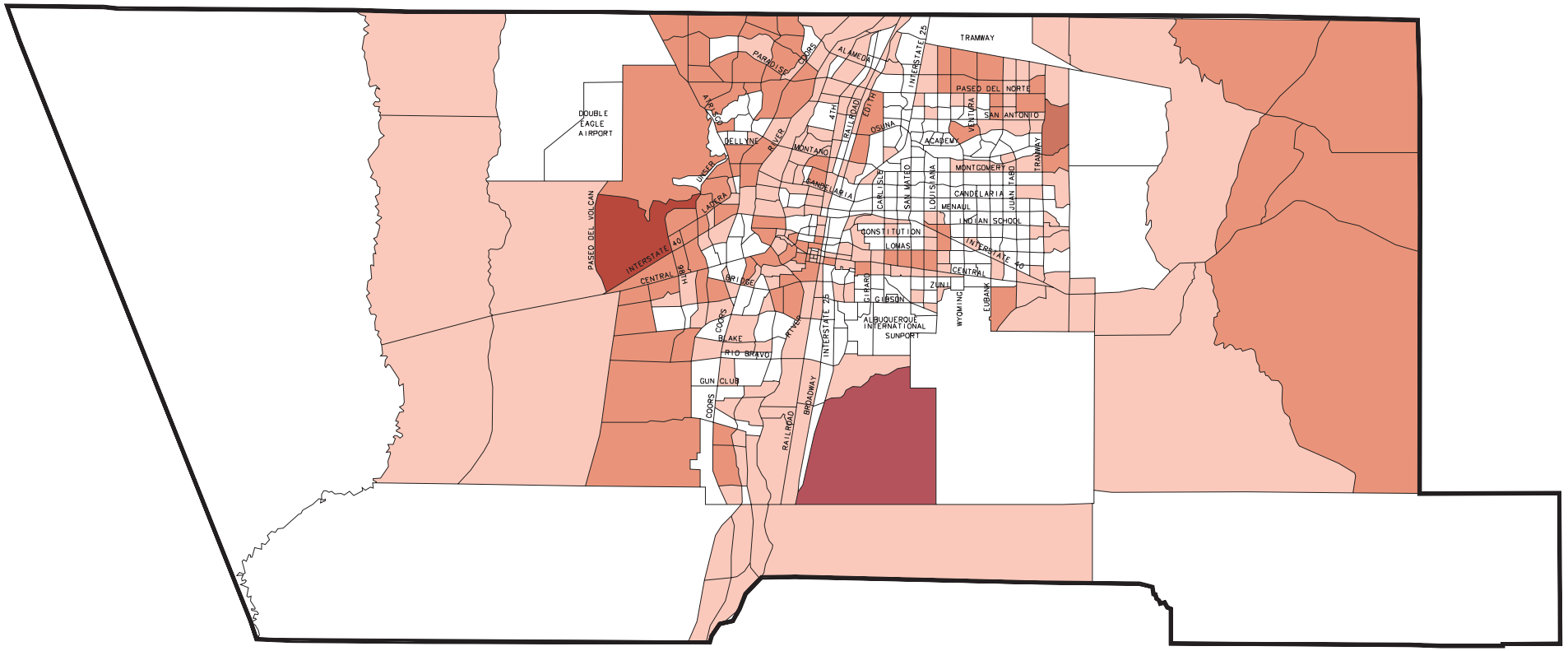
- 0
- 1 - 250
- 251 - 2500
- 2501 - 5000
- 5001 - 10000
- 10001 - 15000

Figure 11

Projected Employment Growth by DASZ, 1995 to 2020
Trend Scenario

Scale: 1 inch = 6 miles

Map Printed November 30, 1998



2020 Population Growth by DASZ

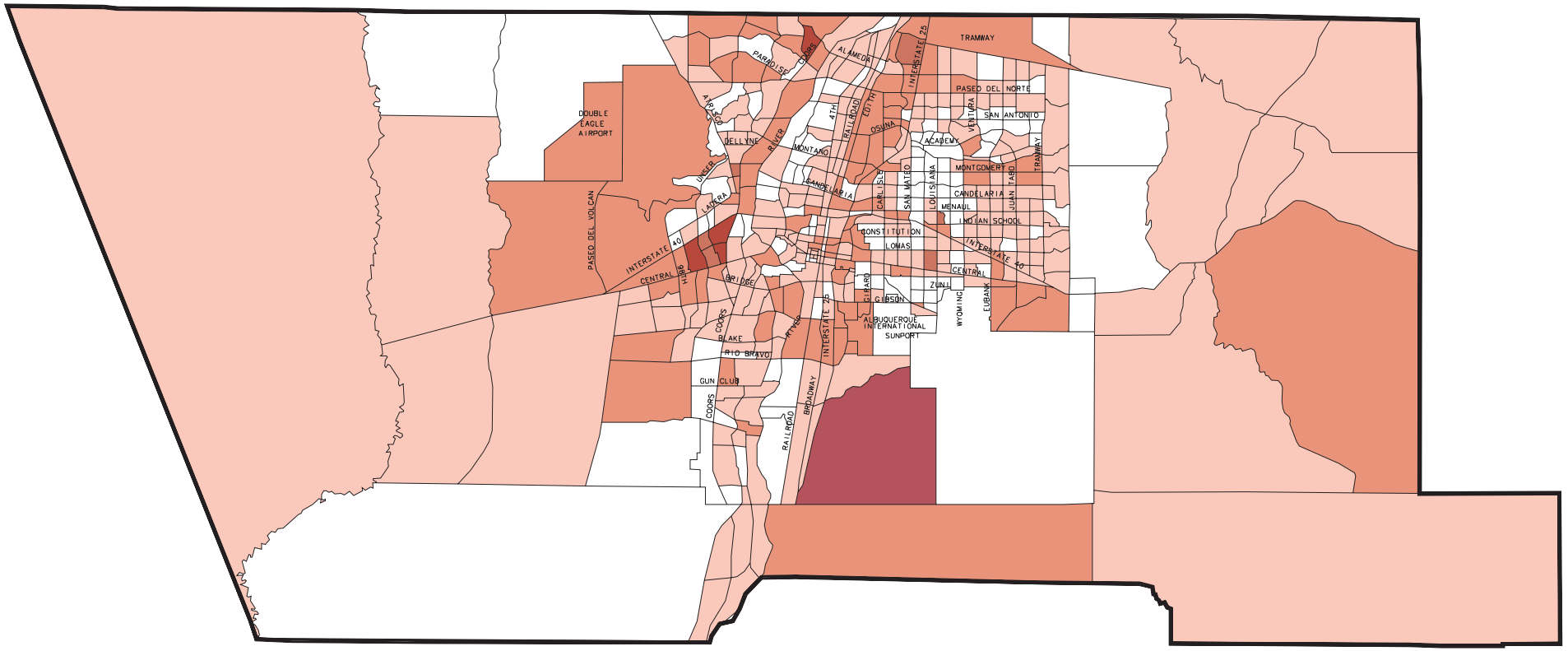
- 0
- 1 - 500
- 501 - 3000
- 3001 - 6000
- 6001 - 9000
- 9001 - 21000

Figure 12

Projected Population Growth by DASZ, 1995 to 2020
Balanced Scenario

Scale: 1 inch = 6 miles

Map Printed November 30, 1998



2020 Employment Growth by DASZ

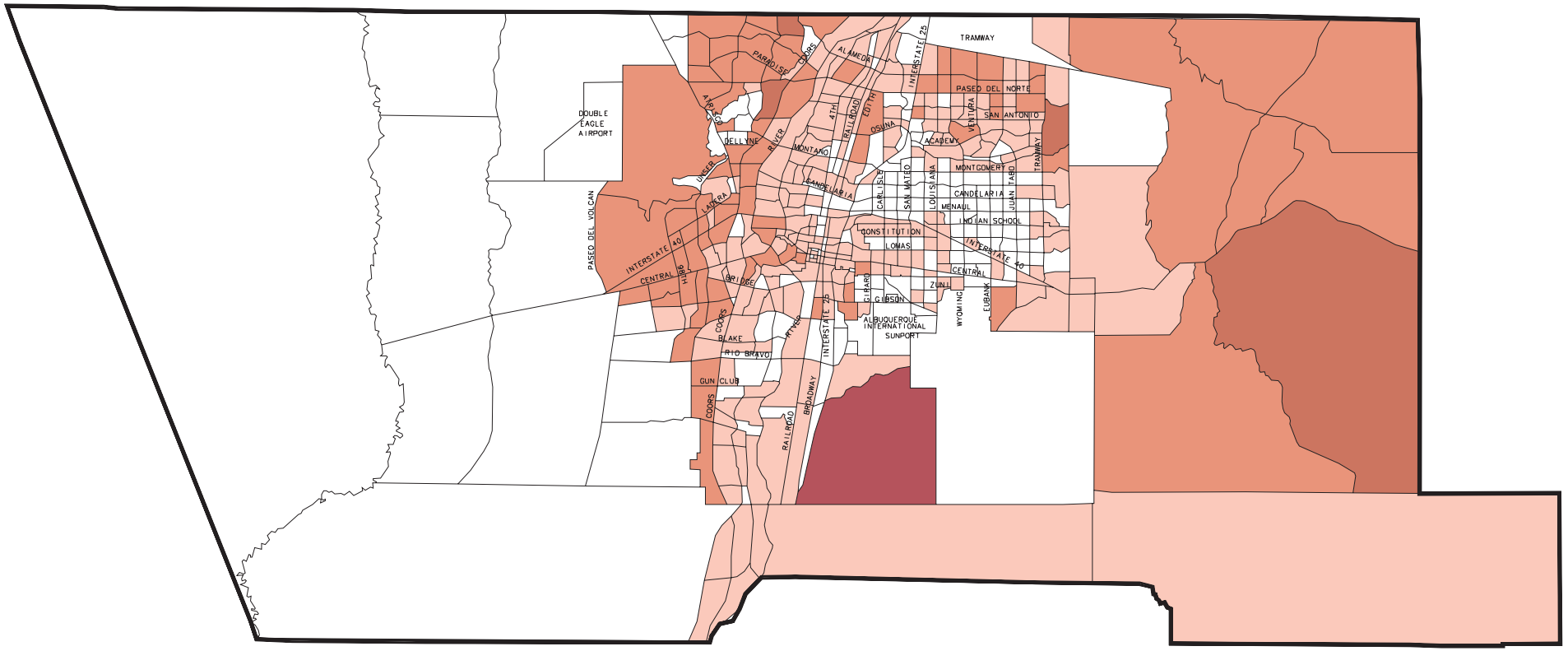
- 0
- 1 - 250
- 251 - 2500
- 2501 - 5000
- 5001 - 10000
- 10001 - 15000

Figure 13

Projected Employment Growth by DASZ, 1995 to 2020
Balanced Scenario

Scale: 1 inch = 6 miles

Map Printed November 30, 1998



2020 Population Growth by DASZ

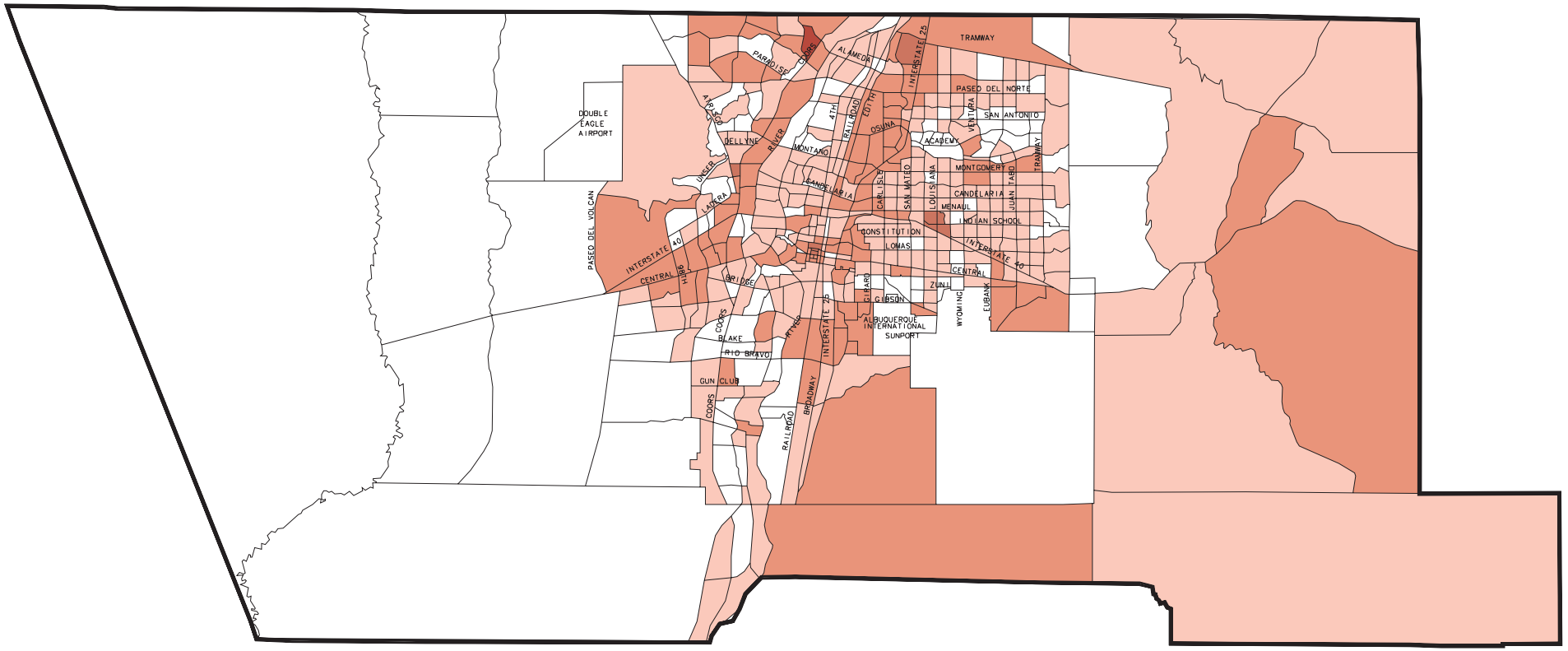
- 0
- 1 - 500
- 501 - 3000
- 3001 - 6000
- 6001 - 9000
- 9001 - 9593

Figure 14

Projected Population Growth by DASZ, 1995 to 2020
Downtown Scenario

Scale: 1 inch = 6 miles

Map Printed November 30, 1998



2020 Employment Growth by DASZ

- 0
- 1 - 250
- 251 - 2500
- 2501 - 5000
- 5001 - 10000
- 10001 - 15000

Figure 15

Projected Employment Growth by DASZ, 1995 to 2020
Downtown Scenario

Scale: 1 inch = 6 miles

Map Printed November 30, 1998

Second, land prices can be affected by a number of factors that often work in combination, including the desirability of the location, the relative supply of available land, the economic condition of the community, the pace of growth, and so on. If implementation of a growth strategy for the region effectively did result, however incidentally, in an increase in land prices per acre, some or all of this increase in price would result in smaller lots or the need for higher floor area ratios for commercial development. Developers would have incentives to reduce lot sizes to keep final costs down and to maintain market demand.

Third, competitive market forces lead to innovation in land planning and development practices. Land planners would innovate in ways to use land more efficiently as they lay out subdivisions, in response to public guidelines and requirements. Through better design, reductions in lot sizes might fully offset increased costs, affording opportunities for greater profits.

Both these forces are already at work in the Albuquerque market today without an urban growth strategy, as witnessed by smaller lot sizes in the newer Northeast Heights subdivisions.

In the analysis with no change in density, the Downtown Scenario reduces the demand for land by about 2,000 acres over the 25-year period. The Balanced Scenario reduces the demand for land by about 1,000 acres. In the second analysis, total land consumption dropped by approximately 4,000 acres in the Balanced Scenario and 5,000 acres in the Downtown Scenario.

Enough land is available within the Water Service Area to accommodate all growth projected to 2020. However, because of location, lot size, ownership, and other land characteristics, all vacant and redevelopable land may not be suitable or available for development when needed. An aggressive infill policy could improve the potential for growth to occur in areas already served by infrastructure. In the 1960 City Boundary, some commercially zoned or mixed-use parcels would be redeveloped for residential use.

The analysis also looks at land supply and demand by Community Planning Area for a more specific analysis by geographic area. Table 40 (pg.64) shows projected demand for land based on projected growth and current average densities for both residential and non-residential development. All areas have an adequate land supply to accommodate projected growth at current densities. Land use efficiencies in the alternative scenarios could produce an even more compact development pattern, with little impact on neighborhood quality.

Findings of the analysis are as follows:

- Vacant and redevelopable land within the Water Service Area as defined in this Part 1 – Findings Report can accommodate more growth than would occur under any of the three scenarios over the next 20 years.
- Occupancy of existing vacant space, additional redevelopment, or higher density new development will enable existing areas to accommodate more development than shown in the analysis. For example, under the Downtown Scenario, higher density non-residential development and absorption of existing underutilized

Table 39 Projected Demand for Land, 1995–2020

	Residential				Non-residential and Other*			
	Land Supply	Trend	Balanced	Down-town	Land Supply	Trend	Balanced	Down-town
Current Densities								
1960 City Boundary								
Demand (acres)		84	1,736	991		644	671	1,058
Supply (acres)								
Vacant Land	937				1,303			
Redevelopable Land	137				1,384			
Total supply	1,074				2,687			
Water Service Area								
Demand (acres		3,434	3,136	4,054		1,309	1,448	1,245
Supply (acres)								
Vacant Land	7,712				4,520			
Redevelopable Land	1,351				2,645			
Total Supply	9,063				7,165			
Outside Water Service Area								
Demand (acres)		9,350	7,523	6,839		2,356	1,955	964
Supply (acres)								
Vacant Land	65,113				12,312			
Redevelopable Land	NA				NA			
Total Study Area								
Demand (acres)		12,868	12,395	11,884		4,309	4,074	3,267
Supply (acres)								
Vacant Land	73,762				18,135			
Redevelopable Land	1,488				4,029			
Total supply	75,250				22,164			
25% More Efficient Land Use								
1960 City Boundary								
Demand (acres)			1,389	793			537	846
Supply (acres)								
Vacant Land	937				1,303			
Redevelopable Land	137				1,384			
Total supply	1,074				2,687			
Water Service Area								
Demand (acres			2,509	3,243			1,158	996
Supply (acres)								
Vacant Land	7,712				4,520			
Redevelopable Land	1,351				2,645			
Total supply	9,063				7,165			
Outside Water Service Area								
Demand (acres)			6,019	5,471			1,564	771
Supply (acres)								
Vacant Land	65,113				12,312			
Redevelopable Land	NA				NA			
Total Study Area								
Demand (acres)			9,917	9,507			3,259	2,613
Supply (acres)								
Vacant Land	73,762				18,135			
Redevelopable Land	1,488				4,029			
Total supply	75,250				22,164			

Land supply from Tables 30 and 34.

* Other includes mixed-use properties and vacant buildings.

space will meet the demand for land in the Central Business District.

- Land holdings, recent annexations and plans for Westland, Mesa del Sol, and Quail Ranch planned communities contain an inventory of vacant land equivalent to more than 50 years' demand in these market areas, even in the Trend Scenario. (In other words, they will absorb demand from other parts of the region, to build out more quickly.) The total inventory of vacant land Outside the Water Service Area is the equivalent of well in excess of twenty years of City and County land consumption. Twenty years' supply is the standard used, for example, in the state of Oregon as appropriate for urban areas, and it is used in other community plans across the country as well. Phasing of urban services to the master planned communities proposed for these properties must be planned carefully.
- Public policies that encourage investment in established areas and discourage disinvestment are critical to realization of the vision of a compact urban area as envisioned in the Comprehensive Plan and the Transportation Evaluation Study.

Table 40 Projected Demand for Land by Community Planning Area, 1995–2020

	Land Supply		Total Demand for Land				
			Current Densities			25% More Efficient Use of Land	
CPA	Vacant Land	Land	Trend	Balanced	Downtown	Balanced	Downtown
Central Abq.	337	111	82	187	362	150	290
E Gateway	867	251	337	311	340	249	272
Foothills	672	58	613	588	620	470	496
Mid-Heights	326	680	106	152	163	122	130
N Albuquerque	2,693	315	2,147	1,892	2,351	1,514	1,881
N Valley	2,415	2,143	2,674	3,253	3,335	2,602	2,668
Near Heights	894	277	235	340	321	272	257
S Valley	3,196	1,727	959	1,913	930	1,530	744
SW Mesa	15,438	322	1,756	2,317	1,328	1,854	1,062
W Side	8,685	322	5,899	4,600	5,639	3,680	4,511
NE Outside	132	0	28	26	28	26	28
SE Outside	9,485	0	1,177	2,078	716	1,663	573
SW Outside	20,640	0	7	1	0	1	0
NW Outside	26,117	0	860	102	0	82	0
Total	91,897	6,206	16,880	17,760	16,133	14,215	12,912

* Surplus or deficit is for vacant land only. Redevelopable land supply provides additional opportunity to accommodate growth.

3.0 Alternative Scenarios

Two alternatives to the Trend Scenario, as represented by MRGCOG population and employment projections, were developed to test the impact of growth patterns on infrastructure requirements. The methodology for distribution of population and employment growth within Bernalillo County for each of the three scenarios is described below. Figures 10–15 in Chapter 2 show the scenarios spatially. Table 41 summarizes population and employment growth by Community Planning Area for the three scenarios—Trend, Balanced, and Downtown—while Table A.1 in Appendix A details the allocations according to Data Analysis SubZones (DASZ) shown in Figure 16 (pg.75).

Table 41 Population and Employment Growth by Community Planning Area

	1990		1995		2020					
					Trend Scenario		Balanced Scenario		Downtown Scenario	
CPA	Pop.	Emp.	Pop.	Emp.	Pop.	Emp.	Pop.	Emp.	Pop.	Emp.
Central Abq.	20,346	29,906	19,247	31,650	19,232	37,208	29,756	38,084	25,343	52,561
E Gateway	48,669	10,390	52,007	14,478	55,327	20,294	55,327	19,353	55,352	20,340
Foothills	40,122	6,410	45,431	8,565	52,324	12,538	52,114	11,950	52,649	11,057
Mid-Heights	81,998	51,135	82,276	64,812	80,863	79,577	83,863	76,383	82,009	89,176
N Abq.	34,536	8,329	40,887	14,231	56,755	19,019	54,986	17,820	58,447	18,445
N Valley	49,193	40,918	49,999	55,887	57,342	91,361	60,318	82,343	60,147	88,212
Near Heights	75,517	55,446	77,991	63,700	77,606	79,616	88,606	80,396	81,893	83,108
S Valley	41,258	8,195	43,009	9,278	46,350	16,458	51,652	16,320	46509	15,275
SW Mesa	31,219	5,016	33,887	6,101	60,395	17,263	45,182	37,785	55,000	13,782
West Side	32,970	5,783	47,322	10,634	106,244	40,717	93,196	34,222	104,862	37,500
SW Outside	0	35	11	90	28	194	27	94	9	90
NW Outside	1,199	94	1,311	86	6,784	6,926	1,545	3,225	1,099	86
SE Outside	8,594	20,979	8,717	20,350	20,558	26,238	29,758	30,548	18,659	19,620
Total	465,621	242,636	502,095	299,862	639,808	447,409	646,330	448,523	641,978	449,252
East Mountains	12,480	1,008	15,391	1,553	30,198	4,139	23,698	3,054	28,025	3,178
Isleta Reservation	2,171	366	2,332	888	3,069	2,784	3,069	2,784	3,069	2,077
Sandia Reservation	305	297	383	399	659	850	638	822	659	677
County Total	480,577	244,307	520,201	302,702	673,734	455,182	673,735	455,183	673,731	455,184

3.1 Trend Scenario

The Trend Scenario is the 25-year socioeconomic forecast developed by the MRGCOG for use in transportation modeling. This scenario emphasizes a continuation of established trends toward development on the West Side and in the far northeast portion of the urban area.

Westside development

3.1.1 Employment

- Employment growth in the Trend Scenario is dispersed. The North I–25 area is projected to grow the most, with nearly 10,000 new jobs along the Interstate, and an additional 22,000 adjacent to the corridor. Other areas projected to add more than 5,000 jobs each include Uptown, the Seven Bar Area, and the Airport. Only 1,500 new jobs are projected in the Central Business District.
- New employment centers are projected to develop at Mesa del Sol (7,700 jobs), Westland (5,966 jobs), and Quail Ranch (2,702 jobs).

3.1.2 Population

- Population growth in the Trend Scenario is also more dispersed than in the Balanced and Downtown Scenarios. Approximately 15% of County population growth is projected in planned communities at the fringe of the urban area, including an increase of 4,216 in Quail Ranch, 11,588 in Mesa del Sol, and 7,342 in Westland.
- The West Side Community Planning Area, excluding Westland, is projected to absorb 32% of projected growth; and the Southwest Mesa Community Planning Area is projected to absorb 17% of projected growth. This means an additional 51,000 people in the West Side and 26,500 in the Southwest Mesa by 2020.
- In contrast to the projected growth on the West Side, population decreases are projected for Central Albuquerque, the Near Heights, the Mid-Heights, and older portions of the Foothills, East Gateway, and the North Valley—approximately the areas within the 1960 City Boundary.

- Outside the urban area of Bernalillo County, a population increase of 14,807 is projected for the East Mountain Area.

3.2 Balanced Scenario

This scenario presents a more compact distribution of population and employment than the Trend but concentrates infill along key corridors rather than in the Downtown area. Employment distribution is balanced with population. Key employment growth areas are the Atrisco Business Park and Mesa del Sol. This scenario proposes that Central Avenue and a north/south corridor extending along Isleta to 4th Street become transit-oriented, higher density corridors.

Mesa del Sol conceptual drawing

3.2.1 Employment

- This scenario has less population growth west of the river and more employment growth there to create a balance between population and jobs and reduce the need for West Side residents to cross the river for work. See Figure 17 (pg.77).
- Atrisco Business Park is considered a major employment area by 2020, with total employment of about 30,000 in the area. This scenario places about 20,000 more jobs at Atrisco Business Park than the Trend. Such dramatic employment growth is counter to current trends. Strategies to improve the corporate image of this area, infrastructure improvements, and drainage improvements will be needed to make this a reality. Because warehousing is not labor intensive, other types of businesses must be located in the area to achieve this level of employment growth. For the analysis, employment was redistributed from the Quail Ranch area, Westland North, and North I–25 to Atrisco Business Park.
- Employment in Mesa del Sol is increased to 13,000 jobs, approximately 5,200 jobs more than the Trend. These jobs were redistributed from the Airport area and North I–25.

- This scenario assumes redevelopment of the State Fairgrounds, with the addition of 5,000 jobs. These jobs are redistributed from all areas south of I–40 and east of the river.
- Population serving employment was moved into areas with population growth from areas with reduced population growth.

3.2.2 Population

- Mesa del Sol population is assumed to reach over 21,000 by 2020. This represents an increase of 9,200 above Trend projections. Population was redistributed from the Quail Ranch area and the west end of Paradise Hills.
- Population in the Central Avenue corridor from Atrisco Business Park to Uptown increased by 25,000 above the MRGCOG projection. This is considered to be an affordable corridor with transit service. Population was added to the Central Avenue corridor and the major centers along the corridor: the Central Business District, Uptown, and University of New Mexico. Population is redistributed from the Far Southwest Mesa, East Mountain area, South I–25 corridor, Seven Bar area, and Far Northeast. See Figure 18 (pg 79).
- The population of the Bridge-Isleta-4th Street corridor increased by 9,000. Population was redistributed from elsewhere in the Valley.

3.3 Downtown Scenario

This scenario emphasizes higher densities in selected centers and corridors, with a major concentration in the Downtown, University of New Mexico, and Uptown areas to create an employment center sufficient for successful transit. This scenario modifies the land use concept presented in the Transportation Evaluation Study by better balancing population and employment in the Uptown and Central Business District employment centers. The Planned Growth Strategy will test the impact of significant infill in older areas on existing water, sewer, and drainage infrastructure.

Downtown infill development

3.3.1 Employment

- Major concentrations of employment are in the Central Business District, the University area, and Uptown. Jobs in these centers were redistributed from Mesa del Sol and the far West Side. Research conducted during the prior Transportation Evaluation Study transportation/land use studies shows that communities with Downtown employment of 40,000 or more have more successful transit systems

than communities with smaller downtowns. The Transportation Evaluation Study land use alternative concentrates employment in the Downtown–University of New Mexico area in a manner that will support transit. See Figure 19 (pg. 81).

3.3.2 Population

- The Downtown Scenario creates a more compact distribution of population inthe County than the Trend Scenario. Less development is shown in fringe areas of the far northwest and far southwest than in the Trend. See Figure 20 (pg.83).
- A total of 5,000 population would be added to the Central Business District and the fringe of the Downtown core. Population was redistributed from Mesa del Sol, rural portions of the Valley, and the East Mountain area.

  The population of Uptown increased 1,000 above the Trend. Population was redistributed from the Airport area.

3.4 Implementation

Implementing any of these scenarios involves coordinating comprehensive planning for land use and public facilities. In particular, implementing the Downtown and Balanced Scenarios will require the integration of annexation policy; Capital Improvements Programs; Comprehensive, Area, and Sector plans; impact fees; and other policies and programs. Special emphasis will be required on the ways in which redevelopment can be encouraged, such as through revisions to the City's Development Procedures Manual, which would reduce the difficulty of infill and redevelopment. To achieve the anticipated increases in densities associated with the compact development in the Downtown and Trend Scenarios, the City and County will need both to revise their approach to impact fees and reduce the number of new acres served annually. Increases in land use efficiency of the kind assumed in the Balanced and the Downtown Scenarios would result from such actions with a minimum of other policy intervention.

In the Part 2 Report on the Preferred Alternative, which will be submitted as part of this Planned Growth Strategy, we will address the set of policies, ordinances, and actions that would be required to implement the final Preferred Alternative.

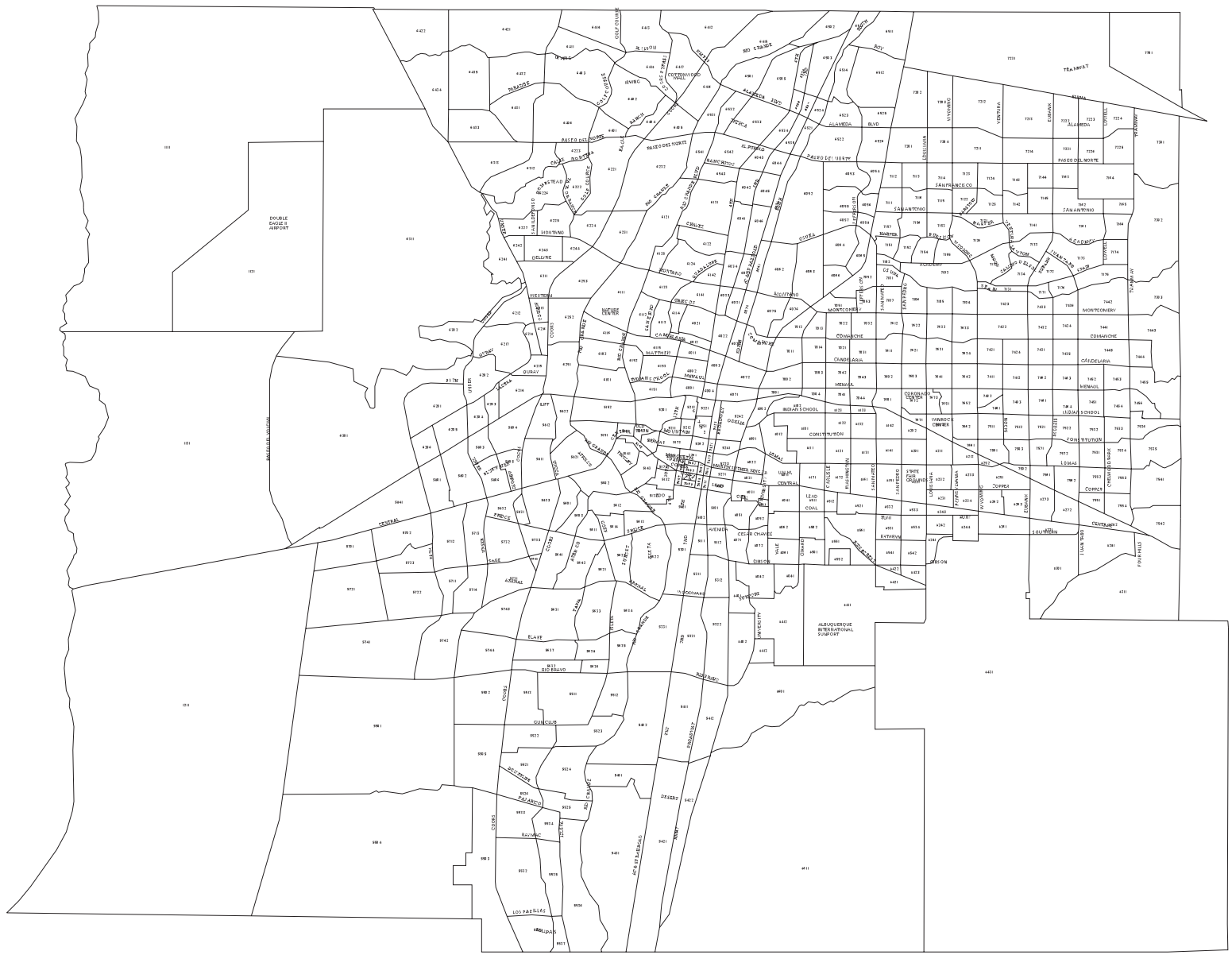


Figure 16
Data Analysis SubZones

Scale: 1 inch = 3 miles

Map Printed November 30, 1998

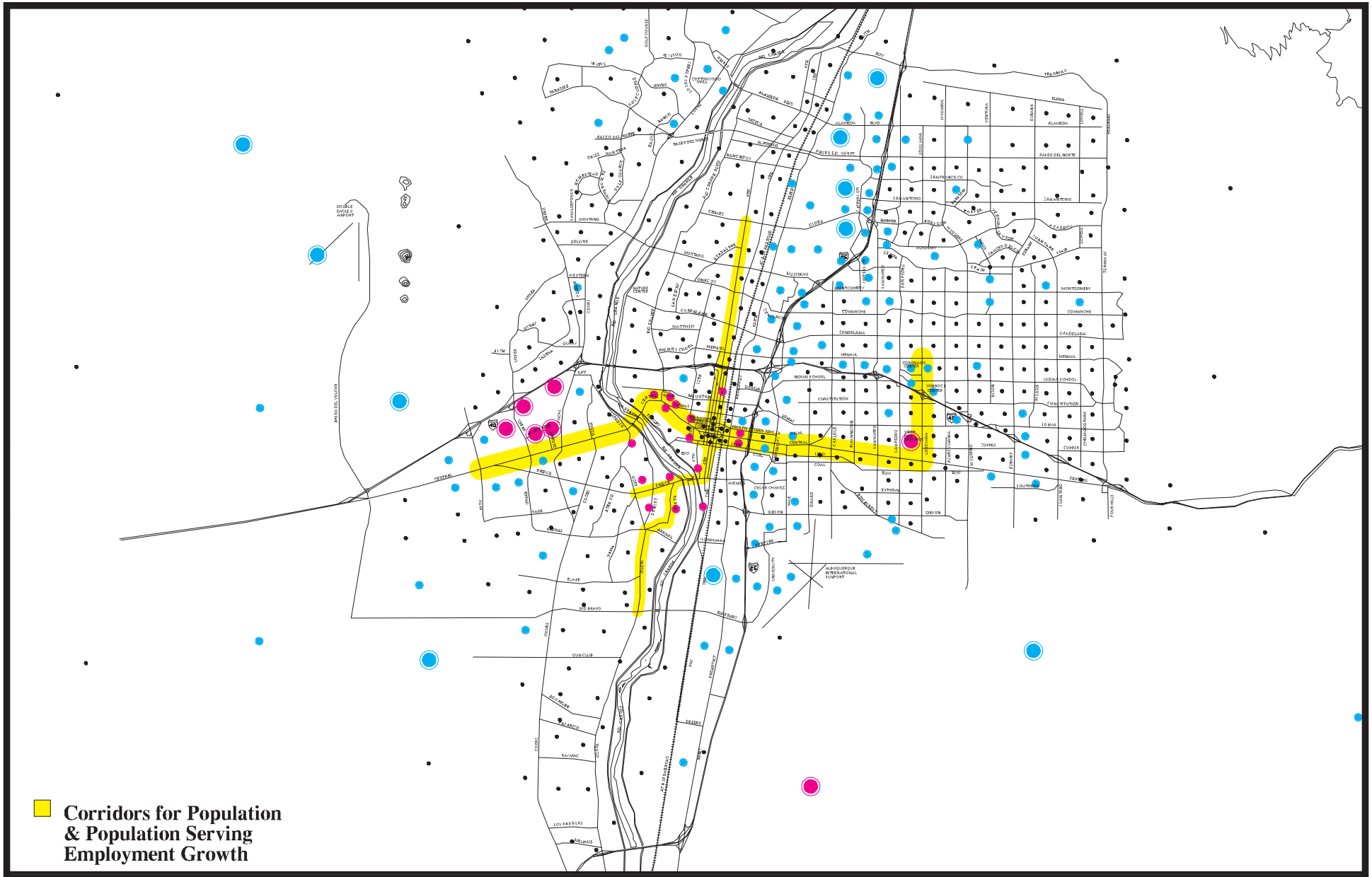


Figure 17
Difference between Balanced & Trend Scenarios
Projected Employment Growth by DASZ, 1995 to 2020

Scale: 1 inch = 3 miles
Map Printed May 1999

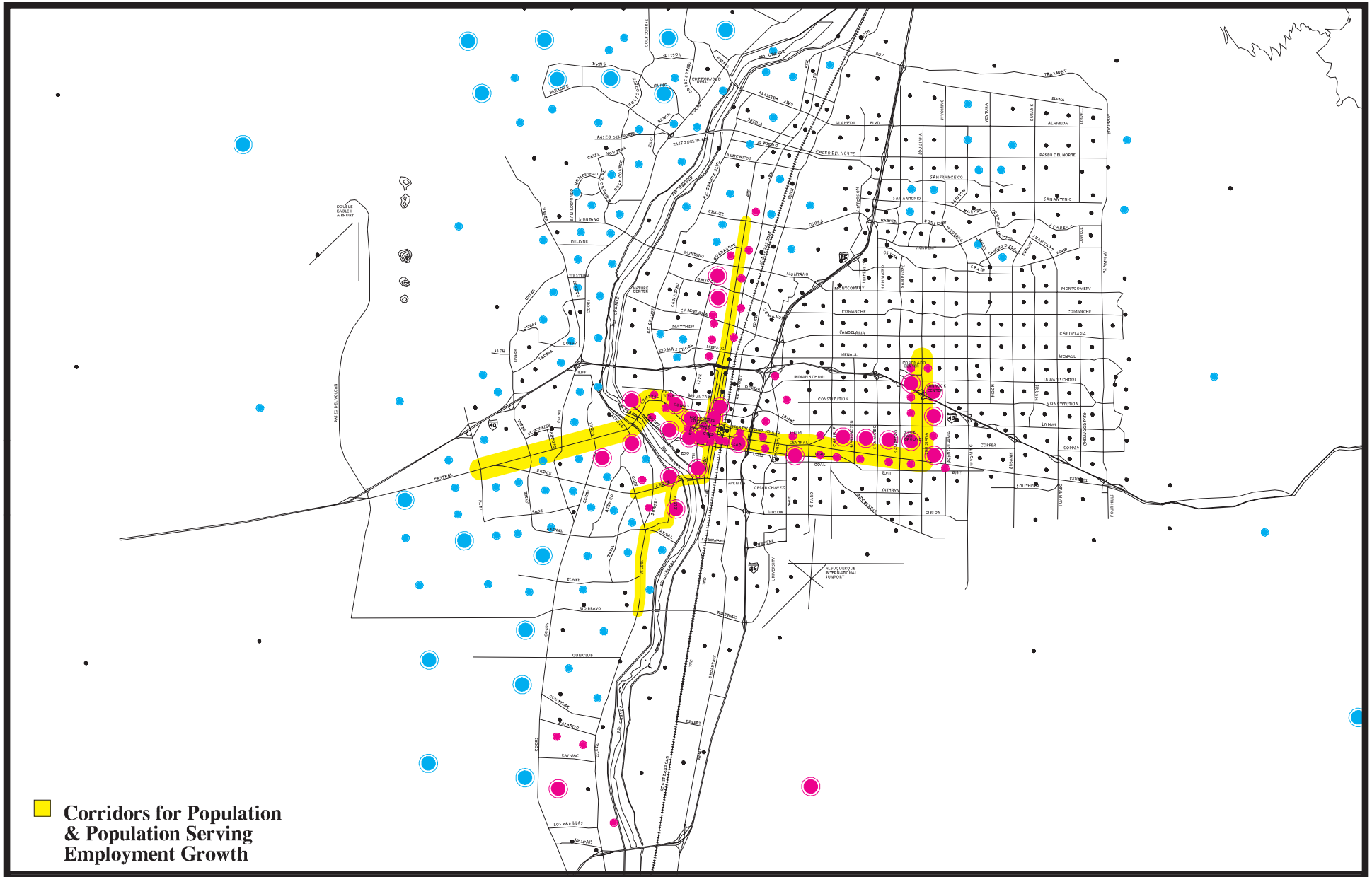


Figure 18
Difference between Balanced & Trend Scenarios
Projected Population Growth by DASZ, 1995 to 2020

Scale: 1 inch = 3 miles
Map Printed May 1999

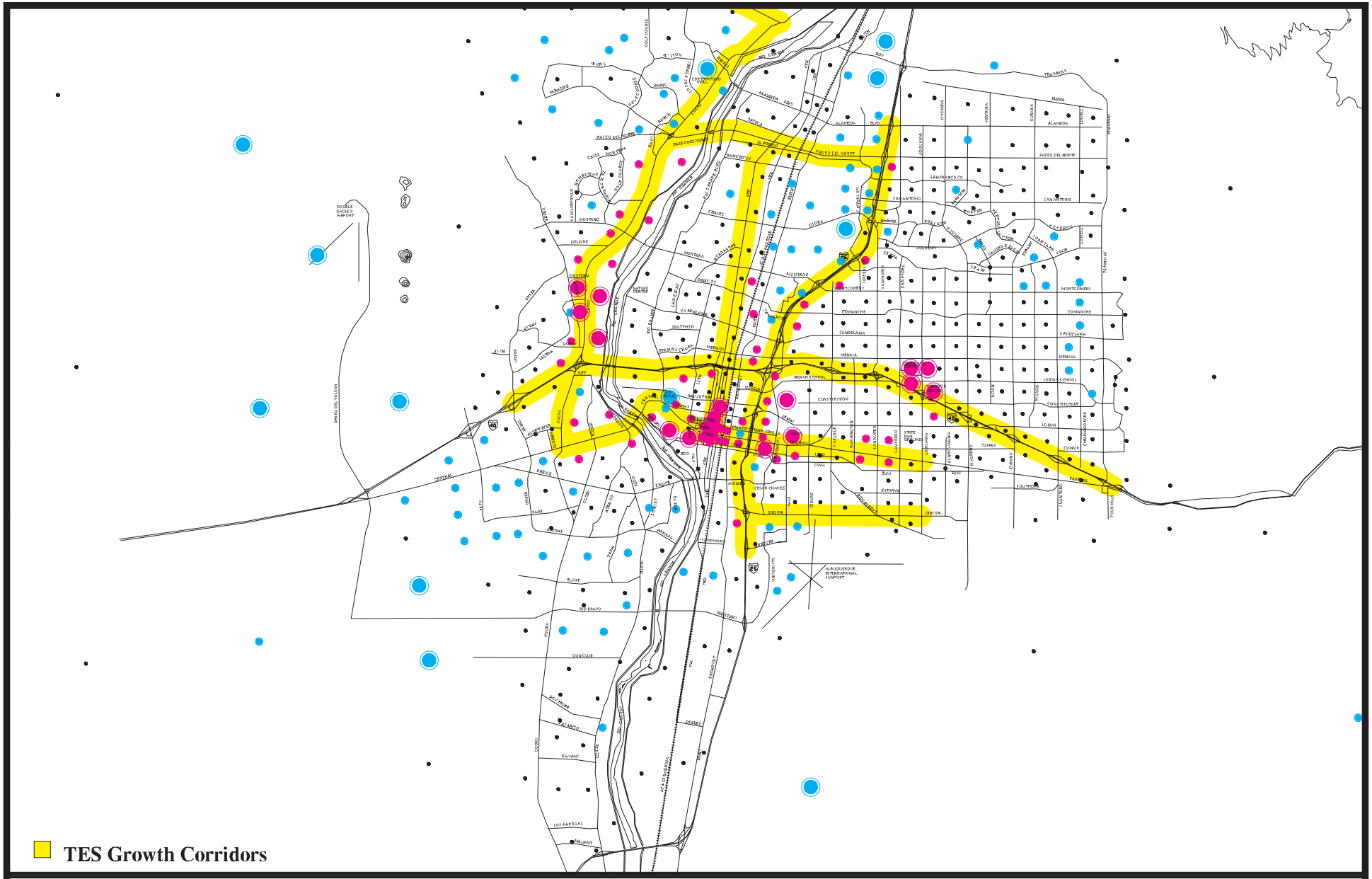


Figure 19
Difference between Downtown & Trend Scenarios
Projected Employment Growth by DASZ, 1995 to 2020

Scale: 1 inch = 3 miles
Map Printed May 1999

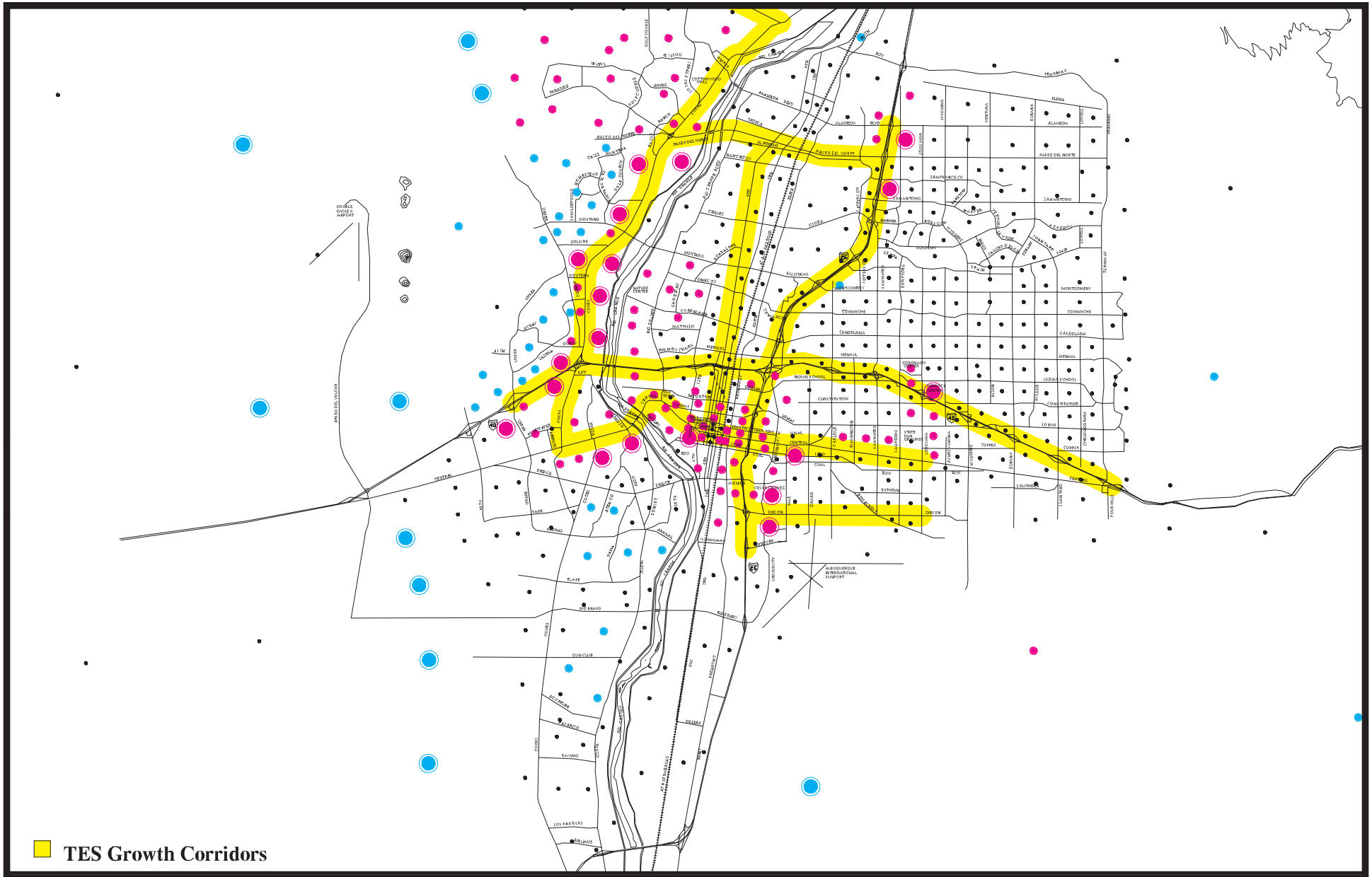


Figure 20
Difference between Downtown & Trend Scenarios
Projected Population Growth by DASZ, 1995 to 2020

Scale: 1 inch = 3 miles
Map Printed May 1999

4.0 Infrastructure Costs

4.1 Summary of Costs for Individual Utilities

In this section we present summary level findings regarding the capital costs associated with serving the needs of the growing Albuquerque metropolitan area. In particular we focus on the major utilities or types of infrastructure—the public water supply, the drainage system, wastewater, and road-related transportation and transit. Together these account for the vast majority of the (non-school) capital budget requirements of general purpose governments, both in New Mexico and throughout the United States.

The detailed findings for these utilities are presented in subsequent sections of this chapter, with a focus on several topics. For each utility, we first review the existing capacity and capacity constraints (deficiencies). Second, we examine costs. These include rehabilitation costs associated with the existing utility, costs related to correcting service deficiencies, and costs of new infrastructure to accommodate development. We close each of these sections with a review of key assumptions and supporting information.

Each section also contains an analysis of operation and maintenance costs; however, we do not describe these costs in this summary section. These costs, however, play a role in the benefit cost analysis associated with each of the scenarios.

These estimates of costs represent the level of capital expenditures that will be required to accommodate the levels of population and employment growth forecast for the year 2020 in Bernalillo County and the City of Albuquerque. However, it is important to note that these costs are not tied to the year in which they would need to occur. Rather, they represent a level of expenditures sufficient to provide utilities in a manner consistent with level of service standards. Thus, for example, if the region were to grow more slowly or more quickly, these costs would still represent the levels of expenditures required to accommodate a population of some 640,000 people and an employment base of approximately 448,000. Were growth to occur more quickly in adjacent counties, and less quickly in Bernalillo County and the City of Albuquerque, this would only affect the period of time over which these expenditures would be required, not the magnitude of the expenditures themselves.

Finally, readers should bear in mind that some of the costs described in this summary section and the more detailed sections that follow were developed based upon conservative assumptions. Among these are:

- The minor street cost calculations use a 28-foot cross-section instead of 32-foot cross-section, which would lead to higher costs for scenarios that require more minor street construction (e.g., Trend).
- The Ridgecrest Trunk has excess water capacity; therefore, the cost of service in this area should be lower.

- There may be higher installation costs for water and wastewater lines in the basalt areas of the West Side.
- Some costs of new parallel wastewater lines may not be needed because rehabilitation will increase capacity.
- The Metropolitan Transportation Plan includes conservative assumptions about costs since it is a fiscally constrained plan.
- The computer model used to estimate vehicle miles traveled for the scenarios is conservative because it does not adjust for fewer trips being made due to mixed land uses and higher densities.
- While the hydrology engineering consultants recommended that the land above the escarpment in the northwest area has a low priority for development, there were tens of millions of dollars in storm drainage costs in this area. .
- Water operation and maintenance costs are on a per gallon basis. However, existing infrastructure would have to be maintained regardless of whether it is being used to full capacity. Therefore, there should be a negligible operation and maintenance cost for utilization of current excess water capacity.

Water

The lowest cost growth alternative is the Balanced Scenario. The estimated capital cost of this scenario is $565 million, compared to $569 million for the Downtown scenario and $686 million for the Trend scenario.

The current City of Albuquerque water system is the principal water provider in Bernalillo County, serving a population of 480,000. The system has developed over the years on both the east and west sides of the river. Water is delivered in an east/west direction by major transmission facilities called trunk lines, which have the capability to distribute water to several different pressure zones. There are 12 pressure zones on the east side and five pressure zones on the West Side today.

System pump station

In 1994 the annual average water demand was 250 gallons per person per day. An aggressive water conservation program has been implemented successfully, and

this has reduced demand by around 20%. The conservation goal is to achieve a 30% reduction by the year 2004. The water distribution system that was analyzed for this project assumes the successful implementation of this 30% demand reduction, for all of the scenarios. In the event such reductions do not occur, the costs for all scenarios would increase correspondingly.

There are two water trunk lines that may have excess capacity today—the Freeway and Montgomery trunks. The current system has sufficient capacity to serve the Water Service Area, and thus there are no areas of deficiency at this time.

One source of uncertainty with regard to the future cost of water infrastructure is associated with a review currently underway by the United States Environmental Protection Agency (EPA). EPA will publish new standards for allowable arsenic levels in public water within the next two years. It is thought that the allowable levels of arsenic will be lowered substantially from those currently permitted, with the result that half of Albuquerque's existing wells could require additional water treatment. The annual cost of this treatment is estimated to be $3–$4.5 million. Arsenic levels are higher in some parts of the community than others; thus, treatment costs also may vary according to the location of growth.

The City of Albuquerque's water system is currently undertaking numerous rehabilitation projects. As growth occurs additional rehabilitation will be required, including the rehabilitation and replacement of facilities that have reached the end of their useful life. These include wells, pump stations, reservoirs, meter replacement, and pipeline replacement. Costs for rehabilitation are estimated to exceed $20 million annually.

Water line rehab project

While rehabilitation and replacement costs account for approximately half of the total, combined long-term capital costs for the water system, new wells, water rights, reservoirs, pump stations, master plan transmission, and infill pipelines account for the other half of the water costs. Many of these costs do not vary across scenarios; however, the costs of small diameter piping are a function of the density at which land is developed, and thus scenarios, which use less land, will also require less pipe.

The primary difference in the costs of growth-related water service, however, relates to the costs of providing service on the West Side. Significantly higher expenditures for storage, pumping, and transmission are required for the Trend scenario, as a result of development west of the escarpment. These affect costs in four of the City's trunk line areas—College, Atrisco, Pajarito, and Corrales.

Thus, looking at the growth-related water service costs, almost all of the roughly $100 million difference can be explained by the cost of providing service outside of the existing water area to higher elevations west of the escarpment. In all, the range of costs across the three scenarios differs by approximately 21%.

Hydrology

Domingo Baca arroyo

The lowest capital costs (including rehabilitation, fixing deficiencies, and adding new facilities) are for the Downtown scenario and are estimated at $470 million. In comparison, the Balanced scenario is estimated to cost $496 million, while the Trend scenario will cost $534 million.

Primary responsibility for the provision of drainage services belongs to the City of Albuquerque, with some responsibility falling to the Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA) also. AMAFCA, which averages approximately $5.4 million per year in flood control related construction, is primarily responsible for the North and South Diversion Channels and some major arroyos. The City, which spends approximately $10.3 million per year on flood control related construction, is responsible for all underground systems and the remainder of the arroyos.

Existing drainage structures were designed to prevent damage during a 100-year storm and were designed with capacity for full build-out of the drainage basin at densities compatible with the zoning in place at the time of construction. Unfortunately, in the early 1990s local hydrologic analysis methods were revised, which increased the amount of estimated runoff. This resulted in some systems becoming deficient. None of the drainage basins have excess capacity, and all have some degree of deficiency or require rehabilitation. Areas in the valley are relatively more difficult to drain due to much of the area being lower than the river, flat grades, and limited outfalls to the Rio Grande. Areas in the far northeast heights and La Cueva-Camino, commonly known as North Albuquerque Acres, have experienced piecemeal development of the area platted in the 1930s, leaving much of the needed drainage infrastructure for the already overburdened public deficiency list. In the far northwest portion of the study area above the escarpment, substantial basalt will increase the costs of providing drainage infrastructure due to costs associated with construction in this type of rock.

Within the 1960 City Boundary, upstream growth will require increasing the size of existing facilities or construction of detention ponds. Several parts of the City have drainage systems that were designed many years ago to old standards and do not have adequate capacity to accommodate increased runoff. This has resulted in the identification of additional deficiencies in the Northeast Heights, the Southeast Heights and the Valley.

The majority of new infrastructure will be required at the fringe areas Outside the Water Service Area where no storm drainage infrastructure currently exists. Improvements required in the Quail Ranch will include detention ponds so that the downstream capacity of existing drainage facilities is not exceeded. Elsewhere in the northwest area above the escarpment, shallow basalt makes trenching for utilities difficult and costly. Improvements for the Westland property include a diversion channel north of I–40, escarpment drainage, and the construction of detention dams. The region above the southwest valley will require the construction of diversion channels, additional storm drains, and dams. Development of Mesa del Sol will involve mostly non-conventional drainage systems with minimal surface discharge off site, reducing the cost of drainage. The Mesa del Sol area will have relatively lower drainage improvement costs, although many current State and City drainage standards must be waived to accommodate the proposed development scenario.

One potential complicating factor is the pending EPA, National Pollution Discharge Elimination System storm water permit that has been considered eminent since 1991 but, due to EPA delays, has not been issued. It is hoped that Best Management Practices will satisfy requirements in lieu of more aggressive treatments and numerical standards.

Overall, the cost of drainage is closely linked to the number of acres developed in a given basin or sub-basin. As a result, patterns of urban development that make more efficient use of land reduce drainage infrastructure costs and requirements. This results in capital expenditures that are approximately $38–$64 million lower for the Balanced and the Downtown scenarios than for the Trend scenario.

Wastewater

The City of Albuquerque's sewer system is the principal provider for wastewater treatment services in Bernalillo County, and it contains 17 major basins. Generally, wastewater flows begin in sewers, laterals, and interceptors on the extremities of the east and west sides of the service area and are added successively to interceptors in each sub-basin moving downward in a southerly direction to the Rio Grande. The Southside Water Reclamation Plant is the treatment site for wastewater for the entire system. The current capacity of the plant is 76 million gallons per day (mgd), and the average flow received is 56 mgd.

A number of lines within the existing system have excess capacity today. These are distributed throughout all parts of the City. Deficient capacity also exists in some areas. Many of these deficiencies are concentrated in the lowest elevations and more central locations of the Albuquerque metropolitan area. This is a result of a gravity feed system that puts the maximum volumes into pipes and elevations nearest the treatment plant.

Wastewater treatment plant

The area within the 1960 City Boundary will experience capacity constraints in its transmission lines under all three scenarios. Costs for providing new parallel lines have been estimated and are included in costs for all scenarios. In addition to parallel interceptors, growth will require the construction of new service connections, interceptors, waste stations, collection lines, and treatment plant expansion. The wastewater treatment expansion cost is estimated at $73 million, and the cost of new parallel lines is $15 million. Finally, County wastewater needs will add approximately $10–$17 million.

The more efficient use of serviced land results in cost savings because of the need to provide fewer feet of small diameter pipe and opportunities to use existing service connections on certain sites. However, since many of the lines in developed areas are near capacity, or suffer from deficiencies as a result of their location, costs for service lines in the existing 1960 City Boundary would be higher under the more compact scenarios (Balanced and Downtown). Conversely, costs for lines, connections, lift stations, and related facilities in areas not currently served would be nearly twice as expensive in the Trend scenario as in the Downtown scenario.

To conclude, unique growth-related costs vary from $251 million for the Downtown scenario to $280 million for the Trend ($267 million for Balanced). This difference of $29 million represents an increase in growth-related wastewater capital costs of 12% between the Downtown and the Trend scenarios.

Transportation

The Trend scenario has the largest unique road capital costs, totaling $331 million. Unique road capital costs would be $267 million for the Balanced scenario and $260 million for the Downtown scenario. In comparison, common capital costs for road rehabilitation, fixing deficiencies, and new roads total $1.5 billion and account for more than 80% of total road costs.

Transit system capital costs for fleet expansion and vehicle replacement are approximately one-quarter of the total transportation capital costs. The Trend Scenario has the highest unique transit capital costs at $284 million, while the Balanced and the Downtown scenarios have unique transit capital costs of $210 million. All three scenarios assume the same size bus fleet; however, cost differences are attributable to the greater number of daily miles traveled by buses in the Trend Scenario, requiring more frequent vehicle replacement. Common transit capital costs account for $39 million or one-eighth of the total transit capital costs.

Information about the supply and demand for road facilities is kept principally by the MRGCOG, the designated Metropolitan Planning Organization for the Albuquerque region. Data collected by MRGCOG suggests that the majority of roads within the study area today are currently operating below capacity. However, other roadways and portions of roadways are operating above capacity. Outside the Water Service Area, roadways operating over capacity are those linking Albuquerque to Rio

Sun Tran bus

Rancho and Corrales. Within the Water Service Area, the North Valley Bridge crossings—Alameda and Paseo del Norte—are capacity deficient. Several of the roads east of I–25, including Alameda, Paseo del Norte, and Academy, are operating above capacity, as are many of the north/south streets in the North Valley. Within the 1960 City Boundary, isolated areas of congestion occur on Gibson Boulevard, I–25, and 2nd and 4th Streets.

Forecasts of capacity deficiencies in the year 2020 suggest that these conditions will change significantly, i.e., roadway congestion will increase markedly. Capacity deficiencies will exist for all three of the scenarios analyzed in this report. Differences in costs, therefore, come principally from the need to construct certain individual facilities as part of the different scenarios.

Transportation planners from the metropolitan area recently revised a long-range Metropolitan Transportation Plan in which they identified the need for expansion of existing facilities and the construction of new facilities for the Trend scenario. This scenario was developed by and for the Council of Governments as part of its Long-Range Transportation Planning Work Plan and was adopted for use in this planned growth strategy.

The Metropolitan Transportation Plan lists new roadway construction projects required for the Trend scenario. MRGCOG planning staff and consultants reviewed and slightly modified this list as part of travel demand forecasts conducted for this study for the Balanced and Downtown Scenarios. Costs for new major road construction for the Downtown and Balanced scenarios were found to be approximately 93% of the costs of new major road construction for the Trend scenario. In addition, costs for minor roadways needed to serve residential growth in the Downtown and Balanced scenarios were estimated to cost approximately 80 and 72%, respectively, of the costs of new minor road construction in the Trend scenario, with 1,362 miles of new local roads required for the Trend scenario, 1,121 miles for the Downtown scenario, and 936 miles for the Balanced scenario.

Road construction on Lomas Boulevard

About 40% of the capital costs for road transportation would be spent for the rehabilitation and reconstruction of streets and roads. The City of Albuquerque recently reassessed street conditions and found that 27% of its lane-miles are in poor or very poor condition and 43% in fair condition. Costs for rehabilitating these roads up to "good" condition are common to all three growth scenarios.

Concluding Remarks

This cost analysis is conservative. The cost differences in this report focus only on water, sewer, drainage, and road and transit transportation systems. Certain capital costs have not been included in this analysis, such as costs associated with additional treatment of ground water to remove levels of arsenic currently permitted by federal standards or potential costs of providing additional sources of water supply and distribution in the event that the City's ambitious goals for water conservation are not reached. There are no cost savings associated with the reuse of public school facilities. Operations and maintenance costs have not been focused upon in this summary.

In assessing the costs of supporting development as presented in later sections of this chapter, we have calculated total costs, and public and private costs separately. Some people believe that the only costs, which require consideration in an analysis of this kind, are public costs. They argue that if the costs of building or maintaining certain infrastructure is borne at first by the private sector; therefore, there are no costs. This is false. Irrespective of the source of capital used to construct and maintain infrastructure, expenditures represent resources, which could be used for other purposes were they not used for roads, sewer and water lines, or drainage facilities. Whether the initial source of funds for capital improvement comes from taxes, fees, private mortgage lending, General Obligation bonds, or other means makes little difference to the overall welfare of residents in Bernalillo County. This issue is explored further in the work of economist Michael McKee that is presented in Section 2 of this report.

This analysis is a cost analysis, it is not yet a comparison of benefits and costs. Other portions of this Planned Growth Strategy, Part 1 – Findings Report involve more complete analyses of the social and economic benefits and costs of growth.

4.2 Water System Findings

4.2.1 Summary

Based on the analysis, the Downtown scenario and the Balanced scenario had very similar costs, both of which were lower than the Trend scenario. The estimated total capital costs are as follows:

Downtown Alternative.....$568,680,000
Balanced Alternative.....$565,200,000
Trend Alternative.....$685,807,000

The estimated annual operation and maintenance costs associated with Downtown and Balanced scenarios ($6,203,000) are slightly lower than with the Trend scenario ($6,767,000).

In addition to the costs above, there are annual operation and maintenance and rehabilitation costs that are common to all three scenarios. The annual operation and maintenance costs for the system as it exists are approximately $21,000,000.

The annual rehabilitation needs for the existing system are projected to be $20,216,000. This is compared to the current annual budget of approximately $15,200,000 resulting in a projected annual rehabilitation shortfall of $5,016,000. It should be noted that actual capital spending often is notably lower than the amount budgeted, increasing the shortfall.

The cost split for public versus private funds for the capital costs have been estimated and are as follows:

Table 42 Public/Private Cost Split by Scenario

Scenario	Estimated Public Costs	Estimated Private Costs
Downtown	$330,520,000	$238,159,000
Balanced	$339,213,000	$225,987,000
Trend	$370,157,000	$315,649,000

Costs summarized above are shown on Tables A.2–A.4 in Appendix A.

All costs presented here are in 1998 dollars. The costs used in this report for any infrastructure improvements and operation and maintenance were obtained from past City of Albuquerque Water Utility Division project experience. The costs presented herein are intended to be used for comparison of the relative costs between the three scenarios only. Actual capital and added annual costs for any improvements needed to meet future increased demand will vary from the costs presented herein.

4.2.2 Purpose

The purpose of this section is to provide conceptual capacity and costs information related to the City of Albuquerque water supply system. Both the current system and projected growth for three scenario growth scenarios will be evaluated. The water supply system consists of wells, piping, pump stations, and reservoirs. In the future, a surface water treatment plant will be added to the Albuquerque water system. The City of Albuquerque currently is implementing numerous rehabilitation programs for the water system components that are required for the normal operation of any water system.

The Planned Growth Strategy investigates three alternative growth scenarios: (1) Trend Alternative, (2) Balanced Alternative, and (3) Downtown Alternative. A description of the three scenarios is found in Chapter 4.0. Figures 21–26 (pgs.95-105) display population and employment by water trunk and zone for the three scenarios. The estimated capital and operational costs for the expansion of the water system infrastructure associated with these three growth scenarios are presented in this report. This conceptual analysis of the water system scenarios needed to serve the projected populations in the year 2020 is intended to identify potential cost differences in infrastructure requirements associated with the three growth scenarios.

The conceptual evaluation of the water system and the improvements required for growth scenarios were developed based on standard engineering concepts and input from the Water Utility Division staff. The City of Albuquerque is in the process of developing a computer model for the water distribution system that will allow detailed evaluation of the growth scenarios. Without this completed and calibrated model, the analysis of the water system is subject to further engineering analysis and evaluation.

4.2.3 Water System Capacity

Water Service Area

The current City of Albuquerque water system Water Service Area provides water service for approximately 450,000 people. The current population within the Albuquerque area is about 480,000. The projected population in the year 2020 is estimated to be around 625,000, or an increase of around 145,000 people.

In an effort to identify the "core" water system, the January 1, 1960 City Boundary was determined. The Water Service Area outside of the 1960 City Boundary was also identified. Growth within the 1960 City Boundary and existing service area outside the boundary, but within the Water Service Area, is identified as potential infill. The area Outside the Water Service Area is deemed expansion area and will require an expansion of the water system to serve this area.

It is assumed that any growth into areas Outside of the Water Service Area would warrant extension of the water system to serve this population. Therefore, no matter how small the projected population growth in these zones, costs are included in this report to extend water service to these zones.

The projected population increase for each growth scenario was provided by the planning group of the Parsons Brinckerhoff team based on the input from the City and County Planning staff. The growth was distributed by DASZ for each scenario. The AGIS system was then used to overlay the trunk and pressure zones for the water system with the DASZ population increases to determine what the projected population increase would be in each trunk-zone.

The three growth scenarios result in different levels of populations in the three zones of development described above: 1960 City Boundary, Water Service Area, and Outside the Water Service Area. The projected population increase of 145,000 people is distributed differently for each growth scenario. The estimated percentage of the projected 2020 population increase (not total population) in the service zones for each growth scenario is presented in Table 43.

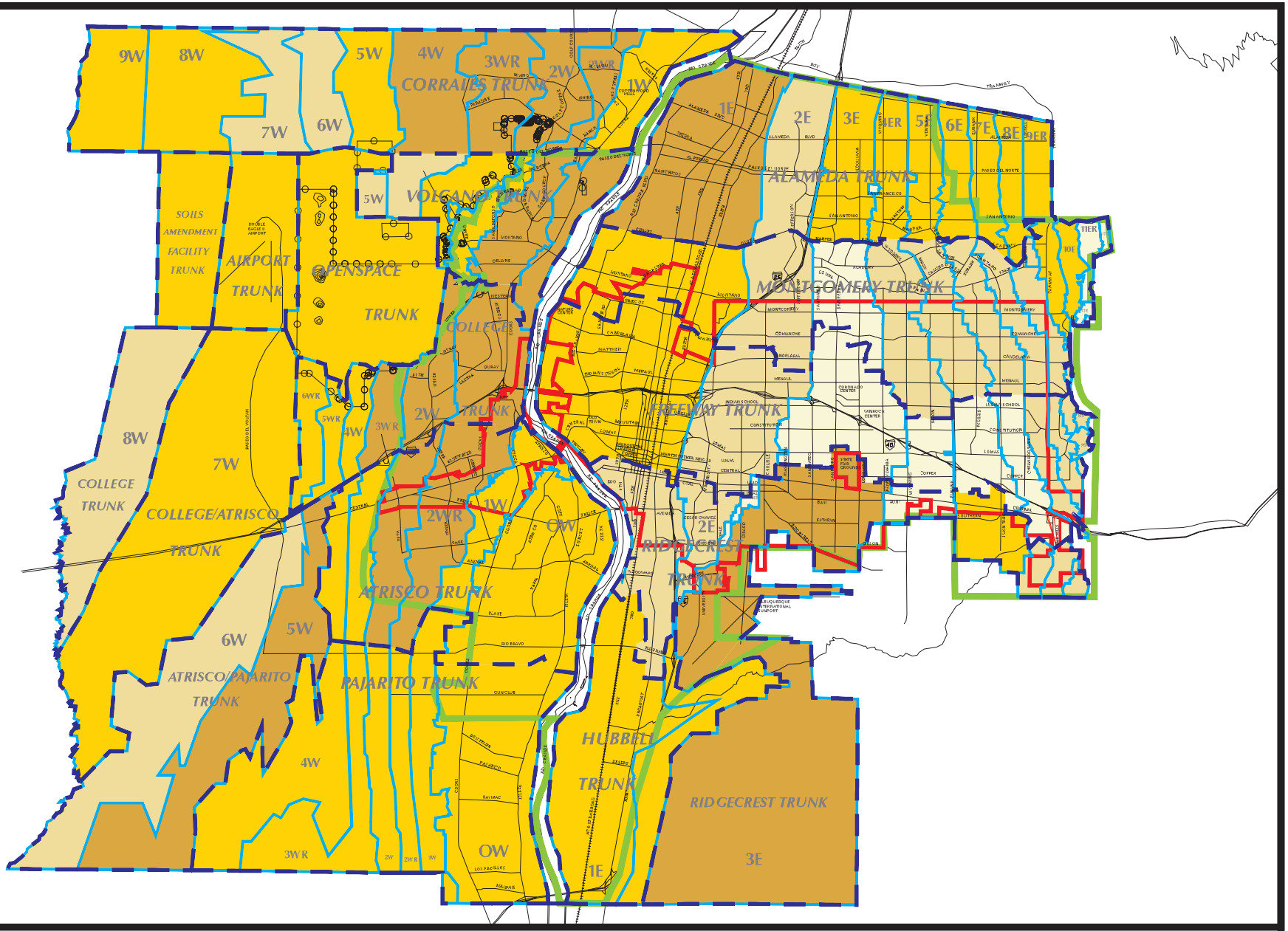
Table 43 Distribution of Population Increase by Service Zone

	Trend Alternative Population Increase (%)	Balanced Alternative Population Increase (%)	Downtown Alternative Population Increase (%)
1960 City Boundary	7	24	16
Water Service Area	55	50	63
Outside Water Service Area	38	26	21

The total population by growth scenario is presented in Table 44.

Table 44 Total Projected Population by Growth Scenario and Service Zone, 2020

	Trend Alternative Total Population	Balanced Alternative Total Population	Downtown Alternative Total Population
1960 City Boundary	259,168	284,054	271,661
Water Service Area	280,485	273,721	288,351
Outside Water Service Area	86,950	69,876	60,539



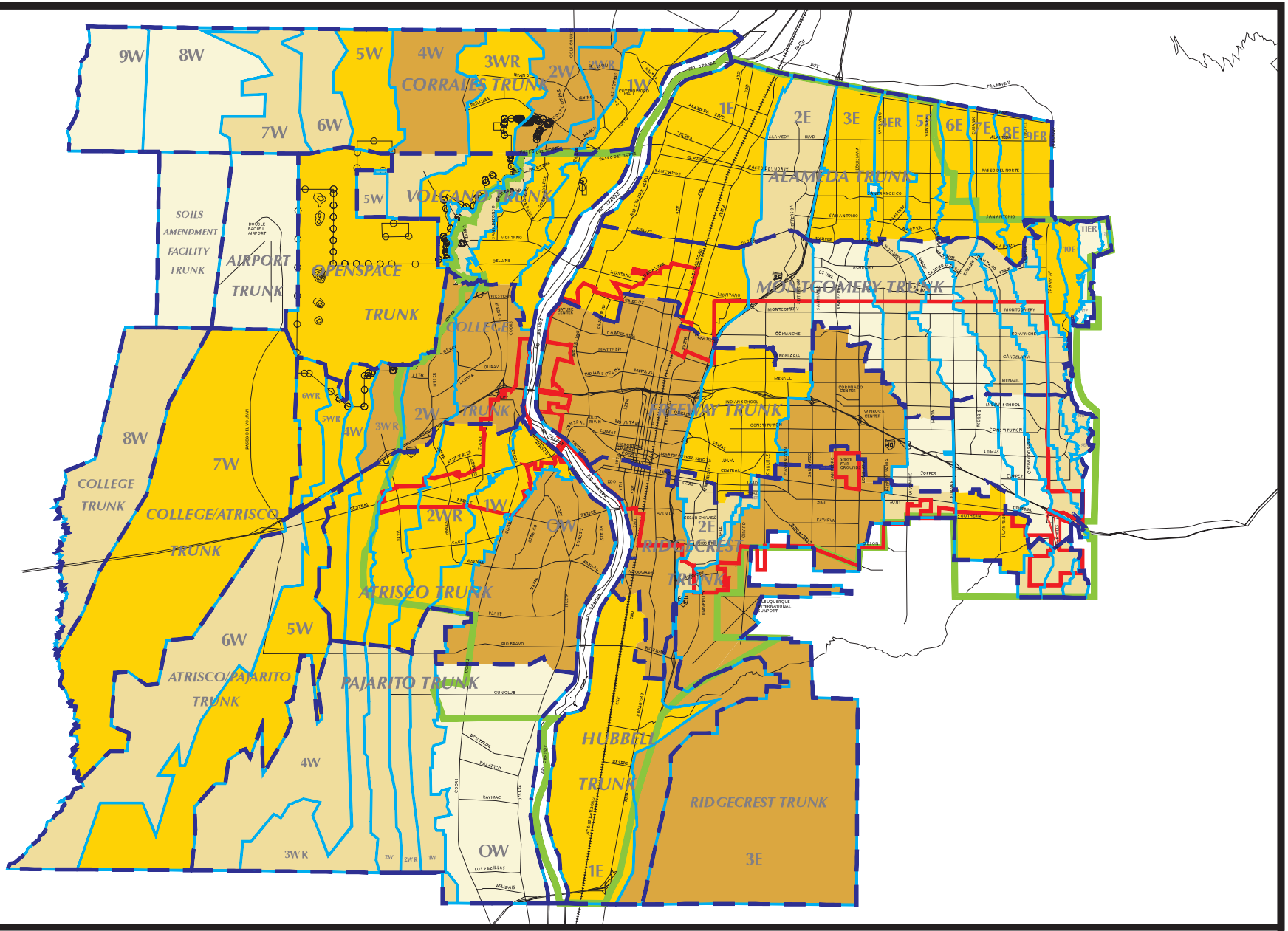
Less than 0
Between 1 to 999
Between 1,000 to 2,999
Greater than 3,000

1960 City Limits
Water Service Area

Figure 21

Trend Population Growth Forecast for Year 2020 by Water Trunk & Zone

Scale: 1 inch = 3 miles
Map Printed December 1998



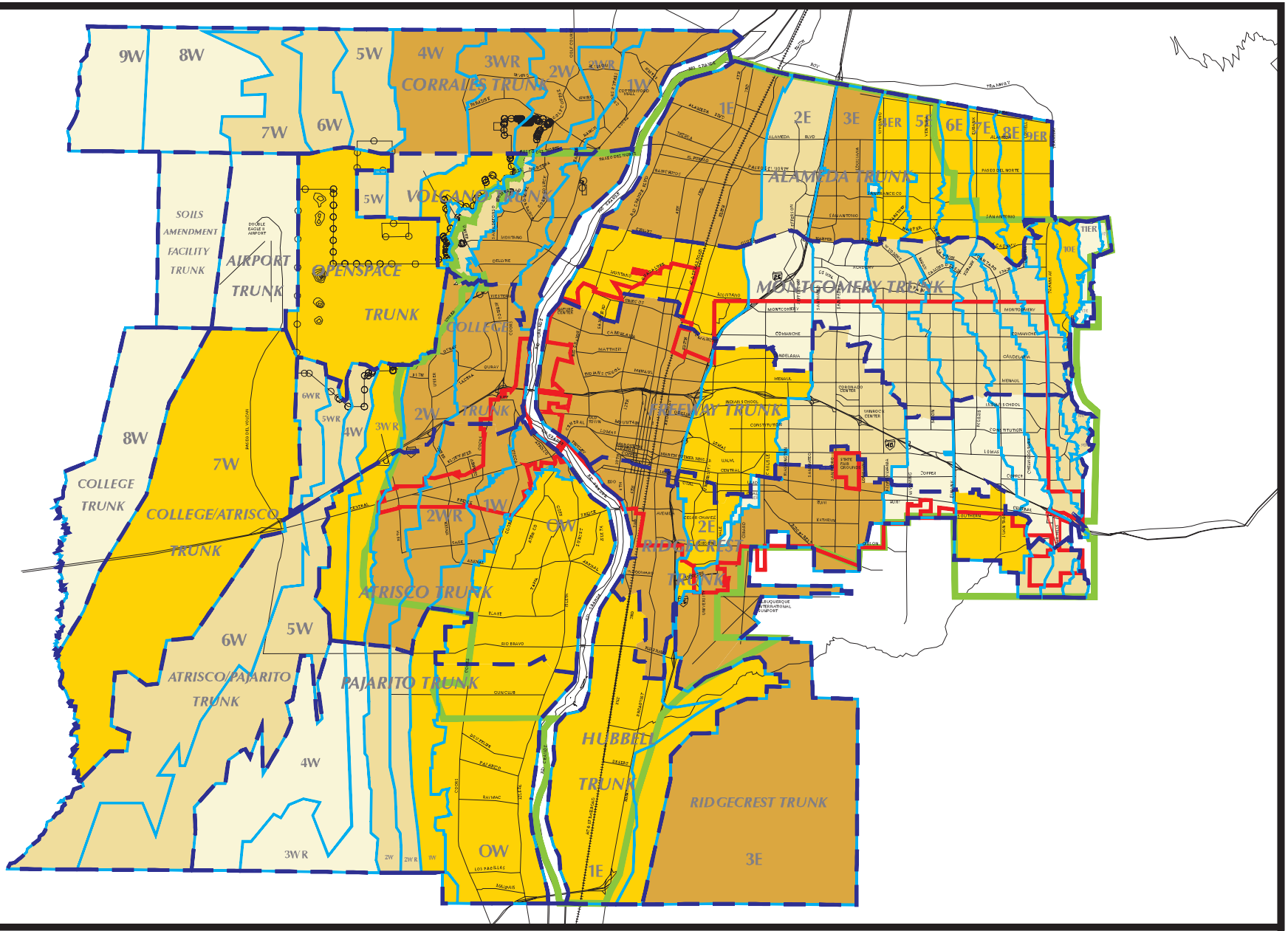
Less than 0
Between 1 to 999
Between 1,000 to 2,999
Greater than 3,000

1960 City Limits
Water Service Area

Figure 22

Balanced Population Growth Forecast for Year 2020 by Water Trunk & Zone

Scale: 1 inch = 3 miles
Map Printed December 1998



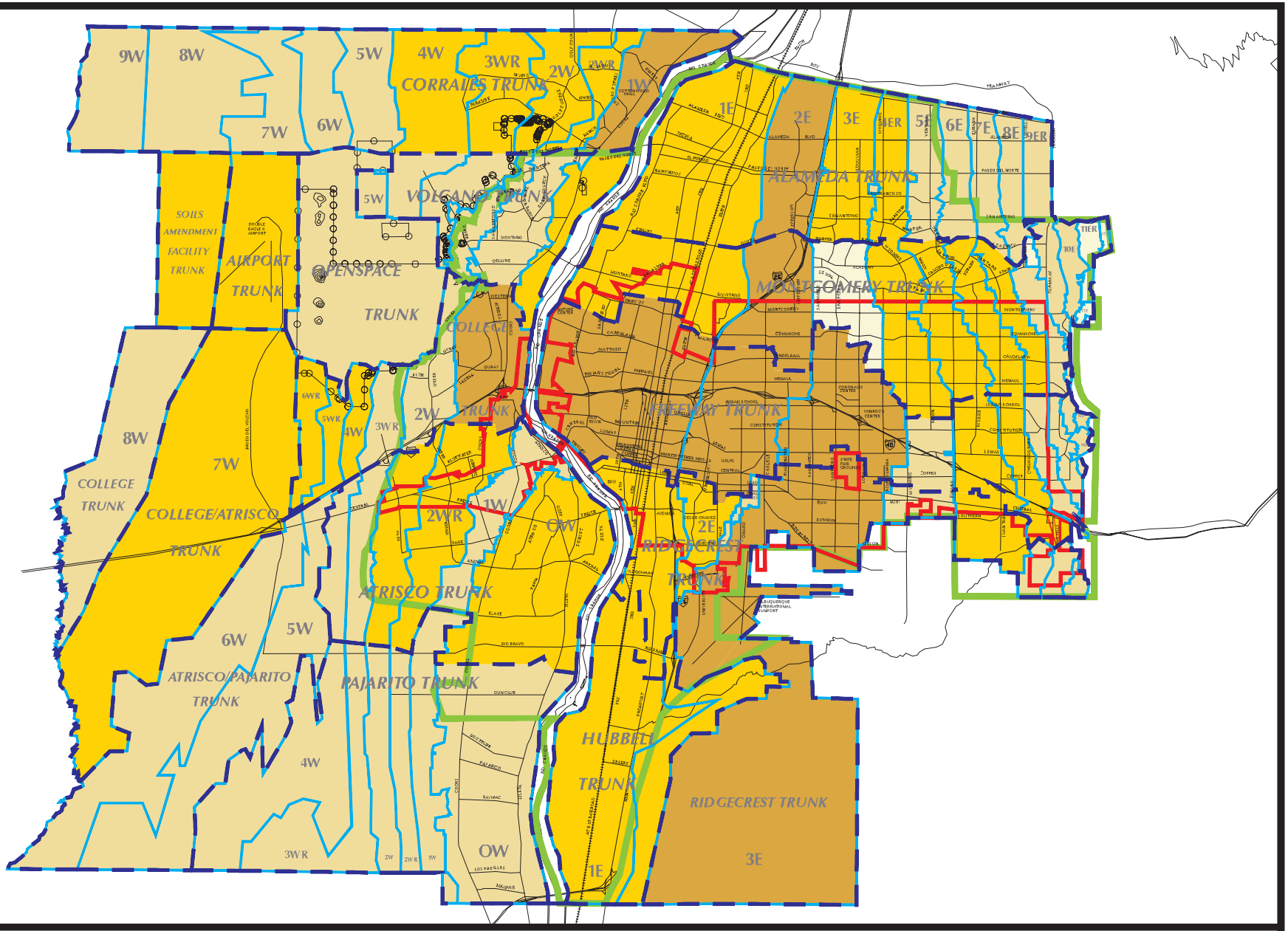
Less than 0
Between 1 to 999
Between 1,000 to 2,999
Greater than 3,000

1960 City Limits
Water Service Area

Figure 23

Downtown Population Growth Forecast for Year 2020 by Water Trunk & Zone

Scale: 1 inch = 3 miles
Map Printed December 1998



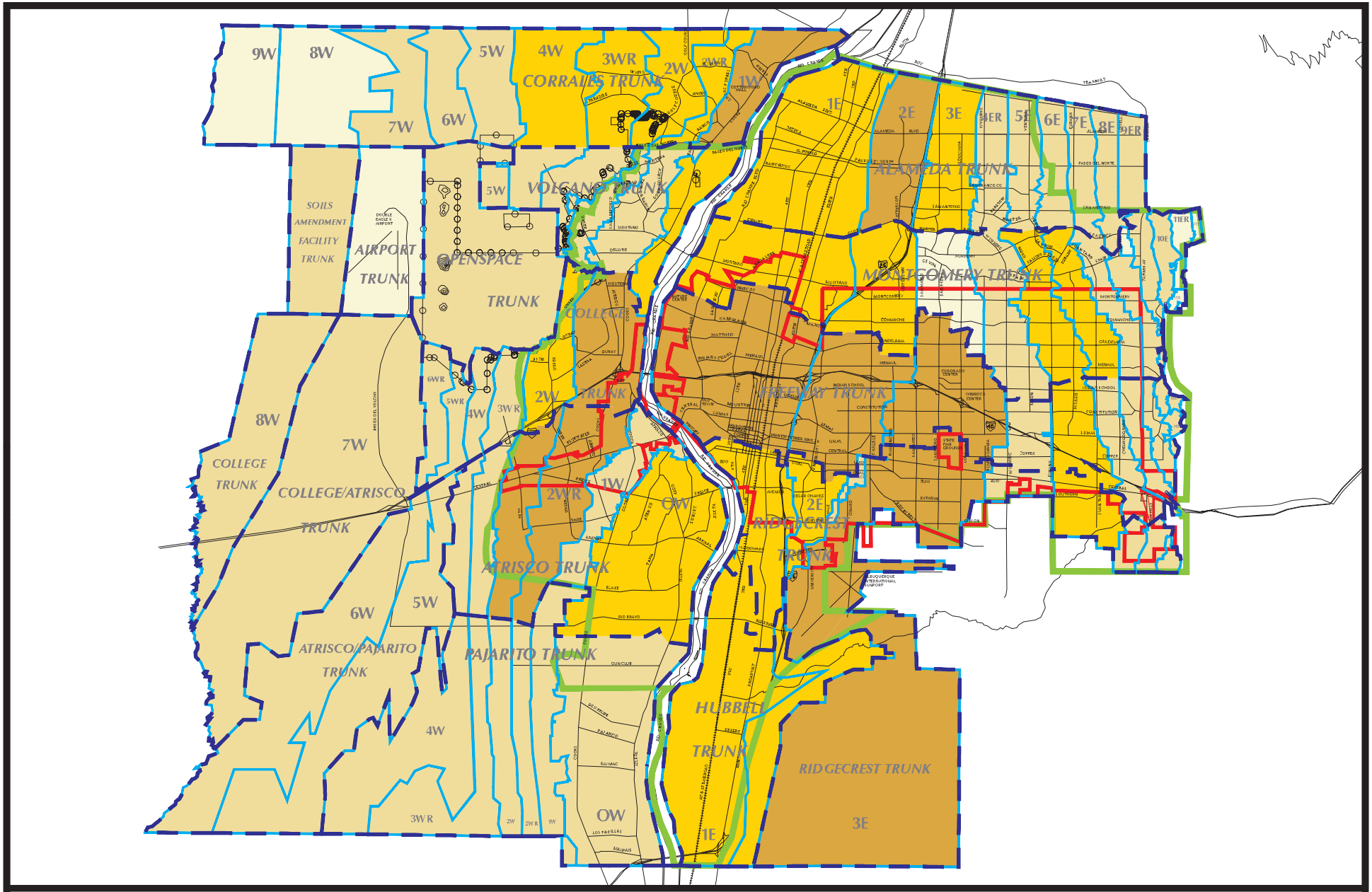
Less than 0
Between 1 to 999
Between 1,000 to 4,999
Greater than 5,000

1960 City Limits
Water Service Area

Figure 24

Trend Employment Growth Forecast for Year 2020 by Water Trunk & Zone

Scale: 1 inch = 3 miles
Map Printed December 1998



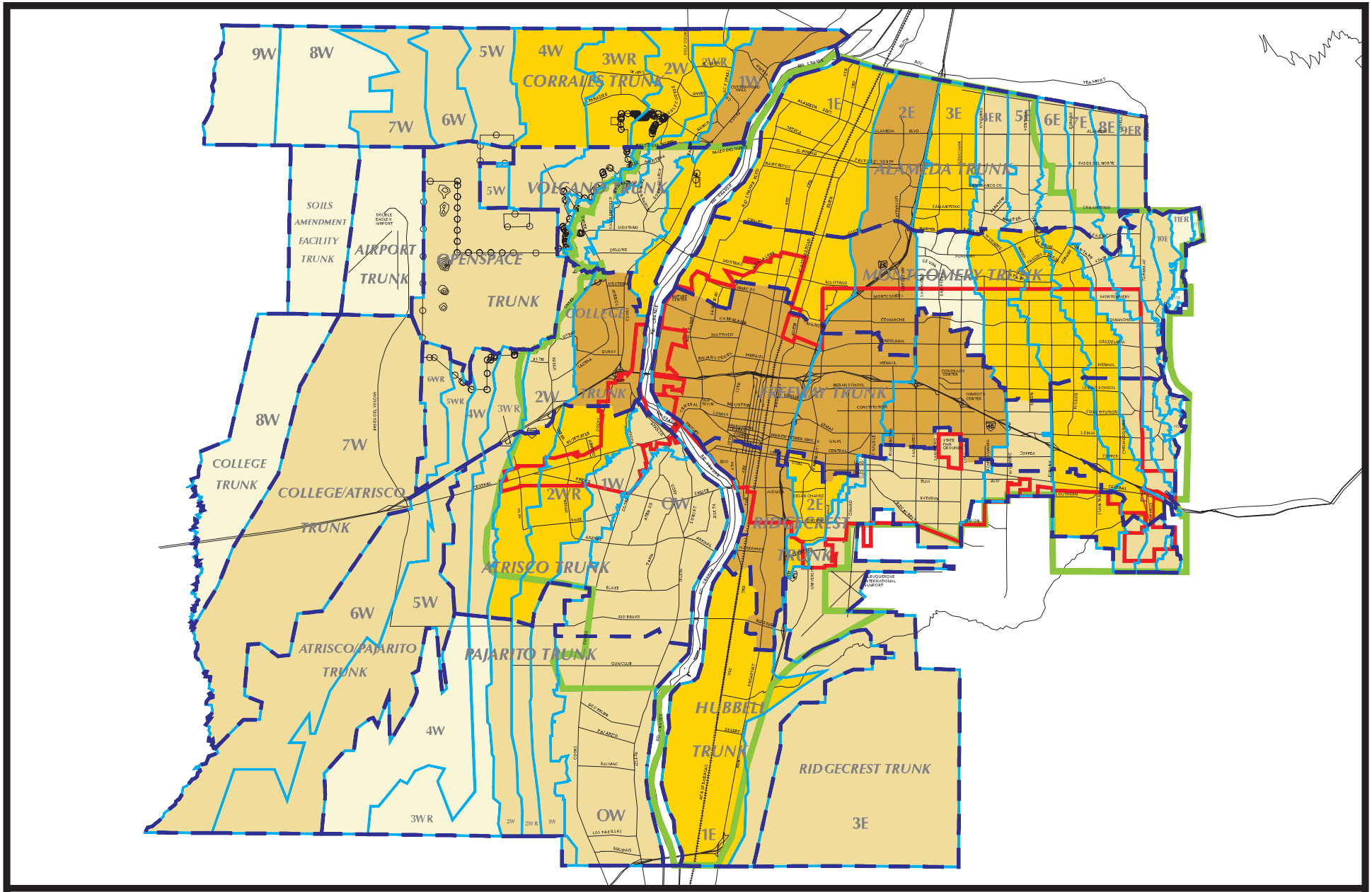
Less than 0
Between 1 to 999
Between 1,000 to 4,999
Greater than 5,000

1960 City Limits
Water Service Area

Figure 25

Balanced Employment Growth Forecast for Year 2020 by Water Trunk & Zone

Scale: 1 inch = 3 miles
Map Printed December 1998



Less than 0
Between 1 to 999
Between 1,000 to 4,999
Greater than 5,000

1960 City Limits
Water Service Area

Figure 26

Downtown Employment Growth Forecast for Year 2020 by Water Trunk & Zone

Scale: 1 inch = 3 miles
Map Printed December 1998

Water System Capacity

The existing water system has developed over the years to include a system on the east side of the river and a system on the west side. The water is delivered in an east-west direction by major transmission facilities called trunk lines. The trunk lines have the capability to distribute water to several different pressure zones as the elevation of the service area changes. For instance, there are approximately 12 pressure zones on the east side of the river and five pressure zones on the West Side.

The trunk transmission lines consist of the following:

- East side from the north to the south:
  - Alameda
  - Montgomery
  - Freeway
  - Ridgecrest
- West side from the north to the south:
  - Volcano Cliffs
  - College
  - Atrisco

These trunks have wells providing water to them and utilize numerous reservoirs and pump stations for operation of the trunk.

In 1994, the citywide annual average water demand was 250 gallons per capita per day (gpcd). An aggressive water conservation program was implemented in that year and has since reduced the water demand by around 20%, resulting in a per capita use of around 200 gpcd in 1998. The water conservation goal is to achieve a 30% reduction by the year 2004, which will result in a per capita demand of 175 gpcd. The water distribution system was designed for the higher demands, and as a result of conservation, the system has excess capacity in certain trunks. However, the water distribution system was also designed to provide water for firefighting purposes. In many cases, the fire flow demands are greater than the maximum hour demands for normal use. As such, it is not possible to identify specific pipelines that may have excess or deficient capacity without the use of the water distribution system hydraulic model.

Based on the experience of the Water Utility Division, there are three trunks that may have excess capacity to handle future growth. These trunks are the Freeway, Montgomery, and Ridgecrest trunks. Based on the growth projected by the three growth scenarios, it was estimated that there is sufficient capacity to accommodate the additional water demand.

The current water supply system has sufficient capacity to serve the Water Service Area. As such, there are no areas of deficiency at this time. As with most water utilities across the United States, the City of Albuquerque has taken responsibility for providing a fully operational and reliable water system that serves its customers

in an efficient manner. Therefore, any problem areas or deficiencies are corrected by the Water Utility Division and a reliable water service is provided to its customers.

4.2.4 Cost Analysis for Water System

Operation and Maintenance

The Water Utility Division is responsible for the overall operation and maintenance of the water supply system. This includes many activities and components including labor, power, chemicals, and replacement equipment. Currently, the Water Utility Division annual operation and maintenance budget includes approximately $14 million for maintenance and $7 million for operations. This is a total annual budget of $21 million for operation and maintenance to serve the existing service area. Based on the current operation and maintenance demands, the current budget is sufficient for its purpose. The cost of operation and maintenance will increase in the future due to inflation, aging system components, and requirements for treating surface water, and perhaps the need to treat the ground water for arsenic removal. However, in terms of 1998 dollars, the operation and maintenance budget for the existing system is expected to remain fairly constant.

The current operation and maintenance budget provides service for the customers in the 1960 City Boundary and the Water Service Area at an approximate distribution of 55% and 45%, respectively. Therefore, the current annual operation and maintenance costs can be distributed approximately as presented in Table 45.

Water repair work on San Mateo

Table 45 Current Operation and Maintenance Costs Distribution

Service Zone	Annual O&M Costs
1960 City Boundary	$11,550,000
Water Service Area	$9,450,000

Table 46

Operation and Maintenance Costs for Water Treatment Plant

O&M	Costs
Labor	$1,497,000
Chemicals	$4,091,000
Power	$4,595,000
Maintenance Costs	$2,333,000
Annual Total	$12,516,000

The City of Albuquerque is expected to begin using surface water in the year 2005. The surface water treatment facility will increase the operation and maintenance beyond the current levels. The water treatment facility is a technically advanced process requiring a specialized operational staff, chemicals, and power. Preliminary estimates for the annual operation and maintenance costs associated with an 84 mgd water treatment plant are as presented in Table 46.

The annual operation and maintenance cost estimate results in a unit cost of around $0.41 per 1,000 gallons of water produced. The cost of the water treatment plant will need to be added to the current operation and maintenance costs related to the wells, pump stations, reservoirs, and piping that will still require attention even when the water treatment facility is implemented. Presented in Table 47 are the estimated surface water treatment annual operation and maintenance costs distributed to service zones for each growth scenario.

Table 47 Operation and Maintenance Costs for Surface Water Treatment

	Total Population by Service Zone (%)			O&M Costs for Surface Water Treatment			
Scenario	1960 City Boundary	Water Service Area	Outside Service Area	1960 City Boundary	Water Service Area	Outside Service Area	Total O&M Costs
Trend	41	45	14	$5,131,560	$5,632,200	$1,752,240	$12,516,000
Balanced	45	44	11	$5,632,200	$5,507,040	$1,376,760	$12,516,000
Downtown	44	46	10	$5,507,040	$5,757,360	$1,251,600	$12,516,000

Another potential operation and maintenance cost that may be required in the near future for the City of Albuquerque is the cost of treatment for arsenic removal. The EPA published new arsenic standards in June of 2000 and promulgated the regulation in January of 2001. The arsenic maximum contaminant level for drinking water was lowered from 50 micrograms per liter (mg/L) to 10 mg/L. At this contaminant level (10 mg/L), around half of the existing 92 wells will need to have treatment. The preliminary cost of the operation and maintenance for arsenic treatment will be in the $0.25/1,000 g to $0.35/1,000 g range and will result in an annual cost of $3–$4.5 million. The requirements for arsenic treatment were unknown at the time this section was written and were not included in the estimated operation and maintenance costs

The increased population growth will result in additional operation and maintenance costs for the water supply system. Currently, the annual operation and maintenance costs are around $21 million for a population of 450,000. This results in a unit operation and maintenance cost of around $47 per person. This cost is expected to remain fairly constant as population growth under the Trend scenario is assumed to occur at current development densities. However, the Downtown and the Balanced scenarios consist of growth that is assumed to be a higher density development, approximately 25% greater than the Trend scenario. The fixed operation and maintenance costs for wells and pump stations will remain the same but the 25% higher density will result in a 25% savings on pipeline operation and maintenance. As a result, the projected operation and maintenance costs for future growth under the Downtown and the Balanced scenarios is estimated to be about $43 per person.

The estimated operation and maintenance cost for each growth scenario, separated by service zone, is presented in Table 48 (pg.110). The operation and maintenance costs associated with the current and projected water systems are summarized in Table 49 (pg.110).

Table 48 Estimated Additional Operation and Maintenance Costs for Growth

	Population Increase by Service Zone (%)			O&M Costs for Growth			
Scenario	1960 City Boundary	Water Service Area	Outside Service Area	1960 City Boundary	Water Service Area	Outside Service Area	Total O&M Costs
Trend	7	55	38	$473,700	$3,721,900	$2,982,500	$7,178,000
Balanced	24	50	26	$1,488,700	$3,101,500	$1,843,800	$6,434,000
Downtown	16	63	21	$992,500	$3,907,900	$1,649,600	$6,550,000

Table 49 Summary of Estimated Operation and Maintenance Costs by Growth Scenario

Scenario	1960 City Boundary	Water Service Area	Outside Service Area	Total
Trend Current	$11,550,000	$9,450,000	$0	$21,000,000
Trend Increased	$473,700	$3,721,900	$2,982,500	$7,178,000
Trend Surface Water	$5,131,560	$5,632,200	$1,752,240	$12,516,000
Trend Total	$17,155,260	$18,804,100	$4,734,740	$40,694,100
Balanced Current	$11,550,000	$9,450,000	$0	$21,000,000
Balanced Increased	$1,488,700	$3,101,500	$1,843,800	$6,434,000
Balanced Surface Water	$5,632,200	$5,507,040	$1,376,760	$12,516,000
Balanced Total	$18,670,900	$18,058,540	$3,220,560	$39,950,000
Downtown Current	$11,550,000	$9,450,000	$0	$21,000,000
Downtown Increased	$1,488,700	$3,101,500	$1,649,600	$6,550,000
Downtown Surface Water	$5,507,040	$5,757,360	$1,251,600	$12,516,000
Downtown Total	$17,545,740	$18,308,860	$2,901,200	$40,066,000

The operation and maintenance costs are estimated to be slightly less for the Balanced and the Downtown scenarios. It should be noted that these estimates are conceptual in nature and further engineering analysis is needed to establish a more refined estimate of annual operation and maintenance cost differences.

Water System Rehabilitation Costs

The City of Albuquerque Water Utility Division currently has numerous rehabilitation projects identified in an ongoing effort to maintain the viability of the water system. The rehabilitation projects are related to the service zones defined by the 1960 City Boundary area and the Water Service Area boundary. As growth occurs, rehabilitation of new facilities will be required. As such, the expenditures of funds for rehabilitation of facilities that have reached their useful life will be an ongoing requirement. The rehabilitation projects that will require funding are presented below.

Well Rehabilitation

The City of Albuquerque currently has 92 wells in service. These wells require rehabilitation for many purposes including pump and motor replacement, electrical upgrades, casing corrosion, casing lining due to water level declines, and many other factors. Currently, Water Utility Division proposes to spend around $2.8

million annually for the rehabilitation of various wells in the system. This cost is anticipated to remain fairly constant in 1998 dollars.

Pump Station Rehabilitation

The Water Utility Division operates and maintains 27 booster pump stations in the water distribution system. Pump station rehabilitation includes such things as pump and motor replacement, electrical upgrades, building rehabilitation, etc. The Water Utility Division currently spends around $1.8 million for pump station rehabilitation. These costs are anticipated to remain at approximately this level in 1998 dollars.

Reservoir Rehabilitation

The Water Utility Division currently operates and maintains 45 water storage reservoirs in the water distribution system. These reservoirs are constructed of both steel and concrete. The steel reservoirs require painting periodically, and floor plate replacement is occasionally required. The concrete reservoirs have shown structural deterioration and require a wide range of rehabilitation, from structural repair to full replacement. The Water Utility Division currently spends around $1.5 million annually for reservoir rehabilitation. These costs are anticipated to remain at approximately this level in 1998 dollars.

Supervisory, Control, and Data Acquisition System Improvement

The Supervisory, Control, and Data Acquisition system allows the Water Utility Division to effectively operate and monitor the water system. The Supervisory, Control, and Data Acquisition system consists of remote sensors and controls that allow the pump stations, reservoirs, and piping components to be monitored and controlled remotely by the Operations staff. This system is an important and integral component of the overall water system. Upgrades and improvements are a constant requirement. The Water Utility Division currently spends around $1.6 million annually for the Supervisory, Control, and Data Acquisition system improvements. These costs are anticipated to remain at approximately this level in 1998 dollars.

Meter Replacement

This rehabilitation work element is required due to the aging of meters in the distribution system. As meters age, they lose accuracy and register less water. Therefore, the City loses revenue from old inaccurate meters. The Water Utility Division currently spends approximately $500,000 annually for meter repair and replacement. In addition to meter repairs and replacement, the meter boxes are also in need of rehabilitation. It is estimated that a budget of $1.5 million will be required to fully implement a meter and meter box repair and replacement program to effectively deal with aging meters. A budget of $1.5 million annually for meter repair and replacement will be included with this report.

Pipeline Replacement

The water distribution system is constructed with approximately 100 miles of steel water pipe. This represents around 4% of the total 2,400 miles of piping in the system. This steel water pipe was installed without interior or exterior coatings. Consequently, all of this steel pipe is expected to need to be replaced by 2020. The system also includes about 950 miles of small diameter cast iron pipe. Past experience indicates that about 50% of this pipe will have to be replaced by 2020.

Waterline replacement

The Water Utility Division staff currently is budgeting around $3.0 million annually for piping replacement. Due to the need to replace the existing steel and cast iron water lines, it is estimated that a budget of about $7 million annually will be required. This is based on the assumption that all of the steel piping and one-half of the cast iron piping will need to be replaced by 2020.

Other Improvements

The existing chlorination, fluoridation, and other miscellaneous facilities also require rehabilitation or replacement. In addition, the City has experienced leakage problems with plastic service lines. These lines are being replaced with copper service lines. It is estimated that this rehabilitation will require an annual budget of $4 million.

Summary of Rehabilitation Costs

The total estimated rehabilitation costs for the water system are presented in Table 50. The total annual amount needed for rehabilitation is identified as $20.2 million. (Editor's note: This compares to the average annual expenditure for water system rehabilitation in fiscal years 1998 to 2000 of $9.1 million dollars. See: Chapter 9 of Planned Growth Strategy, Part 2-Preferred Alternative, entitled City and County Financial and Planning Requirements.)

Table 50 Estimated Rehabilitation Costs

Rehabilitation Component	Estimated Annual Cost
Wells	$2,800,000
Pump Stations	$1,800,000
Reservoirs	$1,500,000
Supervisory, Control, and Data Acquisition System	$1,600,000
Meter Repairs/Replacements	$1,500,000
Pipeline Replacements	$7,016,000
Other	$4,000,000
Total Rehabilitation Costs	$20,216,000

New Infrastructure Costs

New water system facilities will be required to accommodate the growth projected for the three scenarios. The individual components of the new facilities are described on the following page.

New Wells

As growth continues, it will be necessary to provide a reliable water supply by constructing new production wells. The new wells will be required as functional

additional water demands result from population increases. Based on recent City of Albuquerque experience, the cost to permit, drill, develop, and integrate a municipal well is around $2,500,000. This includes pump buildings, site electrical, controls, and collector piping. The wells must supply maximum daily demands that are estimated to be 400 gpcd for residential and 50 gpcd for employment use. The typical production well in Albuquerque has a capacity of around 2,000 gallons per minute. Based on the above, it is calculated that the one-time cost for a new well is $347 per capita population and $43 per capita employment.

Water Rights

Supplying additional water will require the acquisition of new water rights. The estimated cost of water rights is $3,000 per acre-foot. The annual average water demand in the year 2020 is anticipated to be 175 gpcd for residential use and 30 gpcd for employment. This calculates to a cost of $590 per person and $100 per employee.

New Reservoirs

As growth moves into areas currently not served, the construction of water storage reservoirs will be required. These reservoirs will provide storage to meet peak water demands and for firefighting purposes. The reservoir costs are based on $0.50 per gallon of storage, which includes an allowance for the reservoir, foundation, site work, and miscellaneous piping and valves. This cost then is allocated across the pressure zones that it will serve. The size of the reservoir will be based on a typical reservoir constructed by the City of Albuquerque, which in most cases is six million gallons. The typical reservoir cost is therefore $3 million.

Water reservoir

New Pump Stations

New pump stations will be required to provide pressure and water conveyance capabilities in the distribution system. Pump station costs are based on an average cost of $1,500,000–$2,000,000 per pump station and, as with the reservoir cost, is spread across the pressure zones that it would serve.

New Transmission Pipelines

New transmission pipelines will be required to serve the new development in the extended service areas. Transmission lines are major pipelines that serve as a connection between the pump stations and the reservoirs and are typically in the 24- to 36-inch diameter range. The size of the transmission pipelines was estimated with input from the Water Utility Division based on estimated water demands. A unit price of $3 per inch diameter is used to develop a capital cost for the pipeline and, as with the reservoirs and pump stations, the cost was allocated across the pressure zones that it would serve.

Master Plan and Infill Pipelines

Master plan lines are simply 16-inch and larger diameter lines that supply approximately one quarter section of new development. These lines will be located on the outer edges of the quarter section. Infill lines are smaller diameter pipelines that distribute the water within the new development. The pipelines serving the new development are assumed to consist of the following for each quarter section of development:

- 5,000 lineal feet of 16-inch and larger diameter pipe
- 30,000 lineal feet of 6-inch diameter pipe
- 5,000 lineal feet of 12-inch diameter pipe

The cost of these pipelines was estimated based on a unit cost of $3 per inch diameter per lineal foot. The total cost of these pipelines therefore will be $960,000 per quarter section of development.

The population associated with development is expected to have different densities for the three growth scenarios. For the Trend scenario, the new growth density is estimated to be the same as current City of Albuquerque densities. Currently, the City of Albuquerque serves around 450,000 people over an area of 177 square miles. This is an average density of approximately 2,540 people per square mile or around 640 people per quarter section of development. The unit cost for master plan and infill lines for the Trend scenario therefore will be $1,480 per person.

For the Balanced and Downtown scenarios, the density was assumed to be on average 25% denser than existing development. The denser development therefore will be assumed to be around 800 people per quarter section. This results in a unit cost of master plan and infill piping of $1,110 per person. This lower unit cost will be used for the Balanced and Downtown scenarios.

Water Service Connections

The service connection from the water main to the structure consists of a main tap, a corporation stop, a ¾-inch copper pipeline, a valve at the property line, and a meter. The total cost of this service connection is estimated to be $1,095. Assuming 2.5 people per single family residential unit, this costs equals around $438 per person. For commercial development, we have assumed an average of 10 employees per ¾-inch service, which equals $43 per employee. Many of the land parcels that will be developed currently have water service lines installed. Those parcels with water service lines will not require the cost of installation of the services and will be accounted for in this analysis.

East Mountain Private Wells

The water supply in the majority of the East Mountain area is expected to consist of private wells. The cost of a new well is estimated to be $7,500. Assuming 3.0 people per house in the East Mountains, the cost of a new well per person is estimated to be $2,500. For commercial areas in the East Mountains, it is assumed that one well can serve around 20 employees and will result in a unit cost of $375 per employee.

Summary of New Water Facility Costs

The computations for estimating the new water facility capital costs for the three growth scenarios are presented in Tables A.2–A.4 in Appendix A. A summary of these costs is shown in Table 51.

Table 51 Summary of Estimated Capital Costs

Scenario	1960 City Boundary	Water Service Area	Outside Service Area	Total
Trend	$101,002,000	$301,432,000	$283,373,000	$685,807,000
Balanced	$124,722,000	$251,543,000	$188,935,000	$565,200,000
Downtown	$117,489,000	$295,362,000	$155,829,000	$568,680,000

Public and Private Estimated Costs

The costs for new water facilities will be born by both the public and private sectors. The public funds will be provided by utility rate payers. The private funds will be provided from individual developers. The estimated capital cost split for water facilities is presented below in Table 52.

Table 52 Public-Private Capital Cost Split

Water Facility	Public Cost Share (%)	Private Cost Share (%)
Production Wells	50	50
Pump Stations	50	50
Water Storage Reservoirs	50	50
Transmission Pipelines	50	50
Master Plan Pipelines (18–35 inch) and Infill Pipelines (6–12 inch)	20	80
Water Service Connections	0	100

Based on the estimated cost share for the public and private sectors, the cost share for the projected capital costs of the water system components is presented in Table 53.

Table 53 Estimated Public and Private Costs

Scenario	Estimated Public Costs	Estimated Private Costs	Total
Downtown	$330,520,000	$238,159,000	$568,680,000
Balanced	$339,213,000	$225,987,000	$565,200,000
Trend	$370,157,000	$315,649,000	$685,807,000

4.3 Drainage System Findings

4.3.1 Summary

The three scenarios differ in terms of the cost of providing drainage facilities. The cost of rehabilitation, deficiencies, and new facilities for the Trend scenario is $534 million, for the Balanced scenario $496 million, and for the Downtown scenario $470 million. The costs of deficiency projects, defined as expanding existing drainage infrastructure needed to accommodate storm water runoff in a manner consistent with adopted engineering standards, are approximately the same for all scenarios. Rehabilitation costs are defined as the cost of correcting the substandard physical condition of existing hydrology infrastructure without increasing capacity (e.g., cavitation, concrete spalling) and are approximately $36 million for all scenarios. New construction of drainage facilities ("growth") is most costly in the Trend scenario, with a range of $64 million between the Trend costs and the Downtown costs.

4.3.2 Capacity of the Existing Drainage System

Extent of Current Service

The existing major drainage structures are designed for a 100-year storm or greater. The existing drainage systems have adequate capacity for growth with the exception of planned Capital Improvements Program projects inventoried in Table A.5.

The collection drainage systems associated with major drainage outlets have numerous areas with deficiencies particularly in the older part of Albuquerque (1960 City Boundary on the figures). The proposed Capital Improvements Program projects include upsizing of storm drains, pump stations, improvements to the Alameda Drain, detention ponds, and dip section replacements. With these planned improvements, storm drainage service will be provided for the currently developed Water Service Area within the study area.

Areas with Excess Capacity

None of the drainage basins in the study area have excess capacity.

Areas with Deficient Capacity

All the drainage basins have some degree of deficiency as outlined in the following section and shown in the cost analysis spreadsheets (see Tables A.6–A.8 in Appendix A).

4.3.3 Cost Analysis for Drainage System

Operation and Maintenance

The current annual amount for operation and maintenance is approximately $2 million[1]. This is the amount spent by AMAFCA, City, Bernalillo County, and Middle Rio Grande Conservancy District (MRGCD) to clean sediment and debris from drainage facilities and to perform maintenance service on a regular basis. The current $2 million was converted to an area-based operation and maintenance amount of $350 per acre per year and applied to the growth figures in each scenario. The operation and maintenance annual costs were converted to 1998 dollars over the 25-year period.

Rehabilitation

The report uses the 1960 City Boundary to define rehabilitation. Rehabilitation is allocated only in the 1960 City Boundary because this region has the oldest infrastructure. Rehabilitation projects are ones that correct unacceptable physical conditions of infrastructure without adding capacity. The annual expenditure for rehabilitation of existing drainage infrastructure by AMAFCA, City, Bernalillo County, and MRGCD is approximately $1.8 million. The total cost of these rehabilitation expenditures is $36 million.

Existing Deficiencies

Deficiency in drainage infrastructure is defined as the lack of capacity in relationship with adopted engineering standards. Deficiency projects expand existing hydrology infrastructure capacity. Deficiencies occur for the following reasons:

Capacity problems. Upstream growth requires upsizing existing facilities. The 1960 City Boundary includes the lower parts of the City with systems that were designed many years ago that may not be adequate to accommodate increased runoff.

New Standards. Local hydrologic analysis methods were revised in the early 1990s. The result of the revision was higher measures of estimated runoff, which caused systems to be labeled deficient.

Drainage system failure

The drainage basins in the Northeast Heights, Southeast-Near Heights, and the Valley represent the greatest areas of deficiencies. These areas are mostly developed. In the Valley, the flat grades and low-lying areas increase the complexity of providing 100-year flood protection. As a result, it is not economically feasible to provide 100-year flood protection in all locations. The protection may be for less than a 100-year storm, such as a 2- or 10-year storm. In the Far Northeast Heights and La Cueva-Camino basins, the area commonly known as North Albuquerque Acres, was platted in the 1930s and has experienced piecemeal development, leaving much of the needed drainage infrastructure for the already overburdened public deficiency list. Until the major drainage infrastructure is constructed, this area will be difficult to develop in a comprehensive manner.

Projects to Correct Deficiencies

An inventory of major projects planned for construction has been compiled based on AMAFCA and City proposed schedules and current major drainage management plans. The project inventory can be found in Table A.5 in Appendix A. It is assumed that 100% of the cost of all hydrology projects apportioned to the 1960 City Boundary of Albuquerque is classified as “deficiency” or “rehabilitation.” Furthermore, 70% of the cost of the hydrology projects occurring within the area between the 1960 City Boundary and the Water Service Area also is classified as “deficiency”. The remaining

30% of the cost of these projects is considered to be "growth" related.

Within the 1960 City Boundary and the current Water Service Area, the following describes the infrastructure needs:

South Eubank. This area is partially developed and drains to the Tijeras Arroyo. The City plans to build this major infrastructure in the next five years for an approximate cost of $9 million.

North Valley. This area is currently being studied by Smith Engineering for AMAFCA and Bernalillo County. This project is in the problem identification phase. The area has limited outfalls to the Rio Grande with the Alameda Drain being the primary drainage facility. It is anticipated that storm water discharge from developments will be restricted with detention ponds. Collection systems will be added to convey runoff to the existing outlets at Alameda Boulevard, Paseo del Norte, and Montaño Road.

Southwest Valley. The Corps of Engineers is currently evaluating the Southwest Valley. A recent study by the AAR Larkin Group identified the need for a major investment in storm drainage infrastructure. Key issues include:

- The quantity and quality of water discharged to the Isleta Pueblo to the south of I–25.
- The MRGCD drains are presently used for irrigation and drainage.
- The flat grades make the drainage difficult.
- This area is lower than the Rio Grande requiring pumping.

Isleta. Improvements are currently being planned in the Isleta Boulevard corridor.

South Broadway. The area east of the Rio Grande has an outfall to the river with the San Jose Drain. The City plans improvements to the Broadway/San Jose system to improve drainage in this area. The area south of the San Jose Drain is flat with the MRGCD Drains (Pajarito and Isleta) providing the drainage.

La Cueva-Camino and Far NE Heights. North Albuquerque Acres is contained within these drainage basins and is planned to be primarily low-density residential. The major drainage corridors in the area include the La Cueva-Camino Arroyos and the Domingo Baca Arroyo. Both these basins have drainage plans developed with the Domino Baca major infrastructure primarily in place, except for the Paseo del Norte storm drain system east of Wyoming. The La Cueva-Camino Drainage Master Plan includes $20 million of improvements including detention dams, avulsion structures, and channel stabilization.

Projects to Provide New Infrastructure

In this report some new infrastructure was allocated for anticipated growth within the current Water Service Area. The majority of the new infrastructure, however, will be required at the fringe areas Outside the Water Service Area. The project inventory in Table A.5 lists numerous projects designated as long range, which

means that they will not be considered for construction until after the year 2002.

The following describes the infrastructure needs of the region Outside the Water Service Area:

Drainage development project

Upper Calabacillas and Piedras Marcadas. The project known as Quail Ranch is contained within these drainage basins. Located in far northwest Albuquerque, Quail Ranch is in the conceptual planning phase for 1000 acres located in the southeast corner of the Upper Calabacillas drainage basin and the westernmost part of the Piedras Marcadas drainage basin. This development will use detention to maintain historic flows. The estimated cost of detention and associated major infrastructure is approximately $2.0 million. The cost to develop the lots and commercial development in the area is approximately $8 million (minor infrastructure). This area is located outside the existing service area.

Northwest Area above the Escarpment. This area is included in the following drainage basins: Piedras Marcadas, Mariposa, Boca Negra, and Rinconada, and in the higher elevations of Ladera-Mirehaven. Partially owned by the National Park Service and by private owners, this area has shallow basalt making trenching for utilities difficult and costly. The development of the basalt area above the escarpment on the West Side will result in expensive drainage infrastructure. This area will require detention of developed flows before releasing storm drainage down the escarpment. Ideally, the land atop the escarpment should be planned with low priority for development due to the high cost of construction and the sensitive nature of the area.

West I–40—Upper Amole—Ladera-Mirehaven. This region is included in the West I–40 Drainage Master Plan, the upstream portion of which is still in the conceptual phase. The major infrastructure improvement includes the diversion channel north of I–40, escarpment drainage, and the Amole detention dams. The estimated cost for these improvements is $50 million. The Westland Sector Plan, basically the area west of Unser and north of I–40, drains to this system. Right-of-way has been set aside for these improvements as development occurs. The land closest to I–40 is a developing area of the City.

Region above the Southwest Valley. This area includes the drainage basins Don Felipe-Raymac-McCoy and Amole-Hubbell, and drains to several AMAFCA detention dams—McCoy, Los Indios, Raymac, Don Felipe, Hubbell, and Westgate. These detention dams are designed for developed conditions and require sediment removal after major rainfall events. The dams have gated principal spillways and discharge to MRGCD facilities when permitted. AMAFCA is working on a project that will provide discharge from these dams to the Rio Grande. The McCoy Diversion Channels, a $4 million project in the Don Felipe-Raymac-McCoy drainage basin, may not be constructed in this study period due to the limited development in this sub-basin.

Mesa del Sol. The New Mexico State Land Office owns this 13,000-acre area, located south of the Albuquerque International Airport. The area is planned for urban centers with conventional and non-conventional drainage. The primary development area will drain to the existing playa lakes and will have zero surface discharge off site. This will reduce the cost for drainage; however, the cost of land will be higher. From the perspective of drainage costs, the Mesa del Sol area is an ideal area to develop. However, many current State of New Mexico and City of Albuquerque drainage standards must be waived to accommodate the proposed development scenario.

Cost Analysis Spreadsheets

The cost analyses for the three scenarios are presented in Tables A.6–A.8. These costs are based on two main cost sources:

Major Costs. These are the proposed major drainage improvements as described in this section. They represent the major storm drainage infrastructure including dams, channels, and major storm drain trunks. The major costs are typically built using public funds with possible cost sharing by the developer (see Public-Private Cost Analysis below). The major costs may actually be smaller than the minor costs for a drainage basin. They are referred to as "major" because they are typically large projects that must be constructed within a shorter time than the complete buildout of a drainage basin.

Minor Costs. These are costs based on the requirements to develop individual residential lots and commercial parcels of land. The minor costs are typically borne by the developer, and thus are included in the private costs (see Public-Private Cost Analysis, pg.121.

Population and employment growth figures provided by the City of Albuquerque Planning Department were used to develop the minor costs based on persons per acre. The three growth scenarios were overlaid on the drainage basins with the AGIS staff providing the population and employment growth per basin. The population and employment growth was converted to residential and business areas to estimate the hydrology costs to develop the areas. The conversion to area was made based on 11 persons per acre for residential usage and 54 persons per acre for businesses.

The minor costs to develop vary from basin to basin based on the amount of growth forecasted and whether or not the drainage basin contains basalt near the surface. The minor cost multiplier per acre of development was estimated based on past projects. The estimated cost for residential grading and minor drainage is $8,000–$12,000 per acre. The amount increases to $12,000 when there is basalt near the surface. Likewise, the cost per acre for grading and drainage for business usage ranges from $12,000–$18,000 per acre. Businesses have greater runoff due to more paved land required for parking, which increases the minor costs.

Public-Private Cost Analysis

The drainage infrastructure costs were split between the public and private sectors. The following Table 54 from City of Albuquerque was used as a guide for computing the public and private costs.

The public sector typically funds the construction of large drainage projects (included in major costs) that facilitate the buildout of a drainage basin. The private sector typically funds the smaller drainage projects (the inlets, smaller storm drains and structures included in the minor costs) that discharge to the large infrastructure.

Note that in many of the planned Capital Improvements Program projects (calculated as major costs in the hydrology costs analysis) the funding is already established and varies from the table. In those cases the established planned funding was used. The public-private cost split for each of the major costs is shown in Table 55 and is detailed in Table A.5.

Table 54. Hydrology Public-Private Cost Split

Drainage Infrastructure	Public (%)	Private Cost Recovery (%)
Large dams (greater than or equal to 10 acre-feet)	70	30
Small dams (less than 10 acre-feet)	0	100
Diversion channels	100	0
Storm drain trunk lines	20	80
Hard lined and soft lined channels	50	50
Crossing structures—arterial or collector streets	50	50
Crossing structures—local streets	0	100
Collection system—storm drains (smaller lines)	0	100

Table 55 Summary of Cost Analysis for Drainage

		Deficiency and New	
Scenario	O&M and Rehabilitation	Public	Private
Trend	$73,413,142	$314,141,187	$184,383,066
Balanced	$66,038,755	$305,548,163	$155,035,170
Downtown	$65,390,949	$288,549,059	$145,806,299

4.3.4 Supporting Information

Key Assumptions

The key assumptions used in the calculation of hydrology costs for planned growth management fall into two categories:

Overall Analysis Method. The entire study area is divided into drainage basin subareas so that smaller areas can be examined.

Cost Analysis. The operation and maintenance costs are computed for each drainage basin. The major and minor costs are computed and then apportioned to the rehabilitation, deficiencies, and new categories.

Overall Analysis:

- The 1960 City Boundary (red line on the figures) designates areas of storm drainage Rehabilitation and Deficiencies.
- The area between the current Water Service Area (green line) and the red line designates areas of deficiencies and new infrastructure.
- The project study limits designate the outermost boundary for new infrastructure.
- Rehabilitation costs are based on expenditures of different agencies to correct unacceptable physical condition of hydrology infrastructure without adding capacity.
- The drainage basin boundaries on the figures were drawn based on existing drainage management plans and hydrologic basin boundaries.
- The major drainage improvements were grouped according to the drainage basin in which they are located.

Costs:

- The major costs are based on proposed major drainage improvements as described in Section 4.3.3 and inventoried in Table A.5.
- The major costs for basins with long-range projects are computed with the full cost of the long-range projects applied to the scenario with the maximum growth in population and employment. The remaining two scenarios have a percentage of the long-range projects costs applied based on the ratio of the lesser growth to the maximum growth.
- The major costs were split between the public and private sectors based on the guidelines given in Table 54 (pg.121), except in the projects where funding has already been established.
- The minor costs are based on population and employment growth converted to residential and business acreage as described in this section.
- The minor cost multiplier ($8,000–$12,000/acre for residential and $12,000–$18,000/acre for business) was estimated based on past projects. The higher minor cost is used for areas with basalt, which are more costly to develop because of the difficulty of excavation.
- For the Balanced and Downtown scenarios, there is a 25% increase in population and employment density. This number is reflected in the increase in persons per acre. The number of persons per acre increases from 11–14 for residential usage, and from 54–68 for business usage.

- Operation and maintenance costs are computed at $350 per acre per year, with acreage calculated based on the population and employment figures compiled by AGIS. The growth-based operation and maintenance acreage varies from 11–14 persons per acre for residential usage, and from 54–68 persons per acre for businesses, depending on the scenario. For the existing-based operation and maintenance costs, the per-acre value is based on 11 for residential usage, and 54 for business usage.
- The apportioned capital costs are based on the sum of the major and minor costs.
- The apportioned costs for the area within 1960 City Boundary were distributed assuming that 30% was required for rehabilitation and 70% for correcting deficiencies in capacity.
- The apportioned costs for the area between the 1960 City Boundary and Water Service Area were distributed assuming that 70% was required for deficiencies and 30% for new infrastructure.
- The apportioned capital costs relate directly to each drainage basin's percentage content of the three defined boundaries: 1960 City Boundary, area between the 1960 City Boundary and the Water Service Area, and Outside the Water Service Area. For example, if 100% of the drainage basin fell within the area between the 1960 City Boundary and the Water Service Area, then 100% of costs for that basin were divided as 30% growth and 70% deficiencies.
- Any areas of growth Outside the Water Service Area were assumed to be for new infrastructure.

A consequence of drainage related problems

Figure 27 (pg.125) shows the existing drainage system. Figures 28–30 (pg.127-131) show the population, and Figures 31–33 (pg.133-137) show the employment associated with the three scenarios by Storm Basin.

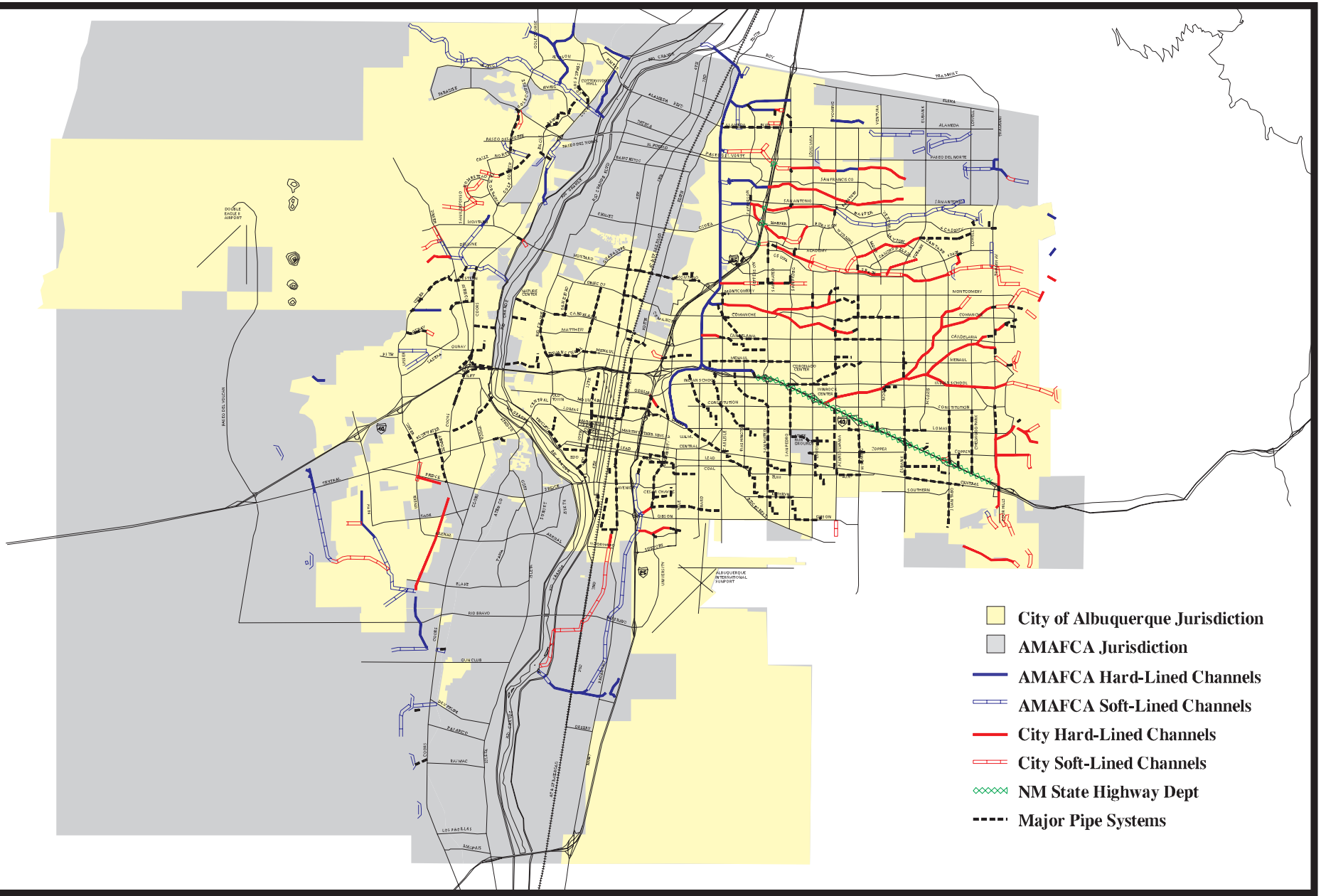
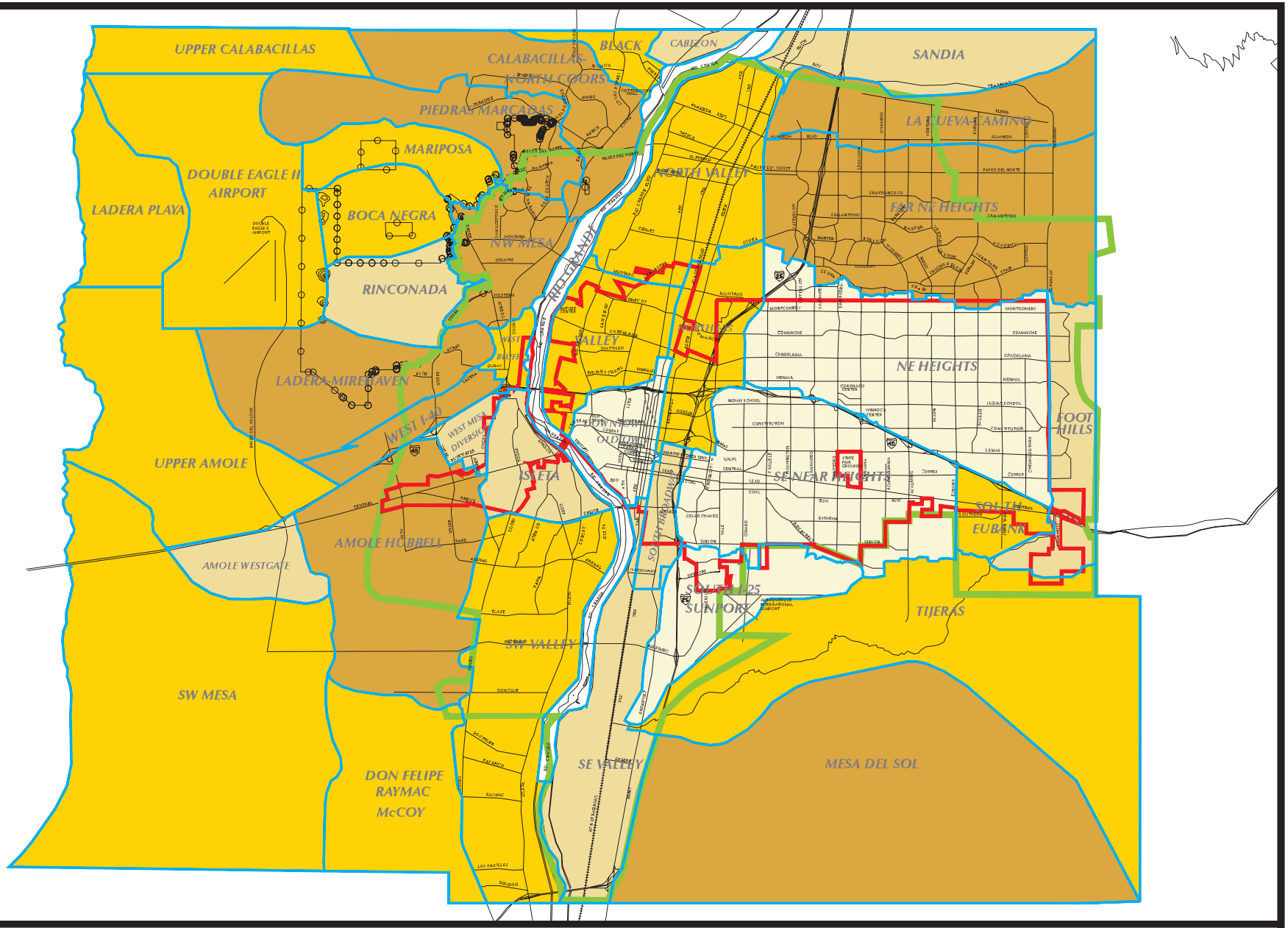


Figure 27
Existing Drainage System in the Albuquerque Metropolitan Area

Scale: 1 inch = 3 miles
Map Printed December 1998



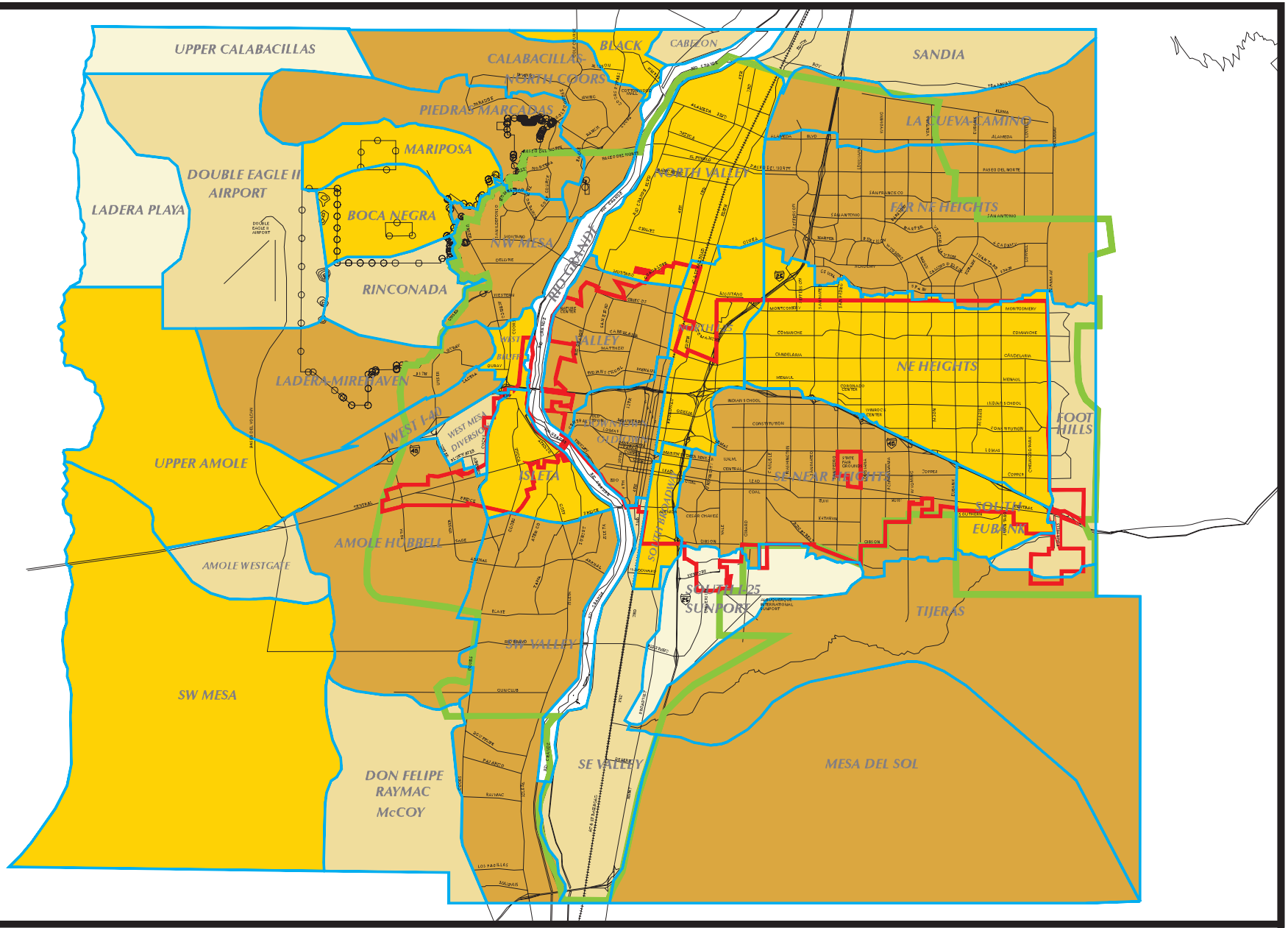
Less than 0
Between 1 to 999
Between 1,000 to 2,999
Greater than 3,000

1960 City Limits
Water Service Area

Figure 28

Trend Population Growth Forecast for Year 2020 by Storm Basin

Scale: 1 inch = 3 miles
Map Printed December 1998



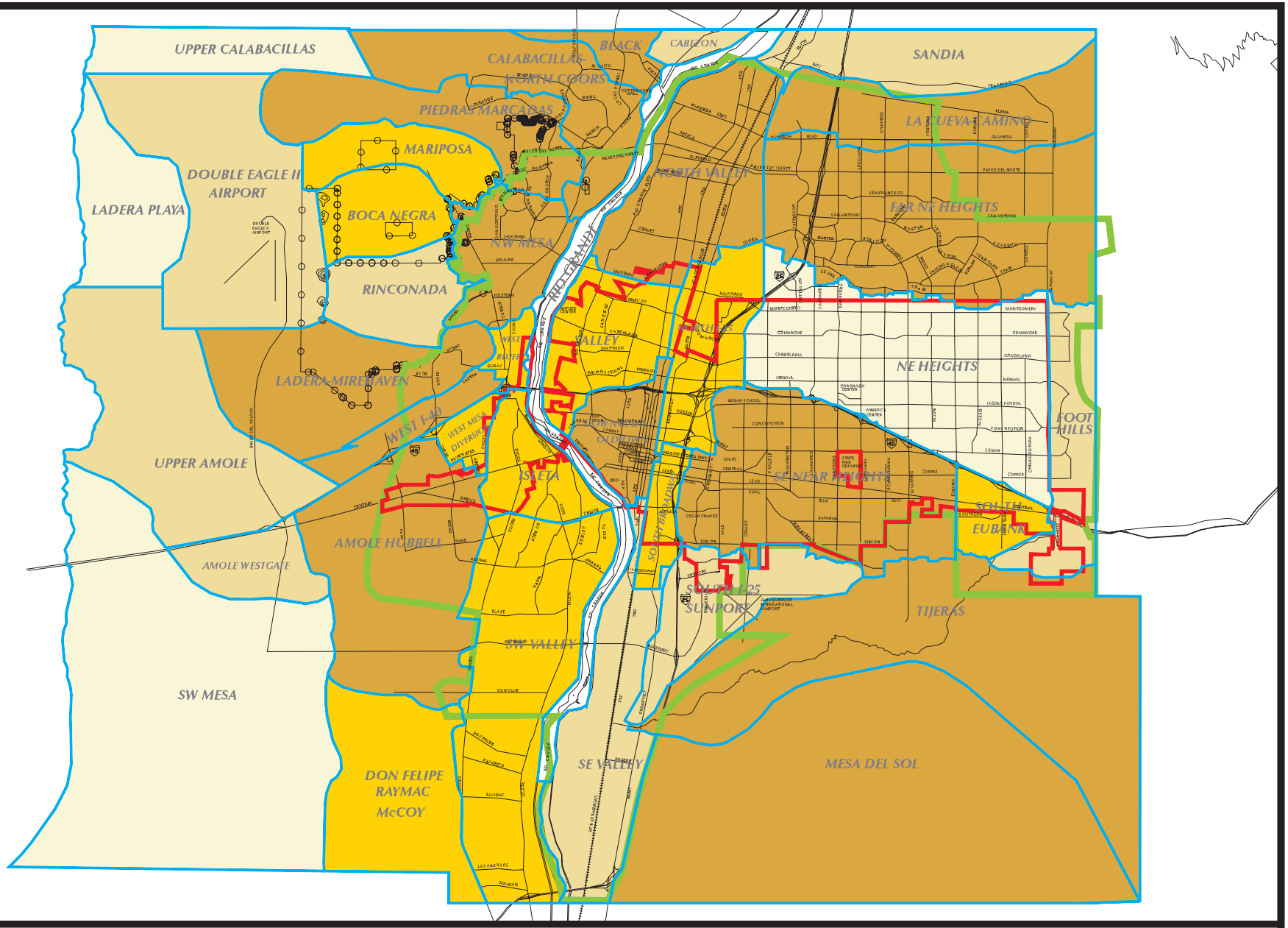
Less than 0
Between 1 to 999
Between 1,000 to 2,999
Greater than 3,000

1960 City Limits
Water Service Area

Figure 29

Balanced Population Growth Forecast for Year 2020 by Storm Basin

Scale: 1 inch = 3 miles
Map Printed December 1998



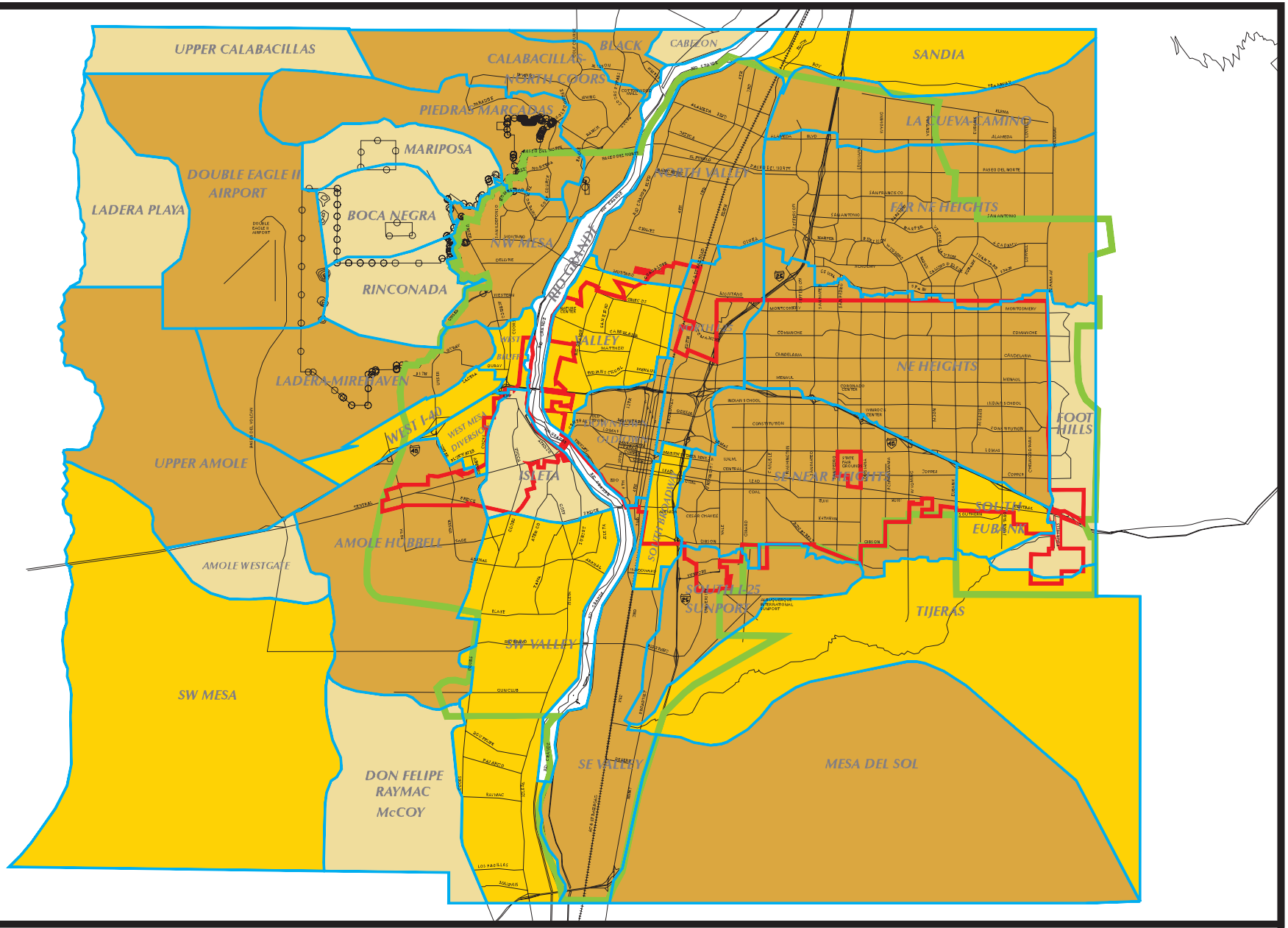
Less than 0
Between 1 to 999
Between 1,000 to 2,999
Greater than 3,000

1960 City Limits
Water Service Area

Figure 30

Downtown Population Growth Forecast for Year 2020 by Storm Basin

Scale: 1 inch = 3 miles
Map Printed December 1998



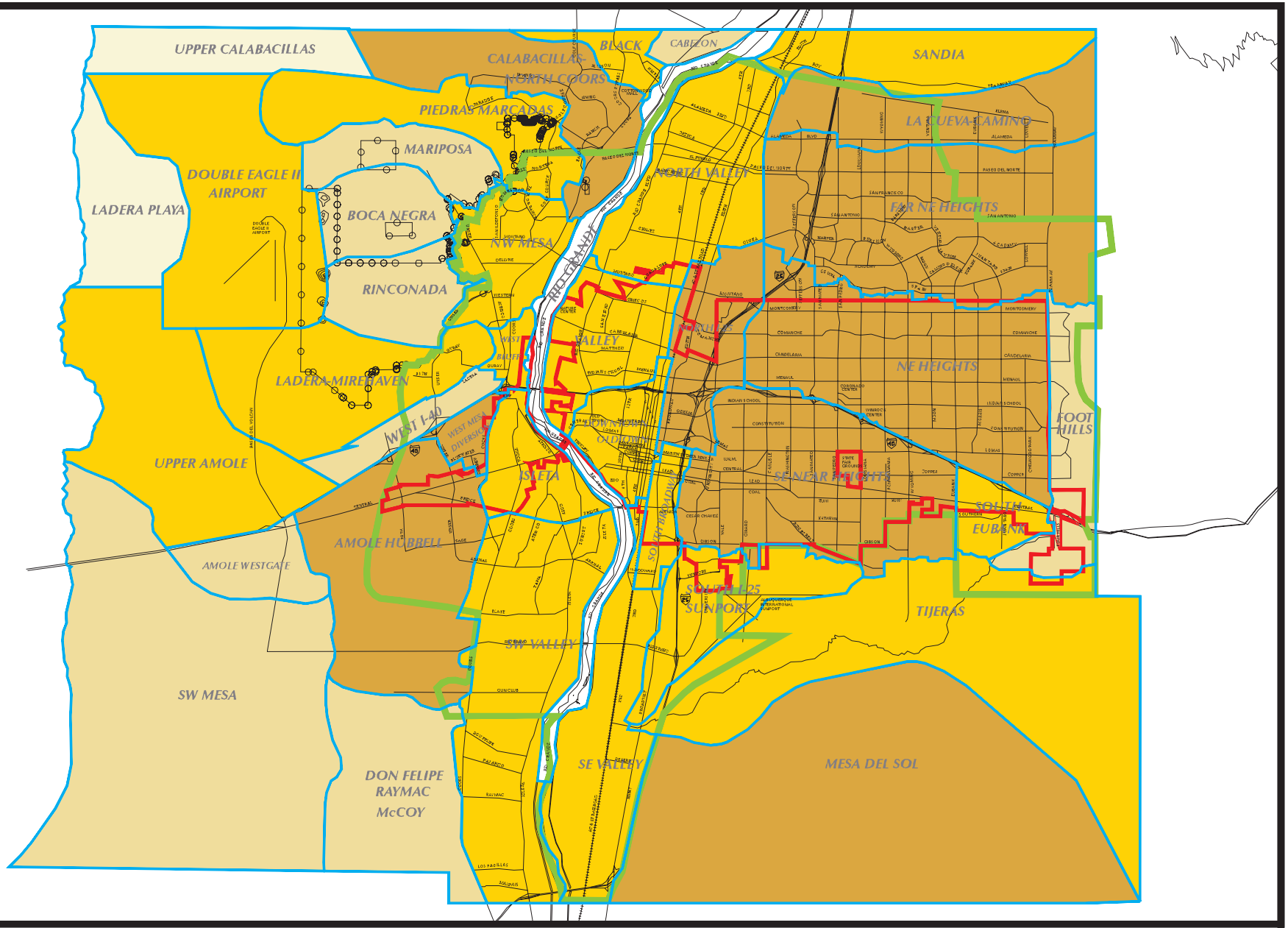
Less than 0
Between 1 to 999
Between 1,000 to 4,999
Greater than 5,000

1960 City Limits
Water Service Area

Figure 31

Trend Employment Growth Forecast for Year 2020 by Storm Basin

Scale: 1 inch = 3 miles
Map Printed December 1998



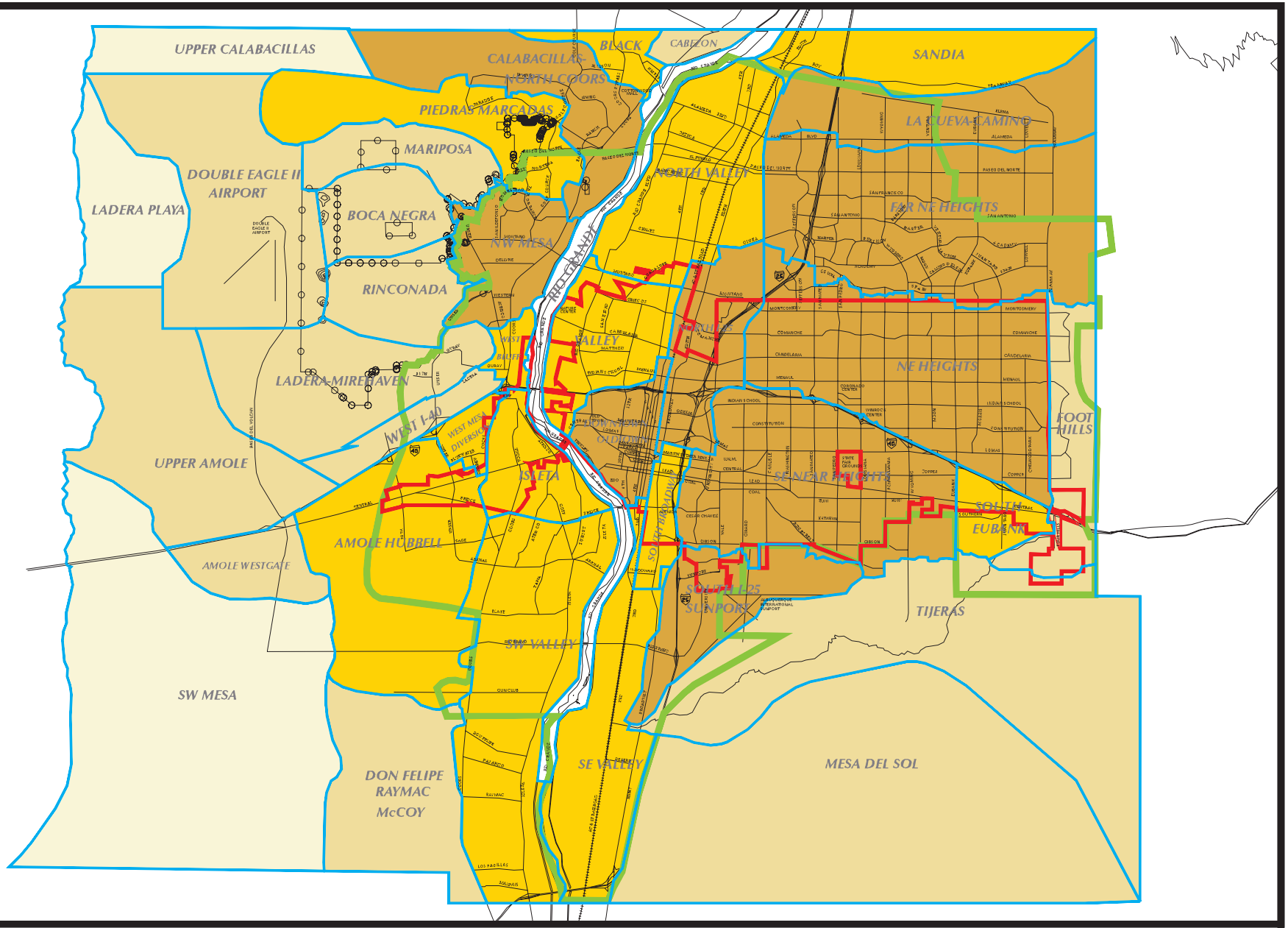
Less than 0
Between 1 to 999
Between 1,000 to 4,999
Greater than 5,000

1960 City Limits
Water Service Area

Figure 32

Balanced Employment Growth Forecast for Year 2020 by Storm Basin

Scale: 1 inch = 3 miles
Map Printed December 1998



Less than 0
Between 1 to 999
Between 1,000 to 4,999
Greater than 5,000

1960 City Limits
Water Service Area

Figure 33

Downtown Employment Growth Forecast for Year 2020 by Storm Basin

Scale: 1 inch = 3 miles
Map Printed December 1998

4.4 Wastewater System Infrastructure Analysis

4.4.1 Capacity Analysis

The City of Albuquerque's sewer utility system is separated into 17 major basins as shown on Figure 34 (pg.143). For this analysis the basins, all but Sandia Heights and Mesa del Sol were each segmented into two or more sub-basins, each represented by one or more interceptors conveying wastewater through the sub-basin and from upstream areas. The major interceptors and primary manholes within each sub-basin were identified using the City Automated Sewer Distribution System Sectional Maps. Utilizing GIS, DASZs were overlain on the sewer sub-basin coverage, and population and employment data available from MRGCOG, including estimates of current population and employment and year 2020 population and employment DASZ forecasts, were re-aggregated for each sub-basin, for each of the three growth scenarios.

An equation was developed to convert total population and total employment to peak wastewater flow within each sub-basin. This equation followed the engineering design criteria in the City Public Works Department Development Process Manual. Average flow was modified to reflect the ratio of population and employment and the respective sewer use, based on City billing records and wastewater flow received at the treatment plant. This equation assumes a peak flow of 2.5 times average flow to the .8875 power and a design flow at 1.2 times peak flow.

Sewer reapir on Rio Grande

A capacity analysis was performed on each sub-basin in the sewer interceptor system. The capacity analysis was derived from pipe size, average slope, and peak carrying capacity data supplied from the City. The total pipe capacity of the primary sewer interceptors within each sewer sub-basin was compared to the design (peak hourly) flow expected, as calculated from the population and employment data, for each sub-basin as explained above. The difference between an interceptor's flow capacity and design flow for each sub-basin that would contribute to the interceptor was calculated. When an interceptor's flow capacity could not meet the total design flow for the current population and employment and the 2020 population and employment for each growth scenario, a parallel pipe was sized to accommodate the excess wastewater flow.

Extent of Current Service

Figure 34 (pg.143) shows the 17 major sewer basins, sewer sub-basins, and major interceptors including the 1960 City Boundary, and the current service area boundary. Areas outside the Water Service Area include the New Mexico Utilities, West Fringe, Sandia Heights, and Kirtland sewer basins, including sub-basins of the northeast (NE-06, NE-07, NE-08), Coors (CO-04, CO-05), and Tijeras (TJ-01) basins. The proposed Mesa del Sol, Quail Ranch, and Westland developments are all located outside the current service area.

Generally, wastewater flow begins in sewer laterals and interceptors at the extremities of the east and west sides of the service area and is added successively to interceptors in each sewer sub-basin as it moves downward in a southerly direction to the Rio Grande, until it reaches the Southside Water Reclamation Plant where the wastewater is treated. Due to the design of the sewer system, much of the wastewater flow is received at a few common locations. The current capacity of the Southside Water Reclamation Plant is 76 mgd, and the average flow received by the plant is 56 mgd.

Areas and Facilities with Excess and Deficient Capacity Today

Table A.9 in Appendix A presents the interceptor pipe capacity and current demand for each sub-basin including the upgradient sub-basin wastewater flow contributions. The difference between pipe capacity and the total demand is presented in Table 56 and is based on estimates of current population and employment as determined from the capacity analysis described above. A positive difference between pipe capacity and total demand is measured as excess capacity whereas a negative difference indicates a deficiency. Figure 35 (pg.145) identifies the locations of interceptors within each sub-basin with excess capacity.

Table 56 lists the interceptors with current deficient design flow capacity located in various sewer basins as determined from the capacity analysis based on estimates of current population and employment. Figure 35 identifies the locations of interceptors with deficient capacity. Table 57 (pg.141) presents the necessary pipe diameters and lengths needed for a parallel pipe to meet the flow deficiency in the sub-basin.

Table 56 Interceptors with Current Deficient Flow Capacity

Basin	Sub-Basin	Pipe Capacity (mgd)	Total Sub-Basin Design Flow Demand (mgd)	Deficient Design Flow Capacity (mgd)
Campus	CA-01	4.50	5.26	0.76
	CA-03	16.36	19.48	3.12
Edith	ED-02	1.72	3.15	1.43
	ED-06	16.37	17.86	1.49
	ED-07	48.77	83.06	34.29
Four Hills	FH-04	1.69	1.87	0.18
Northeast	NE-04	3.45	5.36	1.91
NW Valley	NW-03	0.56	1.36	0.80
	NW-05	2.14	3.77	1.63
Southeast	SE-04	19.39	84.09	64.7
Tijeras	TJ-05	78.22	83.89	5.67
Uptown	UP-05	42.00	42.03	0.03

4.4.2 Cost Analysis

This analysis provides an estimate of the capital and annual costs in today's dollars needed to build and maintain the Albuquerque wastewater collection and treatment system and to keep it operating at full capacity in the year 2020 for each of the three alternative growth scenarios. A systemic approach to determine the capital

and annual costs associated with each development scenario was performed. Capital and annual costs common to each growth scenario were separated from costs unique to each scenario in order to provide a better comparison. These unique or individual costs will assist in the identification and selection of the most feasible and least costly development scenario.

Table 57 Existing Parallel Line Deficiency Capital Costs

Basin	Sub-basin	Pipe Diameter (inches)	Pipe Length (feet)	Cost
Campus	CA-01	8.9	5,900	$393,312
	CA-03	18.1	1,050	$142,704
Edith	ED-02	15.7	12,800	$1,508,073
	ED-06	16.3	4,800	$587,136
	ED-07	35.3	8,400	$2,223,641
Four Hills	FH-04	5.2	5,000	$196,346
Northeast	NE-04	14.3	15,600	$1,667,298
NW Valley	NW-03	11.8	5,700	$504,140
	NW-05	10.9	9,900	$811,421
Southeast	SE-04	70.8	11,100	$5,893,734
Tijeras	TJ-05	22.3	7,200	$1,202,551
Uptown	UP-05	3.6	4,500	$119,882
TOTAL				$15,250,237

The current costs to upgrade and maintain the wastewater collection and treatment system to accept 2020 wastewater flows were based on growth forecasts and were determined for areas with existing infrastructure, areas currently served by the wastewater system but with additional room for expansion, and areas outside of the system's boundary that are currently unserved.

Parallel interceptors will be necessary to convey excess wastewater flow in the areas with existing infrastructure. Additional development in the built-up areas will require new service lines. Master plan sewer lines (interceptors), service and small collection lines, and lift and odor control will be necessary to connect unserved sub-basins, including the proposed new developments, to the wastewater conveyance system. For areas that are already served by the wastewater system that have room for expansion, new small collection lines and service connections will be needed.

Sewer interceptor under construction

Capital and annual costs were developed for each scenario, were determined for each sub-basin, and totaled such that the three alternative scenarios could be

compared. These are current costs and are based on 2020 population forecasts. These costs are presented in the following sections and are displayed in Tables A.10 and A.11 in Appendix A.

Existing Interceptor Deficiencies

The costs to provide parallel interceptors to correct existing deficiencies based on current population and employment at design (peak hourly) flow rates are provided above in Table 57 (pg.141). These costs are shared costs common to each of the three scenarios.

Common Costs

Wastewater treatment plant expansion, correcting existing parallel line deficiencies, and rehabilitation / replacement costs are fixed capital costs common to all scenarios. The capital and annual costs common to all scenarios are provided in Table 58.

Table 58 Capital and Annual Costs Common to All Scenarios

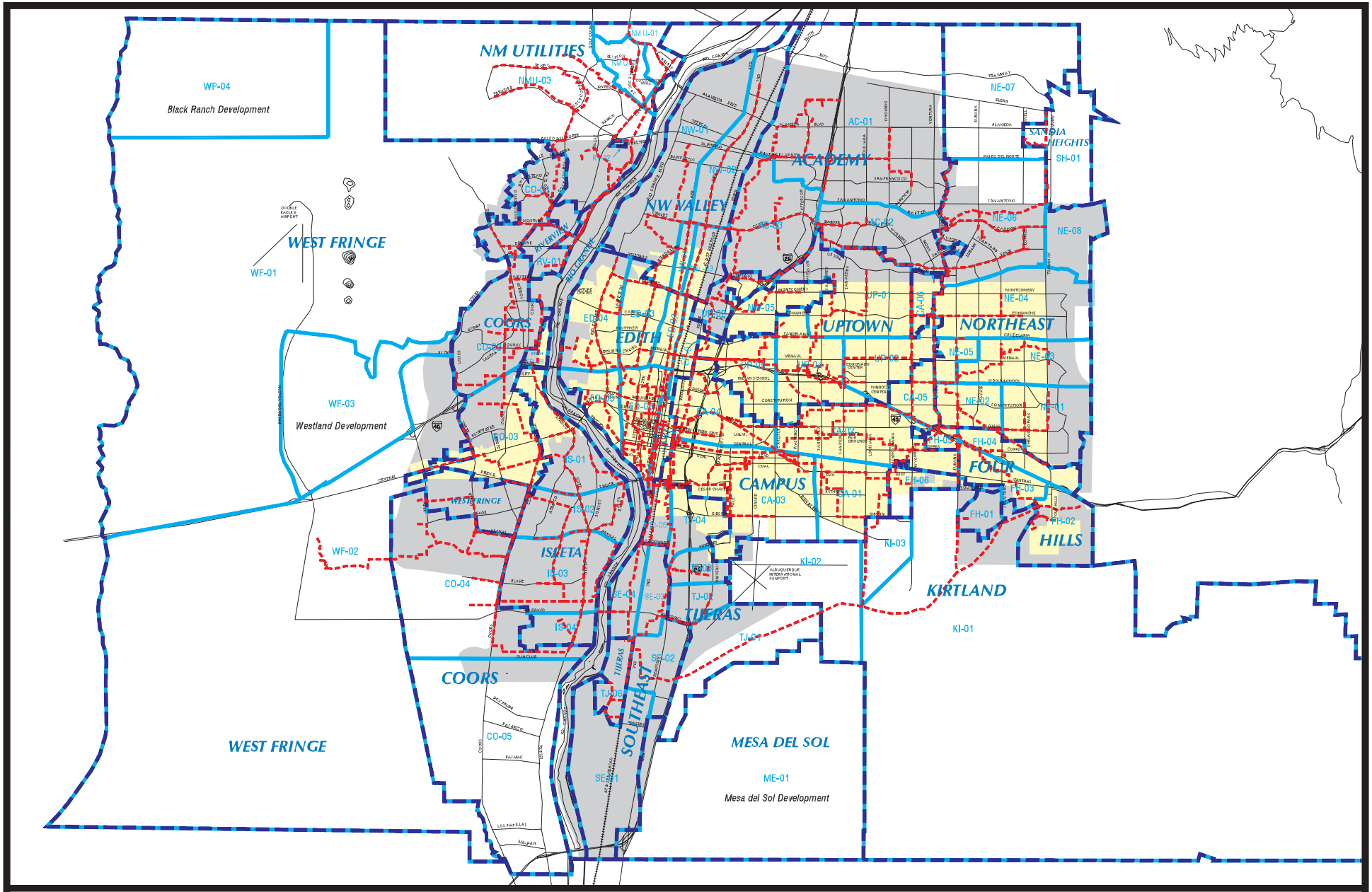
Common Capital Need	**Cost**
Wastewater Treatment Plant Expansion	$73,400,000*
New Parallel Lines	$15,250,000
Rehabilitation/Replacement	$347,000,000
Total Common Capital Cost	$435,650,000
Common Annual O& M Need	**Cost**
Wastewater Plant Operation/Maintenance	$11,871,208*
Existing Line Maintenance	$4,493,560*
Lift Station & Odor Control	$1,818,364*
Total Common Annual O&M Cost	$18,183,132

* Estimated average value—this number varies slightly among the three scenarios due to small differences in overall total population and employment.

New Infrastructure, by Alternative

Individual capital and annual costs unique to the three scenarios under consideration have been developed and are presented in Tables 59–63 (pg.153-154). The Trend scenario assumes extensive development on the urban fringe, with the addition of the Mesa del Sol, Quail Ranch, and Westland developments to the City's sewer system. The Balanced scenario assumes the addition of the Mesa del Sol and Westland developments to the City's sewer system. The Downtown scenario assumes development will occur primarily within the City and includes the addition of Mesa del Sol to the sewer system.

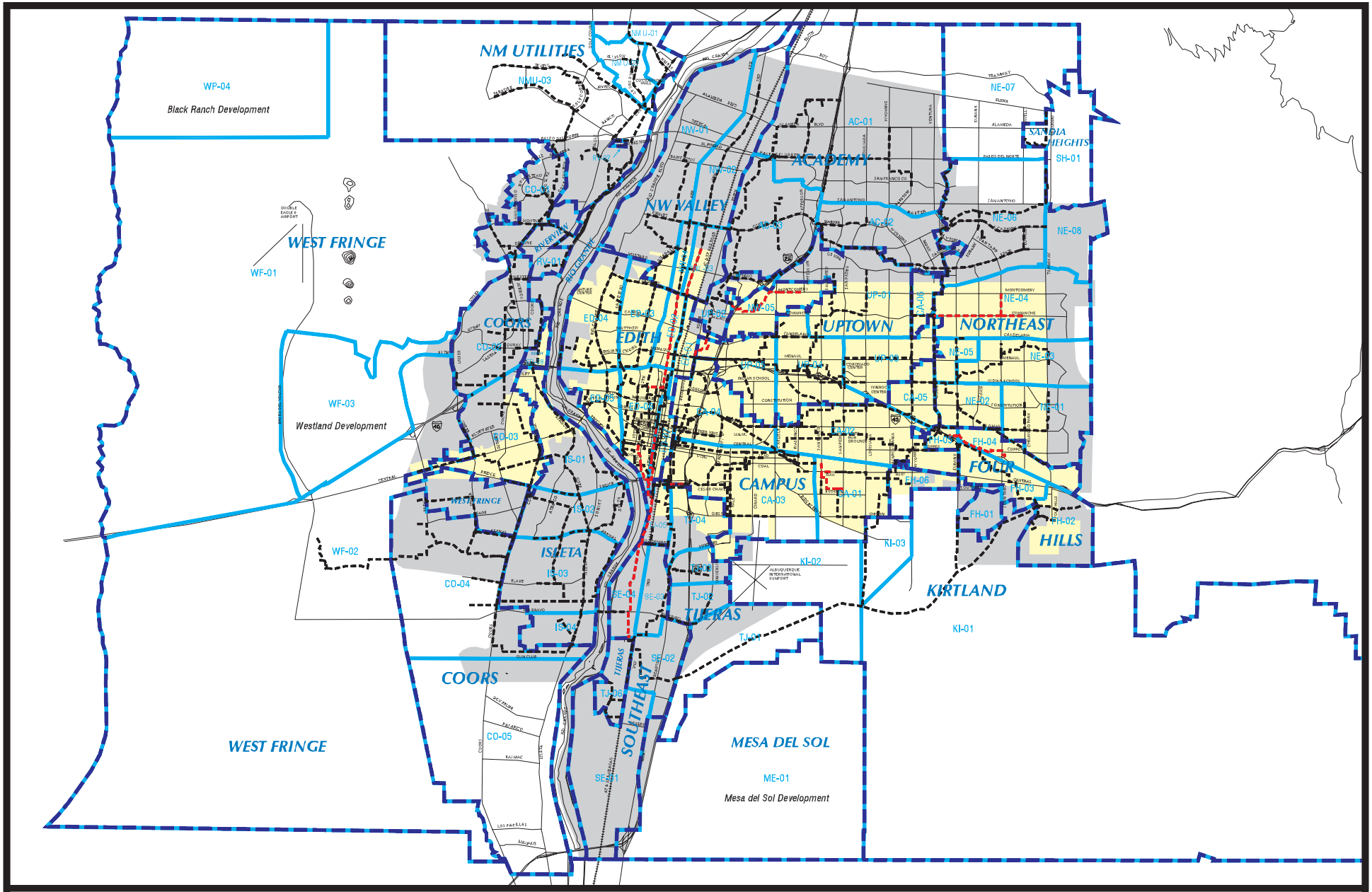
The wastewater system service area has been separated into three areas to help the City plan for growth as well as to compare growth scenarios. Development within the 1960 City Boundary would require expanding existing infrastructure with parallel sewer interceptors and service connections, while development in unserved areas would require the general expansion of sewer service including master plan sewer lines, small collection lines, service lines, and lift and odor control stations. Development in the Water Service Area would require new parallel interceptors, small collection lines, and new service lines. Interceptor locations of needed parallel lines are shown for the Trend Alternative in Figure 36 (pg.147), for the Balanced Alternative in Figure 37(pg.149), and for the Downtown Alternative in Figure 38 (pg.151).



1960 City Limits
Current Service Area Boundry
Major Sewer Basin
Sewer Sub-Basin
Interceptor

Figure 34
Sewer Basins in the Albuquerque Metropolitan Area

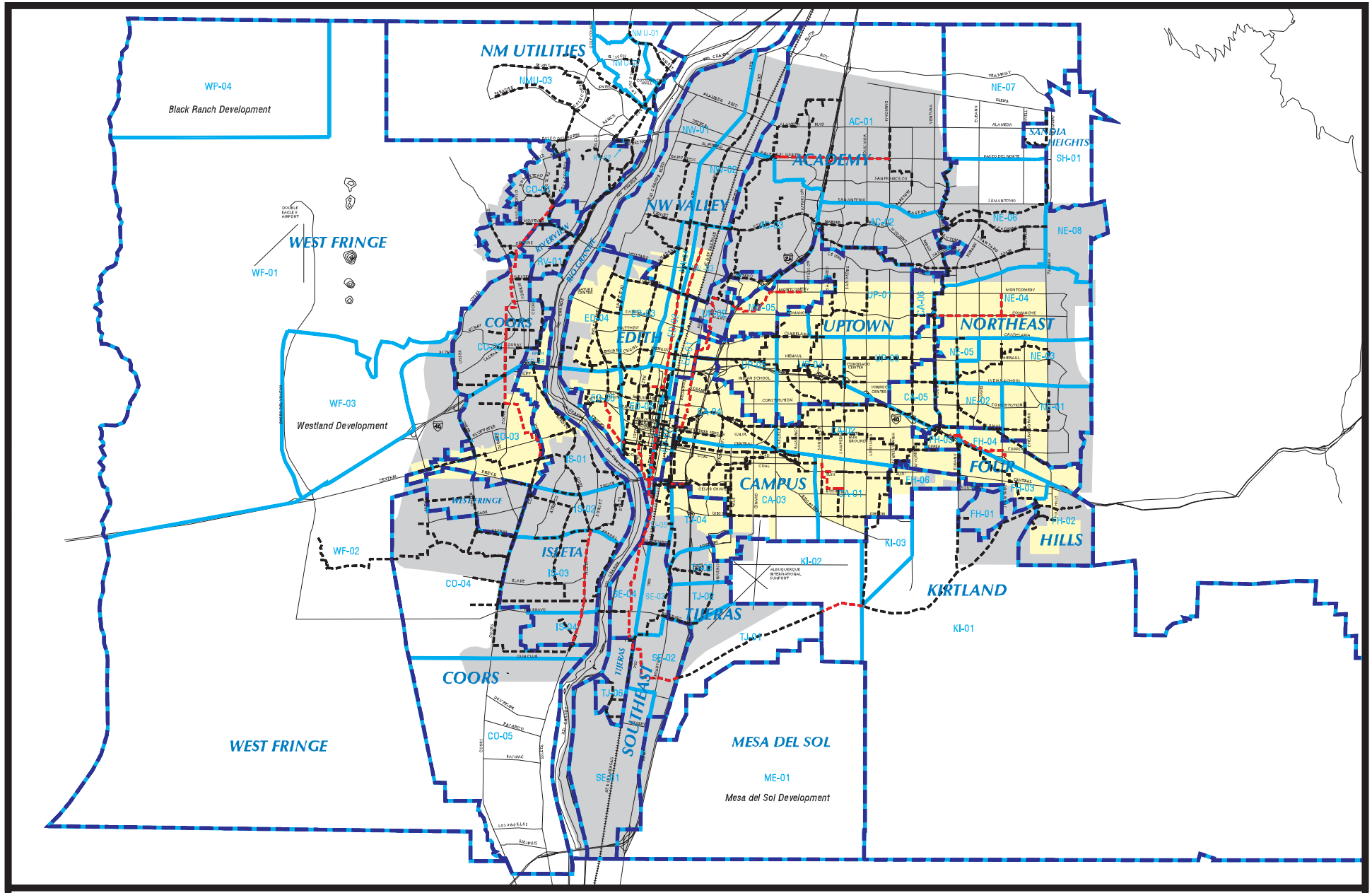
Scale: 1 inch = 3 miles
Map Printed December 1998



1960 City Limits
Current Service Area Boundry
Major Sewer Basin
Sewer Sub-Basin
Excess Capacity
Deficient Capacity

Figure 35
Current Interceptor Capacity in the Albuquerque Metropolitan Area

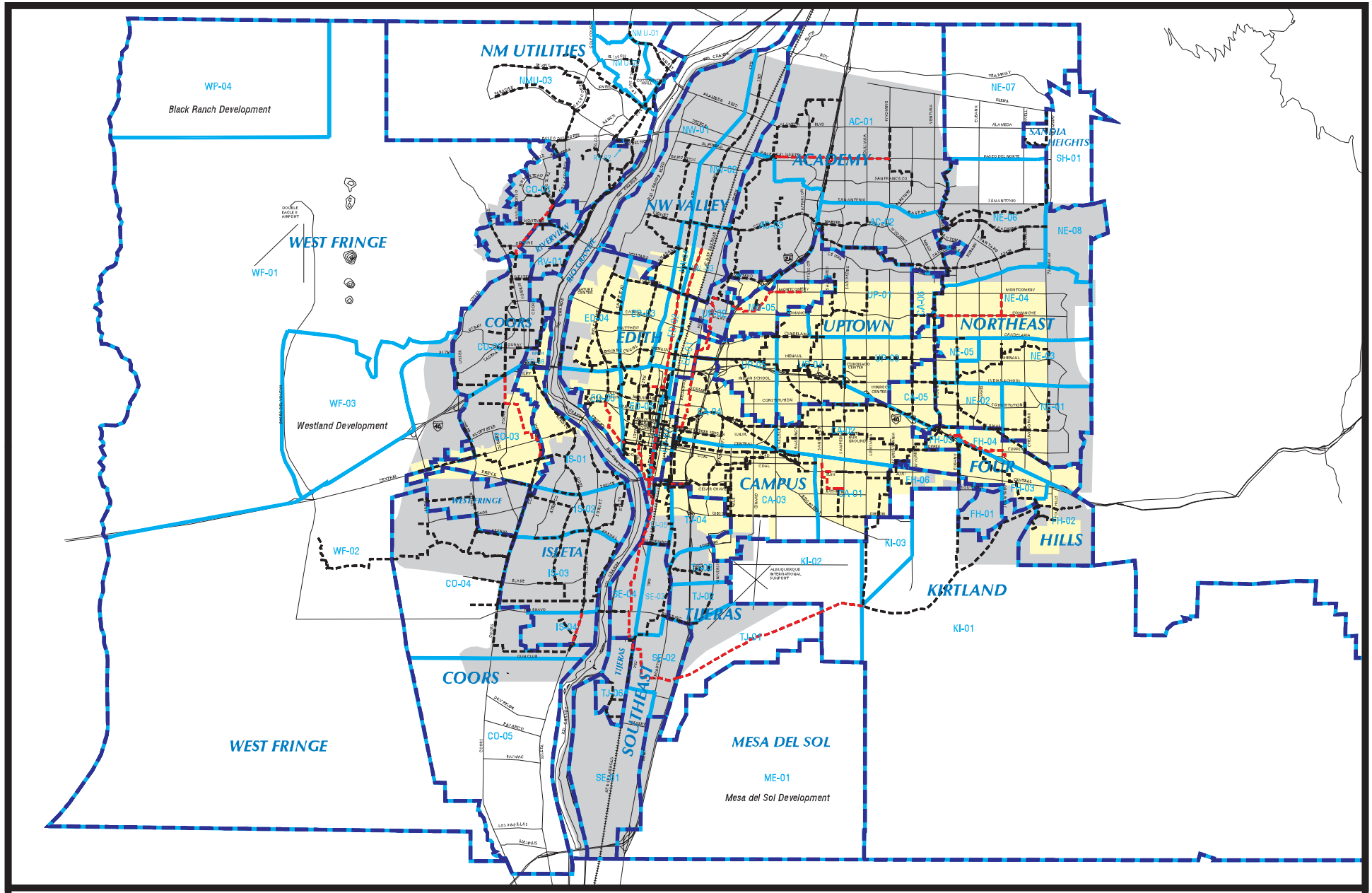
Scale: 1 inch = 3 miles
Map Printed December 1998



1960 City Limits
Current Service Area Boundry
Major Sewer Basin
Sewer Sub-Basin
Excess Capacity
Deficient Capacity

Figure 36
Trend Scenario Interceptor Capacity in the Albuquerque Metropolitan Area

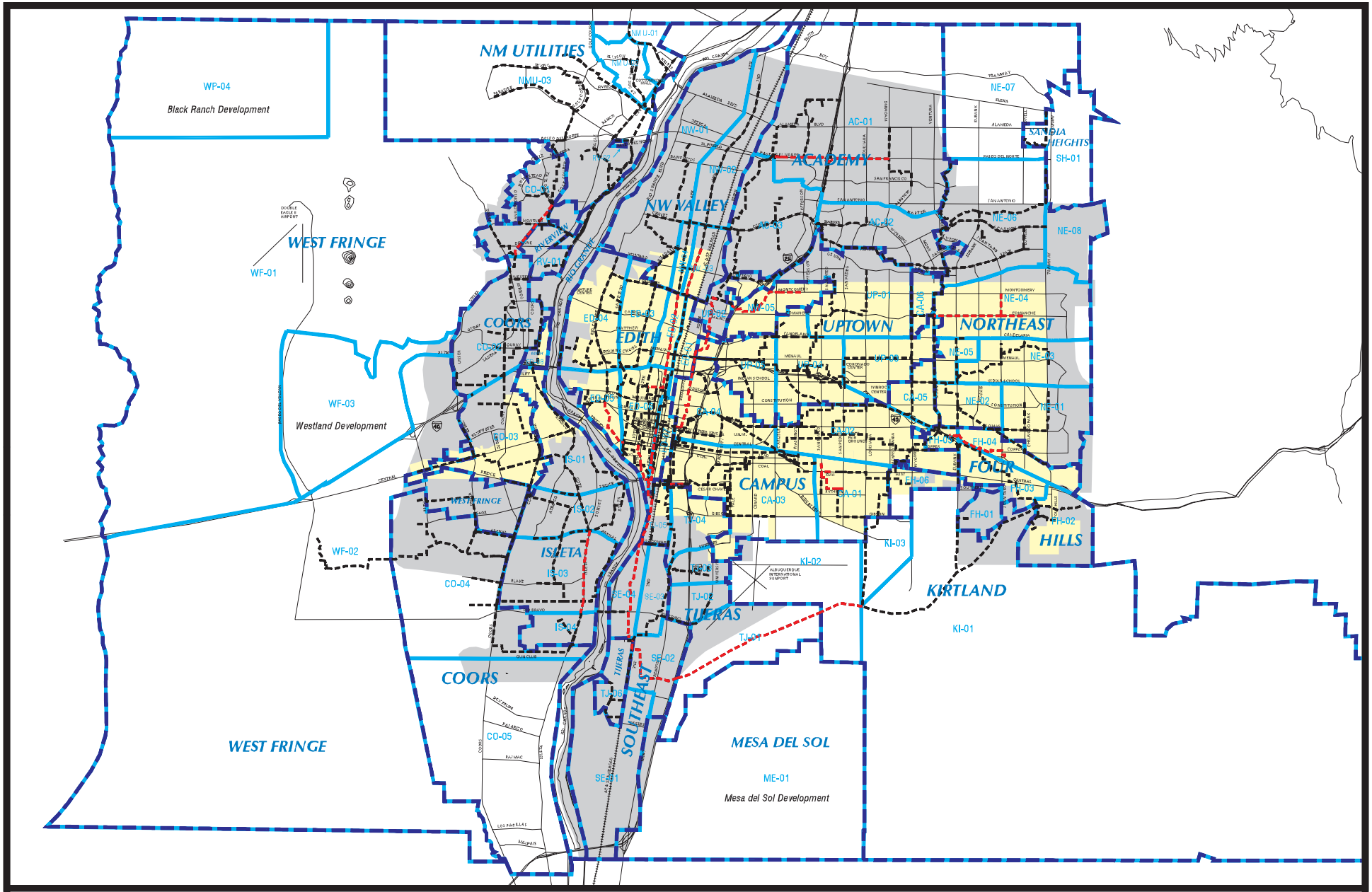
Scale: 1 inch = 3 miles
Map Printed December 1998



1960 City Limits
Current Service Area Boundry
Major Sewer Basin
Sewer Sub-Basin
Excess Capacity
Deficient Capacity

Figure 37
Balanced Scenario Interceptor Capacity in the Albuquerque Metropolitan Area

Scale: 1 inch = 3 miles
Map Printed December 1998



1960 City Limits
Current Service Area Boundry
Major Sewer Basin
Sewer Sub-Basin
Excess Capacity
Deficient Capacity

Figure 38
Downtown Scenario Interceptor Capacity in the Albuquerque Metropolitan Area

Scale: 1 inch = 3 miles
Map Printed December 1998

The 1960 City Boundary and the current service area were overlaid on the sewer distribution system figure with the sewer basin and sub-basin coverages. Each sub-basin was evaluated to determine the percentage of the sub-basin area located within the 1960 City Boundary, in the Water Service Area, or Outside the Water Service Area boundaries.

Tables A.10 and A.11 present the itemized individual capital and annual costs for each sub-basin for each scenario and the costs by service area. Tables 59–61 summarize the capital costs for each scenario and the costs by service area. The costs presented in Tables 59–61 are unique to each scenario and do not include the common costs presented in Table 58.

Table 59 Capital Costs for Trend Scenario by Service Area

	Cost by Service Area			
Capital 2020 Need	**1960 City Boundary**	**Water Service Area**	**Outside Service Area**	**Total**
Service Lines	$23,768,606	$76,221,623	$51,932,826	$151,923,055
Parallel Lines	$5,507,267	$12,325,001	$299,113	$18,131,382
Master Plan Sewer Lines	$0	$0	$18,958,941	$18,958,941
Small Collection Lines	$0	$45,173,099	$27,365,277	$72,538,376
Lift Stations & Odor Control	$0	$0	$1,194,264	$1,194,264
Septic Tanks	$0	$0	$17,393,000	$17,393,000
TOTAL	$29,275,873	$133,719,723	$117,143,421	$280,139,017

Table 60 Capital Costs for Balanced Scenario by Service Area

	Cost by Service Area			
Capital 2020 Need	**1960 City Boundary**	**Water Service Area**	**Outside Service Area**	**Total**
Service Lines	$53,391,758	$51,269,187	$48,223,296	$152,884,241
Parallel Lines	$5,276,613	$10,859,654	$1,559,038	$17,695,305
Master Plan Sewer Lines	$0	$0	$18,165,826	$18,165,826
Small Collection Lines	$0	$41,565,461	$25,410,592	$66,976,053
Lift Stations & Odor Control	$0	$0	$1,144,304	$1,144,304
Septic Tanks	$0	$0	$9,808,000	$9,808,000
TOTAL	$58,668,371	$103,694,302	$104,311,056	$266,673,729

Table 61 Capital Costs for Downtown Scenario by Service Area

	Cost by Service Area			
Capital 2020 Need	**1960 City Boundary**	**Water Service Area**	**Outside Service Area**	**Total**
Service Lines	$66,644,872	$53,609,952	$25,768,314	$146,023,138
Parallel Lines	$4,864,712	$10,182,086	$1,153,046	$16,199,844
Master Plan Sewer Lines	$0	$0	$13,364,845	$13,364,845
Small Collection Lines	$0	$46,750,932	$13,578,253	$60,329,185
Lift Stations (new) Lift Stations & Odor Control	$0	$0	$841,880	$841,880
Septic Tanks	$0	$0	$14,259,000	$14,259,000
TOTAL	$71,509,584	$110,542,970	$68,965,338	$251,017,892

Tables 62 and 63 compare the capital and annual costs among scenarios, and the capital costs by service area. These costs are unique to each scenario and do not include the common costs presented in Table 58.

Table 62 Comparison of Unique Capital Costs between Scenarios by Service Area

		Costs by Service Area		
Scenario	Capital Costs Total	1960 City Boundary	Water Service Area	Outside Service Area
Trend	$280,139,017	$29,275,873	$133,719,723	$117,143,421
Balanced	$266,673,729	$58,668,371	$103,694,302	$104,311,056
Downtown	$251,017,892	$71,509,584	$110,542,970	$68,965,338

Table 63 Comparison of Unique Annual Costs between Scenarios

Scenario	Annual Costs Total	Septic Tank Annual Maintenance	Parallel & New Lines Maintenance
Trend	$1,440,409	$1,373,480	$66,929
Balanced	$1,118,332	$1,070,080	$48,252
Downtown	$1,301,333	$1,248,120	$53,213

Table 64 Comparison of Total Capital Costs and Public-Private Cost Split between Scenarios

Scenario	Capital Costs Total	Public Cost	Private Cost
Trend	$715,789,018	$433,011,146	$282,777,872
Balanced	$702,323,729	$432,361,578	$269,962,151
Downtown	$686,667,892	$429,001,661	$257,666,232

All three scenarios share the common capital cost of $435,650,000 presented in Table 58 in addition to the individual cost presented in Table 62. The Trend scenario has the overall greatest cost and greatest cost in the non-served (out of service) area. This is expected because this scenario includes dispersed development on the fringe of the system, with the addition of the Mesa del Sol, Quail Ranch, and Westland developments to the City's sewer system. The Downtown scenario has the greatest cost in the 1960 City Boundary area because this scenario encourages increased population and employment within the City. The Balanced scenario generally falls between the Trend and Downtown scenarios. The greatest differences in the capital costs are associated with the three service areas due to varying growth patterns among the scenarios.

All three scenarios share the common annual cost of $18,183,132 presented in Table 58 with the additional individual costs presented in Table 63. The differences in annual costs between the scenarios are small because the majority of the annual costs are common to all scenarios.

4.4.3 Public Versus Private Cost

The total capital cost of each scenario (common cost in Table 58(pg.142) plus unique costs in Table 62(pg.154) including the split between public and private costs is presented in Table 64. A breakdown of costs by wastewater infrastructure item is presented in Table 65.

Table 65 Public-Private Cost Split by Scenario

Wastewater Infrastructure	Total Cost	Public Cost (%)	Public Cost	Private Cost (%)	Private Cost
Trend Scenario					
Service Lines	$151,923,055	0	$0	100	$151,923,055
Interceptor Lines					
Parallel Lines (Common)	$15,250,000	100	$15,250,000	0	$0
Parallel Lines (Unique)	$18,131,382	50	$9,065,691	50	$9,065,691
Master Plan Sewer Lines	$18,958,941	50	$9,479,471	50	$9,479,471
Rehab./Replacement	$212,960,000	100	$212,960,000	0	$0
Collection Lines	$72,538,376	0	$0	100	$72,538,376
Rehab./Replacement	$67,540,000	100	$67,540,000	0	$0
Lift Station & Odor Control	$1,194,264	70	$835,985	30	$358,279
Rehab./Replacement	$3,400,000	100	$3,400,000	0	$0
Treatment Plant					
Expansion	$73,400,000	70	$51,380,000	30	$22,020,000
Rehab./Replacement	$63,100,000	100	$63,100,000	0	$0
Septic Tank	$17,393,000	0	$0	100	$17,393,000
Total	$715,789,018		$433,011,146		$282,777,872
Balanced Scenario					
Service Lines	$152,884,241	0	$0	100	$152,884,241
Interceptor Lines					
Parallel Lines (Common)	$15,250,000	100	$15,250,000	0	$0
Parallel Lines (Unique)	$17,695,305	50	$8,847,653	50	$8,847,653
Master Plan Sewer Lines	$18,165,826	50	$9,082,913	50	$9,082,913
Rehab./Replacement	$212,960,000	100	$212,960,000	0	$0
Collection Lines	$66,976,053	0	$0	100	$66,976,053
Rehab./Replacement	$67,540,000	100	$67,540,000	0	$0
Lift Station & Odor Control	$1,144,304	70	$801,013	30	$343,291
Rehab./Replacement	$3,400,000	100	$3,400,000	0	$0
Treatment Plant					
Expansion	$73,400,000	70	$51,380,000	30	$22,020,000
Rehab./Replacement	$63,100,000	100	$63,100,000	0	$0
Septic Tank	$9,808,000	0	$0	100	$9,808,000
Total	$702,323,729		$432,361,578		$269,962,151
Downtown Scenario					
Service Lines	$146,023,138	0	$0	100	$146,023,138
Interceptor Lines					
Parallel Lines (Common)	$15,250,000	100	$15,250,000	0	$0
Parallel Lines (Unique)	$16,199,844	50	$8,099,922	50	$8,099,922
Master Plan Sewer Lines	$13,364,845	50	$6,682,423	50	$6,682,423
Rehab./Replacement	$212,960,000	100	$212,960,000	0	$0
Collection Lines	$60,329,185	0	$0	100	$60,329,185
Rehab./Replacement	$67,540,000	100	$67,540,000	0	$0
Lift Station & Odor Control	$841,880	70	$589,316	30	$252,564
Rehab./Replacement	$3,400,000	100	$3,400,000	0	$0
Treatment Plant					
Expansion	$73,400,000	70	$51,380,000	30	$22,020,000
Rehab./Replacement	$63,100,000	100	$63,100,000	0	$0
Septic Tank	$14,259,000	0	$0	100	$14,259,000
Total	$686,667,892		$429,001,661		$257,666,232

4.4.4 Supporting Information

City system costs and the City of Albuquerque Water and Wastewater Utility Program Assessment (Parsons Engineering Science, Inc., March 1997) were used as the main resources for developing capital and annual costs for the scenarios along with the Trend estimate of the current population of 492,653 and current employment of 302,148 served by the wastewater system. Per capita costs include both population and employment. Capital costs were broken down into various separate categories. These categories, the basis (source) of the costs, as well as the allocation of costs per sub-basin associated with these categories are summarized in the following Tables 66–69.

Table 66 Basis of Capital Costs

Capital Needs	Distribution of Total Value (%)	Allocation of Cost. SFD = $2,858 (City System Cost)	Allocation of Cost by Person/Job*
Master Plan Sewer Lines	17.9	$512	$127
Small Collection Lines	44.3	$1,266	$313
Lift Stations & Odor Control	1.2	$34	$8
Treatment Plants	36.6	$1,046	$259
Service Lines	Separate cost basis	$2,400	$594
Total		$5,258	$1,301

* Cost per SFD equal cost/2.5. Assumptions in PGS involve conversion to cost per resident and job. Totals used are 492,652 population and 302,148 jobs, which totals 794,801. Cost per resident and job is calculated by x/2.5 = 794,801/492,652, where x = 4.04. This figure was divided into each of the cost totals in table column 3.

Table 67 Allocation of Costs to Service Areas

Capital Needs	Sub-Basins with Existing Infrastructure (1960 City Boundary)	Sub-Basins Already Served but with Room for Expansion (Water Service Area)	Unserved Sub-Basins (Outside Service Area)
Master Plan Sewer Lines			X
Parallel Lines	As needed in sub-basin	As needed in sub-basin	
Small Collection Lines		X	X
Lift Stations & Odor Control			X
Treatment Plant	X	X	X
Service Lines	X*	X*	X*

* Adjusted for percentage of vacant land within sub-basin with existing service connections.

Table 68 Wastewater Sub-Basin Distribution

Sub-Basins with Existing Infrastructure	Sub-Basins Already Served but with Room for Expansion	Unserved Sub-Basins
AC-02, CA-01, CA-02, CA-03, CA-04, CA-05, CA-06, CO-01, ED-01, ED-02, ED-03, ED-04, ED-05, ED-06, ED-07, FH-03, FH-04, FH-05, FH-06, NE-01, NE-03, NE-04, NE-05, NW-03, NW-04, NW-05, UP-01, UP-02, UP-03, UP-04, UP-05, TJ-05	AC-01, AC-03, CO-02, CO-03, CO-04, ED-08, FH-01, FH-02, IS-01, IS-02, IS-03, IS-04, NE-06, NE-08, NW-01, NW-02, SE-02, SE-03, SE-04, SH-01, TJ-02, TJ-03, TJ-04, TJ-06, NMU-01, NMU-02, NMU-03, RV-01, RV-02	CO-05, KI-01, KI-02, KI-03, ME-01, NE-07, SE-01, TJ-01, WF-01, WF-02, WF-03, WP-04

Total estimated wastewater rehabilitation/replacement needs over the next 25 years is approximately $347,000,000 and includes the sewers, odor control stations, pumping stations, and the wastewater treatment plant. (This figure is consistent with an separate independent assessment—see the City of Albuquerque Water and Wastewater Utility Program Assessment, Parsons Engineering Science, Inc., March 1997. [492,652 (population) + 302,148 (jobs)/ $370,000,000 = $436.59 per capita (population and employee)]. Parallel line costs were estimated at $7.50 per foot/ inch diameter (Parsons ES)).

Street cave in at sewer rehab project.

The annual costs were broken down into six separate categories. These categories and the basis of the costs associated with these categories are provided in Table 69.

Table 69 Basis of Annual Costs

Annual Needs	Cost (Source)
Wastewater Plant Operation and Maintenance	$10.99 per capita (Parsons ES).
Existing Line Maintenance	$4.16 per capita (City, Parsons ES).
Parallel and New Line Maintenance	$0.40 per foot of pipeline (Parsons ES)
Lift Stations & Odor Control	$1.68 per capita (Parsons ES).
Septic Tanks Annual Maintenance	$40.00 per capita (local company)

The total operation and maintenance cost per capita served by the wastewater system is $16.83. Of this amount, it is assumed that 10% ($1.68) is for lift station and odor control operation and maintenance. The City currently spends $3,303,192 or $4.16 per capita for annual operation and maintenance on existing sewer lines. The remaining $10.99 per capita expense is for wastewater plant operation and maintenance.

The City sewer system is comprised of approximately 1,653 miles of sewer lines that cost $3,303,192 annually to maintain. This translates to an average annual maintenance cost of $0.40 per foot of sewer line.

4.5 Transportation System Findings

4.5.1 Summary

This section contains cost estimates for the transportation system, including road and transit costs, and transportation operating costs for both the public and private sectors.

The road capital costs account for more than three-quarters of the total capital cost of transportation. Common capital costs for road facilities total $1,500 million and account for more than 80% of the road cost. The Trend Scenario has the largest set of unique road capital costs, $331 million; followed by the Balanced Scenario at $267 million and the Downtown Scenario at $260 million. This means that the Downtown Scenario road capital costs would be $71 million, or 21%, less than the Trend Scenario. The Balanced Scenario costs would be $64 million, or 19%, less than the Trend Scenario.

The transit system capital costs amount to approximately one-quarter of the total transportation capital costs. The majority of this cost is attributable to the cost of expanding the bus fleet and replacing buses on a regular basis. The common transit capital costs account for $39 million or one-eighth of the total transit capital costs. The Trend Scenario has the highest unique transit capital costs, totaling $284 million. The Balanced Scenario and the Downtown Scenario have unique transit capital costs of $210 million, 27% less than the costs of the Trend Scenario. While all three scenarios assume the same size bus fleet, the cost differences are attributable to the greater number of daily miles traveled by the buses in the Trend Scenario. This higher mileage translates into more frequent vehicle replacement and, hence, higher capital costs.

The total transportation capital cost would be more than $2 billion over the forecast period and more than 80% of these costs are common to all scenarios. The Trend Scenario has the highest unique transportation capital cost, which total $615 million. At $477 million, the Balanced Scenario unique transportation capital costs would be $138 million less than the Trend Scenario. At $470 million, the Downtown Scenario unique transportation capital costs would be $145 million less than the Trend Scenario.

Transportation operating costs that were estimated for the year 2020 included the public cost of transportation, the private cost of transportation, and a portion of the societal cost of transportation. Analysis of the 2020 transportation costs provides an estimate of how much change there is in the day-to-day transportation cost as a result of the different land use scenarios. The difference in the operating cost starts at $0 in the first year of analysis and grows to between $83 and $115 million per year by 2020. This is a difference of about 3% in the operational cost of transportation and is nearly equal to the difference in the capital cost over the entire analysis period. Estimates of the cumulative difference in transportation operating cost were not undertaken as part of this analysis; however, a simplified calculation of this cumulative value would place it at between $1 billion and $1.4 billion over a 25-year period.

Private vehicle operating costs are the largest portion, more than 49%, of the annual vehicle transportation operating costs. Total operating costs are highest in the Trend Scenario at $4.38 billion per year in 2020. The Balanced Scenario has the lowest cost at $4.26 billion per year in 2020. The Downtown Scenario is similar with a total of $4.29 billion per year.

Transit operating costs include both public and private costs. The private costs are the fares that are paid by the riders of the system, and the public costs represent the costs paid by other governmental sources. Transit operating costs are the smallest portion of the annual transportation cost, totaling less than 1% of the total annual transportation operating costs. Transit costs are directly related to the level of service provided. Accordingly, the Trend Scenario has the highest annual operating costs, which total $37 million per year for both public and private costs. The Downtown and Balanced Scenarios have operating costs totaling $35 million per year.

The one societal cost of transportation that was estimated is the cost of air pollution. Air quality costs are directly related to the number of vehicle miles traveled and are largely comprised of private costs such as increased public health costs associated with dust and other airborne pollutants. The lowest societal costs are in the Downtown Scenario, which total $524 million per year. The Balanced Scenario has costs that total $525 million per year. The Trend Scenario has societal costs that total $540 million per year. The costs for the Trend Scenario are 2.8% higher than the costs for the Downtown and the Balanced Scenarios.

One other portion of the full cost of travel was estimated, the annual cost of travel time in private vehicles. The cost of travel time accounts for approximately one-third of the annual operational cost of travel. The lowest cost of travel time occurs in the Balanced Scenario, which totals $1.597 billion per year in 2020. The Downtown Scenario cost of travel time totals $1.636 billion in 2020, or 2% more than the Balanced Scenario. The Trend Scenario has the highest cost at $1.639 billion in 2020 (Table 70 (pg.160).

4.5.2 Introduction

In the sections that follow, we will evaluate the study area's existing roadway capacity and the extent to which that capacity is currently being used. Second, we will quantify the transportation costs associated with the implementation of each of three growth scenarios. We divided the costs associated with each growth scenario further by where they were located within the three service areas.

Westside roadways

Focusing on roadway infrastructure conditions and needs, we exclude pedestrian and bicycle improvements at this time, although the MRGCOG has issued plans

Table 70 Transportation Costs by Scenario, $ Millions

	Scenario		
Road Capital Costs	**Trend**	**Balanced**	**Downtown**
Common Capital Costs	$1,500	$1,500	$1,500
Unique Scenario Costs	$331	$267	260
Total in Millions	$1,831	$1,767	$1,760
Difference from Trend		$(64)	$(71)
Transit System Capital Cost			
Common Capital Costs	$39	$39	$39
Unique Scenario Costs	$284	$210	$210
Total in Millions	$323	$249	$249
Difference from Trend		$(74)	$(74)
Total Transportation Capital Cost			
Common Capital Costs	$1,814	$1,814	$1,814
Unique Scenario Costs	$615	$477	$470
Total in Millions	$2,429	$2,291	$2,284
Difference from Trend		$(138)	$(145)
2020 Annual Vehicle Transportation Operating Cost			
Annual Private Vehicle Cost	$2,162	$2,105	$2,099
Annual Public Transit Costs	25.8	24.6	24.6
Annual Private Transit Costs	11.0	10.5	10.5
Annual Private Cost of Travel Time	$1,639	$1,597	$1,636
Societal Costs	$540	$525	$524
Total Annual Operating Cost in Millions	$4,377	$4,262	$4,294
Difference from Trend		$(115)	$(83)

Source: Parsons Brinckerhoff

and cost estimates for such improvements. We consider these costs common to all three scenarios. See section 4.5.7 for further discussions of non-motorized travel demand. Subsequently, we offer findings regarding public transportation costs that draw from separate studies on the costs of providing bus services to the Middle Rio Grande region.

Next, this section contains an estimate of the annual operating cost of the transportation system. This cost estimate includes the total private cost of vehicle operation in the County as well as public road and transit cost. Finally, this section looks briefly at one of the societal costs of vehicle operation, air pollution. This cost is also included in the summary of cost for transportation.

4.5.3 Existing Capacity Analysis

Data on the existing capacity of the study area's major roads (those classified as collectors or above) and the traffic volumes carried were obtained from the Public Works Division of Bernalillo County. The most recent data available were for the

year 1995. Figure 39(pg.163) shows graphically the volume-to-capacity (V/C) ratios for the evening peak hour. Roadways with excess capacity is shown in dark green, which signifies that V/C ratios are less than 0.9. Light green colored roadways have V/C ratios between 0.9–1.0, which while technically under capacity, are likely operating at a level-of-service "E," which is considered unacceptable by both the City's and County's standards. Pink (V/C of 1.0–1.3) and red (V/C over 1.3) roadways are currently operating over capacity in the evening peak hour.

Roadways with Excess Capacity

The preponderance of green on Figure 39 signifies that the majority of roads within the study area are currently operating below capacity. Outside the Water Service Area, roads in the South Valley as well as I–40 and I–25 currently have excess capacity. Within the Water Service Area, the roads in the Far Northeast Heights, South Valley, and West Side are also generally operating below capacity. In the 1960 City Boundary, most of the Northeast and Southeast Heights and Downtown roadways, as well as most of I–40, have low peak hour V/C ratios. However, excess capacity for the Interstates appears to have resulted from coding into the analysis a lower level-of-service capacity for these facilities. Consequently, the volume to capacity ratios reported probably are too liberal for the Interstate system.

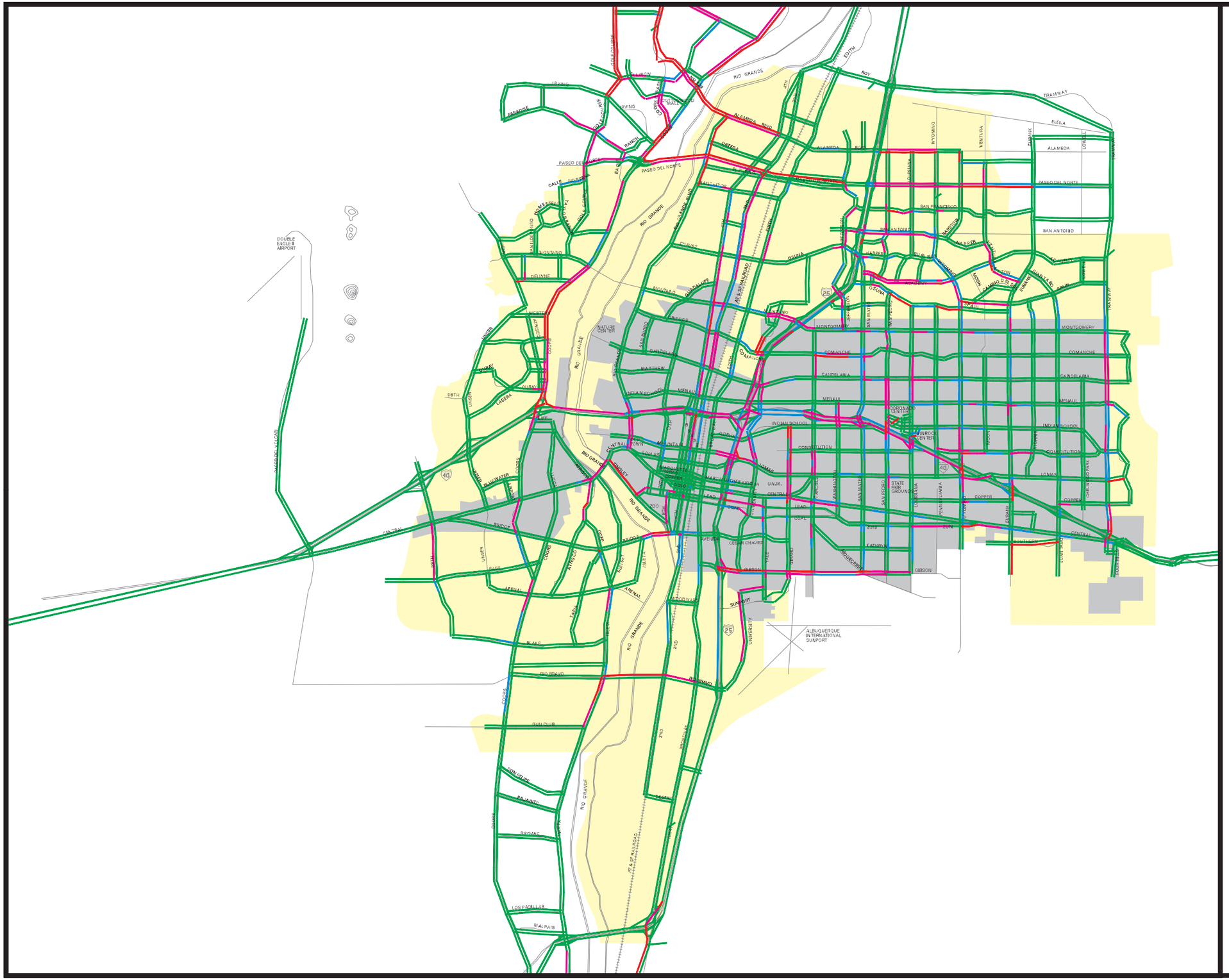
Roadways with Deficient Capacity

Isolated roadways and portions of roadways that are operating above capacity exist throughout the study area; however, larger groups of congested roadways appear on Figure 39 that deserve mention here. Outside the Water Service Area, the roadways operating over capacity are generally those linking Albuquerque to Rio Rancho and Corrales: Golf Course and Coors north of Paseo del Norte, Alameda west of Coors, and Corrales Road. Within the Water Service Area, the North Valley bridge crossings—Alameda and Paseo del Norte—are capacity deficient. Probably because the Montaño bridge was not constructed in 1995, Montaño is shown as operating below capacity in the 1995 evening peak; however, Coors from I–40 north to Montaño is shown over capacity. It is probable that the opening of the Montaño Bridge alleviated some of that congestion on Coors. Several of the roads just east of I–25, namely Alameda, Paseo del Norte, and Academy, are operating above capacity, as are many of the north-south streets in the North Valley—portions of 4th, 2nd, Edith, and Rio Grande. Both of these problem areas result from commuters leaving employment areas such as Downtown and the North I–25 corridor to travel home to neighborhoods in the North Valley and Northeast Heights. Within the 1960 City Boundary, the areas of congestion are more isolated: Gibson Boulevard, I–25 adjacent to the Big I, Tingley, and 4th and 2nd Streets, to name a few. The next section focuses on the costs of deficiencies and new construction.

4.5.4 Cost Analysis

The transportation costs associated with each growth scenario were broken down according to type: costs to mitigate future deficiencies on existing roads, costs to build new roads, and costs to rehabilitate and reconstruct existing roads.

Volume-to-capacity plots were developed for the year 2020 evening peak hour for each of the three growth scenarios and are shown in Figures 40–42 (pgs.165-169). Each scenario assumes that the improvements to mitigate future deficiencies and new construction projects identified in the sections below have been put in place.



1995 Peak P.M. Hour V/C Ratios

Legend

- < 0.9 V/C
- 0.9 to 1.0 V/C
- 1.0 to 1.3 V/C
- > 1.3 V/C

- 1960 City Limits
- Water Service Area

NORTH-SOUTH ROADWAYS
Rightside = North Bound
Leftside = South Bound

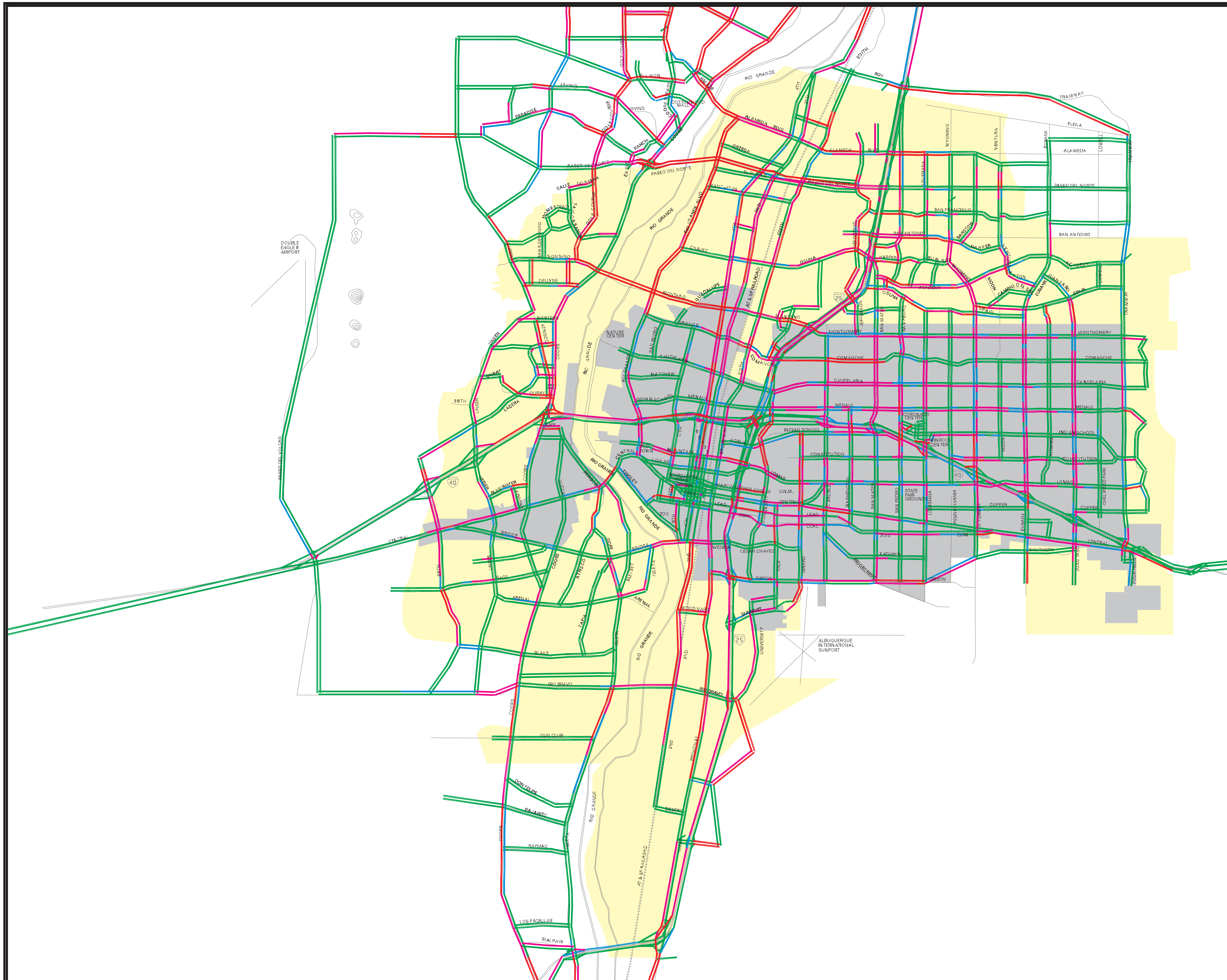
EAST-WEST ROADWAYS
Topside = West Bound
Bottom = East Bound

N
W E
S

Figure 39

PB 100 YEARS

Scale: 1 inch = 2 miles
Map Printed January 2001



2020 Trend

P.M. Peak Hour V/C Ratios

Legend

- < 0.9 V/C
- 0.9 to 1.0 V/C
- 1.0 to 1.3 V/C
- > 1.3 V/C

- 1960 City Limits
- Water Service Area

NORTH-SOUTH ROADWAYS
Rightside = North Bound
Leftside = South Bound

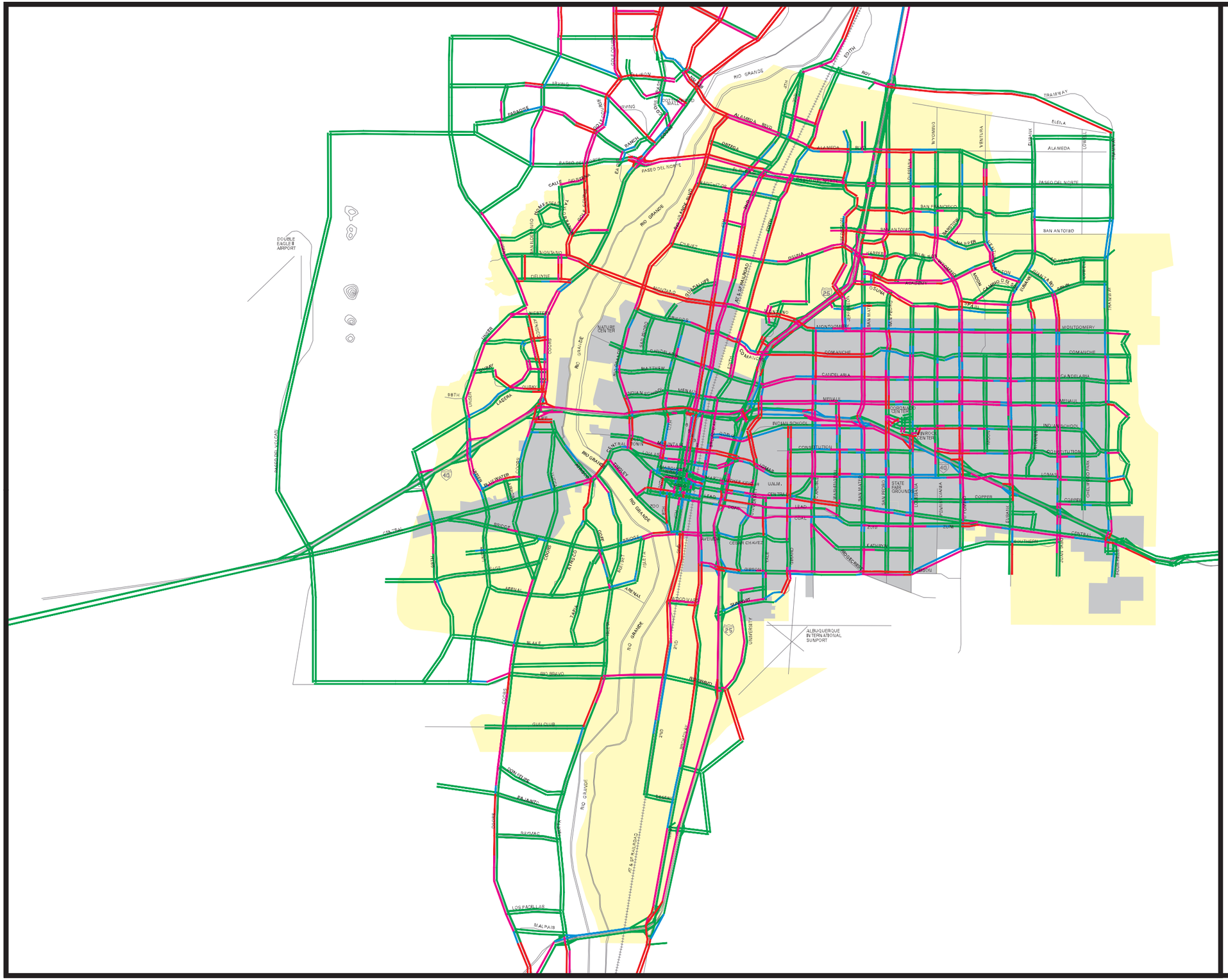
EAST-WEST ROADWAYS
Topside = West Bound
Bottom = East Bound

Figure 40

Scale: 1 inch = 2 miles
Map Printed January 2001

2020 Downtown

P.M. Peak Hour V/C Ratios



Legend

- N < 0.9 V/C
- N 0.9 to 1.0 V/C
- N 1.0 to 1.3 V/C
- N > 1.3 V/C

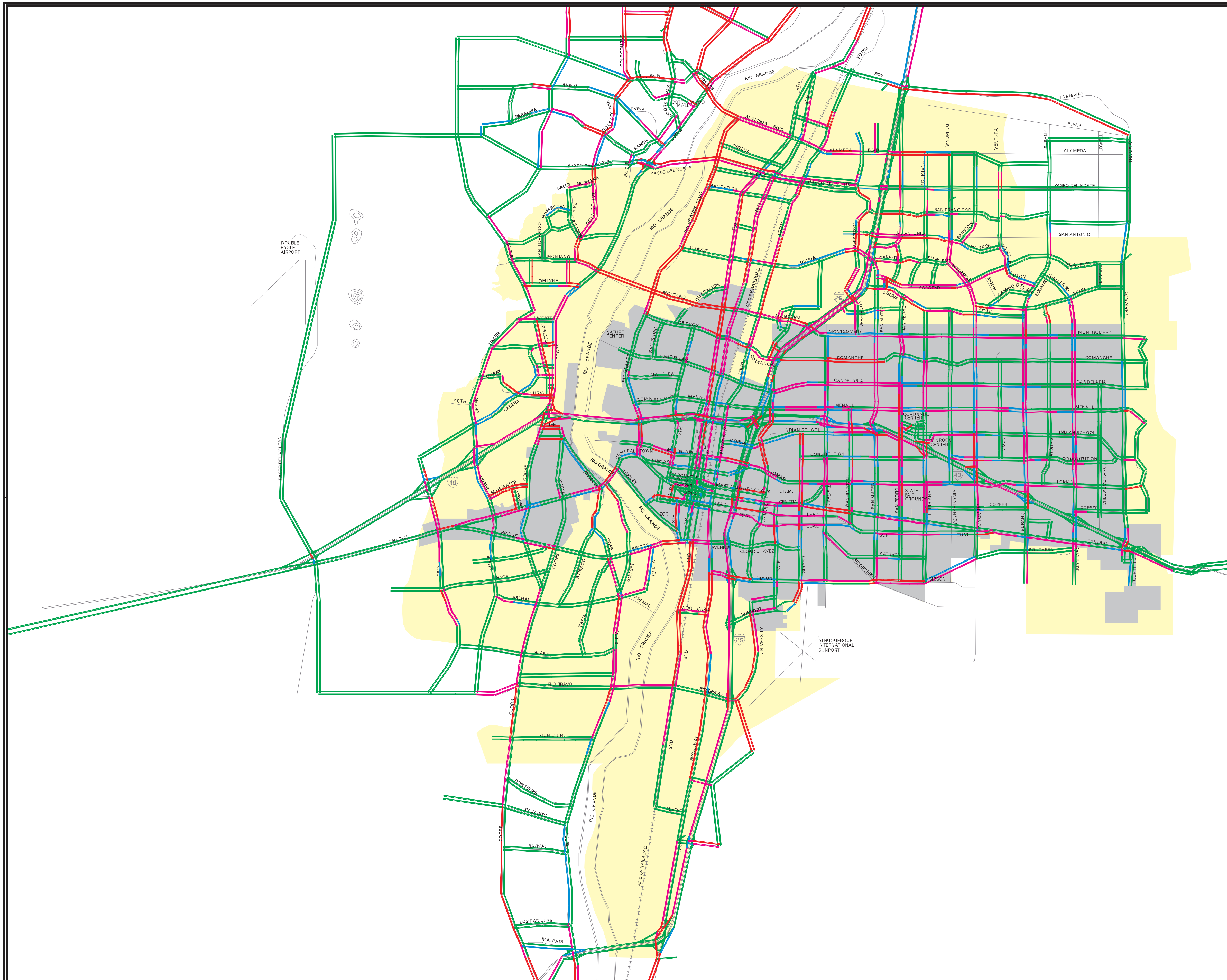
- 1960 City Limits
- Water Service Area

NORTH-SOUTH ROADWAYS
Rightside = North Bound
Leftside = South Bound

EAST-WEST ROADWAYS
Topside = West Bound
Bottom = East Bound

Figure 41

Scale: 1 inch = 2 miles
Map Printed January 2001



2020 Balanced

P.M. Peak Hour V/C Ratios

Legend

- < 0.9 V/C
- 0.9 to 1.0 V/C
- 1.0 to 1.3 V/C
- > 1.3 V/C
- 1960 City Limits
- Water Service Area

NORTH-SOUTH ROADWAYS

Rightside = North Bound

Leftside = South Bound

EAST-WEST ROADWAYS

Topside = West Bound

Bottom = East Bound

Figure 42

Scale: 1 inch = 2 miles

Map Printed January 2001

Costs to Mitigate Future Deficiencies

The Metropolitan Transportation Plan is a financially-constrained plan that lists a number of roadway improvements in an effort to develop an "integrated intermodal transportation system." The Metropolitan Transportation Plan calls for several roadway widening projects, as listed in Table A.12 in Appendix A. The costs for each of the improvements listed in the Metropolitan Transportation Plan were provided in the document and were assumed to be in place for all three of the growth scenarios. Each improvement project was then inspected to see in which of the three service areas it was located. Some projects were located across service area boundaries, and their costs were divided proportionally.

Staff at Bernalillo County Public Works and consultant staff took the land use plans for each of the three growth scenarios and used the V/C plots shown on Figures 40–42 (pg.165-169) and professional judgment to developed a Network Optimization Summary. This lists feasible roadway widening and new construction projects applicable to each scenario to optimize the efficiency of each scenario's roadway network. The costs for these projects were estimated by comparing them to similar projects listed in the Metropolitan Transportation Plan. Table A.12 lists the costs of projects identified in the Network Optimization Summary. It should be noted that in two places the Metropolitan Transportation Plan calls for improvements (widening Arenal from Isleta to Coors and Isleta from Rio Bravo to Arenal from two to four lanes) that the staff have taken out of the Balanced Scenario. All of the costs use1998 dollars.

Approximately $446 million in upgrade costs are common to all three scenarios. When looking at the differing costs, the Balanced plan has the greatest amount of costs to mitigate deficiencies: $42.6 million. The Trend Scenario's costs are about $17.0 million, and the Downtown Scenario's costs are projected at $14.9 million. In the Trend Scenario, 82% of the differing costs are for projects in the Water Service Area and 18% are outside. In the Downtown Scenario, nearly 100% of the differing costs are in the Water Service Area. In the Balanced Scenario, the differing costs are split between 52% in the 1960 City Boundary and 48% in the Water Service Area.

Costs for New Construction

In addition to widening projects, the Metropolitan Transportation Plan lists new roadway construction projects for the major network roads (Table A.13). The costs for each of the new roadways listed in the Metropolitan Transportation Plan were provided in the document and were assumed to be in place for all three growth scenarios. Each new roadway project was then inspected to see in which of the three service areas it was located. Some projects were located across service area boundaries, and their costs were divided proportionally.

The Bernalillo County Public Works' Network Optimization Summary, as developed by staff, also lists new roadway construction projects. The costs for these projects were estimated by comparing them to similar projects listed in the Metropolitan Transportation Plan. Table A.13 lists the costs of major road projects identified in the Network Optimization Summary. Again there are exceptions to the Metropolitan Transportation Plan that should be noted. The Metropolitan Transportation Plan

shows Los Picaros from Broadway to University as having two new lanes, while the Network Optimization Summary has that project removed from the Downtown Scenario. The Metropolitan Transportation Plan also has University from Rio Bravo to Mesa del Sol Parkway as having four new lanes, and this has been taken out of the Trend and Downtown Scenarios in the Network Optimization Summary. Additionally, Rainbow from Unser to McMahon was assumed to be unnecessary for the expected growth in the Downtown and Balanced Scenarios.

The costs for new major road construction for the Downtown and Balanced Scenarios are approximately 93% of the costs of new major road construction in the Trend Scenario. None of the new construction projects lies within the 1960 City Boundary. In the Trend Scenario approximately 18% of the costs for new roadways falls in the Water Service Area boundaries, with the other 82% being Outside the Water Service Area. In both the Downtown and Balanced Scenarios, approximately 20% of the costs for new roadways fall in the Water Service Area boundaries, with the other 80% lying Outside the Water Service Area.

Costs for minor roads were obtained using a table of population and employment growth for each of the three scenarios between the years 1995 and 2020. First, it was assumed that zones and areas that are currently built out could not have local roads added to them. Consultant staff visually analyzed each DASZ with Bernalillo County Public Works staff to determine which DASZs are already built out, so that no new local road costs would be assigned to these DASZs. Next, each DASZ was analyzed to determine whether it would be an employment center in the future. The criteria for being an employment center was chosen as having at least 600 employees in the 2020 scenario and having a ratio of employees to employees plus dwelling units of at least 90%. DASZs that are not already built out and that would not be considered employment centers in the future were then assigned a mileage of local roads for new residential development. In all scenarios for the East Mountain DASZs, this was assumed to be 0.0839 miles per each new dwelling unit, and in the Trend Scenario for other DASZs, was assumed to be 0.0095 miles per each new dwelling unit, based on a number of miles of local road per dwelling unit typically observed in these areas. A rate of 0.0076 miles per dwelling unit (25% more dense than 0.0095 miles per dwelling unit) was used for the Balanced and Downtown Scenarios in DASZs not in the East Mountain area. DASZs that are not already built out and that may be considered employment centers in the future were also assigned a mileage of local road, 0.00045 miles per employee in the Trend Scenario, based on a rate currently observed in industrial areas. Again, a 25% greater density was assumed for the Balanced and Downtown Scenarios, and a rate of 0.00036 miles per employees was used. Table A.14 in Appendix A shows the number of miles of local road required for each growth scenario by DASZ and also shows the costs of constructing the roads. All new local roads were assumed to be standard 24-foot wide paved roads (28-foot face-to-face section), although the roads in the East Mountain DASZs were assumed to be built without curb and gutter or sidewalk. Supporting information for the cost of local roads is presented later in this report.

The costs for new minor road construction for the Downtown and Balanced Scenarios are approximately 80% and 72%, respectively, of the costs for new minor road construction in the Trend Scenario. 1,362 miles of new road would be required for the Trend Scenario, 1,121 miles required for the Downtown Scenario, and 936 miles required for the Balanced Scenario. In the Trend Scenario, approximately 9% of costs fall within the 1960 City Boundary, 32% in the Water Service Area boundaries, and the other 59% are Outside the Water Service Area. In the Downtown Scenario, approximately 12% of costs fall within the 1960 City Boundary, 37% in the Water Service Area boundaries, and the remaining 51% are Outside the Water Service Area. In the Balanced Scenario the split is 14% of costs within the 1960 City Boundary, 32% in the Water Service Area boundaries, and 54% Outside the Water Service Area.

Rehabilitation and Reconstruction Costs

Street in need of rehab and street with repairs completed

In 1998, the City of Albuquerque assessed its street conditions and found 27% of its roads in poor or very poor condition, 43% in fair condition, 19% in good condition, and 11% in excellent condition. Figure 43 (pg.175) shows road conditions within the City of Albuquerque. Bernalillo County Public Works did not have an estimate of the number of lane miles in need of repair, but it did estimate that the cost of rehabilitating existing County roads was $188 million. City and County staff estimate that half of this cost is assumed to occur in the Water Service Area and the other half Outside the Water Service Area. The Metropolitan Transportation Plan lists roadways that will require rehabilitation or reconstruction by the year 2020; the costs for these projects are shown in Table A.15 in Appendix A. These costs were assumed to be common to all three growth scenarios.

Rehabilitation and reconstruction costs within the 1960 City Boundary make up about 42% of all costs; Costs for rehabilitation and reconstruction within the Water Service Area make up approximately 41.5% of all costs, and Outside the Water Service Area roughly 16.5% of all costs.

Summary of Costs

The capital costs for roads that are common to all three scenarios are approximately $1.3 billion, or more than 80% of the total in each scenario. This reflects the substantial common cost associated with two sets of capital improvements:

1. Rehabilitation and reconstruction of major and local facilities, and
2. Cost of the Metropolitan Transportation Plan facility projects that meet the 2020 transportation needs.

Reconstruction and roadway rehabilitation accounts for more than half ($724 million) of the common capital cost. The projects needed to correct common deficiencies in road capacity account for more than $446 million. An additional $142 million of capital costs are for the construction on new major roads that are common to all scenarios.

Scenario-specific costs show the greatest amount of variance in two areas—common deficiencies and new roads. The Balanced Scenario has the highest cost for the correction of deficiencies. Much of these costs are improvements for High Occupancy Vehicle facilities. The Trend Scenario is the most expensive of the three scenarios. The Downtown Scenario has the lowest capital cost.

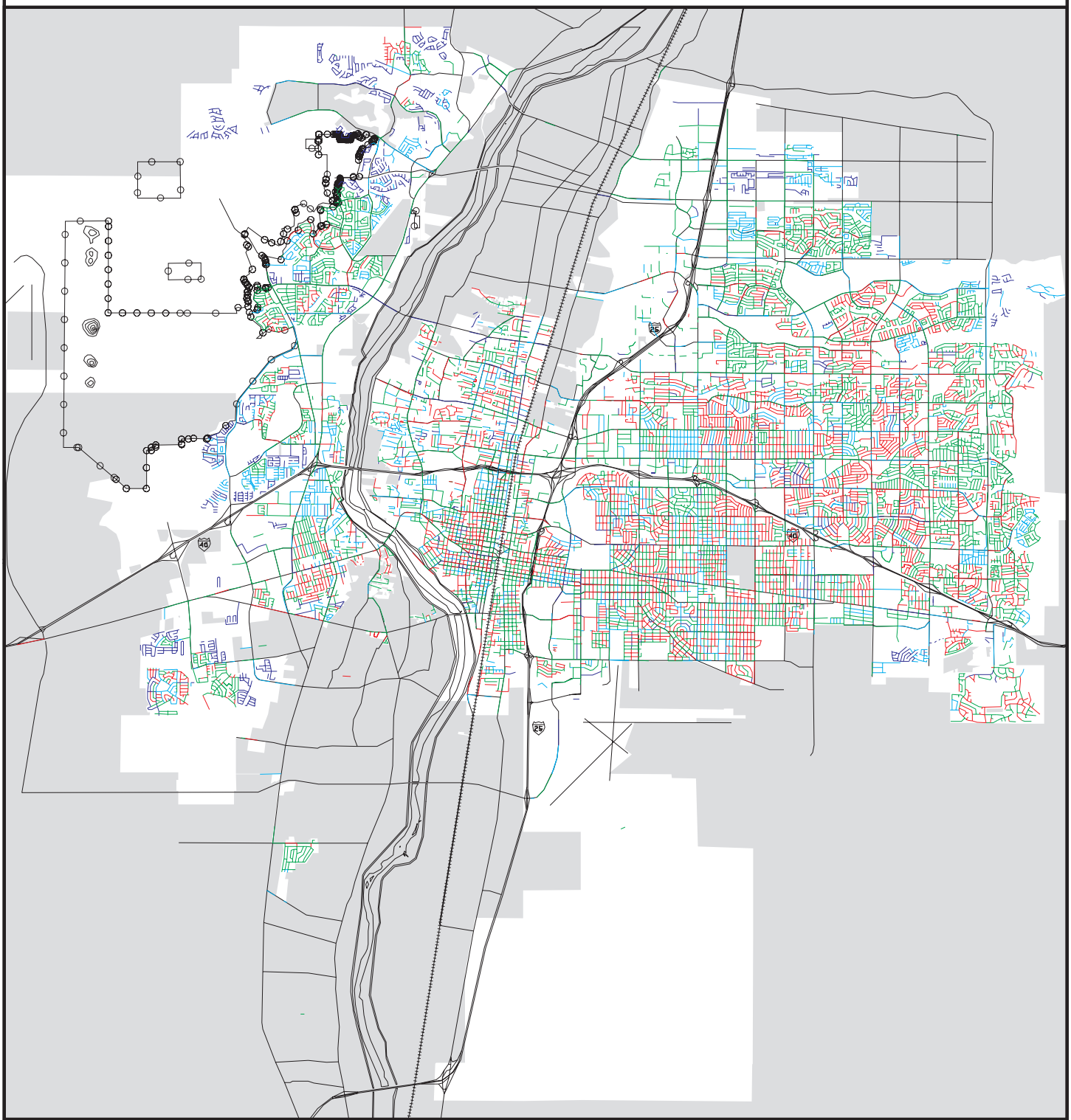
Within the 1960 City Boundary, the highest costs are estimated for the Balanced Scenario ($652 million). The Trend and Downtown Scenarios have lower costs. In the Water Service Area, all three scenarios have similar costs, ranging from $599 million (Balanced Scenario) to $618 million (Trend Scenario). However, the cost of providing roads to the area Outside the Water Service Area shows the most variation. The Balanced and Downtown Scenarios have costs that are similar. The Trend Scenario costs are approximately $66-$72 million higher than the other two scenarios, as shown in Table 71.

Table 71 Transportation Capital Cost (Roads) by Area

Scenario	1960 City Boundary	Water Service Area	Outside Service Area
Trend			
Mitigate Deficiencies	$295,134,400	$101,525,600	$66,494,000
New Major Roads	–	$31,392,500	$139,692,500
New Minor Roads	$25,025,700	$91,802,123	$167,918,214
Rehab/Reconstruction	$305,355,752	$299,975,688	$118,964,500
County Rehab	–	$94,000,000	$94,000,000
Total Capital Cost	$625,515,852	$618,695,911	$587,069,214
Balanced			
Mitigate Deficiencies	$317,414,650	$107,843,350	$63,494,000
New Major Roads	–	$31,500,000	$128,800,000
New Minor Roads	$28,890,121	$65,683,236	$110,149,114
Rehab/Reconstruction	$305,355,752	$299,975,688	$118,964,500
County Rehab	–	$94,000,000	$94,000,000
Total Capital Cost	$651,660,523	$599,002,274	$515,407,614
Downtown			
Mitigate Deficiencies	$295,134,400	$102,478,600	$63,494,000
New Major Roads	–	$30,892,500	$128,192,500
New Minor Roads	$26,966,946	$84,108,607	$116,583,137
Rehab/Reconstruction	$305,355,752	$299,975,688	$118,964,500
County Rehab	–	$94,000,000	$94,000,000
Total Capital Cost	$627,457,098	$611,455,395	$521,234,137

Source: Parsons Brinckerhoff

Figure 43
City Road Conditions
May 2000



Legend

Excellent **Fair**

Good **Poor**

4.5.5 Supporting Information

A number of assumptions were made in determining the cost estimates above. The sections below provide supporting information for those assumptions.

Costs for Mitigating Deficiencies and Constructing New Major Roadways

The roadway improvements included in this report are listed either in the Metropolitan Transportation Plan or the Bernalillo County Network Optimization Summary. Roadway improvements listed in the Metropolitan Transportation Plan include estimated construction costs, shown in Table A.16.

Table A.17 in Appendix A summarizes the assumptions made to estimate major roadway construction costs. The estimated construction costs of the roadways listed in the Network Optimization Summary were derived using several methods. First, the construction costs from the Metropolitan Transportation Plan were converted to a unit cost per mile of roadway. The roadway improvements listed in the Network Optimization Summary were then compared to those listed in the Metropolitan Transportation Plan. Where similar improvements located in similar areas were present in both the Network Optimization Summary and Metropolitan Transportation Plan, the unit cost per mile of roadway from the Metropolitan Transportation Plan was applied to the length of roadway described in the Network Optimization Summary, and a total cost was calculated. Where improvements in the Network Optimization Summary and Metropolitan Transportation Plan were dissimilar, two other methods were used. For improvements that required striping only (such as converting an existing lane to an High Occupancy Vehicle lane), a unit cost per mile of striping was calculated. The unit cost per mile was calculated using the New Mexico State Highway and Transportation Department price for 4-inch striping per foot and multiplying it by two lanes and then by 5,280 feet/mile. This gave a unit cost of roughly $25,000 per mile, which was then applied to the scenarios that included striping only. Engineering judgment based on consistent assumptions was used to estimate construction costs for the interchange ramps and overpasses, bridge construction and reconstruction, and signalization improvements.
Estimating New Local Street Mileage

Using the year 2020 population data for each of the three growth scenarios, DASZs were identified that had a growth in employment or number of dwelling units from the year 1995. A sample of existing residential DASZs in the area was then examined to calculate an average number of miles of local road required per dwelling unit—this value of 0.0095 miles per dwelling unit (about 50 feet/dwelling unit) was used for the Trend Scenario. It was assumed that densities in the Balanced and Downtown Scenarios would be approximately 25% greater, so a value of 0.0076 miles per dwelling unit was used in those cases. A sample of existing residential DASZs in the East Mountain area yielded an average of 0.0839 miles/dwelling unit (about 443 feet/dwelling unit), which was applied to the East Mountain DASZs in all three scenarios. Next, the DASZs in a sample of industrial areas were examined to calculate an average number of local road miles required per employee in DASZs that qualified as employment centers—this value of 0.00045 miles per employee (about 2.34 feet per employee) was used for the Trend Scenario. Again, the assumption was made that densities in the Balanced and Downtown Scenarios would be 25% greater

than in the Trend Scenario, and a value of 0.00036 miles per employee was used for those scenarios.

Minor Street Costs

Local streets were priced based on the following assumptions:

- A 28-foot face-to-face section (24-foot wide paved section);
- Standard curb and gutter;
- A 4-foot sidewalk on both sides of the road;
- A paving section with two 2-inch asphalt lifts, two 6-inch lifts of subgrade compacted to 95%, natural ground compacted to 90%, and one layer each of tack coat and prime coat;
- Compaction of subgrade extending one foot behind the curb; and
- Clearing and grubbing, including sidewalk.

Because the land for minor streets is assumed to be furnished by the developer, no costs for right-of-way are included. If we were to include right-of-way costs, the effect would be to increase the cost for the Trend Scenario relative to the more compact scenarios.

Table 72 shows how the unit cost for one linear foot of local road at $58.39 was calculated. The City of Albuquerque's 1997 unit prices were used, since these have remained stable.

Table 72 Cost for One Linear Foot of Local Road

Item	Quantity in One Linear Foot	Unit Price	Cost
Site clearing and grubbing	4.4 cubic yards	$0.18/cubic yard	$0.79
Subgrade prep (2 6-inch lifts = 3.5 cubic yard/lift)	7.0 cubic yards	$1.01/cubic yard	$7.07
Asphalt paving (2 2-inch lifts = 2.7 cubic yard/lift)	5.4 cubic yards	$1.58/cubic yard	$8.53
Prime coat	2.7 cubic yards	$0.31/cubic yard	$0.84
Tack coat	2.7 cubic yards	$0.17/cubic yard	$0.46
Standard curb & gutter	2.0 linear foot	$11.14/ linear foot	$22.28
4 inch sidewalk, 4 feet wide	0.88 cubic yards	$20.93/cubic yard	$18.42
TOTAL			$58.39

Roads in the East Mountain area (DASZs 3111–3132 and DASZs 3142–3301) were assumed to be built to County standards; that is, without curbs, gutters, or sidewalks. This assumption brought the local road cost for these DASZs down to $17.69 per linear foot.

The proportion of the transportation capital costs to be borne by the public versus the private sector was determined using the following method and is summarized in Table 73. First, based on discussions with Bernalillo County Public Works staff,

Table 73 Public vs. Private Transportation Costs

Trend Scenario	1960 City	Public	Private	Water Service Area	Public	Private	Out of Service Area	Public	Private	TOTAL	Public	Private
Mitigate Deficiencies	$295,134,400	$175,117,040	$120,017,360	$101,525,600	$59,315,360	$42,210,240	$66,494,000	$39,390,800	$27,103,200	$463,154,000	$273,823,200	$189,330,800
New Major Roads	$0	$0	$0	$31,392,500	$18,635,500	$12,757,000	$139,692,500	$83,615,500	$56,077,000	$171,085,000	$102,251,000	$68,834,000
New Minor Roads	$25,025,700	$0	$25,025,700	$91,802,123	$0	$91,802,123	$167,918,214	$0	$167,918,214	$284,746,037	$0	$284,746,037
Rehab/Reconstruction	$305,355,752	$305,355,752	$0	$299,975,688	$299,975,688	$0	$118,964,500	$118,964,500	$0	$724,295,940	$724,295,940	$0
County Rehab	$0	$0	$0	$94,000,000	$94,000,000	$0	$94,000,000	$94,000,000	$0	$188,000,000	$188,000,000	$0
Total Capital Cost	$625,515,852	$480,472,792	$145,043,060	$618,695,911	$471,926,548	$146,769,363	$587,069,214	$335,970,800	$251,098,414	$1,831,280,977	$1,288,370,140	$542,910,837
Balanced Scenario	**1960 City**	**Public**	**Private**	**Water Service Area**	**Public**	**Private**	**Out of Service Area**	**Public**	**Private**	**TOTAL**	**Public**	**Private**
Mitigate Deficiencies	$317,414,650	$188,485,190	$128,929,460	$107,843,350	$64,706,010	$43,137,340	$63,494,000	$37,590,800	$25,903,200	$488,752,000	$290,782,000	$197,970,000
New Major Roads	$0	$0	$0	$31,500,000	$18,700,000	$12,800,000	$128,800,000	$77,080,000	$51,720,000	$160,300,000	$95,780,000	$64,520,000
New Minor Roads	$28,890,121	$0	$28,890,121	$65,683,236	$0	$65,683,236	$110,149,114	$0	$110,149,114	$204,722,471	$0	$204,722,471
Rehab/Reconstruction	$305,355,752	$305,355,752	$0	$299,975,688	$299,975,688	$0	$118,964,500	$118,964,500	$0	$724,295,940	$724,295,940	$0
County Rehab	$0	$0	$0	$94,000,000	$94,000,000	$0	$94,000,000	$94,000,000	$0	$188,000,000	$188,000,000	$0
Total Capital Cost	$651,660,523	$493,840,942	$157,819,581	$599,002,274	$477,381,698	$121,620,576	$515,407,614	$327,635,300	$187,772,314	$1,766,070,411	$1,298,857,940	$467,212,471
Downtown Scenario	**1960 City**	**Public**	**Private**	**Water Service Area**	**Public**	**Private**	**Out of Service Area**	**Public**	**Private**	**TOTAL**	**Public**	**Private**
Mitigate Deficiencies	$295,134,400	$175,117,040	$120,017,360	$102,478,600	$59,887,160	$42,591,440.00	$63,494,000	$37,590,800	$25,903,200	$461,107,000	$272,595,000	$188,512,000
New Major Roads	$0	$0	$0	$30,892,500	$18,535,500	$12,357,000.00	$128,192,500	$76,915,500	$51,277,000	$159,085,000	$95,451,000	$63,634,000
New Minor Roads	$26,966,946	$0	$26,966,946	$84,108,607	$0	$84,108,607.00	$116,583,137	$0	$116,583,137	$227,658,690	$0	$227,658,690
Rehab/Reconstruction	$305,355,752	$305,355,752	$0	$299,975,688	$299,975,688	$0.00	$118,964,500	$118,964,500	$0	$724,295,940	$724,295,940	$0
County Rehab	$0	$0	$0	$94,000,000	$94,000,000	$0.00	$94,000,000	$94,000,000	$0	$188,000,000	$188,000,000	$0
Total Capital Cost	$627,457,098	$480,472,792	$146,984,306	$611,455,395	$472,398,348	$139,057,047.00	$521,234,137	$327,470,800	$193,763,337	$1,760,146,630	$1,280,341,940	$479,804,690

all rehabilitation and reconstruction costs from Table A.15 were assigned to the public. The other assignments were done using these assumptions provided by the Planned Growth Strategy Management Committee based on discussions with private sector stakeholders:

- Costs associated with arterials would be assigned 60% to the public and 40% to the private sector,
- Costs associated with collectors would be assigned 20% to the public and 80% to the private sector, and
- Costs associated with local (minor) roads would be assigned 100% to the private sector.

Consequently, 100% of the minor road costs from Table A.14 were assigned to the private sector. Next, the roadway improvements listed in Table A.12 (costs to mitigate deficiencies), and Table A.13 (new construction costs for major roads), were categorized as arterial or collector improvements as shown on those tables. The costs were then divided as described above to yield totals for the public versus the private sector.

The proportion of the total transportation capital costs to be borne by the public varies little between scenarios. In the Trend Scenario, $1,288 million (70%) of the $1,831 million total were assigned to the public. In the Balanced Scenario, $1,299 million (74%) of the $1,766 million total were assigned to the public. Finally, in the Downtown Scenario, $1,280 million (73%) of the $1,760 million total were assigned to the public.

4.5.6 Transit Cost

The City of Albuquerque's existing transit system consists of SunTran, providing bus service, and SunVan, a paratransit service provider, supplying variable route service. SunTran reports that it carried a daily average of 16,804 passenger trips using its fleet of 128 buses in 1995. The annual operating cost for the existing system in FY 99 was $14,331,000 (Source: City of Albuquerque).

SunTran bus on Central

Existing SunTran ridership is considered to be modest when compared to peer cities, such as Austin, Tucson, or Salt Lake City. While ridership on the SunTran system has been increasing slowly in recent years, this trend follows a period of declining ridership. SunTran has begun a modest set of service expansions recently. These changes are intended to improve the efficiency of a system that until recently had some routes with no midday service, very limited weekend service, no evening service, and no service on six major holidays.

For purposes of this analysis, it is assumed that the bus system will be expanded until it reaches a total of 314 buses. A fleet of 314 buses was designated to serve the Albuquerque area in the recent proposal to establish a Regional Transit Authority in the Middle Rio Grande Region (Table 74).

Transit system operating costs are directly related to the size of the vehicle fleet and the total hours of operation. The capital cost of the bus system is closely associated with the acquisition of new buses and the frequency of bus replacement. All of the scenarios assume the same level of bus acquisition, but they assume two schedules of bus replacement. The bus fleet in the Trend Scenario will drive 5% more miles to cover more area to serve the same population than the Downtown and Balanced Scenarios. This is expected to result in a slightly shorter replacement schedule for the Trend Scenario.

Table 74 Comparable Transit System Data

City	Average Transit Trips Per Day	Transit Vehicles	Average Daily Trips Per Vehicle
Albuquerque SunTran	16,804	128	131
Austin, Texas	103,700	404	257
Salt Lake City, Utah	83,900	594	141
Tucson, Arizona	53,700	200	269
Capacity of Albuquerque fleet if operated more efficiently	25,600	128	200
2020 Bus Fleet, All Scenarios*		314	

* From Regional Transit Authority Service Plan

The process of estimating the number of transit trips in the Downtown, Balanced, and Trend Scenarios begins with the methodology set out in the Transportation Evaluation Study memorandum "Transportation-Related Impacts of Alternative Future Place Image" (Parsons Brinckerhoff 1997). This memo produced initial estimates of transit ridership based upon four alternative methods. For the purpose of this section, transit ridership estimates based on the memo's TCRP Report 16 equations will be used (see pages 3 and 4 of the 1997 memorandum). This is the most conservative of the four methods used in that memorandum. The results of this process for the Downtown Scenario are shown in Table 75.

Table 75 Updated Transit Ridership Projection for Downtown Scenario, Estimated by Corridor

	Daily Transit Riders	
Corridor	1995	2020
Balanced Scenario Corridors	8,664	14,100
Other Corridors	4,920	20,500
Simple Total	13,584	34,600
Corridor Total—no double counting	11,000	33,800
Ratio of Corridor to Total Ridership	68%	50%*
Estimated Total Ridership	16,174	67,600

* Projected

Source: Parsons Brinckerhoff

Current population and employment projections for all three scenarios were reviewed and organized by transportation corridor. In the Downtown Scenario, it is estimated that 33,800 transit trips per day will be generated in focused growth corridors. Furthermore, it is assumed that an expanded bus system serving Albuquerque will generate half of its trips from the area outside the focused growth corridors and half from the corridors themselves. Accordingly, the projected average daily transit ridership for the Downtown Scenario is 67,600 trips per day.

The "Balanced Scenario Corridors" are the focused growth corridors used in the Balanced Scenario. The "Other Corridors" contain the traffic analysis zones that comprise the remainder of the growth corridors in the Downtown Scenario. The traffic analysis zones in all these corridors produced 68% (11,000) of the total daily transit trips in 1995. They are also expected to be a primary source of transit riders in all of the planned growth scenarios.

Average daily transit ridership for the Balanced Scenario was estimated by comparing the projections for the Balanced and Downtown Scenarios. As a result of this analysis, it was determined that the transit ridership in the Balanced Scenario corridors is expected to be 90% of the ridership in the Downtown Scenario. It is assumed that like the Downtown Scenario, the Balanced Scenario gets half of its ridership from the corridor and about half from the remaining portion of the urban area. As a result of this analysis, the projected 2020 daily transit ridership is expected to be 61,000 trips (Table 76).

Table 76 Transit Ridership Projection for Balanced Scenario Estimated by Corridor

	Daily Transit Riders	
Corridor	**1995**	**2020**
Balanced Scenario Corridors	8,664	31,140
Other Corridors	4,920	30,420
Simple Total	13,584	61,560
Corridor Total—no double counting	11,000	30,500
Projected Ratio of Corridor to Total Ridership	68.01%	50%*
Estimated Total Ridership	16,174	61,000

* Projected

Balanced Population and Employment Projections = 90% of Corridors in Downtown Scenario

A similar process was followed to estimate the ridership for the Trend Scenario. A comparison of the corridor projections under the Downtown and the Trend Scenarios resulted in an estimate of Trend Scenario ridership that is 80% of ridership in the Downtown Scenario in the corridors. It was also assumed that the land use pattern for the remainder of the urban area would produce fewer transit riders than the Balanced or the Downtown Scenarios. Therefore the proportion of total transit ridership outside of the corridors was projected to decrease. As a result, the corridors are expected to produce more of the total ridership (55%) in the Trend Scenario than they produce in the other two scenarios. As a result of this analysis, it is estimated that the Trend

Scenario will produce 49,091 daily riders in 2020 (Table 77).

Table 77 Transit Ridership Projection for Trend Scenario' Estimated by Corridor

	Daily Transit Riders	
Corridor	**1995**	**2020**
Balanced Scenario Corridors	8,664	11,280
Other Corridors	4,920	11,280
Simple Total	13,584	22,560
Corridor Total—no double counting	11,000	27,000
Ratio of Corridor to Total Ridership	68.01%	55%*
Estimated Total Ridership	16,174	49,091

* Projected

Trend Population and Employment Projections = 80% of Corridors in Downtown Scenario

Land use is not the only factor contributing to this ridership estimate. All three bus systems assume the same size bus fleet—314 buses—and the same portion of operating cost recovery from passenger fares—30%. Taking this analysis to its logical conclusion, it can be determined that the transit fares paid by the riders in the Trend Scenario will be higher than in either the Balanced or the Downtown Scenarios.

For long-range planning purposes, a High Capacity Transportation system is assumed to be needed in each scenario in 2020, although the exact nature of this system has yet to be determined. The operating cost estimates for this system, based on the cost estimates developed for the proposed Regional Transit Authority in 1998, are projected at $8,600,000 in 2020. Capital costs for the High Capacity Transportation system were also estimated. These total $275,200,000 based on Regional Transit Authority cost estimates. Neither the capital nor the operating costs of High Capacity Transportation are included in the transit cost estimates here.

The transit operating cost for all of the scenarios assumes the utilization of a 314-vehicle fleet. The operating costs for the Balanced and Downtown Scenarios were estimated by expanding the existing fleet cost in direct proportion to the number of buses. For the Trend Scenario, 5% was added to this direct proportion to reflect the longer trip lengths under this scenario (Table 78).

Table 78 Estimated Transit System Annual Operating Costs, 2020

	Scenario		
Cost	**Trend**	**Balanced**	**Downtown**
Annual Bus Public Operational Costs	$25,839,465	$24,609,014	$24,609,014
Private Bus Operating Cost - Fares	$11,074,056	$10,546,720	$10,546,720
Total Annual Cost	$36,913,521	$35,155,734	$35,155,734

SunTran Operating Cost for 1999 = $14,331,000.

2020 Downtown, Balance and Trend assume larger bus fleets than 1995 and are adjusted proportionally.

Trend bus operating cost adjusted 5% to reflect increased miles of travel.

Assumes 30% Recovery of Operational Cost from Fee or Fares.

Transit capital cost estimates were derived for buses and bus facilities consistent with the cost estimates developed for the proposed Regional Transit Authority (Avid Engineering and Parsons Brinckerhoff 1998). The cost of a bus is estimated to be $335,000. It is assumed that an expanded bus system will need an estimated $210,000 per bus in transit-related facility capital costs such as bus shelters. Finally, it is assumed that the existing bus fleet of 128 buses, which is assumed as part of all three scenarios, will need to be replaced twice during the time period 1999–2020 in the Balanced and Downtown Scenarios and three times in the Trend Scenario. This replacement assumption is based on the Federal Transit Authority recommendation of replacing buses every 12 years. The new buses required to support all scenarios will be added incrementally as they are needed, and the bus fleets will reach their projected levels by 2020.

The Middle Rio Grande Connections Major Transportation Investment Study is an analysis of potential High Capacity Transportation systems in the Albuquerque area. This study is being conducted by the New Mexico State Highway and Transportation Department and the City of Albuquerque. The type of High Capacity Transportation system, nature of the necessary improvements, and exact location of the High Capacity Transportation service is unknown at this time. The High Capacity Transportation could be a Light Rail Transit line, a Bus Rapid Transit line, or an extensive system of High Occupancy Vehicle facilities. As previously noted, the capital and operating costs of a High Capacity Transportation system have not been included here.

Thus, the capital costs for the Trend Scenario would be $323 million for the bus fleet and related transit facilities. The capital costs for the Balanced and the Downtown Scenarios would be $249 million. The estimation of these costs is shown in Table 79.

Table 79 Projected Transit Capital Cost

	Scenario		
	Trend*	**Balanced****	**Downtown****
Replace Existing Buses	$128,640,000	$85,760,000	$85,760,000
Additional Buses to Meet Demand	186	186	186
Average Cost Per Bus	$335,000	$335,000	$335,000
New Bus Capital Cost	$155,775,000	$124,620,000	$124,620,000
New Transit Facilities for New Buses- Shelters, Bus Stops Etc.			
Average Cost Per New Bus	$210,000	$210,000	$210,000
New Transit Facilities	$39,060,000	$39,060,000	$39,060,000
Total Capital Cost	$323,475,000	$249,440,000	$249,440,000

* Assumes bus replacement every 10 years

** Assumes bus replacement every 12 years

Source: Parsons Brinckerhoff

4.5.7 Full Cost of Travel

The full cost of travel is an important part of the transportation costs of alternative land use scenarios. Most people think of the cost of travel in terms of the direct monetary costs to make a specific trip. Automobile drivers usually think that this cost includes the cost of gasoline and other direct costs such as parking. Transit riders view this cost as the transit fare, and pedestrians and bicyclists usually view their trip as being free. But the cost of travel actually includes substantial additional monetary costs. The higher the total travel costs, the greater the impacts on the local economy. Conversely, if the cost of travel is lower, more economic resources are available for other activities.

The estimation of the "full cost of travel" has received much attention recently. Various cost accounting procedures have been the topic of several studies during the last decade. A useful cost accounting approach (Apogee Research, Inc. 1994) was developed for Boston, Massachusetts, and Portland, Maine, which classifies all costs into three categories: User Costs, Governmental Costs, and Societal Costs. Additional research was conducted on the cost of travel by the Victoria Policy Institute (Litman 1995) and Mark Delucchi (Delucchi 1997), and on cost issues associated with land development patterns (Burchell et al. 1998). This cost of travel methodology has been used recently to estimate the cost of travel in Boulder, Colorado (Parsons Brinckerhoff July 1996) and to develop a prototype full cost model (Parsons Brinckerhoff 1998) for the Federal Highway Administration. These examples represent only a portion of the work that has been done on the subject of travel costs.

A complete cost of travel analysis looks at costs in three broad categories, which are described below.

User Costs: User costs include more than the gas and parking mentioned previously. In addition, it includes the cost of oil, tires, repairs, maintenance, and depreciation. These costs account for most of the direct out-of-pocket expenses that users pay. Additional out-of-pocket expenses include insurance, registration, licensing, and taxes levied by state or local governments on individual cars. Indirect user costs can include variables such as the cost of providing a parking space/garage at home and the average cost of accidents not covered by insurance. Finally there is the issue of user travel time cost. The cost of travel time can substantially increase the total cost of travel per mile.

Government Costs: Governmental costs include a wide range of expenditures that are not paid by gas taxes or other direct user fees. Government costs also include the local (City/County) cost associated with the transportation system that are paid from general funds, such as police traffic enforcement, traffic court, and fire/EMS service in response to accidents. These costs can also include the portion of accident costs that are not covered by the users or by insurance. Capital costs associated with the construction of state or local transportation system that are not paid by the gas tax and deferred investment for transportation facilities can also be included in this category. For transit, government cost is the net cost after transit fares have been deducted.

Societal Costs: Societal costs are typically what economists call "external" costs. Societal costs include air pollution, waste, water pollution, and noise. Numerous studies have estimated the cost of these externalities. In addition, this category can include the cost of building and maintaining parking spaces away from home.

The travel cost analysis conducted for this report uses a conservative set of user costs to estimate the annual cost of travel for vehicle operations (gas, oil, tires, maintenance, repairs, and depreciation) and for user travel time.

A recent analysis of Cost Benefit models conducted for the California Department of Transportation examined the components of vehicle operating cost per mile used by six transportation models; HERS[2]; Cal B/C[3]; STEAM[4]; RailDEC[5]; Rail B\C[6], and StratBENCOST[7]. These six models use the same or similar cost components and estimate that the range of vehicle operating costs is between $0.18–$0.32 per vehicle mile traveled in 1995. For purposes of this analysis, the cost data have been updated to current dollars using the Consumer Price Indicator—All Urban Consumers. The resultant high and low vehicle operating costs per mile are shown in Table 80.

Table 80 Vehicle Operating Cost Per Mile

	Cost per vehicle mile traveled	
Year	Low	High
1995	$0.18	$0.32
Adjusted Current Cost	$0.20	$0.35

It should be noted that the vehicle operating cost estimates produced for this report represent a low estimate of the total cost of travel. Research (Parsons Brinckerhoff 1997) has shown that the cost of travel is directly related to the land use patterns, vehicle ownership patterns, and vehicle mode choice decisions. In a transit-oriented land use pattern, the percentage of trips made by walk/bike is twice the level of a traditional suburban area. There is also a greater use of transit and a reduced use of single occupancy vehicles. The interconnection of land use and transportation affect the average vehicle miles traveled per household and can affect transportation costs to an even greater extent by reducing the need for some households to have a second car.

The annual cost of travel is estimated for the year 2020 and is expressed in current year dollars. The Bernalillo County Public Works Department, using the travel model developed by MRGCOG, estimated the total vehicle miles traveled for each of the three land use scenarios in 2020. These data are expressed in terms of peak and non-peak hour weekday vehicle miles traveled and are shown in Table 81(pg.186). The travel model uses the transportation network developed for the Albuquerque area. This travel network was adjusted to reflect the new road links assumed to be part of each of the 2020 land use scenarios.

The travel model estimates automobile travel but does not model vehicle mode choice decisions and does not model transit ridership. Therefore, it is necessary to

Table 81 Total Vehicle Miles Traveled by Development Scenario, 2020

	Scenario		
	Trend	Balanced	Downtown
A.M. Peak	4,380,627	4,287,400	4,315,548
P.M. Peak	5,978,556	5,866,073	5,884,507
Off Peak	13,424,888	13,204,926	13,101,100
Total	23,784,072	23,358,400	23,301,156

Source: Parsons Brinckerhoff

make adjustments to the total vehicle miles traveled for the Downtown and Balanced Scenarios that reflect changes in transit ridership associated with compact land use patterns. An analysis of these changes was developed as part of the Albuquerque Transportation Evaluation Study and is contained in the paper entitled "Comparison of Trend Alternatives and Alternative Future Place Image Concept (TES Alternative)" prepared by Parsons Brinckerhoff (March 1997). Adjustments to the total 2020 daily vehicle miles traveled based on projected increases in High Occupancy Vehicle trips and transit ridership were taken from that memo. The High Occupancy Vehicle adjustments reduce the number of vehicle miles of travel because the percentage of trips made by High Occupancy Vehicles increases while the population remains the same. This reduction in vehicle miles traveled is partially offset by an increased trip length for High Occupancy Vehicle trips. High Occupancy Vehicle trips are assumed to be 10% longer than single occupancy vehicle trips because of the need to pick up additional passengers (Source: Parsons Brinckerhoff). The vehicle miles traveled reduction attributable to High Occupancy Vehicle is estimated at 77,562 vehicle miles per day.

For the compact development scenarios, we assume the increase in the number of transit trips shown in Table 82, and a corresponding decrease in the number of single occupancy vehicle trips. This is estimated to reduce the single occupancy vehicle miles traveled by an additional 128,638 miles per day for the Downtown Scenario and 82,768 miles per day for the Balanced Scenario based on an average trip length of seven miles. The total reduction in daily vehicle miles traveled in the Downtown Scenario is 206,200 and in the Balanced Scenario it is 160,330. The resultant estimates of daily vehicle miles traveled for the three land use scenarios are shown in the Tables 82 and 83 (pg.189).

Table 82 Adjustments to Total Vehicle Miles Traveled

	Scenario		
Adjustment	**Trend**	**Balanced**	**Downtown**
Single occupancy vehicle trips shifted to high occupancy vehicle	0	12,400	12,400
Average single occupancy vehicle trip length	7.08	6.95	6.95
Change in single occupancy vehicle miles traveled	0	(86,180)	(86,180)
Increased vehicle miles traveled due to longer high occupancy vehicle trips (+10%)	0	8,618	8,618
Net vehicle miles traveled reduction—high occupancy vehicle	0	(77,562)	(77,562)
Single occupancy vehicle trips shifted to transit			
Increase in number of trips (Trend = 49,091)	0	11,909	18,509
Net vehicle miles traveled reduction—transit	0	(82,768)	(128,638)
Total Net Vehicle Miles Traveled Adjustment	0	(160,330)	(206,200)

Source: Parsons Brinckerhoff

Table 83 shows the adjusted vehicle miles traveled estimates, assuming 90% of the change occurs in A.M. and P.M. Peak Hours (Source: Parsons Brinckerhoff). Reductions in total vehicle miles traveled shown above equal about 3% of the projected vehicle miles traveled. While this number is relatively small in comparison to the total vehicle miles traveled, most of the change occurs in peak hour travel time, which reduces congestion on key road links.

Table 83 Adjusted Total 2020 Daily Vehicle Miles Traveled by Scenario

	Scenario		
	Trend	Balanced	Downtown
A.M. Peak	4,380,627	4,215,252	4,222,758
P.M. Peak	5,978,556	5,793,925	5,791,717
Off Peak	13,424,888	13,188,893	13,080,480
Total	23,784,071	23,198,069	23,094,955

The conversion of daily vehicle miles traveled to annual vehicle miles traveled is based on the assumption that there will be 250 days each year with an average level of traffic, and 115 days where vehicle miles traveled will be 70% of average.

Daily user costs of travel for the three scenarios are shown in Table 84 . The differences between the Trend, Downtown, and Balanced Scenarios range from $125,000–$241,000 per day depending on the user cost per mile.

Table 84 Daily Cost of Travel by Scenario, 2020

	Scenario		
	Trend	Balanced	Downtown
Projected Vehicle Miles Traveled			
Daily A.M. Peak	4,380,627	4,215,252	4,222,758
Daily P.M. Peak	5,978,556	5,793,925	5,791,717
Daily Off Peak	13,424,888	13,150,744	13,080,480
Daily Total	23,784,071	23,159,920	23,094,955
Vehicle Operating Cost—Low Estimate			
A.M. Peak Hour Cost	$876,125	$843,050	$844,552
P.M. Peak Hour Cost	$1,195,711	$1,158,785	$1,158,343
Off Peak Cost	$2,684,978	$2,630,149	$2,616,096
Total Daily Cos t	$4,756,814	$4,631,984	$4,618,991
Difference from Trend Scenario		$(124,830)	$(137,823)
Vehicle Operating Cost—High Estimate			
A.M. Peak Hour Cost	$1,533,219	$1,475,338	$1,477,965
P.M. Peak Hour Cost	$2,092,495	$2,027,874	$2,027,101
Off Peak Cost	$4,698,711	$4,602,760	$4,578,168
Total Daily Cost	$8,324,425	$8,105,972	$8,083,234
Difference from Trend Scenario		$(218,453)	$(241,190)

Value of Time

Everyone values their time. This is one reason why we dislike being stuck in traffic. Regional land use patterns that reduce the amount of time spent traveling in cars offer an important benefit to the citizens of the region. This section of the transportation cost report quantifies this benefit.

Travel model forecasts developed by Bernalillo County include forecasts of the number of hours of daily travel in 2020 associated with each of the scenarios. These estimates are shown in Table 85.

Table 85 2020 Projected Vehicle Hours of Travel by Scenario

	Scenario		
	Trend	**Balanced**	**Downtown**
Daily Hours Traveled			
A.M. Peak Hour	162,701	155,447	163,386
P.M. Peak Hour	234,876	227,044	236,689
Off Peak Hour	341,943	338,074	338,295
Daily Total	739,520	720,565	738,370
Daily Difference from Trend Scenario		(18,955)	(1,150)
Annual Hours Traveled			
A.M. Peak Hour	53,772,681	51,375,234	53,999,073
P.M. Peak Hour	77,626,518	75,038,042	78,225,715
Off Peak Hour	113,012,162	111,733,457	111,806,4 98
Annual Total	244,411,360	238,146,733	244,031,285
Annual Difference from Trend Scenario		(6,264,628)	(380,075)

We can use the daily hours of vehicle travel to calculate the number of hours traveled annually in 2020 by assuming that there will 250 days when the hours of travel are equal to the model estimates and 115 days when the hours of travel will be equal to 70% of the model estimates. These annual hours of travel estimates are also shown in Table 85.

Lastly, we need to apply an estimate of the value of travelers' time. Naturally, people value their time differently. They may value time more highly when traveling to work than when traveling for leisure, for example. It is commonly assumed that a reasonable value for travelers' time is one-half their hourly wage. This is the value used in benefit-cost analyses supported by the United States Federal Highway Administration.

For Albuquerque, we have assumed the value of travel time to be $6.71 per hour, based on one-half the 1997 average wage for the Albuquerque metropolitan area as reported by the Bureau of Labor Statistics and adjusted to current dollars using

the Consumer Price Indicator—All Urban Consumers. Multiplying this value of travel time by the annual vehicle hours of travel produces estimates of the user cost of travel time as shown in Table 86.

Table 86 Projected User Cost of Travel Time by Scenario

	Scenario		
Daily	**Trend**	**Balanced**	**Downtown**
A.M. Peak Hour Vehicle Hours of Travel	$1,090,950	$1,042,310	$1,095,543
P.M. Peak Hour Vehicle Hour of Travel	$1,574,901	$1,522,386	$1,587,058
Off Peak Hour Vehicle Hours Traveled	$2,292,812	$2,266,869	$2,268,351
Daily Total	$4,958,664	$4,831,566	$4,950,952
Daily Difference from the Trend Scenario		($127,098)	($7,711)
Annual			
A.M. Peak Hour Vehicle Hours of Travel	$360,559,051	$344,483,579	$362,077,069
P.M. Peak Hour Vehicle Hour of Travel	$520,504,900	$503,148,531	$524,522,660
Off Peak Hour Vehicle Hours Traveled	$757,774,344	$749,200,316	$749,690,071
Annual Total	$1,638,838,295	$1,596,832,427	$1,636,289,799
Annual Difference from the Trend Scenario		($42,005,869)	($2,548,496)

It should be noted that these travel time benefits, on first examination, do not take into account the separately calulated travel time of people using transit. We have previously estimated the number of miles traveled by transit, and the associated costs and benefits. The regional travel model does not have procedures to estimate, in any economical manner, the travel time by other modes. Thus we need another approach for taking these benefits and costs into consideration.

We note that each time a person chooses to take transit, they make their own calculation of the costs and benefits of using that mode relative to other modes. By choosing transit, they implicitly conclude that it offers benefits in excess of costs. While there may be additional benefits to transit users (as well as people who change their mode of travel from auto to pedestrian, for example), we do not estimate or include them here. Rather, we assume, for purposes of this analysis, either that the user's travel time is the same, or that he/she values it the same as they would the trip in the automobile. Therefore the change in automobile hours of travel for each of the scenarios is a reasonable estimate of the total changes in travel time associated with all trips made in 2020 by all modes.

We thus conclude that the Balanced Scenario will afford the region's residents a user travel time benefit of $42,005,869 in the year 2020, compared with the Trend Scenario. The Downtown Scenario will afford a benefit of $2,548,496 in travel timesaving in comparison to the Trend Scenario. We include these benefits in our overall estimate of transportation costs and benefits at the end of this chapter.

Table 87 (pg.190) includes the total public and private transportation operating costs using a range of low and high costs per mile traveled. The annual cost of travel nearly doubles between 1999 and 2020. The annual cost of travel in 2020

includes the cost of the expanded transit system as estimated in the previous section. The range of estimates for the annual cost of travel is between $3.7 billion and $5.0 billion depending on the estimated cost per vehicle mile traveled.

Table 87 Range of Estimates for Annual 2020 Transportation Operating Cost, Public and Private, by Scenario

	Scenario		
	Trend	**Balanced**	**Downtown**
Projected Vehicle Miles Traveled			
A.M. Peak	1,447,797,224	1,393,140,688	1,395,621,586
P.M. Peak	1,975,912,758	1,914,892,114	1,914,162,535
Off Peak	4,436,925,484	4,346,320,826	4,323,098,655
Total	7,860,635,466	7,654,353,628	7,632,882,776
Transportation Operating Cost—Low Estimate			
Private A.M. Peak Hour Cost	$289,559,445	$278,628,138	$279,124,317
Private P.M. Peak Hour Cost	$395,182,552	$382,978,423	$382,832,507
Private Off Peak Cost	$887,385,097	$869,264,165	$864,619,731
Public Transit Costs	$25,839,465	$24,609,014	$24,609,014
Private Transit Costs	$11,074,056	$10,546,720	$10,546,720
Private Cost of Time of Travel	$1,638,838,295	$1,596,832,427	$1,636,289,799
Societal Costs	$540,112,328	$525,421,874	$524,168,649
Total	$3,787,991,237	$3,688,280,760	$3,722,190,738
Difference from Trend Scenario		($99,710,477)	($65,800,500)
Transportation Operating Cost—High Estimate			
Private A.M. Peak Hour Cost	$506,729,028	$487,599,241	$488,467,555
Private P.M. Peak Hour Cost	$691,569,465	$670,212,240	$669,956,887
Private Off Peak Cost	$1,552,923,919	$1,521,212,289	$1,513,084,529
Public Transit Costs	$25,839,465	$24,609,014	$24,609,014
Private Transit Costs	$11,074,056	$10,546,720	$10,546,720
Private Cost of Time of Travel	$1,638,838,295	$1,596,832,427	$1,636,289,799
Societal Costs	$540,112,328	$525,421,874	$524,168,649
Total	$4,967,086,557	$4,836,433,805	$4,867,123,154
Difference from Trend Scenario		($130,652,752)	($99,963,403)

The Downtown and Balanced Scenarios cost of travel are approximately 2–3% less than the Trend Scenario. The annual Downtown Scenario cost of travel is estimated to be between $66–$100 million less than the Trend, and the Balanced Scenario is estimated to be between $100–$131 million less than the Trend.

For this analysis, a mid-point between the two estimates, whose value is $0.275 per vehicle mile traveled, has been used. The annual 2020 cost of travel using this value is between $4.38 billion and $4.26 billion. The annual Downtown Scenario cost of travel is estimated to be $83 million less than the Trend Scenario and the Balanced Scenario is estimated to be $115.1 million less than the Trend Scenario (see table 88 (pg.193).

Table 88 Total 2020 Annual Transportation Operating Cost*

	Scenario		
	Trend	Balanced	Downtown
Private A.M. Peak Hour Cost	$398,144,236	$383,113,689	$383,795,936
Private P.M. Peak Hour Cost	$543,376,008	$526,595,331	$526,394,697
Private Off Peak Cost	$1,220,154,508	$1,195,238,227	$1,188,852,130
Public Transit Costs	$25,839,465	$24,609,014	$24,609,014
Private Transit Costs	$11,074,056	$10,546,720	$10,546,720
Private Cost of Time of Travel	$1,638,838,295	$1,596,832,427	$1,636,289,799
Societal Costs	$540,112,328	$525,421,874	$524,168,649
Total Annual Cost	$4,377,538,897	$4,262,357,282	$4,294,656,946
Difference from Trend Scenario		($115,181,614)	($82,881,951)

* Cost at $0.275 per vehicle mile traveled for the year 2020. Intervening years will be proportionally less.

Non-Motorized Travel

It is important to note that some benefits result from implementing either of the compact land use scenarios (the Balanced and Downtown Scenarios) at a geographic scale that eludes measurement in large regional models and cost estimates. In particular, this is true of the mixed-use neighborhoods, corridors and employment centers proposed for the Balanced and Downtown Scenarios. Extensive research has shown that in such places, the following types of travel behavior occur:

1. A reduction in the number of motorized trips
2. An increase in the number of transit trips
3. An increase in the number of non-motorized trips (e.g., walk trips)
4. A reduction in the average trip length for trips of all kinds

Each of these changes has important consequences for air quality, quality of life, and the efficient operation of transportation systems. The following statistics illustrate the potential impacts of these changes in urban form and urban design on future travel in Albuquerque. All are from well-recognized research studies recently conducted around the United States.

- In a study of neighborhoods in the San Francisco area (Cervero and Kockelman), researchers found that for each 10% point increase in neighborhood density, there was an increase of 4% in the use of modes other than the auto for work trips.
- In the same study, the authors concluded that pedestrian oriented designs, such as buildings that front on the street, rather than being pulled back and replaced by parking, reduces automobile dependence for trips other than work trips. Specifically, for each 10% point reduction in the proportion of businesses with parking in the rear (rather than in the front or side of their store), there was an 11% increase in the probability of travel by non-auto modes for these trip purposes.

- Comparable findings have resulted from work in Seattle (Frank and Pivo), where neighborhood population density increases of 10% are associated with increases of 17% in walk trips for shopping, and 11% increases in walk trips to work.
- Studies of the effects of street design have shown that traditional, connected street networks are associated with dramatic declines in auto travel (Kulash et al. 1990). Where neighborhood streets are connected in a traditional grid, miles traveled for local trips has been shown to decline by 43% over what would occur with the contemporary patterns of cul-de-sacs and wide arterials, such as prevails on Albuquerque's West Side.

The Albuquerque region will have 236,000 pedestrian trips per day in the year 2020, according to the Bernalillo County Public Works Department. These numbers will increase significantly under either of the compact scenarios, for the reasons described.

All of these studies demonstrate the clear benefits of compact, mixed-use, pedestrian friendly corridors and centers. These benefits are in addition to those quantified in the regional analysis above. The changes in neighborhood travel patterns will not only save auto operating costs, but also offer the benefits of improved air quality by eliminating the pollution caused by operating a car at cold engine temperatures, with associated inefficient fuel use. We describe air pollution costs more fully in the section that follows.

4.5.8 Air Pollution Cost of Travel

The full cost of travel estimates should include the environmental or social costs associated with driving. This section is intended to illustrate the magnitude of these costs in the Albuquerque urban area (Table 89).

Table 89 2020 Annual Cost of Air Pollution Associated with Vehicular Travel

	Scenario		
	Trend	Balanced	Downtown
	(millions)		
A.M. Peak Hour Cost	$116	$107	$108
P.M. Peak Hour Cost	$158	$149	$149
Off Peak Cost	$266	$261	$259
Total Cost	$540	$516	$516
Difference from Trend Scenario		$24	$25

Estimates based on projected vehicle miles traveled. Urban Peak $0.08 per vehicle mile traveled and Non Peak $0.06 per vehicle mile traveled.
Source: Transportation Cost Analysis, Todd Litman, Victoria Transportat ion Institute.

Substantial research exists on this issue and numerous estimates of these costs have been developed.A frequently quoted source is Transportation Cost Analysis (Litman 1995). In that report the author determined that the best estimate of the cost of air pollution is $0.08 per peak hour vehicle mile traveled and $0.06 per non-peak hour vehicle mile traveled. Using these cost estimates, one can easily estimate the 2020 annual cost of air pollution associated with travel as shown in the table below. As shown in this table, the cost of air pollution would be in excess of $500 million per year. The Downtown and the Balanced Scenarios have annual costs that are approximately 5% lower than the Trend Scenario.

5.0 Policy, Regulatory, & Plan Review

5.1 Summary

Several actions taken by the City and County during the past few years will help further well planned growth in the urban area. Among the most promising developments are the emergence of a regional discussion of the impacts of growth and desirable growth patterns, the introduction of planned growth as an issue in infrastructure planning, and a commitment by the City to follow the recommendations of the Transportation Evaluation Study and update the Comprehensive Plan. Adoption of more specific strategies or plans could exert more influence on the MRGCOG's metropolitan transportation planning process.

At the same time, the Extraterritorial Land Use Authority has reduced the City's control over development at the City's edges. The long-term impact of the Extraterritorial Land Use Authority remains to be seen, and the ability of the City and County to agree on growth policy is critical to successful long-term development in the extraterritorial zone. Individual decisions regarding major Planned Communities could open up an area perhaps double the anticipated land needs for the next 25 years. Through annexation and other controls, however, the City has an opportunity to affect the compatibility of these developments with planned growth strategies, such as promoting transit and mixed-use development. The phasing and timing of development in Westland, Quail Ranch, and Mesa del Sol will be critical to the City's ability to influence a Downtown renaissance, promote revitalization of existing neighborhoods, and manage its capital infrastructure during that time period.

5.2 Background and Overview

In this chapter, we review and evaluate plans and policies that affect or could affect the development of a City and County planned growth strategy. Because similar work was done for the Transportation Evaluation Study, this review addresses only those policies that have been adopted or set in motion by the City of Albuquerque or Bernalillo County since work was completed on the Transportation Evaluation Study.

5.2.1 Transportation Evaluation Study Summary

Begun in 1995, the Transportation Evaluation Study was designed to develop a clear, long-range vision for guiding growth in the Albuquerque Metropolitan Area. Its final report recommended a departure from the current trend of dispersed development on the City's fringe to a more compact urban form and a better integrated set of land use and transportation policies for the urban area. The four defining concepts of the Downtown Alternative are to (1) Revise the institutional framework to achieve the goals of the Comprehensive Plan and implement the Downtown Alternative vision; (2) Encourage a more efficient delivery of urban services by promoting a more compact urban form; (3) Promote higher density, mixed-use

patterns of development in major centers and corridors; and (4) Implement high occupancy, high capacity transportation improvements in major transportation corridors.

5.2.2 Growth Policy Framework (R-70)

In September 1998, the Albuquerque City Council unanimously approved Resolution 70, which adopted a growth policy framework for the City based on the Transportation Evaluation Study principles of a more compact urban form and network of corridors and centers. It called for the City to:

- Restructure its payments and financial incentives to support infill and development in centers and along major corridors as opposed to fringe development. Methods would include development impact fees, density bonuses, revenue bonds, and restructuring the City's Capital Improvements Program.
- Promote redevelopment of the Downtown Core by seeking to diversify the land use mix with public facilities, hotels, offices, retail locations, and higher density housing and to identify how to generate more activity and attract more private investment.
- Promote transit, decreased reliance on the automobile, and orderly compact growth by coordinating the timing of road and utility construction with planned growth in the Comprehensive Plan. In addition, increase the level of transit service, improve pedestrian mobility, and plan for high capacity corridors, giving Central Avenue and Coors Boulevard the highest priority.
- Encourage increased densities and mixed uses in major community activity centers and corridors, as well as incorporate Transportation Evaluation Study principles into design standards and long-range facility plans.
- Amend the Comprehensive Plan to serve as the single planning document to address area-wide growth management issues, including area-wide planning for facility systems and long-term capital improvements. All other plans and initiatives must be consistent with this.
- Work with other jurisdictions, particularly the MRGCOG, to reach a regional consensus on the nature and extent of urban growth.

A compromise was reached on an urban services area designation, obligating the City to "carefully consider" whether they were "beneficial to the quality of life in Albuquerque" and, if so, to determine the most appropriate service area. The Comprehensive Plan currently fails to provide detailed direction about where and when growth should occur. City staff has already begun revision of the Comprehensive Plan to ameliorate the deficiencies that have been identified in the current document.

A number of plans and policies have been adopted or contracted for since the policy evaluation was completed for the Transportation Evaluation Study. The following sections describe how these new documents, policies and regulations fit into an overall planned growth strategy for the urban area.

5.3 General Land Use and Planning Policies and Plans

5.3.1 Extraterritorial Land Use Authority

The Extraterritorial Land Use Authority, created by the 1998 legislature, is responsible for making land use decisions in the five-mile extraterritorial limits surrounding the City. This law gives the County a role in the annexation process and in controlling development at the edge of the City. The land use decisions made by the Extraterritorial Land Use Authority will have an impact on the demand for water service at the fringe of the City. Pertinent laws are described below.

- **State of New Mexico Laws 1998, Chapter 42 (House Bill 238)**

  Effective in May, 1998, this law gave the power of zoning within the five-mile extraterritorial limits of the City of Albuquerque (and other cities with a population over 200,000 and within a class A county) to a newly created Extraterritorial Land Use Authority. Previously, subdivision applicants had to appear before both the respective City and County planning and legislative bodies. The Extraterritorial Land Use Authority is composed of four County Commissioners appointed by the Board of County Commissioners, and three City Councilors (or two City Councilors and the Mayor) appointed by the municipality.

The law also created the equivalent of the City and County planning commissions called the Extraterritorial Land Use Commission. It is composed of five appointed members of the County Planning Commission and five appointed members of the City Environmental Planning Commission.

The law also sets forth procedures governing annexation of territory contiguous to Albuquerque (and similar-class cities). Owners of a majority of the number of acres in contiguous territory may present a petition seeking annexation to the City Council. The County is granted the opportunity to review and comment on the petition. City Council by ordinance shall approve or disapprove the annexation after considering County comments.

- **Albuquerque/Bernalillo County Extraterritorial Subdivision Ordinance No. ELUA 1998–3**

  This law took effect June 23, 1998. The ordinance is essentially the same as the County subdivision ordinance with the substitution of Extraterritorial Land Use Authority approval. Responsibility for review and approval of type-three subdivisions containing five lots or less and all type-five subdivisions is delegated to the County Development Review Authority. This body consists of two staff members from County zoning, building, and planning; two from public works; one from environmental health and the fire marshal's office; and others named by the County manager. The planning department director appoints the chair. Appeals are heard by the Extraterritorial Land Use Commission (see above).

This new process for setting policy and approving or disapproving development in the five-mile extraterritorial district outside the Albuquerque City limits will likely give greater weight to County policy due to the majority of County officials in the Extraterritorial Land Use Authority. This process reinforces the need for City/County cooperation and consensus in managing growth at the urban area fringe.

5.3.2 Focus 2050

In 1996, the MRGCOG launched a long-range regional planning process called Focus 2050. The process aims at building public consensus on how the metropolitan region should grow over the next 50 years, given that the population is projected to double. It includes an extensive public participation effort. Initial phases of the project led to a vision statement for the region and creation of four development scenarios that allocate projected increases in population and employment to different areas.

In general, the first two scenarios follow the current trend with some modifications:

- **Trend Dispersed Growth Scenario** continues the current pattern of urban build-out that rings the metropolitan area, concentrating in the West Mesa of Bernalillo County, Rio Rancho, Los Lunas, and Belen. New outer loop roads would serve this development, with one high capacity transit route slated to run from Belen to Downtown Albuquerque to the Jefferson corridor, across the river to Cottonwood Mall and north along NM 528. While remaining a significant employment center, Downtown would still lack substantial housing or resident-serving businesses. Rural residential development would displace existing irrigated agricultural lands, and a new road would extend from NM 14 to I–25 at Placitas.
- **Contiguous Mesa Expansion Scenario** would minimize additional disturbance of the Rio Grande Valley irrigated agricultural lands and the Bosque. It would allow development of identified major projects and other areas in contiguous areas in the region, particularly on the mesas. Development is targeted for areas on the fringe: North Albuquerque Acres, Atrisco Area, portions of land along Coors Blvd. and the Eubank area next to Kirtland Air Force Base. Paseo del Volcan would serve as the main new highway loop to the northwest, and high capacity transit would run from Belen to the Jefferson corridor.

The next two scenarios offer varying visions of more compact City growth:

- **Moderate Compact Infill and New Communities Scenario** would emphasize infill in existing communities through development of vacant and underutilized urban land as well as the development of clusters of satellite urban communities on the Bernalillo County West Mesa and Rio Rancho area, Mesa del Sol, and Valencia County East Mesa. New development would be channeled into centers and a few contiguous, mixed-use corridors. Major open space corridors would separate them. A cluster of rural communities would develop in Edgewood to the east. An alignment of Paseo del Volcan east of Double Eagle Airport would serve as the main new highway loop to the northwest, with a southwest loop serving satellites close to I–40 and a southeast loop serving Mesa del Sol. High

capacity transit would run from Belen to Downtown Albuquerque to the Jefferson Corridor, crossing the river along Paseo del Norte. Branches would loop through Rio Rancho to the west, east and south to the University of New Mexico Valencia Branch, and west across to the railroad alignment. A transit line would follow Central Avenue.

- **Compact Growth Scenario** would produce the most compact development of the four scenarios. It envisions a hierarchy of centers mainly in existing communities, including regional centers, subregional centers, neighborhood centers, and Main Streets where infill and redevelopment are focused. A limited amount of new urban land is located contiguous to existing communities. Very little rural subdivision expansion or new development in the Rio Grande Valley would occur. Albuquerque and Rio Rancho would serve as the main metropolitan centers with a limited number of mixed-use corridors targeted for significant new development. Typical density in centers and corridors would increase to eight dwelling units per acre for single family residential (compared with a current average of 5.7) and more than 30 dwelling units per acre for multifamily residential (compared with the current average of 21). High capacity transit would run from Belen to Downtown to the Jefferson Corridor, across the river along Paseo del Norte, with short east-west extension lines.

These last two scenarios are the most compatible with the planned alternatives analyzed in this Planned Growth Strategy, Part 1- Findings Report. They also received the highest rankings from the 164 participants who voted at the Future Scape Conferences.

A preferred regional plan addressing growth management, transportation, and water in the five-county area—Bernalillo, Sandoval, Valencia, Torrance, and Southern Santa Fe—was accepted by MRGCOG. Local governments can use the plan to help guide their own planning processes. In addition, MRGCOG may use the Focus 2050 preferred scenario to develop its long-range transportation plan and as a basis for Transportation Improvement Program funding criteria.

5.3.3 Sector Development Plans and Planned Community Plans

Even as these scenarios were being developed with public input, the City and County have given partial approval for new, legally defined Planned Communities on the West Side that impact the many choices presented by the above scenarios. Three major Planned Communities have reached various stages of government approval: Westland, Quail Ranch, and Mesa del Sol. In September 1998, the Mayor's office also signed a new option to sell 2,000 acres of City open space trade lands on the east side of the Manzano Mountains to a developer who plans an 800-residence community. The contract was signed at the same time that Bernalillo County indicated it wanted to purchase the former National Forest lands as open space.

- **Westland** is a Planned Community on 6,424 acres west of the Albuquerque City limits, north of I–40, south of Petroglyph National Park, and east of the proposed alignment for Paseo del Volcan. A Level A Master Plan for the project was approved by both the City and the County before the Extraterritorial Land

Use Authority law went into effect. The City also approved a pre-annexation and development agreement. At this writing, developers were seeking City annexation of 1,700 acres to start the first phase of the development. It is a mixed-use development projected to eventually house a population of 50,000 over the next 20–30 years. The original master plan proposed to obtain water service from Bernalillo County and to phase development from west to east, creating leapfrog sprawl. The original plan also was criticized for providing little guidance for the design of residential streets and subdivisions, which can have a significant affect on the feasibility of transit and transportation efficiency. Both City and County staff have expressed concerns about further large-scale development that is oriented toward and largely dependent upon the Interstate system, in this case I–40. To gain approval from the City, however, Westland developers agreed to phase development from east to west, which is more in keeping with a planned growth strategy. They also agreed that the method of supplying water to the area will not deplete the ground water nor impair the City's existing water rights. Several conditions for approval will help facilitate a planned growth strategy. These include that Atrisco Terrace remain as undeveloped open space regardless of ownership, that Westland agree to establish minimum densities within each residential zone, and that 20% of housing be affordable based on federal criteria. In addition, Westland is to encourage mixed-use housing and discourage power centers, standalone retail boxes, and general franchise design within the town center. Large community parking lots are to be shared with other users, such as government and churches.

- **Quail Ranch** is an approximately 6,700-acre unimproved parcel located in the unincorporated area of northwestern Bernalillo County north of Double Eagle Airport. The City of Albuquerque limits adjoin its southern boundary, but the current edge of development is approximately two miles away. The closest urban/ suburban development is Ventana Ranch. Quail Ranch proposes a total buildout of 19,000 dwelling units over a 30–40 year period with concentrations high enough to support transit and extensive open space, parks, and trail networks. New Mexico Utilities, Inc. has agreed to provide water and wastewater services to the project. City public works department staff have argued, however, that New Mexico Utilities, Inc. lacks both the legal water rights and the physical water resources to meet the development's projected water demands. The City as well as Rio Rancho and Corrales have protested New Mexico Utilities, Inc.'s application to the New Mexico State Engineer to divert an additional 50,500 acre-feet of water (it currently can divert up to 10,000 acre feet). The protesting entities claim that ground water withdrawals of this magnitude would rapidly deplete local ground water resources and that exclusive reliance on ground water is contrary to the Albuquerque/ Bernalillo County Comprehensive Plan and to the City's adopted Water Resources Management Strategy. Based on its desire to gain control over the use of water resources in the metropolitan area, the City of Albuquerque is negotiating to acquire New Mexico Utilities, Inc. Last year the City initiated condemnation proceedings against the utility.

  A joint City/County technical team created to review the project also raised serious questions about transportation access, solid waste management, and offsite infrastructure costs, among others. Despite these criticisms, Quail Ranch

won approval for its Level A Master Plan in December 1998 from the Extraterritorial Land Use Commission. The Extraterritorial Land Use Commission's parent body, the Extraterritorial Land Use Authority approved the Level A Master Plan with conditions in June 1999. That decision was appealed and upheld by the state District Court. Quail Ranch is anticipated to request approval for a Level B village plan for approximately 1,000 acres in its southeast corner.

- **Mesa del Sol** is a proposed Planned Community on 12,400 acres in the southeastern part of Albuquerque adjacent to I–25. The property is owned by the State of New Mexico in trust for the public schools. Mesa del Sol was annexed by the City of Albuquerque in 1993. In its pre-annexation agreement, the City promised to provide services to the area within a reasonable period of time. At a gross density of three dwelling units per acre, the master plan anticipates a population of 97,500 at maximum build out. It claims a potential for 80,000 people and an equal number of jobs before 2050. Under full development, the Community is projected to consume 26,961 acre-feet of water annually derived from surface water supplemented by ground water. The plans for this project propose a variety of water-saving methods and policies. Unlike the other two Planned Communities, Mesa del Sol still lacks a private developer. The City's Environmental Planning Commission approved the master plan in February 1999 subject to a number of conditions. The next step is negotiation of a Level A development agreement.

All of the MRGCOG regional land use scenarios account for Mesa del Sol development, although in different forms. All but the "Compact" scenario account for both the Westland and Quail Ranch Planned Communities in some form, and even the "Compact" scenario shows some development in the Westland vicinity. The urban area alternatives presented in this document also include some development in Planned Communities. What appears more critical to success of a planned growth strategy is the phasing, timing, financing, and design of development within these satellite communities. Development should be approved when justified by population growth so as not to impact the ability of the City and County to meet the needs of established neighborhoods. Design should facilitate use of transit and other transportation modes rather than reliance on automobiles.

5.4 Capital Improvements Programming

5.4.1 City of Albuquerque

Both the City of Albuquerque and Bernalillo County plan for long-range capital improvements. The City prepares a ten-year Decade Plan, updated biennially, which is adopted by City Council in odd-numbered years. General Obligation bonds to fund the projects are then placed on that year's election ballot. The latest plan was adopted for the years 1997–2006. City departments submitted over $300 million in requests for the 1997 bonds, which covered public facilities, streets, drainage, and parks. Because the bond capacity was only $86 million, many project requests were reduced or postponed.

A recent issues paper completed by City Council staff noted that the City of Albuquerque needs more than an estimated $1 billion to rehabilitate streets, water, wastewater, drainage facilities, and parks. “Capital funds are inadequate to address this situation and, with regard to General Obligation bond funds, revenues have decreased significantly in real terms over the past 20 years.” The paper states that the Capital Improvements Program is not based on a broad assessment of infrastructure rehabilitation needs and fails to sufficiently prioritize spending for these projects. The City’s infrastructure, as a result, is deteriorating over time. The Albuquerque Department of Public Works, however, responded that the Capital Improvements Program cannot fund all needs and that those included in the budget have already been prioritized. The paper also found that the City failed to protect its fiscal position through linking infrastructure extension decisions and land use planning in a way that would maximize efficiencies in different systems. The City does not use a cost-benefit model when making decisions related to system expansions

5.4.2 Bernalillo County

Bernalillo County plans capital improvements for a six-year horizon, updated every two years to feed into its General Obligation bond cycle. Projects supporting planned growth in the November 1998 election included a 0.5 mil levy approved by voters to purchase open space, an increase in funding for bike trails, and funding for Paseo del Norte, Isleta, and Rio Bravo. Most transportation projects are tied into the Transportation Improvement Program developed by MRGCOG.

Projects that might be construed as preempting a planned growth strategy include park development in Mesa del Sol, which accelerates the extension of utilities and transportation improvements to this area, and construction of Paseo del Norte through the Petroglyph National Monument.

Bernalillo County has approved an impact fees ordinance for provision of park, open space, fire/EMS, roadway, and drainage facility costs generated by new development. The fees generated under this ordinance meet about 30% of the costs for open space (provided only in the extraterritorial jurisdiction) and about 75% of costs for the rest of the services.

5.5 Transportation Plans and Policies

5.5.1 Middle Rio Grande Council of Governments

The following transportation plans have been approved or are in the works since inception of the Transportation Evaluation Study.

- **2020 Metropolitan Transportation Plan** for the Albuquerque Metropolitan Planning Area, prepared by MRGCOG, was adopted by its policy board in September 1998. It provides a basis for programming projects in the upcoming revisions to the six-year Transportation Improvement Program. If implemented, the current Metropolitan Transportation Plan recommendations would in many cases support a planned growth strategy, but in other cases work against it. Development of the Metropolitan Transportation Plan, however, was constrained by federal law that mandates only those land use patterns, and population and

employment projections already adopted by local governments can be assumed for the 2020 plan. Recommendations more compatible with denser and more compact City growth could be considered for the 2025 Metropolitan Transportation Plan if such plans are adopted by local governments.

In the meantime, current recommendations would allow residents in the Albuquerque urban area to reduce their reliance on automobiles as the chief mode of travel by increasing bicycling, walking, carpooling, and using an expanded and improved transit system.

Among the objectives of the Metropolitan Transportation Plan are increasing modal alternatives, considering the urban form implication of growth trends, and increasing the balance between jobs and housing in areas. Another objective calls for reducing the growth rate of per capita vehicle miles of travel to follow—not exceed—the population growth rate and promote intermodal travel connections. The Metropolitan Transportation Plan includes a significantly expanded transit system for the metropolitan area, including more hours of bus service, decreased wait times, and expanded routes. It anticipates funding for ongoing operations and maintenance to come from a quarter-cent gross receipts tax proposed by the mayor of Albuquerque. It also assumes a 10% reduction in vehicle trips, presumably as a result of investments in alternative modes and the successful implementation of a compact urban form. This, however, is not explicit, nor is the feasibility of such trip reductions demonstrated.

The Metropolitan Transportation Plan proposes to manage congestion through use of intelligent transportation systems and small-scale improvements, such as upgrading signals or removing bottlenecks. It also proposes more travel demand management strategies such as expanded transit and subsidized transit passes, additional bikeway facilities, and parking incentives. Certain land use strategies are noted, but not recommended until adopted by local governments. An expanded transit system is a fundamental part of the 2020 Metropolitan Transportation Plan transportation system, including the Downtown Intermodal Center as well as two others in Uptown and on the West Side. Fourteen neighborhood bus centers are anticipated to be built, a number of park-and-ride centers, and 250 bus shelters. A fleet of 400 buses—75 of which will be paratransit—will be purchased.

On the other hand, the Metropolitan Transportation Plan does not at this time recommend new rail transportation or high occupancy vehicle lanes, pending more detailed feasibility studies. It notes instead that some controversial new roadways may be required to relieve congestion. It specifically recommends Unser between Paseo del Norte and Montaño, Gibson between Louisiana and Eubank, and Paseo del Norte between Coors and Unser (which has generated controversy because it passes through Petroglyph National Park). It also recommends reserving several corridors for future road expansion and access control. Included are Paseo del Volcan from I–40 to NM 44, which would effectively add a West Side loop road outside the City limits, and Paseo del Norte from Coors to Tramway. Paseo del Volcan is proposed along the west side

of the Westland Planned Community and near the southeastern corner of the Quail Ranch Planned Community.

- **Future Albuquerque Area Bikeways and Streets** maps a vision of roadway needs over the next 50 years. It contains corridors and facilities not yet studied or not proposed to be built in the next 10 or 20 years. It provides a comprehensive review of the entire transportation system for the Albuquerque Metropolitan Area and offers a tool for understanding the impact of individual changes. It is updated every six months, particularly to refine the bikeways master plan. It contains the same major loop roads noted above.
- **Transportation Improvement Program.** MRGCOG is now beginning to develop a new Transportation Improvement Program for 2000–2005. As the short-term implementation tool for the Metropolitan Transportation Plan, the Transportation Improvement Program programs financially constrained projects for the first three years and presents plans for the next three. This plan is required to obtain federal funds for transportation improvements. The current Transportation Improvement Program (1995–2001) contained a number of projects friendly to planned growth, such as the multimodal Alvarado Transportation Center in Downtown Albuquerque, regional land use planning, the regional transit study, and bike trails. Among planned projects are the right-of-way acquisition and design of Paseo del Volcan and extension of Paseo del Norte from Wyoming to Tennyson. It was criticized for not devoting more support to transit, ride sharing, bicycling, and pedestrian travel. The City/County Air Control Board in particular said that the bicycle program lacked direction and substance, that pedestrian travel was not addressed in a meaningful way, and that it missed an opportunity to immediately devote more resources to plan incentives for alternative transportation in Uptown.

5.5.2 Transportation Plans in Progress

- A **Regional Transit Authority Service Plan** was completed in 1998. It calls for an aggressive strategy for developing a public transportation system, based on creation of a Regional Transit Authority that would have taxing and bonding authority. Eligible voters within the proposed Regional Transit Authority service area would be asked to approve a half-cent gross receipts tax specifically earmarked for public transit. The service plan calls for improvements to the bus and bus facilities program and for a high capacity transit program. These recommendations would support a planned growth strategy. The New Mexico State Legislature has twice turned down requests by the City of Albuquerque for enabling legislation to set up the Regional Transit Authority. The next step is to seek approval of the Regional Transit Authority concept from the MRGCOG policy board, the Urban Transportation Planning Board.
- The **Long-Range Major Transportation Investment Study**, or Regional Major Investment Study, is one of two high capacity transportation studies expected to get underway soon. Outcomes of these studies could have far-reaching implications for planned growth. The Long Range Major Transportation Investment Study is funded by the federal government, the state, and local

governments, with the state as the lead agency. This study will evaluate different land use scenarios over a broad region and will identify necessary long-range, regional multimodal transportation improvements. Its geographic scope ranges from Belen to Española. The study will recommend the most feasible transportation investments—expanded or additional highways, bus, light rail, technological systems—for the most regionally important corridors. The Planned Growth Strategy project is expected to be an input into this study. The Long Range Major Transportation Investment Study will feed into or be developed simultaneously with the High Capacity Transportation system project described below.

- The **High Capacity Transportation System Project** focuses on the Albuquerque urban area. The High Capacity Transportation system will develop a high capacity transit plan—with an emphasis on light rail—for the next 25–30 years for the Albuquerque area. It will analyze potential corridors and select a locally preferred alternative for the first segment to be built. Such projects usually take eight to 10 years for completion; the first phase will require 18–24 months of planning.

5.6 Utility Facility Plans

5.6.1 City of Albuquerque Water Utility

Several ongoing long-range planning efforts will guide the development of the City of Albuquerque water utility over the next 20 years. Two efforts currently underway and not described in the Transportation Evaluation Study are discussed below.

- **Long Range Water Service Plan.** The City is creating a strategic plan for the municipal water system. This process is evaluating issues related to the water utility, including the need for a regional system, annexation policies related to water service and the role of the water utility in growth planning. Decisions made during this effort could have an impact on planning for future growth. Early discussions indicate that the water utility does not see itself as a tool for growth management, but as implementing land use decisions. Interviews with other municipalities in the southwest and west indicate that water utilities do not typically establish a service area boundary. The plan will, however, determine the criteria for service extension decisions and defining such an area may be appropriate locally. The utility envisions its role as supporting growth policy established by the City and County and is looking to the revision of the Comprehensive Plan to provide the policy basis for growth management.

  The relationship between this document and the revised Comprehensive Plan is particularly important. Planners for both efforts should assure that the final documents are connected.

- **Albuquerque Water Resource Management Strategy, Implementation Phase**. The Water Resources Management Strategy is designed to assure City of Albuquerque water customers a safe and sustainable water supply to 2060. The strategy establishes a shift away from taking more and more water from the aquifer, most of which is not replenished, to developing the City's existing

renewable surface water supplies and protecting the aquifer. The City in the Albuquerque Water Resource Management Strategy established a number of policies to reduce water use in the urban area and to reduce the City's reliance on ground water. The strategy includes a combination of conservation, use of surface water, and water reclamation and reuse. In the implementation phase, the City is identifying and acquiring sites and building facilities identified in the strategy. The City's focus on wise use of water is unique in the urban area. Other jurisdictions have not made the same commitment to resource management as a way to extend the Middle Rio Grande Basin's water supply into the future.

- **Water and Wastewater Utility Program Assessment** conducted by Parsons Engineering Science noted that overly large or redundant facilities increase both the capital and operating costs of water and wastewater service. It implied there are efficiency gains to be achieved by fully utilizing newly constructed water and wastewater capacity relatively quickly. This leads to a conclusion that growth planning should direct the orderly and integrated expansion of infrastructure system capacity. A cost-benefit analysis model also provided by Parsons found that costs to rate payers are not significantly affected by whether the City initially pays for new infrastructure or whether the developer finances the improvements and receives City reimbursement over time. The first example resulted in a present value loss of $23 million to the City over 25 years, while the second was a present value loss of $19.3 million-only a 2.8% improvement.

5.6.2 City of Albuquerque Wastewater Utility

The City of Albuquerque wastewater utility is also in the process of updating its long-range facility plan. The Wastewater Facility Plan will identify a planning area and projected growth, land use and wastewater flow demands through the year 2020. The scope of work for this effort recognizes that the provision of wastewater services is an essential component of comprehensive municipal planning, because it provides an effective basis for scheduling and prioritizing capital improvements and establishing financial strategies. Like the water utility, the wastewater utility intends to rely on the Comprehensive Plan and the official growth projections for guidance in setting priorities.

The Wastewater Facility Plan will include a system model that will allow testing of alternative growth and land use scenario impacts on the system.

5.6.3 Bernalillo County

Bernalillo County has completed studies of the feasibility of water systems in the East Mountain Area (1990) and the West Side (1997). Action on an extensive study of providing water and sewer service to the Westland Planned Community was precluded by the developer's decision to obtain service from the City. The County currently is constructing sewer service in the South Valley and would like to provide residents there with water. The Village of Tijeras is planning to extend its water system and sewer system, but its water comes from local wells.

5.6.4 Middle Rio Grande Conservancy District

The MRGCD owns a certain amount of water rights that it uses for irrigated agriculture and flood control. Faced with potentially losing some permitted rights as the number of irrigated acres decreases with City growth, it recently created a Water Bank to promote the beneficial use of water within Conservancy District boundaries. The Water Bank operates like a regular bank, except water rights, rather than money, are deposited and withdrawn. Its initial capital is the amount of water under the Conservancy's permitted water rights that the Board of Directors determines to be available to place in the bank. It also may deposit San Juan/Chama contract water into the bank. Borrowers may lease water rights, with preference being given to agricultural uses. Development of the bank has the potential to elevate the MRGCD to the position of a major water broker in the metropolitan area. It is unclear at this time, however, what impact this would have on a planned growth strategy.

Appendix A

Table A.1 Alternative Scenarios, Population, and Employment Projections

	Community	1990		1995		Trend Scenario		Balanced Scenario		Downtown Scenario	
DASZ	Planning Area	Population	Employment	Population	Employment	Population	Employment	Population	Employment	Population	Employment
5001	Central ABQ	-	2,346	-	2,757	-	3,116	-	3,133	-	5,459
5002	Central ABQ	-	246	-	180	-	400	50	402	-	701
5003	Central ABQ	2	3,436	-	4,393	-	4,529	100	4,554	50	7,935
5004	Central ABQ	100	275	70	314	66	339	506	341	220	594
5005	Central ABQ	242	658	243	481	243	470	1,063	473	323	823
5006	Central ABQ	6	2,326	6	2,558	6	2,715	46	2,730	6	4,757
5007	Central ABQ	-	941	-	571	-	608	100	611	50	1,065
5008	Central ABQ	-	158	-	264	-	500	350	503	350	876
5009	Central ABQ	7	1,255	7	619	7	594	254	597	31	1,041
5011	Central ABQ	-	45	-	266	-	308	-	310	125	540
5012	Central ABQ	33	184	34	240	32	315	245	317	96	552
5101	Central ABQ	1,765	344	1,755	239	1,728	254	1,728	247	2,214	261
5102	Central ABQ	614	166	530	133	531	177	531	172	680	182
5103	Central ABQ	785	387	748	437	717	447	1,415	551	973	504
5111	Central ABQ	1,052	316	1,054	367	1,109	391	1,109	381	1,420	402
5112	Central ABQ	1,621	207	1,643	96	1,619	91	1,619	89	2,074	94
5121	Central ABQ	2,661	949	2,551	899	2,534	971	4,022	1,093	2,669	967
5131	Central ABQ	118	171	114	171	115	174	115	169	147	179
5132	Central ABQ	1,959	570	1,910	648	1,866	638	3,681	787	2,533	1,312
5141	Central ABQ	147	96	145	74	150	3	296	4	204	105
5142	Central ABQ	275	210	270	311	259	318	511	392	352	182
5143	Central ABQ	913	76	898	76	1,048	168	2,068	207	1,423	737
5162	Central ABQ	578	251	575	353	563	336	1,111	414	764	396
5163	Central ABQ	67	559	69	576	67	583	132	719	91	47
5171	Central ABQ	236	168	236	197	227	209	448	258	308	160
5172	Central ABQ	1,051	430	1,019	382	979	464	1,932	572	1,329	688
5173	Central ABQ	1,101	625	1,087	516	1,049	552	1,049	537	1,344	567
5231	Central ABQ	-	1,076	-	1,217	-	1,392	-	1,355	-	1,430
5232	Central ABQ	26	604	25	645	23	619	23	602	29	636
5241	Central ABQ	493	218	495	85	476	1,723	476	1,677	610	1,770
5242	Central ABQ	1,418	725	1,405	805	1,350	888	1,350	864	1,729	912
5261	Central ABQ	801	4,467	172	4,772	141	5,375	805	5,404	241	9,417
5271	Central ABQ	330	366	231	299	290	687	572	846	394	204
5272	Central ABQ	6	1,041	-	785	-	789	-	768	-	811
5273	Central ABQ	432	2,062	400	3,439	384	4,356	384	4,239	492	4,476
5301	Central ABQ	14	518	22	584	20	671	32	755	21	669
5311	Central ABQ	1,313	1,108	1,353	291	1,460	290	1,460	282	1,870	298
5312	Central ABQ	180	326	180	610	173	748	173	729	181	812
Subtotal	**Central ABQ**	**20,346**	**29,906**	**19,247**	**31,650**	**19,232**	**37,208**	**29,756**	**38,084**	**25,343**	**52,561**
7502	E Gateway	-	504	-	70	-	75	-	72	-	75
7521	E Gateway	1,356	279	1,356	391	1,337	420	1,337	401	1,338	421
7522	E Gateway	1,818	398	1,814	473	1,783	512	1,783	488	1,784	513
7531	E Gateway	1,909	285	1,914	445	1,883	582	1,883	555	1,884	583
7532	E Gateway	1,748	283	1,749	221	1,725	292	1,725	278	1,726	293
7534	E Gateway	3,123	40	3,150	37	3,115	225	3,115	215	3,116	226
7535	E Gateway	2,319	24	3,416	97	3,477	256	3,477	244	3,478	257
7541	E Gateway	3,806	123	3,870	152	3,858	172	3,858	164	3,860	172
7542	E Gateway	1,033	31	1,120	258	1,228	277	1,228	264	1,229	278
7551	E Gateway	807	60	805	106	788	245	788	234	788	246
7552	E Gateway	1,014	792	1,021	578	999	629	999	600	999	630
7553	E Gateway	2,368	279	2,368	711	2,354	890	2,354	849	2,355	892
7554	E Gateway	2,289	168	2,294	146	2,321	371	2,321	354	2,322	372
7561	E Gateway	-	747	-	1,035	128	1,454	128	1,387	128	1,457
7562	E Gateway	2,013	308	2,011	512	1,978	548	1,978	523	1,979	549
7571	E Gateway	1,312	548	1,309	1,185	1,284	1,332	1,284	1,270	1,285	1,335
7572	E Gateway	2,190	411	2,202	539	2,167	552	2,167	526	2,168	553
8251	E Gateway	346	480	338	657	330	783	330	747	330	785
8261	E Gateway	1,501	1,343	1,562	2,548	1,550	2,709	1,550	2,583	1,551	2,715
8262	E Gateway	1,938	210	1,968	180	1,956	274	1,956	261	1,957	275
8263	E Gateway	1,836	373	1,909	524	1,901	467	1,901	445	1,902	468
8271	E Gateway	578	332	584	682	571	1,586	571	1,512	571	1,590
8272	E Gateway	1,525	276	1,579	385	1,578	551	1,578	525	1,579	552
8273	E Gateway	615	575	900	1,003	902	1,835	902	1,750	902	1,839
8281	E Gateway	5,613	779	5,738	552	5,748	890	5,748	849	5,750	892
8282	E Gateway	1,354	545	1,655	705	1,656	845	1,656	806	1,657	847
8301	E Gateway	937	43	1,525	71	3,932	986	3,932	940	3,934	988
8311	E Gateway	3,152	154	3,653	210	4,114	531	4,114	506	4,116	532
8321	E Gateway	134	-	162	5	575	5	575	5	575	5
8322	E Gateway	35	-	35	-	89	-	89	-	89	-
Subtotal	**E Gateway**	**48,669**	**10,390**	**52,007**	**14,478**	**55,327**	**20,294**	**55,327**	**19,353**	**55,352**	**20,340**
3111	East Mountain	1,313	273	1,558	421	2,277	827	1,765	600	2,103	639
3121	East Mountain	269	72	459	113	2,318	387	1,797	282	2,140	299
3122	East Mountain	1,642	63	1,888	90	4,425	357	3,431	260	4,086	276
3131	East Mountain	1,624	84	1,877	168	3,114	554	2,414	403	2,876	428
3132	East Mountain	1,733	12	2,099	23	4,590	231	3,558	168	4,238	179
3142	East Mountain	851	37	848	89	1,074	93	833	68	992	72
3211	East Mountain	2,761	156	3,778	209	7,993	774	6,381	583	7,471	589
3221	East Mountain	1,249	287	1,596	413	2,588	812	2,066	612	2,419	617
3222	East Mountain	225	8	320	2	646	36	516	27	604	27
3301	East Mountain	813	16	968	25	1,173	68	937	51	1,096	52
Subtotal	**East Mountain**	**12,480**	**1,008**	**15,391**	**1,553**	**30,198**	**4,139**	**23,698**	**3,054**	**28,025**	**3,178**
1001	Far NW	1,102	84	1,208	62	1,812	86	1,090	67	996	62
1111	Far NW	-	-	-	-	4,216	2,702	-	-	-	-
1121	Far NW	-	10	-	24	-	2,822	-	2,154	-	24
1131	Far NW	97	-	94	-	688	1,266	414	966	94	-
1311	Far NW	-	-	-	-	10	-	6	-	-	-
1321	Far NW	-	-	9	-	58	50	35	38	9	-
Subtotal	**NW Outside**	**1,199**	**94**	**1,311**	**86**	**6,784**	**6,926**	**1,545**	**3,225**	**1,099**	**86**

Table A.1 Alternative Scenarios, Population, and Employment Projections

	Community	1990		1995		Trend Scenario		Balanced Scenario		Downtown Scenario	
DASZ	Planning Area	Population	Employment	Population	Employment	Population	Employment	Population	Employment	Population	Employment
1211	Far SW	-	35	11	65	26	168	25	68	9	65
1411	Far SW	-	-	-	25	2	26	2	26	-	25
Subtotal	**SW Outside**	**-**	**35**	**11**	**90**	**28**	**194**	**27**	**94**	**9**	**90**
7133	Foothills	2,198	93	2,102	112	2,102	112	2,102	107	2,117	99
7141	Foothills	1,185	40	1,523	139	1,562	142	1,562	135	1,573	125
7161	Foothills	573	88	1,375	104	1,606	104	1,606	99	1,617	92
7166	Foothills	92	-	421	2	866	2	866	2	872	2
7171	Foothills	876	175	846	277	811	284	811	271	817	250
7172	Foothills	2,596	309	2,946	680	2,905	897	2,905	855	2,925	790
7173	Foothills	3,470	621	4,331	616	4,328	667	4,328	636	4,358	587
7174	Foothills	601	16	1,707	27	1,707	27	1,707	26	1,719	24
7175	Foothills	1,007	37	1,267	57	1,267	92	1,267	88	1,276	81
7176	Foothills	939	135	838	211	886	391	886	373	892	344
7302	Foothills	1,045	13	1,804	130	6,478	291	6,268	270	6,483	275
7303	Foothills	1,648	360	1,594	341	2,156	377	2,156	360	2,171	332
7433	Foothills	1,194	128	1,238	249	1,289	807	1,289	770	1,298	710
7436	Foothills	358	1,171	326	1,287	605	1,927	605	1,838	609	1,696
7441	Foothills	2,825	538	2,848	883	2,815	1,211	2,815	1,155	2,835	1,066
7442	Foothills	2,990	227	3,157	378	3,203	1,062	3,203	1,012	3,225	935
7443	Foothills	1,702	182	1,816	181	1,890	415	1,890	396	1,903	365
7444	Foothills	1,086	11	1,149	29	1,143	40	1,143	38	1,151	35
7445	Foothills	2,396	327	2,393	330	2,871	478	2,871	456	2,891	421
7451	Foothills	1,747	370	1,743	533	1,719	721	1,719	688	1,731	635
7452	Foothills	1,580	513	1,598	551	1,576	839	1,576	800	1,587	739
7453	Foothills	1,795	121	1,818	209	1,799	342	1,799	326	1,812	301
7454	Foothills	1,633	110	1,632	152	1,630	209	1,630	199	1,641	184
7455	Foothills	1,313	19	1,354	52	1,343	51	1,343	49	1,352	45
7456	Foothills	883	9	927	7	956	8	956	8	963	7
7533	Foothills	1,359	666	1,364	819	1,387	819	1,387	781	1,397	721
7536	Foothills	1,031	131	1,314	209	1,424	223	1,424	212	1,434	196
Subtotal	**Foothills**	**40,122**	**6,410**	**45,431**	**8,565**	**52,324**	**12,538**	**52,114**	**11,950**	**52,649**	**11,057**
4101	Isleta Reservat	-	-	-	-	-	-	-	-	-	-
4111	Isleta Reservat	26	-	25	25	29	60	29	60	29	45
4112	Isleta Reservat	477	2	510	78	583	100	583	100	583	75
4113	Isleta Reservat	148	-	159	25	182	35	182	35	182	26
4121	Isleta Reservat	388	38	411	25	887	39	887	39	887	29
4122	Isleta Reservat	1,084	177	1,170	57	1,323	132	1,323	132	1,323	98
4211	Isleta Reservat	48	149	57	678	65	2,418	65	2,418	65	1,804
Subtotal	**Isleta Reservat**	**2,171**	**366**	**2,332**	**888**	**3,069**	**2,784**	**3,069**	**2,784**	**3,069**	**2,077**
8411	KAFB	1,563	5,461	1,621	3,906	1,566	3,539	1,566	3,375	1,583	3,539
8431	KAFB	5,761	15,362	5,884	16,396	5,762	14,839	5,762	14,150	5,831	14,839
8552	KAFB	1,265	84	1,209	25	1,170	24	1,170	23	1,185	24
8601	Mesa del Sol	-	-	-	6	469	134	469	134	469	134
8611	Mesa del Sol	5	72	3	17	11,591	7,702	20,791	12,866	9,591	1,084
Subtotal	**SE Outside**	**8,594**	**20,979**	**8,717**	**20,350**	**20,558**	**26,238**	**29,758**	**30,548**	**18,659**	**19,620**
7001	Mid-Heights	4	1,157	4	1,177	4	1,223	4	1,166	4	1,231
7002	Mid-Heights	2	2,119	6	3,309	6	3,811	6	3,634	6	3,836
7003	Mid-Heights	92	1,301	92	2,288	89	3,185	89	3,036	89	3,206
7004	Mid-Heights	2	243	2	489	2	741	2	708	2	746
7011	Mid-Heights	15	3,445	15	3,587	15	3,961	15	3,777	14	4,181
7012	Mid-Heights	412	921	511	1,065	873	2,752	873	2,624	840	2,905
7013	Mid-Heights	1,177	165	1,194	356	1,146	370	1,146	353	1,151	372
7014	Mid-Heights	1,924	927	1,908	818	1,839	976	1,839	931	1,847	982
7021	Mid-Heights	1,357	92	1,350	170	1,339	227	1,339	216	1,345	228
7022	Mid-Heights	1,873	573	1,878	472	1,811	496	1,811	473	1,819	499
7031	Mid-Heights	1,921	356	1,948	409	1,861	415	1,861	396	1,869	418
7032	Mid-Heights	1,627	1,146	1,618	1,856	1,560	1,886	1,560	1,798	1,567	1,898
7041	Mid-Heights	207	659	206	992	197	1,426	197	1,360	198	1,435
7042	Mid-Heights	1,257	707	1,090	612	1,051	722	1,051	689	1,055	727
7043	Mid-Heights	1,550	373	1,542	388	1,481	407	1,481	388	1,487	410
7044	Mid-Heights	17	1,087	17	1,392	17	2,097	17	2,001	17	2,111
7051	Mid-Heights	3,545	370	3,617	1,456	3,588	1,792	3,588	1,709	3,453	1,891
7052	Mid-Heights	1	2,990	1	3,827	1	4,070	1	3,881	1	4,296
7053	Mid-Heights	70	1,618	3	1,940	3	2,088	3	1,990	3	2,101
7101	Mid-Heights	2,480	684	2,500	766	2,491	788	2,491	751	2,501	793
7104	Mid-Heights	1,403	89	1,401	146	1,402	171	1,402	163	1,408	172
7105	Mid-Heights	2,010	185	2,036	348	2,027	351	2,027	335	2,035	353
7106	Mid-Heights	2,157	175	2,156	165	2,148	169	2,148	162	2,157	170
7107	Mid-Heights	2,514	618	2,561	904	2,530	913	2,530	871	2,541	919
7131	Mid-Heights	927	26	897	11	860	33	860	31	864	33
7401	Mid-Heights	737	131	749	187	736	207	736	197	739	208
7402	Mid-Heights	1,062	1,607	943	1,999	920	2,175	920	2,074	924	2,189
7403	Mid-Heights	1,202	550	1,201	554	1,187	781	1,187	745	1,192	786
7411	Mid-Heights	1,477	7	1,473	35	1,453	35	1,453	33	1,459	35
7412	Mid-Heights	1,474	656	1,499	597	1,471	638	1,471	608	1,477	642
7421	Mid-Heights	1,341	281	1,379	290	1,352	324	1,352	309	1,358	326
7422	Mid-Heights	2,454	1,156	2,472	1,560	2,447	2,178	2,447	2,077	2,457	2,192
7423	Mid-Heights	2,518	638	2,922	886	2,925	1,383	2,925	1,319	2,937	1,392
7424	Mid-Heights	1,381	165	1,378	260	1,358	276	1,358	263	1,364	278
7431	Mid-Heights	1,652	191	1,648	200	1,625	222	1,625	211	1,632	223
7432	Mid-Heights	1,496	664	1,506	752	1,490	924	1,490	881	1,496	930
7434	Mid-Heights	1,245	243	1,242	356	1,229	568	1,229	542	1,234	572
7435	Mid-Heights	1,928	416	1,960	423	1,927	464	1,927	441	1,935	467
7461	Mid-Heights	1,974	337	1,991	388	1,959	409	1,959	390	1,967	412
7462	Mid-Heights	1,729	244	1,717	188	1,686	201	1,686	192	1,693	202
7463	Mid-Heights	1,826	400	1,819	651	1,787	714	1,787	681	1,794	719
7464	Mid-Heights	1,440	789	1,437	587	1,409	776	1,409	740	1,415	781
7501	Mid-Heights	1,362	174	1,372	334	1,388	368	1,388	351	1,394	370

Table A.1 Alternative Scenarios, Population, and Employment Projections

	Community	1990		1995		Trend Scenario		Balanced Scenario		Downtown Scenario	
DASZ	Planning Area	Population	Employment	Population	Employment	Population	Employment	Population	Employment	Population	Employment
7503	Mid-Heights	1,211	143	1,225	229	1,201	299	1,201	285	1,206	301
7511	Mid-Heights	1,339	340	1,336	415	1,324	585	1,324	558	1,330	589
7512	Mid-Heights	1,497	297	1,493	537	1,473	575	1,473	548	1,479	579
7601	Mid-Heights	965	1,015	963	1,178	924	1,198	924	1,142	928	1,206
7602	Mid-Heights	1,200	755	1,193	1,121	1,157	1,136	1,157	1,083	1,162	1,143
7603	Mid-Heights	1,388	625	1,381	767	1,337	903	1,337	861	1,343	909
7611	Mid-Heights	2,017	207	2,000	211	1,929	212	1,929	202	1,937	213
7612	Mid-Heights	924	687	937	1,261	904	1,283	904	1,223	908	1,291
7621	Mid-Heights	1,329	192	1,320	220	1,273	225	1,273	215	1,278	226
7622	Mid-Heights	1,068	452	1,060	735	1,009	647	1,009	617	1,013	651
7631	Mid-Heights	1,202	35	1,197	55	1,154	56	1,154	53	1,159	56
7632	Mid-Heights	980	686	993	1,003	957	1,019	957	972	961	1,026
7633	Mid-Heights	1,710	843	1,718	452	1,656	474	1,656	452	1,663	477
7634	Mid-Heights	716	289	713	282	688	289	688	276	691	291
7641	Mid-Heights	1,315	596	1,308	867	1,257	904	1,257	862	1,262	910
7642	Mid-Heights	976	819	969	1,003	934	1,023	934	976	938	1,030
7651	Mid-Heights	558	271	554	308	532	323	532	308	534	325
7652	Mid-Heights	1,078	564	1,070	688	1,019	678	1,019	647	1,023	682
7661	Mid-Heights	214	803	103	851	94	941	94	898	94	947
7662	Mid-Heights	1,835	196	1,827	274	1,762	281	1,762	267	1,769	283
7671	Mid-Heights	600	2,451	611	2,332	587	3,756	1,695	3,683	957	5,501
7672	Mid-Heights	116	4,901	115	6,986	110	7,224	318	7,085	179	10,581
7673	Mid-Heights	81	1,530	82	1,340	79	4,093	228	4,014	129	5,995
7674	Mid-Heights	837	1,442	847	2,179	813	3,412	2,348	3,346	1,326	4,997
8252	Mid-Heights	-	321	-	328	-	328	-	313	-	330
Subtotal	**Mid-Heights**	**81,998**	**51,135**	**82,276**	**64,812**	**80,863**	**79,577**	**83,863**	**76,383**	**82,009**	**89,176**
3141	N Albuquerque	-	-	-	-	-	-	-	-	-	-
7102	N Albuquerque	514	876	519	1,009	502	894	486	831	502	845
7103	N Albuquerque	1,300	581	1,318	772	1,320	785	1,277	729	1,321	742
7111	N Albuquerque	1,366	427	1,366	592	1,347	644	1,347	614	2,244	658
7112	N Albuquerque	6	1,254	15	2,540	18	2,876	18	2,743	30	2,940
7113	N Albuquerque	909	163	1,002	258	1,016	287	983	267	1,017	271
7114	N Albuquerque	953	635	1,504	91	1,496	177	1,447	163	1,497	167
7115	N Albuquerque	1,640	86	1,655	293	1,657	299	1,603	278	1,658	283
7116	N Albuquerque	1,426	125	1,437	143	1,657	155	1,603	144	1,658	147
7121	N Albuquerque	946	21	985	104	996	142	964	132	997	134
7122	N Albuquerque	1,356	191	1,341	1,566	1,346	1,702	1,302	1,581	1,347	1,609
7123	N Albuquerque	1,210	125	1,194	140	1,502	304	1,453	282	1,503	287
7124	N Albuquerque	1,542	96	1,457	99	1,634	201	1,581	187	1,635	190
7125	N Albuquerque	1,590	38	1,520	47	1,525	47	1,475	44	1,526	44
7126	N Albuquerque	2	215	2	299	827	401	800	373	828	379
7132	N Albuquerque	1,667	154	2,643	1,227	2,663	1,592	2,576	1,479	2,665	1,505
7134	N Albuquerque	2,018	60	1,914	58	1,917	58	1,855	55	1,919	55
7142	N Albuquerque	1,199	7	1,468	42	1,471	43	1,423	40	1,472	41
7143	N Albuquerque	1,283	16	1,974	31	2,002	34	1,937	32	2,004	32
7144	N Albuquerque	10	-	29	-	913	56	883	52	914	53
7145	N Albuquerque	20	-	32	-	954	-	923	-	955	-
7151	N Albuquerque	1,193	984	1,090	1,366	1,073	1,391	1,038	1,292	1,074	1,315
7152	N Albuquerque	1,512	77	1,524	103	1,517	104	1,468	97	1,518	98
7153	N Albuquerque	1,509	70	1,504	151	1,515	184	1,466	171	1,516	174
7154	N Albuquerque	1,365	90	1,426	475	1,429	477	1,382	443	1,430	451
7155	N Albuquerque	1,013	322	1,035	405	1,038	426	1,004	395	1,039	403
7156	N Albuquerque	1,576	13	1,772	17	1,819	17	1,760	17	1,821	16
7157	N Albuquerque	668	446	667	477	662	711	640	661	663	672
7162	N Albuquerque	99	6	264	5	731	5	707	5	732	5
7163	N Albuquerque	4	-	44	1	388	51	375	46	388	48
7164	N Albuquerque	270	1	573	4	1,505	64	1,456	60	1,506	61
7165	N Albuquerque	81	24	335	50	708	51	685	47	709	48
7201	N Albuquerque	656	503	682	745	943	1,601	943	1,527	1,571	1,636
7202	N Albuquerque	-	267	5	469	167	936	167	892	278	957
7203	N Albuquerque	33	21	43	42	692	139	669	129	693	131
7204	N Albuquerque	17	45	10	77	556	277	538	257	556	262
7211	N Albuquerque	46	168	1,382	217	2,590	1,318	2,506	1,224	2,592	1,246
7212	N Albuquerque	620	13	917	8	3,313	75	3,206	70	3,316	71
7213	N Albuquerque	11	-	237	-	1,070	-	1,035	-	1,071	-
7214	N Albuquerque	4	-	179	20	1,552	95	1,501	88	1,553	90
7221	N Albuquerque	5	-	113	-	434	25	420	23	434	24
7222	N Albuquerque	77	-	212	4	441	21	427	20	441	20
7223	N Albuquerque	180	21	281	20	666	60	644	56	667	57
7224	N Albuquerque	227	38	368	71	880	77	851	72	881	73
7225	N Albuquerque	116	1	313	3	1,121	3	1,084	3	1,122	3
7226	N Albuquerque	56	-	138	20	418	21	404	20	418	20
7301	N Albuquerque	2,241	149	2,398	170	2,764	193	2,674	179	2,766	182
Subtotal	**N Albuquerque**	**34,536**	**8,329**	**40,887**	**14,231**	**56,755**	**19,019**	**54,986**	**17,820**	**58,447**	**18,445**
5151	N Valley	596	121	590	79	950	81	1,636	118	1,247	87
5152	N Valley	1,230	346	1,244	219	1,958	254	1,958	247	2,086	287
5161	N Valley	459	215	459	243	434	265	748	386	570	284
5201	N Valley	436	1,383	437	1,687	424	2,636	424	2,565	452	2,983
5211	N Valley	880	56	871	66	851	66	851	64	907	75
5212	N Valley	669	64	663	78	657	79	657	77	700	89
5213	N Valley	322	732	323	877	310	873	310	850	330	988
5221	N Valley	14	801	14	1,062	13	1,053	16	1,085	13	1,070
5251	N Valley	236	955	130	1,602	121	1,664	150	1,715	123	1,690
5262	N Valley	108	616	109	831	105	1,345	1,081	1,352	251	2,356
6001	N Valley	564	354	565	350	543	1,335	673	1,376	551	1,356
6002	N Valley	1,095	226	1,121	146	1,148	167	1,423	172	1,166	170
6003	N Valley	693	482	719	507	702	583	870	600	713	592
6004	N Valley	52	501	22	479	8	504	10	519	8	512
6011	N Valley	573	208	571	264	560	292	694	301	569	297
6012	N Valley	944	192	985	177	935	161	1,159	166	949	164

Table A.1 Alternative Scenarios, Population, and Employment Projections

	Community	1990		1995		Trend Scenario		Balanced Scenario		Downtown Scenario	
DASZ	Planning Area	Population	Employment	Population	Employment	Population	Employment	Population	Employment	Population	Employment
6021	N Valley	2,256	271	2,244	181	2,234	221	2,771	228	2,268	224
6022	N Valley	1,124	438	1,130	528	1,116	618	1,384	637	1,133	628
6031	N Valley	297	452	269	367	250	526	250	512	266	595
6032	N Valley	632	268	642	363	605	375	605	365	644	424
6033	N Valley	657	251	648	360	634	438	786	450	644	445
6034	N Valley	593	301	587	417	573	531	710	547	582	539
6041	N Valley	1,066	165	1,089	218	1,184	274	1,468	282	1,202	278
6042	N Valley	330	312	329	325	458	514	421	486	466	465
6043	N Valley	327	76	347	128	477	175	438	165	485	158
6044	N Valley	181	-	232	42	298	111	274	105	303	100
6045	N Valley	727	247	720	299	794	427	729	404	807	386
6046	N Valley	654	307	653	642	645	705	592	667	656	637
6051	N Valley	270	454	246	731	451	1,325	414	1,253	458	1,198
6052	N Valley	852	403	928	771	1,773	1,418	1,628	1,341	1,802	1,282
6053	N Valley	-	1,517	-	1,375	-	2,641	-	2,236	-	2,453
6054	N Valley	-	291	-	885	-	2,922	-	2,473	-	2,714
6055	N Valley	-	1,267	3	1,779	3	4,438	3	3,757	4	4,122
6056	N Valley	-	1,157	-	2,085	-	2,431	-	2,058	-	2,258
6057	N Valley	-	2,000	3	1,896	3	2,834	3	2,398	4	2,632
6058	N Valley	-	122	3	243	3	783	3	663	4	727
6061	N Valley	396	502	409	828	396	1,201	364	1,136	403	1,086
6062	N Valley	1,121	604	1,229	801	2,120	1,245	1,946	1,177	2,155	1,126
6063	N Valley	-	150	-	756	-	2,736	-	2,316	-	2,541
6064	N Valley	-	2,637	3	5,505	3	7,596	3	6,429	4	7,056
6065	N Valley	-	1,522	-	306	-	601	-	509	-	558
6066	N Valley	-	24	-	437	32	741	32	627	43	688
6071	N Valley	461	399	453	293	444	464	444	452	473	525
6072	N Valley	216	1,210	224	1,875	207	3,178	207	3,093	221	3,596
6073	N Valley	63	902	76	1,172	73	1,468	73	1,427	78	1,661
6074	N Valley	64	172	64	101	311	192	311	187	331	217
6075	N Valley	104	1,706	109	2,307	122	3,040	122	2,573	165	2,824
6076	N Valley	-	824	-	1,448	-	2,584	-	2,187	-	2,400
6077	N Valley	88	2,106	30	2,423	27	2,685	27	2,273	36	2,494
6101	N Valley	1,910	145	1,959	167	2,293	260	2,293	253	2,443	294
6102	N Valley	1,070	59	1,240	80	1,412	80	1,412	78	1,504	91
6111	N Valley	978	66	1,019	118	1,245	129	1,245	126	1,326	146
6112	N Valley	970	50	1,033	79	1,085	79	1,085	77	1,156	89
6113	N Valley	571	309	608	328	659	331	659	322	702	375
6114	N Valley	819	5	818	8	807	8	807	8	860	9
6115	N Valley	1,195	113	1,195	92	1,229	121	1,229	118	1,309	137
6116	N Valley	689	88	714	113	783	114	783	111	834	129
6121	N Valley	401	48	588	50	676	53	621	50	687	48
6122	N Valley	861	102	869	119	952	181	874	171	968	164
6123	N Valley	562	122	695	185	937	186	937	181	998	210
6124	N Valley	728	300	728	325	846	308	777	291	860	278
6125	N Valley	25	6	25	22	40	22	37	21	41	20
6131	N Valley	1,302	540	1,381	703	1,504	718	1,381	679	1,529	649
6141	N Valley	2,086	393	2,059	384	2,131	424	2,642	437	2,164	431
6142	N Valley	634	62	626	413	610	458	756	472	619	465
6151	N Valley	1,263	406	919	425	1,027	342	943	323	1,044	309
6152	N Valley	765	52	801	85	852	115	782	109	866	104
6153	N Valley	1,615	100	1,601	159	1,606	323	1,475	305	1,633	292
6501	N Valley	669	41	702	90	917	347	842	328	932	314
6502	N Valley	47	-	40	19	67	19	62	18	68	17
6503	N Valley	1,001	50	1,050	184	1,110	265	1,019	251	1,128	240
6504	N Valley	310	96	320	163	310	346	285	327	315	313
6505	N Valley	1,003	63	992	108	1,265	198	1,162	187	1,286	179
6506	N Valley	332	20	350	21	347	127	319	120	353	115
6507	N Valley	87	64	85	106	69	117	63	111	70	106
6511	N Valley	43	77	28	628	28	2,171	28	2,171	22	1,447
6512	N Valley	-	3,464	-	3,098	-	8,116	-	6,871	-	7,539
6513	N Valley	261	16	273	19	443	32	443	32	348	21
6514	N Valley	115	-	119	36	140	1,031	140	873	189	958
6521	N Valley	184	21	186	17	265	73	243	69	269	66
6522	N Valley	1	1,837	13	4,442	13	6,599	13	5,586	18	6,129
6523	N Valley	14	13	14	206	53	467	53	395	72	434
6524	N Valley	288	-	283	1	283	1	260	1	288	1
6525	N Valley	430	99	426	79	405	717	405	607	547	666
6526	N Valley	1,054	883	1,065	1,341	1,050	2,300	1,050	1,946	1,418	2,136
6531	N Valley	124	2	130	3	253	185	232	175	257	167
6532	N Valley	374	19	385	29	407	79	374	75	414	71
6533	N Valley	1,212	211	1,234	150	1,720	241	1,579	228	1,748	218
6534	N Valley	397	253	414	297	449	253	412	239	456	229
6535	N Valley	339	125	342	115	406	280	373	265	413	253
6541	N Valley	139	3	147	26	181	26	166	25	184	24
6542	N Valley	567	189	593	201	996	207	915	195	1,012	187
6543	N Valley	408	97	437	99	516	116	474	110	525	105
Subtotal	**N Valley**	**49,193**	**40,918**	**49,999**	**55,887**	**57,342**	**91,361**	**60,318**	**82,343**	**60,147**	**88,212**
8001	Near Heights	-	460	-	748	-	1,198	-	1,158	-	1,367
8002	Near Heights	360	527	289	742	280	1,539	356	1,488	333	1,757
8011	Near Heights	1,924	4,738	2,434	4,620	2,434	5,638	2,489	5,450	2,472	6,435
8012	Near Heights	332	6,027	308	7,209	432	8,324	549	8,048	514	9,501
8021	Near Heights	851	282	764	365	764	421	971	407	910	481
8022	Near Heights	1,174	1,081	976	1,399	980	1,520	1,246	1,468	1,167	1,735
8031	Near Heights	1,729	3,245	1,814	4,089	1,809	5,057	2,300	4,889	2,154	5,772
8032	Near Heights	13	541	16	561	6	592	8	572	7	676
8041	Near Heights	2,794	760	2,905	1,045	2,898	1,079	3,684	1,044	3,451	1,232
8051	Near Heights	9	1,886	2	2,103	2	3,000	2	2,594	3	2,914
8052	Near Heights	581	584	605	592	603	835	603	722	964	811
8061	Near Heights	1,113	597	1,176	372	1,158	1,813	1,158	1,729	1,169	1,780
8062	Near Heights	2,927	556	3,039	203	2,972	197	2,972	188	2,999	193

Table A.1 Alternative Scenarios, Population, and Employment Projections

	Community	1990		1995		Trend Scenario		Balanced Scenario		Downtown Scenario	
DASZ	Planning Area	Population	Employment	Population	Employment	Population	Employment	Population	Employment	Population	Employment
8071	Near Heights	-	141	2	191	195	394	195	341	312	383
8072	Near Heights	721	315	791	104	841	132	841	114	1,344	128
8081	Near Heights	73	2,132	74	2,144	71	3,057	71	2,643	113	2,969
8082	Near Heights	1,082	2,345	1,125	2,195	1,077	3,486	1,077	3,014	1,721	3,386
8101	Near Heights	2,461	486	2,495	545	2,480	570	2,480	544	2,503	560
8102	Near Heights	1,521	262	1,575	226	1,576	238	1,576	227	1,591	234
8111	Near Heights	1,810	206	1,834	243	1,810	249	1,810	238	1,827	244
8121	Near Heights	1,257	171	1,276	232	1,253	239	1,253	228	1,265	235
8122	Near Heights	1,176	315	1,272	338	1,333	356	1,333	338	1,345	350
8123	Near Heights	248	317	255	334	500	372	500	355	505	365
8131	Near Heights	1,339	499	1,358	591	1,324	600	1,324	572	1,336	589
8132	Near Heights	1,218	365	1,247	445	1,247	472	1,247	450	1,259	463
8133	Near Heights	-	950	-	692	40	735	40	701	40	722
8141	Near Heights	1,063	1,113	1,088	1,883	1,073	1,891	1,073	1,802	1,083	1,857
8142	Near Heights	1,525	104	1,559	85	1,556	88	1,556	83	1,570	86
8151	Near Heights	1,801	1,476	1,859	2,389	1,798	2,512	2,418	2,556	1,878	2,637
8161	Near Heights	2,044	1,548	2,006	2,064	1,960	2,102	2,636	2,139	2,047	2,207
8171	Near Heights	1,061	807	1,077	930	1,075	943	1,446	960	1,123	990
8172	Near Heights	1,619	349	1,643	430	1,595	433	2,145	440	1,666	455
8201	Near Heights	1,198	692	1,226	690	1,214	695	1,633	708	1,268	730
8202	Near Heights	874	224	875	109	873	120	1,174	121	912	126
8211	Near Heights	1,475	1,223	1,510	1,640	1,512	1,797	2,033	1,828	1,579	1,887
8212	Near Heights	361	1,119	366	1,418	346	1,541	346	1,470	349	1,513
8221	Near Heights	5	585	5	391	5	397	3,005	5,000	5	403
8231	Near Heights	1,474	414	1,556	495	1,499	502	2,016	512	1,565	527
8232	Near Heights	1,610	824	1,341	831	1,292	856	1,738	871	1,349	899
8233	Near Heights	2,604	605	2,733	467	2,684	470	2,684	448	2,709	461
8234	Near Heights	1,614	480	1,730	598	1,695	603	1,695	574	1,711	592
8241	Near Heights	658	286	687	299	705	301	705	287	712	296
8242	Near Heights	3,585	89	3,851	123	3,839	110	3,839	105	3,874	108
8243	Near Heights	960	653	1,011	785	968	813	1,302	827	1,011	854
8244	Near Heights	2,381	244	2,504	289	2,503	290	2,503	277	2,526	285
8401	Near Heights	-	-	-	302	-	1,900	-	1,812	-	1,857
8402	Near Heights	-	705	-	654	-	1,108	-	1,056	-	1,083
8412	Near Heights	-	1,845	-	2,615	-	3,642	-	3,149	-	3,537
8413	Near Heights	-	-	-	930	-	2,042	-	1,766	-	1,983
8421	Near Heights	68	1,740	-	1,896	-	2,248	-	2,144	-	2,207
8422	Near Heights	434	2,396	455	2,226	437	2,644	437	2,521	441	2,596
8423	Near Heights	365	120	379	152	400	156	400	149	404	153
8501	Near Heights	1,812	36	1,927	41	1,843	66	1,843	63	1,860	65
8502	Near Heights	1,360	80	1,378	115	1,353	116	1,353	111	1,366	114
8511	Near Heights	1,132	649	1,147	747	1,127	775	1,516	789	1,177	814
8512	Near Heights	387	87	403	149	387	154	520	157	404	162
8521	Near Heights	951	1,292	976	1,419	936	1,882	1,259	1,915	977	1,976
8531	Near Heights	1,950	186	2,036	222	1,984	211	1,984	200	2,002	207
8532	Near Heights	361	1,338	523	1,483	501	1,550	674	1,576	523	1,627
8533	Near Heights	651	363	687	478	659	488	886	497	688	512
8534	Near Heights	1,942	265	2,039	292	1,995	300	1,995	286	2,013	295
8541	Near Heights	2,730	897	2,876	1,052	2,885	1,060	2,885	1,011	2,912	1,041
8542	Near Heights	1,760	185	1,836	224	1,807	231	1,807	220	1,824	227
8551	Near Heights	2,039	349	2,079	105	2,054	106	2,054	101	2,073	104
8561	Near Heights	2,950	290	2,991	354	2,961	360	2,961	343	2,988	353
Subtotal	**Near Heights**	**75,517**	**55,446**	**77,991**	**63,700**	**77,606**	**79,616**	**88,606**	**80,396**	**81,893**	**83,108**
5321	S Valley	4	1,131	-	1,340	-	3,947	-	3,289	-	3,810
5322	S Valley	-	85	3	77	3	675	3	562	3	652
5331	S Valley	155	214	155	257	317	772	317	751	303	674
5401	S Valley	780	46	770	79	780	79	780	77	747	69
5402	S Valley	880	510	837	290	1,117	229	1,117	223	1,069	200
5411	S Valley	1,113	361	1,119	482	1,165	791	1,165	659	1,165	764
5412	S Valley	13	232	25	343	25	511	25	426	25	492
5421	S Valley	49	542	45	735	62	1,012	62	842	62	977
5422	S Valley	32	314	73	85	69	209	69	174	69	202
5431	S Valley	312	50	391	56	545	56	545	54	522	49
5511	S Valley	2,493	276	2,449	528	2,465	580	2,311	564	2,346	501
5512	S Valley	764	217	768	219	774	225	726	218	737	195
5513	S Valley	396	53	428	80	646	453	606	440	615	392
5521	S Valley	284	1	366	71	531	77	498	75	505	67
5522	S Valley	2,471	79	2,411	33	2,453	57	2,299	54	2,334	49
5523	S Valley	479	17	592	28	694	62	651	60	660	54
5524	S Valley	1,022	108	1,024	74	1,191	89	1,116	86	1,133	77
5525	S Valley	263	85	273	85	285	437	267	424	271	378
5526	S Valley	453	16	474	16	501	16	470	16	477	14
5531	S Valley	370	-	413	2	449	2	421	2	427	2
5532	S Valley	973	92	1,031	106	1,189	108	1,028	86	1,183	94
5533	S Valley	841	22	857	16	935	17	808	14	931	15
5534	S Valley	380	3	363	4	370	17	320	15	368	15
5535	S Valley	498	81	523	120	563	122	528	118	536	105
5536	S Valley	693	114	705	95	822	112	710	89	818	98
5537	S Valley	156	14	152	14	151	77	142	75	144	67
5601	S Valley	1,195	68	1,263	51	1,431	58	2,549	101	2,102	76
5602	S Valley	2,106	389	2,235	398	2,274	615	4,051	1,072	3,339	807
5603	S Valley	787	44	802	8	857	9	803	9	816	8
5611	S Valley	702	29	736	14	760	30	712	29	723	26
5612	S Valley	863	105	929	171	1,013	172	950	167	964	149
5613	S Valley	1,129	70	1,189	143	1,194	264	1,734	368	1,188	230
5614	S Valley	654	66	682	73	749	250	1,088	349	745	218
5621	S Valley	899	136	958	91	1,025	102	961	99	975	88
5622	S Valley	2,849	317	2,971	374	3,027	547	4,395	763	3,012	477
5623	S Valley	1,002	396	1,009	456	1,081	584	1,570	815	1,076	509
5631	S Valley	1,971	284	2,164	490	2,505	515	2,347	500	2,384	445
5632	S Valley	693	21	735	19	768	20	720	19	731	17

Table A.1 Alternative Scenarios, Population, and Employment Projections

	Community	1990		1995		Trend Scenario		Balanced Scenario		Downtown Scenario	
DASZ	Planning Area	Population	Employment	Population	Employment	Population	Employment	Population	Employment	Population	Employment
5633	S Valley	2,408	497	2,460	410	2,565	846	3,102	894	2,441	731
5634	S Valley	2,310	42	2,434	60	2,507	119	3,033	126	2,386	103
5635	S Valley	913	138	949	93	963	107	1,165	113	916	93
5636	S Valley	323	220	334	443	322	506	390	535	306	437
5637	S Valley	780	172	840	163	903	178	846	173	859	154
5638	S Valley	692	105	747	151	798	183	965	194	759	158
5641	S Valley	1,524	229	1,597	192	1,681	332	1,576	322	1,600	287
5642	S Valley	1,461	204	1,595	232	1,699	266	1,593	257	1,617	230
5643	S Valley	123	-	133	11	126	23	118	22	120	20
Subtotal	**S Valley**	**41,258**	**8,195**	**43,009**	**9,278**	**46,350**	**16,458**	**51,652**	**16,320**	**46,509**	**15,275**
7231	Sandia Reservat	3	-	3	18	3	452	3	452	2	301
7701	Sandia Reservat	302	297	380	381	656	398	635	370	657	376
Subtotal	**Sandia Reservat**	**305**	**297**	**383**	**399**	**659**	**850**	**638**	**822**	**659**	**677**
5501	SW Mesa	16	-	52	16	3,226	1,143	1,290	302	52	16
5502	SW Mesa	770	79	777	77	1,529	125	611	32	1,520	105
5503	SW Mesa	1,377	36	1,444	23	2,205	25	881	6	2,205	25
5504	SW Mesa	15	-	55	11	3,763	11	1,504	3	55	11
5505	SW Mesa	713	6	926	34	1,515	54	605	14	1,515	54
5701	SW Mesa	490	108	1,277	47	2,636	250	2,082	210	2,633	177
5702	SW Mesa	307	42	442	44	2,139	441	1,689	371	2,136	311
5711	SW Mesa	1,383	96	1,363	101	1,539	186	1,215	157	1,537	131
5712	SW Mesa	1,252	65	1,398	125	2,318	766	1,830	645	2,315	541
5713	SW Mesa	7	-	11	-	1,018	601	804	506	1,017	424
5714	SW Mesa	1,091	84	1,001	99	1,602	189	1,265	158	1,600	133
5721	SW Mesa	-	-	-	-	1,446	15	1,142	13	-	-
5722	SW Mesa	3,922	73	4,008	125	4,338	294	3,426	248	4,333	208
5723	SW Mesa	546	23	801	35	1,530	177	1,208	149	1,528	125
5731	SW Mesa	241	91	280	35	971	88	767	74	970	62
5732	SW Mesa	73	3	96	52	981	128	775	108	980	90
5733	SW Mesa	104	228	117	326	302	404	238	340	302	285
5741	SW Mesa	-	-	-	-	1,728	864	1,365	727	-	-
5742	SW Mesa	-	17	-	-	1,094	138	864	116	1,093	97
5743	SW Mesa	1,349	77	2,274	262	2,689	347	2,123	292	2,686	245
5744	SW Mesa	1,632	3	1,588	132	2,053	145	1,621	122	2,050	102
5801	SW Mesa	47	7	21	6	693	467	547	393	692	330
5802	SW Mesa	149	233	173	466	920	1,825	894	7,406	1,981	1,825
5803	SW Mesa	-	-	-	-	238	673	231	2,730	512	673
5804	SW Mesa	1,108	1,089	1,289	1,047	1,669	1,786	1,622	7,245	3,594	1,786
5805	SW Mesa	2	966	2	1,149	2	1,897	2	7,697	4	1,897
5806	SW Mesa	150	29	134	125	129	1,214	125	4,925	278	1,214
5811	SW Mesa	3,977	386	3,819	498	3,641	638	3,538	638	4,140	755
5812	SW Mesa	2,478	343	2,321	316	2,187	354	1,727	298	2,184	250
5821	SW Mesa	1,713	493	1,717	534	1,645	589	1,598	589	1,870	697
5822	SW Mesa	921	16	960	55	1,144	55	903	46	1,143	39
5831	SW Mesa	600	-	618	24	695	99	675	99	790	117
5832	SW Mesa	1,141	21	1,148	27	1,385	388	1,094	327	1,383	274
5833	SW Mesa	3,498	355	3,632	274	3,498	330	3,399	330	3,977	390
5841	SW Mesa	147	47	143	36	1,927	557	1,522	469	1,925	393
Subtotal	**SW Mesa**	**31,219**	**5,016**	**33,887**	**6,101**	**60,395**	**17,263**	**45,182**	**37,785**	**55,000**	**13,782**
6201	West Side	-	-	511	6	3,010	6	2,925	6	2,655	5
6202	West Side	125	11	134	1	1,317	231	1,280	231	1,162	202
6203	West Side	748	6	860	12	1,148	12	1,115	12	1,013	10
6204	West Side	413	5	433	35	1,372	35	1,333	35	1,210	31
6205	West Side	-	-	574	8	1,863	48	1,810	48	1,643	42
6206	West Side	-	-	-	-	948	-	921	-	836	-
6211	West Side	1,025	21	1,159	12	2,077	165	1,836	160	2,729	258
6212	West Side	1,436	123	1,495	142	2,274	199	2,209	199	2,006	174
6213	West Side	-	-	-	-	779	2,700	689	2,610	1,023	4,225
6214	West Side	20	77	675	114	2,249	303	1,988	293	2,955	474
6215	West Side	1,033	273	943	250	1,216	617	1,075	597	1,598	966
6216	West Side	384	463	435	446	425	1,389	376	1,343	558	2,174
6217	West Side	894	48	2,120	110	2,932	110	2,849	110	2,586	96
6218	West Side	1,631	108	1,591	1,670	1,662	1,710	1,615	1,710	1,466	1,492
6221	West Side	66	-	1,595	51	4,154	139	3,673	135	5,457	218
6222	West Side	1,376	20	2,908	31	2,951	31	2,867	31	2,603	27
6223	West Side	139	-	428	4	1,004	109	976	109	886	95
6224	West Side	2,646	59	3,307	133	3,714	359	3,284	347	4,879	562
6225	West Side	1,928	41	2,265	874	2,238	954	2,175	954	1,974	832
6226	West Side	2,560	149	3,496	289	3,588	352	3,486	352	3,165	307
6227	West Side	41	-	474	11	1,253	11	1,217	11	1,105	10
6231	West Side	43	242	24	381	145	856	128	828	190	1,340
6232	West Side	606	171	1,239	211	2,130	735	1,938	711	2,650	1,150
6241	West Side	1,352	19	2,557	24	2,588	24	2,515	24	2,283	21
6242	West Side	752	21	834	27	852	61	828	61	752	53
6243	West Side	2,343	18	2,602	120	2,612	139	2,538	139	2,304	121
6244	West Side	403	13	581	25	1,071	93	947	90	1,407	146
6251	West Side	1,366	272	1,770	578	2,108	932	1,864	901	2,769	1,458
6252	West Side	214	181	274	246	1,684	1,244	1,489	1,203	2,212	1,947
6253	West Side	199	13	224	16	1,744	502	1,542	486	2,291	786
6301	West Side	3	-	215	-	7,557	5,966	7,359	966	3,105	257
6302	West Side	-	-	-	15	-	15	-	15	-	13
6311	West Side	2	-	-	-	2,853	258	2,772	258	2,517	225
6312	West Side	-	-	-	-	810	-	787	-	715	-
6313	West Side	-	-	-	-	829	11	805	11	731	10
6401	West Side	-	-	141	186	1,234	512	947	483	1,348	446
6402	West Side	1,221	249	2,034	208	4,027	404	3,089	381	4,400	352
6403	West Side	2,326	64	2,697	99	3,709	103	2,846	97	4,053	90
6404	West Side	-	614	353	1,054	610	1,115	468	1,051	667	972
6405	West Side	-	-	-	10	976	75	749	71	1,066	65

Table A.1 Alternative Scenarios, Population, and Employment Projections

	Community	1990		1995		Trend Scenario		Balanced Scenario		Downtown Scenario	
DASZ	Planning Area	Population	Employment	Population	Employment	Population	Employment	Population	Employment	Population	Employment
6406	West Side	318	-	406	4	1,701	1,388	1,305	1,310	1,859	1,209
6411	West Side	327	116	201	298	1,639	1,203	1,258	1,134	1,791	1,048
6412	West Side	1,326	475	1,676	862	2,587	2,135	1,985	2,013	2,827	1,860
6413	West Side	598	21	755	-	3,644	180	2,796	170	3,982	157
6414	West Side	118	519	255	438	1,691	1,537	1,297	1,449	1,848	1,339
6415	West Side	232	55	221	184	530	296	407	280	579	258
6416	West Side	138	86	177	71	324	1,007	249	949	354	877
6417	West Side	2	905	5	922	5	7,213	4	6,800	5	6,285
6418	West Side	-	182	183	292	2,091	923	1,604	870	2,285	804
6421	West Side	-	-	-	-	2,185	756	1,676	713	2,387	659
6422	West Side	-	-	-	-	1,532	-	921	-	-	-
6431	West Side	-	28	3	-	1,113	589	854	554	1,216	513
6432	West Side	2,616	115	2,492	164	3,078	392	2,361	371	3,363	342
6433	West Side	-	-	-	-	976	42	749	41	1,066	37
6434	West Side	-	-	-	-	1,302	3	783	2	-	-
6435	West Side	-	-	-	-	2,133	528	1,637	497	2,331	460
Subtotal	**West Side**	**32,970**	**5,783**	**47,322**	**10,634**	**106,244**	**40,717**	**93,196**	**34,222**	**104,862**	**37,500**
Total		**480,577**	**244,307**	**520,201**	**302,702**	**673,734**	**455,182**	**673,735**	**455,183**	**673,731**	**455,184**

Table A.2. Infrastructure Cost Analysis-Trend Scenario

City of Albuquerque - Planned Growth Strategy
Infrastructure Cost Analysis Trend Alternative
Capital Costs - 1998 Dollars

Report Date
15-Aug-01

		Percent of Total by Area								Percent of Population by Coverage																	
																$438	$2,500	$347.00	$590.00			Transmission	$1,480.00		Total Capital Costs By Coverage		
																$110	$375	$43.00	$100.00	$0.50/gal	Pump	Pipelines	Master Plan	Total			
TRUNK	ZONE	in 1960	In serv.	Out serv.	COGPOP95	COGEMP95	COGPOP2020	COGEMP2020	Total Population Year 2020	in 1960	In serv.	Out serv.	comment	% of Vacant Parcels with Service Lines	Service Line Cost	Domestic Well Cost	Municipal Well Cost	Water Rights	Reservoir	Stations	@ $3;00/in dia	and Infill Pipelines		1960 In	Serv, In	Serv. Out
AIRPORT	ARPT	0%	100%	0%	0	16	2,783	1,783	2,783	0	2,783	0		0.0	$1,414,193	$0	1,042,400	1,820,300	$0			$4,118,800	$8,395,693	$0	$8,395,700	$0
AIRPORT Total					**0**	**16**	**2,783**	**1,783**	**2,783**	**0**	**2,783**	**0**			**$1,414,193**	**$0**	**1,042,400**	**1,820,300**	**$0**	**$0**	**$0**	**$4,118,800**	**$8,395,693**	**$0**	**$8,395,700**	**$0**
ALAMEDA	1E	0%	100%	0%	12,103	6,086	3,370	4,011	15,473	0	15,473	0		13.3	$1,660,715	$0	$1,342,000	$2,389,700	$0	$0	$0	$4,988,200	$10,380,615	$0	$10,380,600	$0
ALAMEDA	2E	0%	100%	0%	1,676	15,294	106	15,495	1,781	0	1,781	0		3.0	$1,690,771	$0	$703,000	$1,611,900	$0	$0	$0	$156,600	$4,162,271	$0	$4,162,300	$0
ALAMEDA	3E	0%	100%	0%	9,219	5,536	1,393	2,270	10,612	0	10,612	0		19.8	$688,770	$0	$581,100	$1,049,000	$0	$0	$0	$2,062,100	$4,380,970	$0	$4,381,000	$0
ALAMEDA	4ER	0%	100%	0%	6,901	2,248	2,786	1,138	9,688	0	9,688	0		6.9	$1,252,215	$0	$1,015,800	$1,757,800	$0	$0	$0	$4,123,900	$8,149,715	$0	$8,149,700	$0
ALAMEDA	4ERR	0%	100%	0%	376	23	-2	22	374	0	374	0		0.0	$1,533	$0	$300	$1,000	$0	$0	$0	-$3,000	-$167	$0	-$200	$0
ALAMEDA	5E	0%	100%	0%	5,986	413	2,672	676	8,658	0	8,658	0		1.2	$1,229,604	$0	$956,400	$1,644,300	$0	$0	$0	$3,955,100	$7,785,404	$0	$7,785,400	$0
ALAMEDA	6E	0%	25%	75%	3,305	165	2,782	91	6,088	0	1,522	4,566		0.0	$1,228,721	$0	$969,400	$1,650,800	$1,000,000	$660,000	$240,000	$4,118,000	$9,866,921	$0	$2,466,700	$7,400,200
ALAMEDA	7E	0%	25%	75%	2,120	185	2,407	148	4,527	0	1,132	3,395		0.0	$1,070,352	$0	$841,500	$1,434,800	$1,000,000	$660,000	$240,000	$3,561,800	$8,808,452	$0	$2,202,100	$6,606,300
ALAMEDA	8E	0%	40%	60%	2,886	252	1,778	101	4,664	0	1,865	2,798		0.0	$789,837	$0	$621,300	$1,059,100	$1,000,000	$660,000	$240,000	$2,631,500	$7,001,737	$0	$2,800,700	$4,201,000
ALAMEDA Total					**44,571**	**30,202**	**17,293**	**23,953**	**61,865**	**0**	**51,106**	**10,759**			**$9,612,517**	**$0**	**$7,030,800**	**$12,598,400**	**$3,000,000**	**$1,980,000**	**$720,000**	**$25,594,200**	**$60,535,917**	**$0**	**$42,328,300**	**$18,207,500**
ATR/PAJ	5W	0%	0%	100%	443	45	3,121	876	3,564	0	0	3,564		0.0	$1,462,948	$0	$1,120,700	$1,929,000	$500,000	$750,000	$720,000	$4,619,100	$11,101,748	$0	$0	$11,101,700
ATR/PAJ	6W	0%	0%	100%	345	43	903	173	1,248	0	0	1,248		0.0	$414,271	$0	$320,600	$549,800	$500,000	$750,000	$720,000	$1,335,800	$4,590,471	$0	$0	$4,590,500
ATR/PAJ Total					**789**	**89**	**4,024**	**1,049**	**4,812**	**0**	**0**	**4,812**			**$1,877,220**	**$0**	**$1,441,300**	**$2,478,800**	**$1,000,000**	**$1,500,000**	**$1,440,000**	**$5,954,900**	**$15,692,220**	**$0**	**$0**	**$15,692,200**
ATRISCO	0W	50%	50%	0%	25,297	4,083	2,110	1,666	27,408	13,704	13,704	0		14.0	$951,841	$0	$803,900	$1,411,700	$0	$0	$0	$3,123,300	$6,290,741	$3,145,400	$3,145,400	$0
ATRISCO	1W	50%	50%	0%	9,559	1,459	1,365	553	10,924	5,462	5,462	0		17.2	$545,052	$0	$497,300	$860,500	$0	$0	$0	$2,019,800	$3,922,652	$1,961,300	$1,961,300	$0
ATRISCO	2W	50%	40%	10%	4,062	431	3,420	2,178	7,482	3,741	2,993	748		24.7	$1,307,502	$0	$1,280,400	$2,235,500	$0	$0	$0	$5,061,500	$9,884,902	$4,942,500	$3,954,000	$988,500
ATRISCO	2WR	50%	40%	10%	9,239	2,826	4,247	4,700	13,486	6,743	5,395	1,349		19.3	$1,916,624	$0	$1,675,900	$2,975,900	$0	$0	$0	$6,286,100	$12,854,524	$6,427,300	$5,141,800	$1,285,500
ATRISCO	3WR	0%	0%	100%	1,829	87	2,440	691	4,269	0	0	4,269		0.0	$1,144,532	$0	$876,500	$1,508,900	$1,500,000	$750,000	$432,000	$3,611,900	$9,823,832	$0	$0	$9,823,800
ATRISCO	4W	0%	0%	100%	584	30	2,066	405	2,650	0	0	2,650		0.0	$949,392	$0	$734,400	$1,259,600	$1,500,000	$750,000	$432,000	$3,058,300	$8,683,692	$0	$0	$8,683,700
ATRISCO Total					**50,570**	**8,915**	**15,649**	**10,192**	**66,220**	**29,650**	**27,553**	**9,016**			**$6,814,945**	**$0**	**$5,868,400**	**$10,252,100**	**$3,000,000**	**$1,500,000**	**$864,000**	**$23,160,900**	**$51,460,345**	**$16,476,500**	**$14,202,500**	**$20,781,500**
COL/ATR	7W	0%	0%	100%	123	28	2,880	2,572	3,003	0	0	3,003		0.0	$1,543,097	$0	$1,332,000	$1,956,400	$3,000,000	$2,000,000	$0	$4,262,500	$14,093,997	$0	$0	$14,094,000
COL/ATR	5WR	0%	0%	100%	43	0	1,468	1,193	1,511	0	0	1,511		0.0	$773,815	$0	$673,000	$985,700	$0	$0	$0	$2,173,200	$4,605,715	$0	$0	$4,605,700
COL/ATR	6WR	0%	0%	100%	54	0	1,836	1,492	1,889	0	0	1,889		0.0	$967,268	$0	$841,300	$1,232,100	$0	$0	$0	$2,716,500	$5,757,168	$0	$0	$5,757,200
COL/ATR Total					**220**	**28**	**6,184**	**5,257**	**6,404**	**0**	**0**	**6,404**			**$3,284,180**	**$0**	**$2,846,300**	**$4,174,200**	**$3,000,000**	**$2,000,000**	**$0**	**$9,152,200**	**$24,456,880**	**$0**	**$0**	**$24,456,900**
COLLEGE	2W	0%	100%	0%	2,715	182	5,488	848	8,203	0	8,203	0		32.2	$1,692,756	$0	$2,329,100	$3,322,900	$0	$0	$0	$8,122,700	$15,467,456	$0	$15,467,500	$0
COLLEGE	2WR	0%	100%	0%	12,223	4,084	6,033	5,629	18,256	0	18,256	0		29.2	$2,307,182	$0	$2,802,500	$4,122,200	$0	$0	$0	$8,928,400	$18,160,282	$0	$18,160,300	$0
COLLEGE	3WR	0%	0%	100%	373	5	3,511	936	3,884	0	0	3,884		0.0	$1,640,119	$0	$1,510,100	$2,164,900	$1,500,000	$750,000	$270,000	$5,195,800	$13,030,919	$0	$0	$13,030,900
COLLEGE	4W	0%	0%	100%	43	0	1,468	1,193	1,511	0	0	1,511		0.0	$773,815	$0	$673,000	$985,700	$1,500,000	$750,000	$270,000	$2,173,200	$7,125,715	$0	$0	$7,125,700
COLLEGE	8W	0%	0%	100%	39	7	323	627	362	0	0	362		0.0	$210,131	$0	$166,900	$253,300	$3,000,000	$1,500,000	$7,408,800	$478,000	$13,017,131	$0	$0	$13,017,100
COLLEGE Total					**15,393**	**4,278**	**16,823**	**9,233**	**32,216**	**0**	**26,459**	**5,757**			**$6,624,002**	**$0**	**$7,481,600**	**$10,849,000**	**$6,000,000**	**$3,000,000**	**$7,948,800**	**$24,898,100**	**$66,801,502**	**$0**	**$33,627,800**	**$33,173,700**
CORRALES	1W	0%	100%	0%	2,306	2,609	2,712	7,785	5,018	0	5,018	0		0.0	$2,040,253	$0	$1,275,800	$2,378,500	$0	$0	$0	$4,013,600	$9,708,153	$0	$9,708,200	$0
CORRALES	2W	0%	100%	0%	3,492	843	6,375	2,398	9,867	0	9,867	0		0.0	$3,054,880	$0	$2,315,300	$4,001,100	$0	$0	$0	$9,435,100	$18,806,380	$0	$18,806,400	$0
CORRALES	2WR	0%	100%	0%	1,828	701	4,636	1,332	6,464	0	6,464	0		0.0	$2,176,584	$0	$1,666,100	$2,868,600	$0	$0	$0	$6,861,700	$13,572,984	$0	$13,573,000	$0
CORRALES	3WR	0%	100%	0%	2,957	384	4,426	2,322	7,383	0	7,383	0		0.0	$2,192,929	$0	$1,635,800	$2,843,700	$0	$0	$0	$6,550,900	$13,223,329	$0	$13,223,300	$0
CORRALES	4W	0%	100%	0%	1,247	82	6,258	1,246	7,505	0	7,505	0		0.0	$2,877,583	$0	$2,225,200	$3,817,000	$0	$0	$0	$9,262,300	$18,182,083	$0	$18,182,100	$0
CORRALES	5W	0%	0%	100%	0	0	2,358	432	2,358	0	0	2,358		0.0	$1,080,009	$0	$836,700	$1,434,300	$1,500,000	$750,000	$360,000	$3,489,400	$9,450,409	$0	$0	$9,450,400
CORRALES	6W	0%	0%	100%	0	0	918	431	918	0	0	918		0.0	$449,279	$0	$337,100	$584,700	$1,500,000	$750,000	$360,000	$1,358,600	$5,339,679	$0	$0	$5,339,700
CORRALES	7W	0%	0%	100%	0	0	929	548	929	0	0	929		0.0	$466,908	$0	$345,900	$602,900	$3,000,000	$1,500,000	$1,008,000	$1,374,900	$8,298,608	$0	$0	$8,298,600
CORRALES	8W	0%	0%	100%	0	0	1,054	676	1,054	0	0	1,054		0.0	$535,674	$0	$394,800	$689,500	$3,000,000	$1,500,000	$288,000	$1,559,900	$7,967,874	$0	$0	$7,967,900
CORRALES	9W	0%	0%	100%	0	0	1,054	676	1,054	0	0	1,054		0.0	$535,674	$0	$394,800	$689,500	$0	$0	$0	$1,559,900	$3,179,874	$0	$0	$3,179,900
CORRALES Total					**11,829**	**4,619**	**30,721**	**17,846**	**42,549**	**0**	**36,237**	**6,313**			**$15,409,774**	**$0**	**$11,427,500**	**$19,909,800**	**$9,000,000**	**$4,500,000**	**$2,016,000**	**$45,466,300**	**$107,729,374**	**$0**	**$73,493,000**	**$34,236,500**
FREEWAY	1E	100%	0%	0%	30,923	41,070	1,241	9,955	32,164	32,164	0	0		18.5	$1,331,446	$0	$0	$0	$0	$0	$0	$0	$1,331,446	$1,331,400	$0	$0
FREEWAY	2E	100%	0%	0%	21,434	33,273	205	7,302	21,639	21,639	0	0		25.3	$664,314	$0	$0	$0	$0	$0	$0	$0	$664,314	$664,300	$0	$0
FREEWAY	3E	100%	0%	0%	28,473	29,994	-672	6,433	27,801	27,801	0	0		19.7	$329,363	$0	$0	$0	$0	$0	$0	$0	$329,363	$329,400	$0	$0
FREEWAY	4ER	100%	0%	0%	7,613	2,742	-65	346	7,548	7,548	0	0		10.6	$8,468	$0	$0	$0	$0	$0	$0	$0	$8,468	$8,500	$0	$0
FREEWAY	5E	100%	0%	0%	12,505	5,729	-51	1,442	12,454	12,454	0	0		8.7	$123,617	$0	$0	$0	$0	$0	$0	$0	$123,617	$123,600	$0	$0
FREEWAY	6E	100%	0%	0%	14,844	2,834	-24	1,079	14,820	14,820	0	0		2.0	$105,480	$0	$0	$0	$0	$0	$0	$0	$105,480	$105,500	$0	$0
FREEWAY	7E	100%	0%	0%	8,762	1,501	73	378	8,835	8,835	0	0		5.8	$69,136	$0	$0	$0	$0	$0	$0	$0	$69,136	$69,100	$0	$0
FREEWAY	8E	0%	100%	0%	4,093	222	83	97	4,175	0	4,175	0		20.0	$37,510	$0	$0	$0	$0	$0	$0	$0	$37,510	$0	$37,500	$0
FREEWAY	9ER	0%	100%	0%	2,721	131	65	62	2,785	0	2,785	0		23.1	$26,992	$0	$0	$0	$0	$0	$0	$0	$26,992	$0	$27,000	$0
FREEWAY	10E	0%	100%	0%	1,248	87	48	44	1,296	0	1,296	0		11.1	$23,066	$0	$0	$0	$0	$0	$0	$0	$23,066	$0	$23,100	$0
FREEWAY Total					**132,615**	**117,583**	**903**	**27,137**	**133,517**	**125,260**	**8,257**	**0**			**$2,719,393**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$2,719,393**	**$2,631,800**	**$87,600**	**$0**
HUBBELL	1E	0%	100%	0%	2,658	2,601	1,699	3,116	4,357	0	4,357	0		17.7	$893,250	$0	$723,500	$1,314,000	$3,000,000	$2,000,000	$648,000	$2,514,400	$11,093,150	$0	$11,093,200	$0
HUBBELL Total					**2,658**	**2,601**	**1,699**	**3,116**	**4,357**	**0**	**4,357**	**0**			**$893,250**	**$0**	**$723,500**	**$1,314,000**	**$3,000,000**	**$2,000,000**	**$648,000**	**$2,514,400**	**$11,093,150**	**$0**	**$11,093,200**	**$0**

Table A.2. Infrastructure Cost Analysis-Trend Scenario

City of Albuquerque - Planned Growth Strategy
Infrastructure Cost Analysis Trend Alternative
Capital Costs - 1998 Dollars

Report Date
15-Aug-01

TRUNK	ZONE	Percent of Total by Area: in 1960	In serv.	Out serv.	COGPOP95	COGEMP95	COGPOP2020	COGEMP2020	Total Population Year 2020	Percent of Population by Coverage: in 1960	In serv.	Out serv.	comment	% of Vacant Parcels with Service Lines
MONTGOMERY	10E	0%	100%	0%	1,201	159	1,578	83	2,779	0	2,779	0		15.5
MONTGOMERY	11ER	0%	100%	0%					0	0	0	0		14.2
MONTGOMERY	12E	0%	100%	0%					0	0	0	0		0.0
MONTGOMERY	1E	50%	50%	0%	9,557	9,411	1,731	3,815	11,287	5,644	5,644	0		15.7
MONTGOMERY	2E	50%	50%	0%	13,692	20,632	26	6,750	13,719	6,859	6,859	0		15.2
MONTGOMERY	3E	50%	50%	0%	17,510	7,972	-243	-46	17,267	8,633	8,633	0		0.0
MONTGOMERY	4ER	30%	60%	10%	21,045	7,673	159	1,373	21,204	6,361	12,723	2,120		22.2
MONTGOMERY	5E	30%	60%	10%	17,895	4,995	90	1,493	17,985	5,395	10,791	1,798		33.3
MONTGOMERY	6E	30%	60%	10%	16,059	4,932	327	2,133	16,386	4,916	9,832	1,639		22.0
MONTGOMERY	7E	30%	60%	10%	10,390	2,066	332	1,014	10,722	3,217	6,433	1,072		9.9
MONTGOMERY	8E	30%	60%	10%	6,123	688	65	601	6,188	1,856	3,713	619		22.0
MONTGOMERY	9ER	30%	60%	10%	3,025	250	1,945	130	4,970	1,491	2,982	497		19.0
MONTGOMERY	9ERR	30%	60%	10%	938	14	89	0	1,027	308	616	103		0.0
MONTGOMERY	9ER	0%	0%	100%	1,031	61	1,858	40	2,889	0	0	2,889		0.0
MONTGOMERY Total					**118,466**	**58,853**	**7,957**	**17,384**	**126,422**	**44,681**	**71,005**	**10,737**		
OPENSPACE	OPSP	0%	0%	100%	0	12	2,710	385	2,710	0	0	2,710		0.0
OPENSPACE Total					**0**	**12**	**2,710**	**385**	**2,710**	**0**	**0**	**2,710**		
PAJARITO	0W	0%	20%	80%	12,556	1,124	2,560	702	15,117	0	3,023	12,093		0.0
PAJARITO	1WR	0%	0%	100%	1,940	117	2,259	172	4,198	0	0	4,198		0.0
PAJARITO	2W	0%	0%	100%	21	5	1,604	319	1,625	0	0	1,625		0.0
PAJARITO	2WR	0%	0%	100%	21	5	1,486	239	1,507	0	0	1,507		0.0
PAJARITO	3WR	0%	0%	100%	32	8	2,204	268	2,236	0	0	2,236		0.0
PAJARITO	4W	0%	0%	100%	37	22	2,286	515	2,323	0	0	2,323		0.0
PAJARITO Total					**14,608**	**1,281**	**12,399**	**2,215**	**27,006**	**0**	**3,023**	**23,983**		
RIDGECREST	1E	50%	50%	0%	11,028	8,451	231	3,683	11,259	5,629	5,629	0		17.5
RIDGECREST	2E	50%	50%	0%	6,021	7,140	24	4,042	6,045	3,023	3,023	0		10.1
RIDGECREST	3E (NORTH)	100%	0%	0%	32,035	23,507	-445	5,713	31,591	31,591	0	0		16.7
RIDGECREST	3E (SOUTH)	0%	100%	0%	2	16	9,458	6,199	9,460	0	9,460	0		0.0
RIDGECREST	3ER	0%	0%	100%	15	152	2,505	1,815	2,520	0	0	2,520		28.6
RIDGECREST	3ER	100%	0%	0%	1,811	402	-35	367	1,777	1,777	0	0		28.6
RIDGECREST	4ER	100%	0%	0%	6,474	3,609	-50	244	6,424	6,424	0	0		11.9
RIDGECREST	5E	100%	0%	0%	6,726	1,699	1,528	2,006	8,254	8,254	0	0		44.4
RIDGECREST	6ER	100%	0%	0%	913	53	115	80	1,029	1,029	0	0		0.0
RIDGECREST	7ER	100%	0%	0%	913	53	115	80	1,029	1,029	0	0		0.0
RIDGECREST	8E	100%	0%	0%	731	42	92	64	823	823	0	0		12.5
RIDGECREST Total					**66,670**	**45,123**	**13,539**	**24,294**	**80,209**	**59,577**	**18,112**	**2,520**		
SOILAMEND	SAF	0%	0%	100%	0	8	1,054	1,655	1,054	0	0	1,054		0.0
SOILAMEND Total					**0**	**8**	**1,054**	**1,655**	**1,054**	**0**	**0**	**1,054**		
VOLCANO	1W	0%	100%	0%	3,443	434	3,764	1,308	7,207	0	7,207	0		18.1
VOLCANO	2W	0%	100%	0%	6,584	265	1,101	132	7,685	0	7,685	0		7.3
VOLCANO	2WR	0%	100%	0%	13,581	1,255	3,120	553	16,701	0	16,701	0		18.4
VOLCANO	3WR	0%	0%	100%	269	15	1,656	46	1,924	0	0	1,924		0.0
VOLCANO	4W	0%	0%	100%	0	0	677	42	677	0	0	677		0.0
VOLCANO	5W	0%	0%	100%	0	0	285	26	285	0	0	285		0.0
VOLCANO Total					**23,877**	**1,969**	**10,602**	**2,107**	**34,479**	**0**	**31,593**	**2,886**		
East Mountain Water Wells					**15,391**	**1,553**	**30,198**	**4,139**						
SURFACE WATER TREATEMENT PLANT		41%	45%	14%						**TOTAL POPULATION PERCENTAGE OF TOTAL**				
										41%	**45%**	**14%**		
Grand Total					**482,264**	**275,578**	**144,339**	**147,606**	**626,603**	**259,168**	**280,485**	**86,950**		

TRUNK	ZONE	$438 / $110 Service Line Cost	$2,500 / $375 Domestic Well Cost	$347.00 / $43.00 Municipal Well Cost	$590.00 / $100.00 Water Rights	$0.50/gal Reservoir	Pump Stations	Transmission Pipelines @ $3;00/in dia	$1,480.00 Master Plan and Infill Pipelines	Total	Total Capital Costs By Coverage: 1960 In	Serv, In	Serv. Out
MONTGOMERY	10E	$591,741	$0	$0	$0	$0	$0	$0	$0	$591,741	$0	$591,700	$0
MONTGOMERY	11ER	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
MONTGOMERY	12E	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
MONTGOMERY	1E	$991,211	$0	$0	$0	$0	$0	$0	$0	$991,211	$495,600	$495,600	$0
MONTGOMERY	2E	$636,523	$0	$0	$0	$0	$0	$0	$0	$636,523	$318,300	$318,300	$0
MONTGOMERY	3E	-$111,389	$0	$0	$0	$0	$0	$0	$0	-$111,389	-$55,700	-$55,700	$0
MONTGOMERY	4ER	$171,144	$0	$0	$0	$0	$0	$0	$0	$171,144	$51,300	$102,700	$17,100
MONTGOMERY	5E	$135,333	$0	$0	$0	$0	$0	$0	$0	$135,333	$40,600	$81,200	$13,500
MONTGOMERY	6E	$293,789	$0	$0	$0	$0	$0	$0	$0	$293,789	$88,100	$176,300	$29,400
MONTGOMERY	7E	$231,061	$0	$0	$0	$0	$0	$0	$0	$231,061	$69,300	$138,600	$23,100
MONTGOMERY	8E	$73,359	$0	$0	$0	$0	$0	$0	$0	$73,359	$22,000	$44,000	$7,300
MONTGOMERY	9ER	$701,581	$0	$0	$0	$0	$0	$0	$0	$701,581	$210,500	$420,900	$70,200
MONTGOMERY	9ERR	$38,982	$0	$0	$0	$0	$0	$0	$0	$38,982	$11,700	$23,400	$3,900
MONTGOMERY	9ER	$818,181	$0	$0	$0	$0	$0	$0	$0	$818,181	$0	$0	$818,200
MONTGOMERY Total		**$4,571,515**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$4,571,515**	**$1,251,700**	**$2,337,000**	**$982,700**
OPENSPACE	OPSP	$1,229,291	$0	$0	$0	$0	$0	$0	$0	$1,229,291	$0	$0	$1,229,300
OPENSPACE Total		**$1,229,291**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$1,229,291**	**$0**	**$0**	**$1,229,300**
PAJARITO	0W	$1,198,352	$0	$918,700	$1,580,900	$3,000,000	$0	$576,000	$3,789,400	$11,063,352	$0	$2,212,700	$8,850,700
PAJARITO	1WR	$1,008,123	$0	$791,200	$1,349,800	$1,000,000	$666,667	$540,000	$3,342,900	$8,698,689	$0	$0	$8,698,700
PAJARITO	2W	$737,406	$0	$570,300	$978,200	$1,000,000	$666,667	$540,000	$2,373,800	$6,866,373	$0	$0	$6,866,400
PAJARITO	2WR	$676,973	$0	$525,900	$900,500	$1,000,000	$666,667	$540,000	$2,199,000	$6,509,039	$0	$0	$6,509,000
PAJARITO	3WR	$994,698	$0	$776,300	$1,327,200	$1,500,000	$750,000	$990,000	$3,261,900	$9,600,098	$0	$0	$9,600,100
PAJARITO	4W	$1,057,661	$0	$815,400	$1,400,200	$1,500,000	$750,000	$990,000	$3,383,300	$9,896,561	$0	$0	$9,896,600
PAJARITO Total		**$5,673,211**	**$0**	**$4,397,800**	**$7,536,800**	**$9,000,000**	**$3,500,000**	**$4,176,000**	**$18,350,300**	**$52,634,111**	**$0**	**$2,212,700**	**$50,421,500**
RIDGECREST	1E	$416,191	$0	$238,500	$504,600	$0	$0	$0	$0	$1,159,291	$579,600	$579,600	$0
RIDGECREST	2E	$407,389	$0	$182,200	$418,400	$0	$0	$0	$0	$1,007,989	$504,000	$504,000	$0
RIDGECREST	3E (NORTH)	$358,787	$0	$91,300	$308,800	$0	$0	$0	$0	$758,887	$758,900	$0	$0
RIDGECREST	3E (SOUTH)	$4,821,416	$0	$3,548,500	$6,200,100	$0	$0	$0	$0	$14,570,016	$0	$14,570,000	$0
RIDGECREST	3ER	$925,218	$0	$947,200	$1,659,300	$0	$0	$0	$0	$3,531,718	$0	$0	$3,531,700
RIDGECREST	3ER	$17,861	$0	$3,700	$16,200	$0	$0	$0	$0	$37,761	$37,800	$0	$0
RIDGECREST	4ER	$4,085	$0	-$7,000	-$5,400	$0	$0	$0	$0	-$8,315	-$8,300	$0	$0
RIDGECREST	5E	$494,307	$0	$616,600	$1,102,300	$0	$0	$0	$2,262,000	$4,475,207	$4,475,200	$0	$0
RIDGECREST	6ER	$59,267	$0	$43,400	$76,000	$0	$0	$0	$0	$178,667	$178,700	$0	$0
RIDGECREST	7ER	$59,267	$0	$43,400	$76,000	$0	$0	$0	$0	$178,667	$178,700	$0	$0
RIDGECREST	8E	$41,487	$0	$34,800	$60,800	$0	$0	$0	$0	$137,087	$137,100	$0	$0
RIDGECREST Total		**$7,605,276**	**$0**	**$5,742,600**	**$10,417,100**	**$0**	**$0**	**$0**	**$2,262,000**	**$26,026,976**	**$6,841,700**	**$15,653,600**	**$3,531,700**
SOILAMEND	SAF	$642,875	$0	$436,900	$787,400	$0		$0	$1,559,900	$3,427,075	$0	$0	$3,427,100
SOILAMEND Total		**$642,875**	**$0**	**$436,900**	**$787,400**	**$0**	**$0**	**$0**	**$1,559,900**	**$3,427,075**	**$0**	**$0**	**$3,427,100**
VOLCANO	1W	$1,467,500	$0	$1,634,800	$2,351,500	$0	$0	$0	$5,570,500	$11,024,300	$0	$11,024,300	$0
VOLCANO	2W	$460,382	$0	$465,200	$662,700	$0	$0	$0	$0	$1,588,282	$0	$1,588,300	$0
VOLCANO	2WR	$1,164,458	$0	$1,327,600	$1,896,000	$0	$0	$0	$0	$4,388,058	$0	$4,388,100	$0
VOLCANO	3WR	$730,160	$0	$691,700	$981,400	$1,500,000		$216,000	$2,450,200	$6,569,460	$0	$0	$6,569,500
VOLCANO	4W	$300,972	$0	$283,900	$403,400	$1,500,000	$750,000	$216,000	$1,001,400	$4,455,672	$0	$0	$4,455,700
VOLCANO	5W	$127,677	$0	$120,000	$170,800	$0	$2,000,000	$180,000	$421,800	$3,020,277	$0	$0	$3,020,300
VOLCANO Total		**$4,251,149**	**$0**	**$4,523,200**	**$6,465,800**	**$3,000,000**	**$2,750,000**	**$612,000**	**$9,443,900**	**$31,046,049**	**$0**	**$17,000,700**	**$14,045,500**
East Mountain Water Wells			**$37,987,250**							**$37,987,250**			**$37,987,250**
SURFACE WATER TREATEMENT PLANT										**$180,000,000**	**$73,800,000**	**$81,000,000**	**$25,200,000**
Grand Total		**$72,622,789**	**$37,987,250**	**$52,962,300**	**$88,603,700**	**$40,000,000**	**$22,730,000**	**$18,424,800**	**$172,475,900**	**$685,807,000**	**$101,002,000**	**$301,432,000**	**$283,373,000**

	Service Line Cost	Domestic Well Cost	Municipal Well Cost	Water Rights	Reservoir	Pump Stations	Transmission Pipelines	Master Plan and Infill Pipelines	Total
Public Costs	**$0**		**$26,481,150**	**$88,603,700**	**$20,000,000**	**$11,365,000**	**$9,212,400**	**$34,495,180**	**$370,157,430**
Private Costs	**$72,622,789**	**$37,987,250**	**$26,481,150**		**$20,000,000**	**$11,365,000**	**$9,212,400**	**$137,980,720**	**$315,649,309**

$685,807,000

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Table A.3. Infrastructure Cost Analysis - Balanced Scenario

City of Albuquerque - Planned Growth Strategy
Infrastructure Cost Analysis Balanced Alternative
Capital Costs - 1998 Dollars

Report Date
15-Aug-01

		Percent of Total by Area								Percent of Population by Coverage					$438	$2,500	$347.00	$590.00			Transmission	$1,110.00		Total Capital Costs By Coverage		
									Total Population				% of Vacant Parcels with		$110	$375	$43.00	$100.00	$0.50/gal	Pump	Pipelines	Master Plan				
TRUNK	ZONE	In 1960	In serv.	Out serv.	COGPOP95	COGEMP95	CNTYPOP2020	CNTYEMP2020	Year 2020	in 1960	In serv.	Out serv.	Service Lines	Comment	Service Line Cost	Domestic Well Cost	Municipal Well Cost	Water Rights	Reservoir	Stations	@ $3.00/in dia	and Infill Pipelines		1960 In	Serv, In	Serv. Out
AIRPORT	ARPT	0%	100%	0%	0	16	0	0	0	0	0	0	0.0	Onsite	$0	$0	0	0	$0	$0	$0	$0	$0	$0	$0	$0
AIRPORT Total					**0**	**16**	**0**	**0**	**0**	**0**	**0**	**0**			**$0**	**$0**	**0**	**0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
ALAMEDA	1E	0%	100%	0%	12,103	6,086	2,320	3,219	14,423	0	14,423	0	13.3		$1,186,554	$0	$943,400	$1,690,600	$0	$0	$0	$2,575,100	$6,395,654	$0	$6,395,700	$0
ALAMEDA	2E	0%	100%	0%	1,676	15,294	91	10,805	1,767	0	1,767	0	3.0		$1,186,471	$0	$496,300	$1,134,400	$0	$0	$0	$101,300	$2,918,471	$0	$2,918,500	$0
ALAMEDA	3E	0%	100%	0%	9,219	5,536	1,128	1,843	10,347	0	10,347	0	19.8		$558,066	$0	$470,700	$849,800	$0	$0	$0	$1,252,100	$3,130,666	$0	$3,130,700	$0
ALAMEDA	4ER	0%	100%	0%	6,901	2,248	2,471	897	9,372	0	9,372	0	6.9		$1,099,064	$0	$896,000	$1,547,600	$0	$0	$0	$2,742,800	$6,285,464	$0	$6,285,500	$0
ALAMEDA	4ERR	0%	100%	0%	376	23	-14	18	362	0	362	0	0.0		-$4,243	$0	-$4,200	-$6,600	$0	$0	$0	-$15,800	-$30,843	$0	-$30,800	$0
ALAMEDA	5E	0%	100%	0%	5,986	413	2,401	601	8,387	0	8,387	0	1.2		$1,103,860	$0	$858,900	$1,476,500	$0	$0	$0	$2,664,700	$6,103,960	$0	$6,104,000	$0
ALAMEDA	6E	0%	25%	75%	3,305	165	2,627	76	5,932	0	1,483	4,449	0.0		$1,158,953	$0	$914,800	$1,557,500	$1,000,000	$660,000	$240,000	$2,916,000	$8,447,253	$0	$2,111,800	$6,335,400
ALAMEDA	7E	0%	25%	75%	2,120	185	2,313	129	4,433	0	1,108	3,325	0.0		$1,027,334	$0	$808,200	$1,377,700	$1,000,000	$660,000	$240,000	$2,567,700	$7,680,934	$0	$1,920,200	$5,760,700
ALAMEDA	8E	0%	40%	60%	2,886	252	1,698	82	4,584	0	1,834	2,750	0.0		$752,746	$0	$592,800	$1,010,100	$1,000,000	$660,000	$240,000	$1,884,900	$6,140,546	$0	$2,456,200	$3,684,300
ALAMEDA Total					**44,571**	**30,202**	**15,035**	**17,669**	**59,606**	**0**	**49,082**	**10,524**			**$8,068,806**	**$0**	**$5,976,900**	**$10,637,600**	**$3,000,000**	**$1,980,000**	**$720,000**	**$16,688,800**	**$47,072,106**	**$0**	**$31,291,800**	**$15,780,400**
ATR/PAJ	5W	0%	0%	100%	443	45	2,014	547	2,457	0	0	2,457	0.0		$941,980	$0	$722,400	$1,242,900	$500,000	$750,000	$720,000	$2,235,500	$7,112,780	$0	$0	$7,112,780
ATR/PAJ	6W	0%	0%	100%	345	43	642	110	987	0	0	987	0.0		$293,186	$0	$227,500	$389,700	$500,000	$750,000	$720,000	$712,600	$3,592,986	$0	$0	$3,592,986
ATR/PAJ Total					**789**	**89**	**2,656**	**656**	**3,445**	**0**	**0**	**3,445**			**$1,235,167**	**$0**	**$949,900**	**$1,632,600**	**$1,000,000**	**$1,500,000**	**$1,440,000**	**$2,948,100**	**$10,705,767**	**$0**	**$0**	**$10,705,767**
ATRISCO	0W	50%	50%	0%	25,297	4,083	4,853	2,339	30,150	15,075	15,075	0	14.0		$2,048,176	$0	$1,784,400	$3,097,000	$0	$0	$0	$5,386,400	$12,315,976	$6,158,000	$6,158,000	$0
ATRISCO	1W	50%	50%	0%	9,559	1,459	2,420	694	11,980	5,990	5,990	0	17.2		$940,606	$0	$869,600	$1,497,300	$0	$0	$0	$2,686,300	$5,993,806	$2,996,900	$2,996,900	$0
ATRISCO	2W	50%	40%	10%	4,062	431	1,943	5,348	6,005	3,002	2,402	600	24.7		$1,081,683	$0	$904,100	$1,681,000	$0	$0	$0	$2,156,300	$5,823,083	$2,911,500	$2,329,200	$582,300
ATRISCO	2WR	50%	40%	10%	9,239	2,826	2,432	19,630	11,671	5,836	4,668	1,167	19.3		$2,594,242	$0	$1,688,000	$3,397,800	$0	$0	$0	$2,699,500	$10,379,542	$5,189,800	$4,151,800	$1,038,000
ATRISCO	3WR	0%	0%	100%	1,829	87	1,543	568	3,372	0	0	3,372	0.0		$737,838	$0	$559,700	$966,900	$1,500,000	$750,000	$432,000	$1,712,300	$6,658,738	$0	$0	$6,658,700
ATRISCO	4W	0%	0%	100%	584	30	1,509	336	2,093	0	0	2,093	0.0		$697,882	$0	$538,200	$924,100	$1,500,000	$750,000	$432,000	$1,675,400	$6,517,582	$0	$0	$6,517,600
ATRISCO Total					**50,570**	**8,915**	**14,699**	**28,915**	**65,270**	**29,903**	**28,135**	**7,232**			**$8,100,428**	**$0**	**$6,344,000**	**$11,564,100**	**$3,000,000**	**$1,500,000**	**$864,000**	**$16,316,200**	**$47,688,728**	**$17,256,200**	**$15,635,900**	**$14,796,600**
COL/ATR	7W	0%	0%	100%	123	28	2,650	864	2,774	0	0	2,774	0.0		$1,255,511	$0	$1,148,200	$1,650,200	$3,000,000	$2,000,000	$3,240,000	$2,942,000	$15,235,911	$0	$0	$15,235,900
COL/ATR	5WR	0%	0%	100%	43	0	1,426	193	1,469	0	0	1,469	0.0		$645,656	$0	$603,700	$860,500	$0	$0	$0	$1,582,600	$3,692,456	$0	$0	$3,692,500
COL/ATR	6WR	0%	0%	100%	54	0	1,782	242	1,836	0	0	1,836	0.0		$807,070	$0	$754,600	$1,075,700	$0	$0	$0	$1,978,300	$4,615,670	$0	$0	$4,615,700
COL/ATR Total					**220**	**28**	**5,859**	**1,299**	**6,078**	**0**	**0**	**6,078**			**$2,708,236**	**$0**	**$2,506,500**	**$3,586,400**	**$3,000,000**	**$2,000,000**	**$3,240,000**	**$6,502,900**	**$23,544,036**	**$0**	**$0**	**$23,544,100**
COLLEGE	2W	0%	100%	0%	2,715	182	5,243	1,633	7,958	0	7,958	0	32.2		$1,678,204	$0	$2,267,400	$3,256,700	$0	$0	$0	$5,819,800	$13,022,104	$0	$13,022,100	$0
COLLEGE	2WR	0%	100%	0%	12,223	4,084	4,361	8,196	16,584	0	16,584	0	29.2		$1,987,657	$0	$2,238,700	$3,392,400	$0	$0	$0	$4,840,400	$12,459,157	$0	$12,459,200	$0
COLLEGE	3WR	0%	0%	100%	373	5	3,384	179	3,757	0	0	3,757	0.0		$1,501,828	$0	$1,418,400	$2,014,500	$1,500,000	$750,000	$405,000	$3,756,300	$11,346,028	$0	$0	$11,346,000
COLLEGE	4W	0%	0%	100%	43	0	1,426	193	1,469	0	0	1,469	0.0		$645,656	$0	$603,700	$860,500	$1,500,000	$750,000	$405,000	$1,582,600	$6,347,456	$0	$0	$6,347,500
COLLEGE	8W	0%	0%	100%	39	7	129	429	168	0	0	168	0.0		$103,478	$0	$75,900	$119,000	$3,000,000	$1,500,000	$7,408,800	$143,200	$12,350,378	$0	$0	$12,350,400
COLLEGE Total					**15,393**	**4,278**	**14,543**	**10,630**	**29,935**	**0**	**24,542**	**5,393**			**$5,916,821**	**$0**	**$6,604,100**	**$9,643,100**	**$6,000,000**	**$3,000,000**	**$8,218,800**	**$16,142,300**	**$55,525,121**	**$0**	**$25,481,300**	**$30,043,900**
CORRALES	1W	0%	100%	0%	2,306	2,609	1,593	7,188	3,899	0	3,899	0	0.0		$1,484,995	$0	$862,000	$1,658,900	$0	$0	$0	$1,768,600	$5,774,495	$0	$5,774,500	$0
CORRALES	2W	0%	100%	0%	3,492	843	4,079	2,213	7,571	0	7,571	0	0.0		$2,028,849	$0	$1,510,500	$2,627,800	$0	$0	$0	$4,527,500	$10,694,649	$0	$10,694,600	$0
CORRALES	2WR	0%	100%	0%	1,828	701	3,132	1,216	4,959	0	4,959	0	0.0		$1,504,947	$0	$1,139,100	$1,969,400	$0	$0	$0	$3,476,400	$8,089,847	$0	$8,089,800	$0
CORRALES	3WR	0%	100%	0%	2,957	384	2,708	2,167	5,665	0	5,665	0	0.0		$1,423,429	$0	$1,032,900	$1,814,500	$0	$0	$0	$3,006,000	$7,276,829	$0	$7,276,800	$0
CORRALES	4W	0%	100%	0%	1,247	82	4,298	1,171	5,545	0	5,545	0	0.0		$2,010,834	$0	$1,541,800	$2,653,000	$0	$0	$0	$4,771,000	$10,976,634	$0	$10,976,600	$0
CORRALES	5W	0%	0%	100%	0	0	1,143	27	1,143	0	0	1,143	0.0		$503,547	$0	$397,800	$677,000	$1,500,000	$750,000	$360,000	$1,268,700	$5,457,047	$0	$0	$5,457,000
CORRALES	6W	0%	0%	100%	0	0	277	25	277	0	0	277	0.0		$124,064	$0	$97,200	$165,900	$1,500,000	$750,000	$360,000	$307,500	$3,304,664	$0	$0	$3,304,700
CORRALES	7W	0%	0%	100%	0	0	84	8	84	0	0	84	0.0		$37,668	$0	$29,500	$50,400	$0	$2,000,000	$180,000	$93,200	$2,390,768	$0	$0	$2,390,800
CORRALES	8W	0%	0%	100%	0	0	0	0	0	0	0	0	0.0		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
CORRALES	9W	0%	0%	100%	0	0	0	0	0	0	0	0	0.0		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
CORRALES Total					**11,829**	**4,619**	**17,314**	**14,015**	**29,143**	**0**	**27,639**	**1,504**			**$9,118,332**	**$0**	**$6,610,800**	**$11,616,900**	**$3,000,000**	**$3,500,000**	**$900,000**	**$19,218,900**	**$53,964,932**	**$0**	**$42,812,300**	**$11,152,500**
FREEWAY	1E	100%	0%	0%	30,923	41,070	9,906	10,181	40,829	40,829	0	0	18.5		$4,444,814	$0	$0	$0	$0	$0	$0	$0	$4,444,814	$4,444,800	$0	$0
FREEWAY	2E	100%	0%	0%	21,434	33,273	2,553	5,794	23,987	23,987	0	0	25.3		$1,309,128	$0	$0	$0	$0	$0	$0	$0	$1,309,128	$1,309,100	$0	$0
FREEWAY	3E	100%	0%	0%	28,473	29,994	4,822	5,818	33,295	33,295	0	0	19.7		$2,207,674	$0	$0	$0	$0	$0	$0	$0	$2,207,674	$2,207,700	$0	$0
FREEWAY	4ER	100%	0%	0%	7,613	2,742	-65	203	7,548	7,548	0	0	10.6		-$5,516	$0	$0	$0	$0	$0	$0	$0	-$5,516	-$5,500	$0	$0
FREEWAY	5E	100%	0%	0%	12,505	5,729	-51	1,110	12,454	12,454	0	0	8.7		$90,471	$0	$0	$0	$0	$0	$0	$0	$90,471	$90,500	$0	$0
FREEWAY	6E	100%	0%	0%	14,844	2,834	-24	898	14,821	14,821	0	0	2.0		$86,283	$0	$0	$0	$0	$0	$0	$0	$86,283	$86,300	$0	$0
FREEWAY	7E	100%	0%	0%	8,762	1,501	73	291	8,835	8,835	0	0	5.8		$60,172	$0	$0	$0	$0	$0	$0	$0	$60,172	$60,200	$0	$0
FREEWAY	8E	0%	100%	0%	4,093	222	83	83	4,175	0	4,175	0	20.0		$36,223	$0	$0	$0	$0	$0	$0	$0	$36,223	$0	$36,200	$0
FREEWAY	9ER	0%	100%	0%	2,721	131	65	54	2,785	0	2,785	0	23.1		$26,262	$0	$0	$0	$0	$0	$0	$0	$26,262	$0	$26,300	$0
FREEWAY	10E	0%	100%	0%	1,248	87	48	38	1,296	0	1,296	0	11.1		$22,482	$0	$0	$0	$0	$0	$0	$0	$22,482	$0	$22,500	$0
FREEWAY Total					**132,615**	**117,583**	**17,411**	**24,469**	**150,025**	**141,768**	**8,257**	**0**			**$8,277,992**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$8,277,992**	**$8,193,100**	**$85,000**	**$0**
HUBBELL	1E	0%	100%	0%	2,658	2,601	2,619	2,912	5,277	0	5,277	0	17.7		$1,206,601	$0	$1,034,100	$1,836,500	$3,000,000	$2,000,000	$648,000	$2,907,300	$12,632,501	$0	$12,632,500	$0
HUBBELL Total					**2,658**	**2,601**	**2,619**	**2,912**	**5,277**	**0**	**5,277**	**0**			**$1,206,601**	**$0**	**$1,034,100**	**$1,836,500**	**$3,000,000**	**$2,000,000**	**$648,000**	**$2,907,300**	**$12,632,501**	**$0**	**$12,632,500**	**$0**

Table A.3. Infrastructure Cost Analysis - Balanced Scenario

City of Albuquerque - Planned Growth Strategy
Infrastructure Cost Analysis Balanced Alternative
Capital Costs - 1998 Dollars

Report Date
15-Aug-01

TRUNK	ZONE	Percent of Total by Area In 1960	Percent of Total by Area In serv.	Percent of Total by Area Out serv.	COGPOP95	COGEMP95	CNTYPOP2020	CNTYEMP2020	Total Population Year 2020	Percent of Population by Coverage in 1960	Percent of Population by Coverage In serv.	Percent of Population by Coverage Out serv.	Comment	% of Vacant Parcels with Service Lines	Service Line Cost $438 / $110	Domestic Well Cost $2,500 / $375	Municipal Well Cost $347.00 / $43.00	Water Rights $590.00 / $100.00	Reservoir $0.50/gal	Stations Pump	@ $3.00/in dia Transmission Pipelines	and Infill Pipelines $1,110.00 Master Plan	Total	Total Capital Costs By Coverage 1960 In	Total Capital Costs By Coverage Serv, In	Total Capital Costs By Coverage Serv. Out
MONTGOMERY	10E	0%	100%	0%	1,201	159	1,515	69	2,716	0	2,716	0		15.5	$567,194	$0	$0	$0	$0	$0	$0	$0	$567,194	$0	$567,200	$0
MONTGOMERY	11ER	0%	100%	0%					0	0	0	0		14.2	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
MONTGOMERY	12E	0%	100%	0%					0	0	0	0		0.0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
MONTGOMERY	1E	50%	50%	0%	9,557	9,411	2,040	2,590	11,597	5,798	5,798	0		15.7	$992,349	$0	$0	$0	$0	$0	$0	$0	$992,349	$496,200	$496,200	$0
MONTGOMERY	2E	50%	50%	0%	13,692	20,632	26	4,329	13,719	6,859	6,859	0		15.2	$411,793	$0	$0	$0	$0	$0	$0	$0	$411,793	$205,900	$205,900	$0
MONTGOMERY	3E	50%	50%	0%	17,510	7,972	-409	-494	17,101	8,550	8,550	0		0.0	-$233,235	$0	$0	$0	$0	$0	$0	$0	-$233,235	-$116,600	-$116,600	$0
MONTGOMERY	4ER	30%	60%	10%	21,045	7,673	46	909	21,091	6,327	12,655	2,109		22.2	$93,003	$0	$0	$0	$0	$0	$0	$0	$93,003	$27,900	$55,800	$9,300
MONTGOMERY	5E	30%	60%	10%	17,895	4,995	-8	1,169	17,887	5,366	10,732	1,789		33.3	$82,988	$0	$0	$0	$0	$0	$0	$0	$82,988	$24,900	$49,800	$8,300
MONTGOMERY	6E	30%	60%	10%	16,059	4,932	311	1,806	16,371	4,911	9,822	1,637		22.0	$260,556	$0	$0	$0	$0	$0	$0	$0	$260,556	$78,200	$156,300	$26,100
MONTGOMERY	7E	30%	60%	10%	10,390	2,066	332	871	10,722	3,217	6,433	1,072		9.9	$216,982	$0	$0	$0	$0	$0	$0	$0	$216,982	$65,100	$130,200	$21,700
MONTGOMERY	8E	30%	60%	10%	6,123	688	65	541	6,188	1,856	3,713	619		22.0	$68,302	$0	$0	$0	$0	$0	$0	$0	$68,302	$20,500	$41,000	$6,800
MONTGOMERY	9ER	30%	60%	10%	3,025	250	1,881	110	4,906	1,472	2,944	491		19.0	$677,258	$0	$0	$0	$0	$0	$0	$0	$677,258	$203,200	$406,400	$67,700
MONTGOMERY	9ERR	30%	60%	10%	938	14	89	-1	1,027	308	616	103		0.0	$38,927	$0	$0	$0	$0	$0	$0	$0	$38,927	$11,700	$23,400	$3,900
MONTGOMERY	9ER	0%	0%	100%	1,031	61	1,763	33	2,794	0	0	2,794		0.0	$775,958	$0	$0	$0	$0	$0	$0	$0	$775,958	$0	$0	$776,000
MONTGOMERY Total					**118,466**	**58,853**	**7,652**	**11,933**	**126,117**	**44,665**	**70,839**	**10,613**			**$3,952,074**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$3,952,074**	**$1,017,000**	**$2,015,600**	**$919,800**
OPENSPACE	OPSP	0%	0%	100%	0	12	2,633	352	2,633	0	0	2,633		0.0	$1,191,929	$0	$0	$0	$0	$0	$0	$0	$1,191,929	$0	$0	$1,191,900
OPENSPACE Total					**0**	**12**	**2,633**	**352**	**2,633**	**0**	**0**	**2,633**			**$1,191,929**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$1,191,929**	**$0**	**$0**	**$1,191,900**
PAJARITO	0W	0%	20%	80%	12,556	1,124	-244	533	12,312	0	2,462	9,850		0.0	-$48,366	$0	-$61,600	-$90,500	$3,000,000	$0	$576,000	-$270,600	$3,104,934	$0	$621,000	$2,483,900
PAJARITO	1WR	0%	0%	100%	1,940	117	224	17	2,163	0	0	2,163		0.0	$99,809	$0	$78,300	$133,600	$1,000,000	$666,667	$540,000	$248,200	$2,766,576	$0	$0	$2,766,600
PAJARITO	2W	0%	0%	100%	21	5	717	134	738	0	0	738		0.0	$328,664	$0	$254,500	$436,400	$1,000,000	$666,667	$540,000	$795,800	$4,022,031	$0	$0	$4,022,000
PAJARITO	2WR	0%	0%	100%	21	5	624	67	645	0	0	645		0.0	$280,473	$0	$219,300	$374,600	$1,000,000	$666,667	$540,000	$692,200	$3,773,240	$0	$0	$3,773,200
PAJARITO	3WR	0%	0%	100%	32	8	896	90	928	0	0	928		0.0	$402,303	$0	$314,800	$537,600	$0	$2,000,000	$180,000	$994,600	$4,429,303	$0	$0	$4,429,300
PAJARITO	4W	0%	0%	100%	37	22	928	149	965	0	0	965		0.0	$422,780	$0	$328,400	$562,400	$0	$0	$0	$1,030,100	$2,343,680	$0	$0	$2,343,700
PAJARITO Total					**14,608**	**1,281**	**3,144**	**990**	**17,752**	**0**	**2,462**	**15,289**			**$1,485,663**	**$0**	**$1,133,700**	**$1,954,100**	**$6,000,000**	**$4,000,000**	**$2,376,000**	**$3,490,300**	**$20,439,763**	**$0**	**$621,000**	**$19,818,700**
RIDGECREST	1E	50%	50%	0%	11,028	8,451	4,744	3,238	15,772	7,886	7,886	0		17.5	$2,006,713	$0	$1,785,400	$3,122,700	$0	$0	$0	$0	$6,914,813	$3,457,400	$3,457,400	$0
RIDGECREST	2E	50%	50%	0%	6,021	7,140	473	3,103	6,494	3,247	3,247	0		10.1	$491,667	$0	$297,500	$589,300	$0	$0	$0	$0	$1,378,467	$689,200	$689,200	$0
RIDGECREST	3E (NORTH)	100%	0%	0%	32,035	23,507	4,982	8,417	37,017	37,017	0	0		16.7	$2,585,285	$0	$2,090,500	$3,780,800	$0	$0	$0	$0	$8,456,585	$8,456,600	$0	$0
RIDGECREST	3E (SOUTH)	0%	100%	0%	2	16	16,820	10,330	16,822	0	16,822	0		0.0	$8,498,164	$0	$6,280,600	$10,956,600	$0	$0	$0	$0	$25,735,364	$0	$25,735,400	$0
RIDGECREST	3ER	0%	0%	100%	15	152	4,345	2,792	4,360	0	0	4,360		28.6	$1,577,170	$0	$1,627,800	$2,842,900	$0	$0	$0	$0	$6,047,870	$0	$0	$6,047,900
RIDGECREST	3ER	100%	0%	0%	1,811	402	82	347	1,893	1,893	0	0		28.6	$52,750	$0	$43,400	$83,000	$0	$0	$0	$0	$179,150	$179,200	$0	$0
RIDGECREST	4ER	100%	0%	0%	6,474	3,609	66	83	6,541	6,541	0	0		11.9	$33,682	$0	$26,600	$47,500	$0	$0	$0	$0	$107,782	$107,800	$0	$0
RIDGECREST	5E	100%	0%	0%	6,726	1,699	1,529	1,833	8,255	8,255	0	0		44.4	$483,924	$0	$609,300	$1,085,300	$0	$0	$0	$1,697,100	$3,875,624	$3,875,600	$0	$0
RIDGECREST	6ER	100%	0%	0%	913	53	115	74	1,029	1,029	0	0		0.0	$58,583	$0	$43,200	$75,400	$0	$0	$0	$0	$177,183	$177,200	$0	$0
RIDGECREST	7ER	100%	0%	0%	913	53	115	74	1,029	1,029	0	0		0.0	$58,583	$0	$43,200	$75,400	$0	$0	$0	$0	$177,183	$177,200	$0	$0
RIDGECREST	8E	100%	0%	0%	731	42	92	59	823	823	0	0		12.5	$41,008	$0	$34,500	$60,300	$0	$0	$0	$0	$135,808	$135,800	$0	$0
RIDGECREST Total					**66,670**	**45,123**	**33,363**	**30,351**	**100,033**	**67,718**	**27,955**	**4,360**			**$15,887,528**	**$0**	**$12,882,000**	**$22,719,200**	**$0**	**$0**	**$0**	**$1,697,100**	**$53,185,828**	**$17,256,000**	**$29,882,000**	**$6,047,900**
SOILAMEND	SAF	0%	0%	100%	0	8	0	746	0	0	0	0		0.0	$81,687	$0	$32,100	$74,600	$0	$0	$0	$0	$188,387	$0	$0	$188,400
SOILAMEND Total					**0**	**8**	**0**	**746**	**0**	**0**	**0**	**0**			**$81,687**	**$0**	**$32,100**	**$74,600**	**$0**	**$0**	**$0**	**$0**	**$188,387**	**$0**	**$0**	**$188,400**
VOLCANO	1W	0%	100%	0%	3,443	434	2,968	1,251	6,411	0	6,411	0		18.1	$1,176,804	$0	$1,300,400	$1,876,100	$0	$0	$0	$3,294,400	$7,647,704	$0	$7,647,700	$0
VOLCANO	2W	0%	100%	0%	6,584	265	880	131	7,465	0	7,465	0		7.3	$370,732	$0	$373,300	$532,500	$0	$0	$0	$0	$1,276,532	$0	$1,276,500	$0
VOLCANO	2WR	0%	100%	0%	13,581	1,255	2,076	537	15,657	0	15,657	0		18.4	$790,050	$0	$892,300	$1,278,700	$0	$0	$0	$0	$2,961,050	$0	$2,961,100	$0
VOLCANO	3WR	0%	0%	100%	269	15	1,601	46	1,869	0	0	1,869		0.0	$706,153	$0	$668,900	$949,000	$1,500,000	$750,000	$216,000	$1,776,800	$6,566,853	$0	$0	$6,566,900
VOLCANO	4W	0%	0%	100%	0	0	657	42	657	0	0	657		0.0	$292,496	$0	$275,900	$392,000	$1,500,000	$750,000	$216,000	$729,600	$4,155,996	$0	$0	$4,156,000
VOLCANO	5W	0%	0%	100%	0	0	276	26	276	0	0	276		0.0	$123,735	$0	$116,300	$165,400	$0	$2,000,000	$180,000	$306,400	$2,891,835	$0	$0	$2,891,800
VOLCANO Total					**23,877**	**1,969**	**8,459**	**2,032**	**32,335**	**0**	**29,533**	**2,803**			**$3,459,971**	**$0**	**$3,627,100**	**$5,193,700**	**$3,000,000**	**$3,500,000**	**$612,000**	**$6,107,200**	**$25,499,971**	**$0**	**$11,885,300**	**$13,614,700**
East Mountain Water Wells					**15,391**	**1,553**	**23,698**	**3,054**								**$21,330,375**							**$21,330,375**			**$21,330,375**
SURFACE WATER TREATEMENT PLANT		45%	44%	11%						**TOTAL POPULATION**													**$180,000,000**	**$81,000,000**	**$79,200,000**	**$19,800,000**
										PERCENTAGE OF TOTAL																
										45%	**44%**	**11%**														
Grand Total					**482,264**	**275,578**	**145,387**	**146,969**	**627,651**	**284,054**	**273,721**	**69,876**			**$70,691,234**	**$21,330,375**	**$47,701,200**	**$80,458,800**	**$31,000,000**	**$22,980,000**	**$19,018,800**	**$92,019,100**	**$565,200,000**	**$124,722,000**	**$251,543,000**	**$188,935,000**

Public Costs	**$0**		**$23,850,600**	**$80,458,800**	**$15,500,000**	**$11,490,000**	**$9,509,400**	**$18,403,820**	**$339,212,620**	
Private Costs	**$70,691,234**	**$21,330,375**	**$23,850,600**		**$15,500,000**	**$11,490,000**	**$9,509,400**	**$73,615,280**	**$225,986,889**	$565,200,000

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Table A.4. Infrastructure Cost Analysis - Downtown Scenario

City of Albuquerque - Planned Growth Strategy
Infrastructure Cost Analysis Downtown Alternative
Capital Costs - 1998 Dollars

Report Date
15-Aug-01

		Percent of Total by Area							Total Population	Percent of Population by Coverage				% of Vacant Parcels with Service Lines	$438 / $110 Service Line Cost	$2,500 / $375 Domestic Well Cost	$347.00 / $43.00 Municipal Well Cost	$590.00 / $100.00 Water Rights	$0.50/gal Reservoir	Pump Stations	Transmission Pipelines @ $3.00/in dia	$1,110.00 Master Plan and Infill Pipelines	Total	Total Capital Costs By Coverage		
TRUNK	ZONE	in 1960	In serv.	Out serv.	COGPOP95	COGEMP95	TESPOP2020	TESEMP2020	Year 2020	in 1960	In serv.	Out serv.	comment											1960 In	Serv, In	Serv. Out
AIRPORT	ARPT	0%	100%	0%	0	16	0	0	0	0	0	0		0.0	$0	$0	0	0	$0	$0	$0	$0	$0	$0	$0	$0
AIRPORT Total					**0**	**16**	**0**	**0**	**0**	**0**	**0**	**0**			**$0**	**$0**	**0**	**0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
ALAMEDA	1E	0%	100%	0%	12,103	6,086	3,607	3,119	15,710	0	15,710	0		13.3	$1,665,822	$0	$1,385,700	$2,440,000	$0	$0	$0	$4,003,700	$9,495,222	$0	$9,495,200	$0
ALAMEDA	2E	0%	100%	0%	1,676	15,294	687	13,320	2,362	0	2,362	0		3.0	$1,706,497	$0	$811,000	$1,737,100	$0	$0	$0	$762,100	$5,016,697	$0	$5,016,700	$0
ALAMEDA	3E	0%	100%	0%	9,219	5,536	3,040	2,290	12,259	0	12,259	0		19.8	$1,268,915	$0	$1,153,300	$2,022,500	$0	$0	$0	$3,374,300	$7,819,015	$0	$7,819,000	$0
ALAMEDA	4ER	0%	100%	0%	6,901	2,248	2,794	952	9,695	0	9,695	0		6.9	$1,236,291	$0	$1,010,400	$1,743,500	$0	$0	$0	$3,101,100	$7,091,291	$0	$7,091,300	$0
ALAMEDA	4ERR	0%	100%	0%	376	23	-2	19	374	0	374	0		0.0	$1,314	$0	$200	$900	$0	$0	$0	-$1,900	$514	$0	$500	$0
ALAMEDA	5E	0%	100%	0%	5,986	413	2,681	615	8,667	0	8,667	0		1.2	$1,226,764	$0	$956,800	$1,643,400	$0	$0	$0	$2,976,100	$6,803,064	$0	$6,803,100	$0
ALAMEDA	6E	0%	25%	75%	3,305	165	2,796	70	6,101	0	1,525	4,576		0.0	$1,232,329	$0	$973,200	$1,656,700	$1,000,000	$660,000	$240,000	$3,103,600	$8,865,829	$0	$2,216,500	$6,649,400
ALAMEDA	7E	0%	25%	75%	2,120	185	2,420	119	4,540	0	1,135	3,405		0.0	$1,072,958	$0	$844,800	$1,439,700	$1,000,000	$660,000	$240,000	$2,686,200	$7,943,658	$0	$1,985,900	$5,957,700
ALAMEDA	8E	0%	40%	60%	2,886	252	1,795	68	4,681	0	1,872	2,809		0.0	$793,872	$0	$625,900	$1,066,100	$1,000,000	$660,000	$240,000	$1,992,900	$6,378,772	$0	$2,551,500	$3,827,300
ALAMEDA Total					**44,571**	**30,202**	**19,818**	**20,571**	**64,389**	**0**	**53,600**	**10,790**			**$10,204,763**	**$0**	**$7,761,300**	**$13,749,900**	**$3,000,000**	**$1,980,000**	**$720,000**	**$21,998,100**	**$59,414,063**	**$0**	**$42,979,700**	**$16,434,400**
ATR/PAJ	5W	0%	0%	100%	443	45	941	146	1,384	0	0	1,384		0.0	$428,145	$0	$332,800	$569,800	$1,500,000	$750,000	$432,000	$1,044,500	$5,057,245	$0	$0	$5,057,200
ATR/PAJ	6W	0%	0%	100%	345	43	605	86	950	0	0	950		0.0	$274,407	$0	$213,600	$365,600	$1,500,000	$750,000	$432,000	$671,600	$4,207,207	$0	$0	$4,207,200
ATR/PAJ Total					**789**	**89**	**1,546**	**232**	**2,335**	**0**	**0**	**2,335**			**$702,552**	**$0**	**$546,400**	**$935,400**	**$3,000,000**	**$1,500,000**	**$864,000**	**$1,716,100**	**$9,264,452**	**$0**	**$0**	**$9,264,400**
ATRISCO	0W	50%	50%	0%	25,297	4,083	1,551	936	26,848	13,424	13,424	0		14.0	$672,314	$0	$578,400	$1,008,600	$0	$0	$0	$1,721,400	$3,980,714	$1,990,400	$1,990,400	$0
ATRISCO	1W	50%	50%	0%	9,559	1,459	3,169	577	12,728	6,364	6,364	0		17.2	$1,201,580	$0	$1,124,400	$1,927,400	$0	$0	$0	$3,517,600	$7,770,980	$3,885,500	$3,885,500	$0
ATRISCO	2W	50%	40%	10%	4,062	431	3,679	1,617	7,741	3,871	3,096	774		24.7	$1,346,631	$0	$1,346,100	$2,332,200	$0	$0	$0	$4,083,500	$9,108,431	$4,554,200	$3,643,400	$910,800
ATRISCO	2WR	50%	40%	10%	9,239	2,826	6,436	4,286	15,675	7,838	6,270	1,568		19.3	$2,653,663	$0	$2,417,600	$4,225,900	$0	$0	$0	$7,143,900	$16,441,063	$8,220,500	$6,576,400	$1,644,100
ATRISCO	3WR	0%	0%	100%	1,829	87	1,873	338	3,702	0	0	3,702		0.0	$857,582	$0	$664,600	$1,139,100	$1,500,000	$750,000	$432,000	$2,079,400	$7,422,682	$0	$0	$7,422,700
ATRISCO	4W	0%	0%	100%	584	30	1,068	150	1,652	0	0	1,652		0.0	$484,308	$0	$377,100	$645,200	$1,500,000	$750,000	$432,000	$1,185,700	$5,374,308	$0	$0	$5,374,300
ATRISCO Total					**50,570**	**8,915**	**17,776**	**7,905**	**68,347**	**31,496**	**29,155**	**7,696**			**$7,216,077**	**$0**	**$6,508,200**	**$11,278,400**	**$3,000,000**	**$1,500,000**	**$864,000**	**$19,731,500**	**$50,098,177**	**$18,650,600**	**$16,095,700**	**$15,351,900**
COL/ATR	7W	0%	0%	100%	123	28	1,208	117	1,331	0	0	1,331		0.0	$541,790	$0	$508,900	$724,200	$0	$0	$0	$1,340,400	$3,115,290	$0	$0	$3,115,300
COL/ATR	5WR	0%	0%	100%	43	0	578	51	621	0	0	621		0.0	$258,968	$0	$243,500	$346,400	$0	$0	$0	$642,000	$1,490,868	$0	$0	$1,490,900
COL/ATR	6WR	0%	0%	100%	54	0	723	64	777	0	0	777		0.0	$323,709	$0	$304,400	$433,000	$0	$0	$0	$802,500	$1,863,609	$0	$0	$1,863,600
COL/ATR Total					**220**	**28**	**2,509**	**233**	**2,729**	**0**	**0**	**2,729**			**$1,124,466**	**$0**	**$1,056,800**	**$1,503,600**	**$0**	**$0**	**$0**	**$2,784,900**	**$6,469,766**	**$0**	**$0**	**$6,469,800**
COLLEGE	2W	0%	100%	0%	2,715	182	4,557	505	7,271	0	7,271	0		32.2	$1,390,659	$0	$1,923,400	$2,738,900	$0	$0	$0	$5,057,900	$11,110,859	$0	$11,110,900	$0
COLLEGE	2WR	0%	100%	0%	12,223	4,084	8,711	8,876	20,934	0	20,934	0		29.2	$3,389,362	$0	$4,085,200	$6,027,000	$0	$0	$0	$9,669,100	$23,170,662	$0	$23,170,700	$0
COLLEGE	3WR	0%	0%	100%	373	5	2,529	67	2,902	0	0	2,902		0.0	$1,115,192	$0	$1,056,700	$1,499,000	$1,500,000	$1,000,000	$405,000	$2,807,700	$9,383,592	$0	$0	$9,383,600
COLLEGE	4W	0%	0%	100%	43	0	578	51	621	0	0	621		0.0	$258,968	$0	$243,500	$346,400	$1,500,000	$1,000,000	$405,000	$642,000	$4,395,868	$0	$0	$4,395,900
COLLEGE	8W	0%	0%	100%	39	7	0	0	39	0	0	39		0.0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
COLLEGE Total					**15,393**	**4,278**	**16,375**	**9,499**	**31,768**	**0**	**28,205**	**3,562**			**$6,154,180**	**$0**	**$7,308,800**	**$10,611,300**	**$3,000,000**	**$2,000,000**	**$810,000**	**$18,176,700**	**$48,060,980**	**$0**	**$34,281,600**	**$13,779,500**
CORRALES	1W	0%	100%	0%	2,306	2,609	3,268	6,457	5,574	0	5,574	0		0.0	$2,138,612	$0	$1,411,800	$2,574,100	$0	$0	$0	$3,628,000	$9,752,512	$0	$9,752,500	$0
CORRALES	2W	0%	100%	0%	3,492	843	7,290	1,981	10,782	0	10,782	0		0.0	$3,409,901	$0	$2,614,800	$4,499,200	$0	$0	$0	$8,091,800	$18,615,701	$0	$18,615,700	$0
CORRALES	2WR	0%	100%	0%	1,828	701	5,236	1,070	7,063	0	7,063	0		0.0	$2,410,368	$0	$1,862,700	$3,196,000	$0	$0	$0	$5,811,400	$13,280,468	$0	$13,280,500	$0
CORRALES	3WR	0%	100%	0%	2,957	384	5,110	1,973	8,067	0	8,067	0		0.0	$2,454,464	$0	$1,858,200	$3,212,500	$0	$0	$0	$5,672,600	$13,197,764	$0	$13,197,800	$0
CORRALES	4W	0%	100%	0%	1,247	82	5,412	1,074	6,659	0	6,659	0		0.0	$2,488,140	$0	$1,924,200	$3,300,600	$0	$0	$0	$6,007,400	$13,720,340	$0	$13,720,300	$0
CORRALES	5W	0%	0%	100%	0	0	252	23	252	0	0	252		0.0	$112,895	$0	$88,400	$151,000	$1,500,000	$750,000	$360,000	$279,700	$3,241,995	$0	$0	$3,242,000
CORRALES	6W	0%	0%	100%	0	0	252	23	252	0	0	252		0.0	$112,895	$0	$88,400	$151,000	$1,500,000	$750,000	$360,000	$279,700	$3,241,995	$0	$0	$3,242,000
CORRALES	7W	0%	0%	100%	0	0	76	7	76	0	0	76		0.0	$34,055	$0	$26,700	$45,500	$0	$2,000,000	$180,000	$84,400	$2,370,655	$0	$0	$2,370,700
CORRALES	8W	0%	0%	100%	0	0	0	0	0	0	0	0		0.0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
CORRALES	9W	0%	0%	100%	0	0	0	0	0	0	0	0		0.0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
CORRALES Total					**11,829**	**4,619**	**26,896**	**12,609**	**38,725**	**0**	**38,145**	**580**			**$13,161,328**	**$0**	**$9,875,200**	**$17,129,900**	**$3,000,000**	**$3,500,000**	**$900,000**	**$29,855,000**	**$77,421,428**	**$0**	**$68,566,800**	**$8,854,700**
FREEWAY	1E	100%	0%	0%	30,923	41,070	5,553	24,195	36,476	36,476	0	0		18.5	$4,141,610	$0	$0	$0	$0	$0	$0	$0	$4,141,610	$4,141,600	$0	$0
FREEWAY	2E	100%	0%	0%	21,434	33,273	1,485	10,586	22,919	22,919	0	0		25.3	$1,351,720	$0	$0	$0	$0	$0	$0	$0	$1,351,720	$1,351,700	$0	$0
FREEWAY	3E	100%	0%	0%	28,473	29,994	754	15,231	29,228	29,228	0	0		19.7	$1,604,603	$0	$0	$0	$0	$0	$0	$0	$1,604,603	$1,604,600	$0	$0
FREEWAY	4ER	100%	0%	0%	7,613	2,742	-36	353	7,576	7,576	0	0		10.6	$20,332	$0	$0	$0	$0	$0	$0	$0	$20,332	$20,300	$0	$0
FREEWAY	5E	100%	0%	0%	12,505	5,729	-39	1,460	12,466	12,466	0	0		8.7	$130,365	$0	$0	$0	$0	$0	$0	$0	$130,365	$130,400	$0	$0
FREEWAY	6E	100%	0%	0%	14,844	2,834	-10	1,040	14,834	14,834	0	0		2.0	$107,160	$0	$0	$0	$0	$0	$0	$0	$107,160	$107,200	$0	$0
FREEWAY	7E	100%	0%	0%	8,762	1,501	92	269	8,854	8,854	0	0		5.8	$65,644	$0	$0	$0	$0	$0	$0	$0	$65,644	$65,600	$0	$0
FREEWAY	8E	0%	100%	0%	4,093	222	89	90	4,182	0	4,182	0		20.0	$39,030	$0	$0	$0	$0	$0	$0	$0	$39,030	$0	$39,000	$0
FREEWAY	9ER	0%	100%	0%	2,721	131	73	52	2,794	0	2,794	0		23.1	$29,069	$0	$0	$0	$0	$0	$0	$0	$29,069	$0	$29,100	$0
FREEWAY	10E	0%	100%	0%	1,248	87	52	36	1,300	0	1,300	0		11.1	$23,567	$0	$0	$0	$0	$0	$0	$0	$23,567	$0	$23,600	$0
FREEWAY Total					**132,615**	**117,583**	**8,013**	**53,311**	**140,627**	**132,352**	**8,275**	**0**			**$7,513,100**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$7,513,100**	**$7,421,400**	**$91,700**	**$0**
HUBBELL	1E	0%	100%	0%	2,658	2,601	1,414	2,217	4,072	0	4,072	0		17.7	$709,305	$0	$585,800	$1,055,600	$3,000,000	$2,000,000	$648,000	$1,569,000	$9,567,705	$0	$9,567,700	$0
HUBBELL Total					**2,658**	**2,601**	**1,414**	**2,217**	**4,072**	**0**	**4,072**	**0**			**$709,305**	**$0**	**$585,800**	**$1,055,600**	**$3,000,000**	**$2,000,000**	**$648,000**	**$1,569,000**	**$9,567,705**	**$0**	**$9,567,700**	**$0**

Table A.4. Infrastructure Cost Analysis - Downtown Scenario

City of Albuquerque - Planned Growth Strategy
Infrastructure Cost Analysis Downtown Alternative
Capital Costs - 1998 Dollars

Report Date
15-Aug-01

		Percent of Total by Area							Percent of Population by Coverage														
								Total Population					% of Vacant Parcels with Service Lines	$438 / $110 Service Line Cost	$2,500 / $375 Domestic Well Cost	$347.00 / $43.00 Municipal Well Cost	$590.00 / $100.00 Water Rights	$0.50/gal Reservoir	Pump Stations	Transmission Pipelines @ $3.00/in dia	$1,110.00 Master Plan and Infill Pipelines	Total	Total Capital Costs By Coverage		
TRUNK	ZONE	in 1960	In serv.	Out serv.	COGPOP95	COGEMP95	TESPOP2020	TESEMP2020	Year 2020	in 1960	In serv.	Out serv.	comment										1960 In	Serv, In	Serv. Out
MONTGOMERY	10E	0%	100%	0%	1,201	159	1,586	59	2,787	0	2,787	0		15.5	$592,287	$0	$0	$0	$0	$0	$0	$0	$592,287	$0	$592,300	$0
MONTGOMERY	11ER	0%	100%	0%					0	0	0	0		14.2	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
MONTGOMERY	12E	0%	100%	0%					0	0	0	0		0.0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
MONTGOMERY	1E	50%	50%	0%	9,557	9,411	2,119	3,261	11,675	5,838	5,838	0		15.7	$1,083,324	$0	$0	$0	$0	$0	$0	$0	$1,083,324	$541,700	$541,700	$0
MONTGOMERY	2E	50%	50%	0%	13,692	20,632	-90	6,604	13,602	6,801	6,801	0		15.2	$579,765	$0	$0	$0	$0	$0	$0	$0	$579,765	$289,900	$289,900	$0
MONTGOMERY	3E	50%	50%	0%	17,510	7,972	-189	-195	17,321	8,660	8,660	0		0.0	-$104,085	$0	$0	$0	$0	$0	$0	$0	-$104,085	-$52,000	-$52,000	$0
MONTGOMERY	4ER	30%	60%	10%	21,045	7,673	222	1,215	21,267	6,380	12,760	2,127		22.2	$179,127	$0	$0	$0	$0	$0	$0	$0	$179,127	$53,700	$107,500	$17,900
MONTGOMERY	5E	30%	60%	10%	17,895	4,995	158	1,439	18,053	5,416	10,832	1,805		33.3	$151,394	$0	$0	$0	$0	$0	$0	$0	$151,394	$45,400	$90,800	$15,100
MONTGOMERY	6E	30%	60%	10%	16,059	4,932	425	1,527	16,484	4,945	9,891	1,648		22.0	$275,627	$0	$0	$0	$0	$0	$0	$0	$275,627	$82,700	$165,400	$27,600
MONTGOMERY	7E	30%	60%	10%	10,390	2,066	407	645	10,797	3,239	6,478	1,080		9.9	$224,243	$0	$0	$0	$0	$0	$0	$0	$224,243	$67,300	$134,500	$22,400
MONTGOMERY	8E	30%	60%	10%	6,123	688	108	446	6,231	1,869	3,738	623		22.0	$74,900	$0	$0	$0	$0	$0	$0	$0	$74,900	$22,500	$44,900	$7,500
MONTGOMERY	9ER	30%	60%	10%	3,025	250	1,968	90	4,993	1,498	2,996	499		19.0	$706,049	$0	$0	$0	$0	$0	$0	$0	$706,049	$211,800	$423,600	$70,600
MONTGOMERY	9ERR	30%	60%	10%	938	14	96	-2	1,034	310	620	103		0.0	$41,971	$0	$0	$0	$0	$0	$0	$0	$41,971	$12,600	$25,200	$4,200
MONTGOMERY	9ER	0%	0%	100%	1,031	61	1,861	35	2,892	0	0	2,892		0.0	$818,798	$0	$0	$0	$0	$0	$0	$0	$818,798	$0	$0	$818,800
MONTGOMERY Total					**118,466**	**58,853**	**8,670**	**15,125**	**127,135**	**44,957**	**71,401**	**10,777**			**$4,623,401**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$4,623,401**	**$1,275,600**	**$2,363,800**	**$984,100**
OPENSPACE	OPSP	0%	0%	100%	0	12	2,391	212	2,391	0	0	2,391		0.0	$1,070,538	$0	$0	$0	$0	$0	$0	$0	$1,070,538	$0	$0	$1,070,500
OPENSPACE Total					**0**	**12**	**2,391**	**212**	**2,391**	**0**	**0**	**2,391**			**$1,070,538**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$1,070,538**	**$0**	**$0**	**$1,070,500**
PAJARITO	0W	0%	20%	80%	12,556	1,124	1,948	462	14,504	0	2,901	11,603		0.0	$903,917	$0	$695,900	$1,195,700	$3,000,000	$1,000,000	$576,000	$2,162,500	$9,534,017	$0	$1,906,800	$7,627,200
PAJARITO	1WR	0%	0%	100%	1,940	117	1,195	23	3,135	0	0	3,135		0.0	$526,104	$0	$415,800	$707,600	$3,000,000	$1,000,000	$540,000	$1,326,800	$7,516,304	$0	$0	$7,516,300
PAJARITO	2W	0%	0%	100%	21	5	55	5	76	0	0	76		0.0	$24,638	$0	$19,300	$33,000	$0	$2,000,000	$180,000	$61,100	$2,318,038	$0	$0	$2,318,000
PAJARITO	2WR	0%	0%	100%	21	5	108	10	129	0	0	129		0.0	$48,399	$0	$37,900	$64,700	$0	$0	$0	$119,900	$270,899	$0	$0	$270,900
PAJARITO	3WR	0%	0%	100%	32	8	0	0	32	0	0	32		0.0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
PAJARITO	4W	0%	0%	100%	37	22	0	0	37	0	0	37		0.0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
PAJARITO Total					**14,608**	**1,281**	**3,307**	**501**	**17,914**	**0**	**2,901**	**15,013**			**$1,503,057**	**$0**	**$1,168,900**	**$2,001,000**	**$6,000,000**	**$4,000,000**	**$1,296,000**	**$3,670,300**	**$19,639,257**	**$0**	**$1,906,800**	**$17,732,400**
RIDGECREST	1E	50%	50%	0%	11,028	8,451	3,387	6,623	14,415	7,207	7,207	0		17.5	$1,822,222	$0	$1,460,100	$2,660,700	$0	$0	$0	$0	$5,943,022	$2,971,500	$2,971,500	$0
RIDGECREST	2E	50%	50%	0%	6,021	7,140	1,642	4,352	7,663	3,831	3,831	0		10.1	$1,074,904	$0	$756,800	$1,403,900	$0	$0	$0	$0	$3,235,604	$1,617,800	$1,617,800	$0
RIDGECREST	3E (NORTH)	100%	0%	0%	32,035	23,507	369	5,668	32,405	32,405	0	0		16.7	$651,708	$0	$371,800	$784,600	$0	$0	$0	$0	$1,808,108	$1,808,100	$0	$0
RIDGECREST	3E (SOUTH)	0%	100%	0%	2	16	7,860	905	7,862	0	7,862	0		0.0	$3,541,580	$0	$2,766,200	$4,727,600	$0	$0	$0	$0	$11,035,380	$0	$11,035,400	$0
RIDGECREST	3ER	0%	0%	100%	15	152	2,105	479	2,120	0	0	2,120		28.6	$695,813	$0	$751,100	$1,290,000	$0	$0	$0	$0	$2,736,913	$0	$0	$2,736,900
RIDGECREST	3ER	100%	0%	0%	1,811	402	-6	369	1,805	1,805	0	0		28.6	$26,887	$0	$13,700	$33,200	$0	$0	$0	$0	$73,787	$73,800	$0	$0
RIDGECREST	4ER	100%	0%	0%	6,474	3,609	-5	256	6,469	6,469	0	0		11.9	$22,641	$0	$9,100	$22,400	$0	$0	$0	$0	$54,141	$54,100	$0	$0
RIDGECREST	5E	100%	0%	0%	6,726	1,699	1,532	2,014	8,258	8,258	0	0		44.4	$495,659	$0	$618,100	$1,105,200	$0	$0	$0	$1,700,400	$3,919,359	$3,919,400	$0	$0
RIDGECREST	6ER	100%	0%	0%	913	53	116	81	1,029	1,029	0	0		0.0	$59,513	$0	$43,600	$76,300	$0	$0	$0	$0	$179,413	$179,400	$0	$0
RIDGECREST	7ER	100%	0%	0%	913	53	116	81	1,029	1,029	0	0		0.0	$59,513	$0	$43,600	$76,300	$0	$0	$0	$0	$179,413	$179,400	$0	$0
RIDGECREST	8E	100%	0%	0%	731	42	93	64	823	823	0	0		12.5	$41,659	$0	$34,900	$61,100	$0	$0	$0	$0	$137,659	$137,700	$0	$0
RIDGECREST Total					**66,670**	**45,123**	**17,207**	**20,892**	**83,877**	**62,856**	**18,901**	**2,120**			**$8,492,100**	**$0**	**$6,869,000**	**$12,241,300**	**$0**	**$0**	**$0**	**$1,700,400**	**$29,302,800**	**$10,941,200**	**$15,624,700**	**$2,736,900**
SOILAMEND	SAF	0%	0%	100%	0	8	0	0	0	0	0	0		0.0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
SOILAMEND Total					**0**	**8**	**0**	**0**	**0**	**0**	**0**	**0**			**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
VOLCANO	1W	0%	100%	0%	3,443	434	5,921	2,293	9,363	0	9,363	0		18.1	$2,329,458	$0	$2,583,600	$3,722,400	$0	$0	$0	$6,571,800	$15,207,258	$0	$15,207,300	$0
VOLCANO	2W	0%	100%	0%	6,584	265	199	81	6,783	0	6,783	0		7.3	$88,921	$0	$86,900	$125,400	$0	$0	$0	$0	$301,221	$0	$301,200	$0
VOLCANO	2WR	0%	100%	0%	13,581	1,255	3,969	671	17,550	0	17,550	0		18.4	$1,478,597	$0	$1,687,400	$2,408,900	$0	$0	$0	$0	$5,574,897	$0	$5,574,900	$0
VOLCANO	3WR	0%	0%	100%	269	15	1,429	38	1,698	0	0	1,698		0.0	$630,142	$0	$597,000	$847,000	$1,500,000	$750,000	$216,000	$1,586,300	$6,126,442	$0	$0	$6,126,400
VOLCANO	4W	0%	0%	100%	0	0	597	37	597	0	0	597		0.0	$265,444	$0	$250,400	$355,800	$1,500,000	$750,000	$216,000	$662,500	$4,000,144	$0	$0	$4,000,100
VOLCANO	5W	0%	0%	100%	0	0	252	22	252	0	0	252		0.0	$112,785	$0	$106,100	$150,900	$0	$2,000,000	$180,000	$279,700	$2,829,485	$0	$0	$2,829,500
VOLCANO Total					**23,877**	**1,969**	**12,366**	**3,143**	**36,243**	**0**	**33,696**	**2,547**			**$4,905,347**	**$0**	**$5,311,400**	**$7,610,400**	**$3,000,000**	**$3,500,000**	**$612,000**	**$9,100,300**	**$34,039,447**	**$0**	**$21,083,400**	**$12,956,000**
East Mountain Water Wells					**15,391**	**1,553**	**28,025**	**3,178**								**$32,194,375**							**$32,194,375**			**$32,194,375**
SURFACE WATER TREATEMENT PLANT		44%	46%	10%						**TOTAL POPULATION PERCENTAGE OF TOTAL**													**$180,000,000**	**$79,200,000**	**$82,800,000**	**$18,000,000**
										44%	**46%**	**10%**														
Grand Total					**482,264**	**275,578**	**138,288**	**146,449**	**620,552**	**271,661**	**288,351**	**60,539**			**$67,380,214**	**$32,194,375**	**$46,991,800**	**$78,116,800**	**$27,000,000**	**$19,980,000**	**$6,714,000**	**$110,302,300**	**$568,679,489**	**$117,489,000**	**$295,362,000**	**$155,829,000**

Public Costs	**$0**		**$23,495,900**	**$78,116,800**	**$13,500,000**	**$9,990,000**	**$3,357,000**	**$22,060,460**	**$330,520,160**	
Private Costs	**$67,380,214**	**$32,194,375**	**$23,495,900**		**$13,500,000**	**$9,990,000**	**$3,357,000**	**$88,241,840**	**$238,159,329**	

File:watrcost.xls

Table A.5. Major Costs Project Inventory

WEST SIDE

REGION TOTAL COST	COST WITHOUT LONG-RANGE (LR) PROJECTS	BASIN	PROJECT DESCRIPTION	COST (x 1Mil$)	LR	% PUB	% PRIV
NORTHWEST							
$1,000,000	**$1,000,000**	**BLACK**	**TOTAL**	**1.000**			
			BLACK ARROYO WATERSHED TRTMT	1.000		100	0
$2,150,000	**$150,000**	**BOCA NEGRA**	**TOTAL**	**2.150**			
			BOCA NEGRA DMP	0.150		60	40
			ESCARPMENT DRAINAGE	2.000	LR	100	0
$580,000	**$580,000**	**CABEZON**	**TOTAL**	**0.580**			
			CABEZON CHAN MOD	0.580		100	0
$7,692,000	**$2,982,000**	**CALABACILLAS - NORTH COORS**	**TOTAL**	**7.692**			
			PH II & III DROP STRUC	4.710	LR	85	15
			CORRALES MAIN CANAL IMPRV	0.500		50	50
			PDN PONDING	1.456		100	0
			LA ORILLA PONDS	0.246		40	60
			CALAB-EAGLE RANCH BR	0.250		50	50
			EAGLE RANCH ROAD SD	0.530		80	20
$4,476,000	**$4,476,000**	**DOUBLE EAGLE II AIRPORT**	**TOTAL**	**4.476**			
			DOUBLE EAGLE II AIRPORT	4.476		50	50
$17,320,000	**$1,320,000**	**LADERA - MIREHAVEN**	**TOTAL**	**17.320**			
			LADERA DAMS	1.320		100	0
			I-40 DMP	10.000	LR	100	0
			SOUTHERN ESCARPMENT	6.000	LR	50	50
$0	**$0**	**LADERA PLAYA**	**TOTAL**	**0.000**			
			playa; no major costs			0	0
$2,500,000	**$500,000**	**MARIPOSA**	**TOTAL**	**2.500**			
			UNSER S OF PARADISE	0.500		70	30
			ESCARPMENT DRAINAGE	2.000	LR	50	50
$2,722,000	**$2,722,000**	**NW MESA**	**TOTAL**	**2.722**			
			NW MESA DMP	2.722		70	30
$22,513,000	**$15,513,000**	**PIEDRAS MARCADAS**	**TOTAL**	**22.513**			
			VENTANA OUTFALL & DAM	4.028		60	40
			PH I W DIVERSION TO CALAB	3.000		100	0
			PH II LYONS DIVERSION	2.280		100	0
			PHIII PARADISE BLVD SD	5.600		100	0
			PIEDRAS MARC DMP REVIS	0.105		100	0
			UNSER S OF PARADISE	0.500		100	0
			ESCARPMENT DRAINAGE	6.000	LR	50	50
			BLACK RANCH (50% of $2 mil Dam)	1.000	LR	70	30
$6,000,000	**$0**	**RINCONADA**	**TOTAL**	**6.000**			
100			ESCARPMENT DRAINAGE	6.000	LR	50	50
$8,870,000	**$0**	**UPPER AMOLE**	**TOTAL**	**8.870**			
			AMOLE DAMS	7.650	LR	70	30
			AMOLE DAMS ROW ACQ	1.220	LR	50	50
$2,250,000	**$0**	**UPPER CALABACILLAS**	**TOTAL**	**2.250**			
			GRADE CONTROL STRUC; 5 @ $.25 mil	1.250	LR	70	30
			BLACK RANCH (50% of $2 mil Dam)	1.000	LR	70	30
$1,000,000	**$1,000,000**	**WEST BLUFF**	**TOTAL**	**1.000**			
			WEST BLUFF SD CONNECTIONS	1.000		80	20
$7,885,000	**$7,885,000**	**WEST I40**	**TOTAL**	**7.885**			
			WEST I40 DMP	0.200		100	0
			ESTANCIA TO UNSER	2.600		100	0
			UNSER TO 98TH	2.405		100	0
			CONNECT LADERA TO WEST I40 DIV	2.680		85	15
$9,385,000	**$9,385,000**	**WEST MESA DIVERSION**	**TOTAL**	**9.385**			
			WEST BLUFF DMP	9.385		80	20
SOUTHWEST							
$24,754,000	**$22,754,000**	**AMOLE HUBBELL**	**TOTAL**	**24.754**			
			GUN CLUB RD DRN IMPRVMTS	1.240		100	0
			SNOW VISTA CHAN	8.340		90	10
			AMOLE DEL NORTE DIVERSION	9.500		100	0
			SAGE/TOWER RD POND	0.500		70	30
			BORREGA DIVERSION MOD	1.140		50	50
			AMOLE HUBBELL DMP	0.334		100	50
			BRIDGE ST, UNSER TO 98TH	1.700		80	20
			WESTGATE DAM OUTFALL	2.000	LR	100	0
$7,000,000	**$7,000,000**	**AMOLE WESTGATE**	**TOTAL**	**7.000**			
			WESTGATE DAM - AMOLE ARROY	7.000		100	0
$9,307,000	**$5,307,000**	**DON FELIPE-RAYMAC-MCCOY**	**TOTAL**	**9.307**			
			DON FELIPE WATERSHED DMP	0.200		100	0
			MCCOY CHANNELS	4.436		100	0
			MCCOY DAM PH II	0.271		100	0
			RAYMAC DMP	0.200		100	0
			MCCOY DMP	0.200		100	0
			DON FELIPE UPSTRM CHANS	4.000	LR	100	0
$0	**$0**	**SW MESA**	**TOTAL**	**0.000**			
			Major incl as on-site ponding under Minor			0	0
VALLEY							
$23,868,000	**$23,868,000**	**ISLETA**	**TOTAL**	**23.868**			
			SW VALLEY SD PROJECTS - ISLETA	21.168		70	30
			OSAGE/LA MEDIA	2.700		100	0
$17,050,000	**$11,050,000**	**SW VALLEY**	**TOTAL**	**17.050**			
			GUN CLUB RD DRN IMPRVMTS	1.350		100	0
			SW VALLEY DRNG IMP	3.200		70	30
			SW VALLEY DMP PROJ	4.500		70	30
			ADOBE ACRES PHASE III	2.000		100	0
			SW VALLEY DAM OUTFALLS	6.000	LR	100	0
			TOTAL WEST SIDE PROJECTS	**178.322**			

Table A.5. Major Costs Project Inventory

EAST SIDE

REGION TOTAL COST	COST WITHOUT LONG-RANGE (LR) PROJECTS	BASIN	PROJECT DESCRIPTION	COST (x 1Mil$)	LR	% PUB	% PRIV
NORTHEAST							
$26,386,000	**$21,386,000**	**FAR NE HEIGHTS**	**TOTAL**	**26.386**			
			FAR NE HEIGHTS DMP	12.640		100	0
			N DOM BACA - WY TO BARSTOW	1.266		50	50
			N DOM BACA DAM SPILLWAY WIDENINC	0.220		100	0
			N DOM BACA CHAN-L DAM TO WY	1.140		100	0
			N DOM BACA CHAN-DAM TO LOWELI	3.000	LR	100	0
			PDN IMPRVMTS E OF WYOMING	1.000		100	0
			PDN IMPRVMTS W OF WYOMING	0.500		100	0
			BACA ARROYO LINING I25 TO NDC	4.620		100	0
			S DOM BACA-HOLBROOK TO DAM	2.000	LR	50	50
$100,000	**$100,000**	**FOOTHILLS**	**TOTAL**	**0.100**			
			SANDIA FOOTHILLS WATERSHED TRTMT	0.100		100	0
$20,260,000	**$11,780,000**	**LA CUEVA-CAMINO**	**TOTAL**	**20.260**			
			CITICORP STORM DRAINAGE	0.500		80	20
			LA CUEVA/CAMINO AVULSIONS	5.640		100	0
			CAMINO HAMILTON DAM & LA CUEVA	6.000	LR	100	0
			LA CUEVA E OF LOUISIANA	2.480	LR	90	10
			N CAMINO - REACH 1, 2, 3	5.640		70	30
$64,444,000	**$64,444,000**	**NE HEIGHTS**	**TOTAL**	**64.444**			
			AMDS VOL II	19.534		100	0
			AMDS VOL III	44.910		100	0
$480,000	**$480,000**	**SANDIA**	**TOTAL**	**0.480**			
			N DIVERSION CHAN OUTLET MOD	0.480		100	0
SOUTHEAST							
$6,000,000	**$0**	**MESA DEL SOL**	**TOTAL**	**6.000**			
			MESA DEL SOL	6.000	LR	20	80
$26,370,000	**$26,370,000**	**SE-NEAR HEIGHTS**	**TOTAL**	**26.370**			
			AMDS VOL II	4.970		100	0
			AMDS VOL II RESTUDY	20.200		100	0
			GIBSON BLVD SDC TO YALE	1.200		100	0
$8,973,000	**$8,973,000**	**SOUTH EUBANK**	**TOTAL**	**8.973**			
			S EUBANK AREA	8.973		100	0
$2,800,000	**$2,800,000**	**SOUTH I25-SUNPORT**	**TOTAL**	**2.800**			
			SDC TRIB LINING I25 TO BRDWY	2.800		100	0
$20,000,000	**$0**	**TIJERAS**	**TOTAL**	**20.000**			
			TIJERAS ARROYO DMP	20.000	LR	100	0
VALLEY							
$1,687,467	**$1,687,467**	**DOWNTOWN-OLD TOWN**	**TOTAL**	**1.687**			
			ALAMEDA AND RIVERSIDE DS	1.687		100	0
$4,500,000	**$4,500,000**	**NORTH I25**	**TOTAL**	**4.500**			
			BIG I	2.000		100	0
			NDC ADD FREEBOARD PHASE II	2.500		100	0
$21,487,467	**$21,487,467**	**NORTH VALLEY**	**TOTAL**	**21.487**			
			N VALLEY DMP (SMITH, CONCEPTUAL)	19.800		100	0
			ALAMEDA AND RIVERSIDE DS	1.687		100	0
$7,743,733	**$7,743,733**	**SE VALLEY**	**TOTAL**	**7.744**			
			ALAMEDA AND RIVERSIDE DS	0.844		100	0
			SAN JOSE DRAIN IMPROVEMENTS	6.900		50	50
$6,563,000	**$6,563,000**	**SOUTH BROADWAY**	**TOTAL**	**6.563**			
			S BROADWAY SECTOR DMP	6.563		50	50
$6,520,333	**$6,520,333**	**VALLEY**	**TOTAL**	**6.520**			
			AMDS VOL I -VALLEY SD	0.611		100	0
			MENAUL/MILDRED SD PROJECTS	3.800		100	0
			ALAMEDA AND RIVERSIDE DS	2.109		100	0
			TOTAL EAST SIDE PROJECTS	**224.315**			

COST ANALYSIS FOR DRAINAGE

Table A.6 Downtown Scenario

Drainage Costs
DOWNTOWN Scenario
December 11, 2000

																			APPORTIONED CAPITAL COSTS									
										MAJOR			MINOR					a. O&M		WITHIN 1960 BOUNDARY			BETWEEN 1960 BOUNDARY & WSA				OUTSIDE WSA	
		%WITHIN 1960 BNDRY	% BETWN 1960 BNDRY & WATER	% OUTSIDE WATER						TOTAL PROJECTS COSTS	PUBLIC COSTS	PRIVATE COSTS	ACRES ADDED @14 persons per acre	ACRES ADDED @68 persons per acre	COSTS** $8K to $12K per acre	COSTS** $12K to $18K per acre	TOTAL MINOR COSTS	GROWTH BASED $350/acre/yr	EXISTING BASED $350/acre/yr	b. REHAB 30% MAJOR	c. DEFICIENCY 70% MAJOR	c. DEFICIENCY MINOR + 70% MAJOR	c. DEFICIENCY 70% MAJOR	c. DEFICIENCY 70% (MAJOR + MINOR)	d. NEW 30% MAJOR	d. NEW 30% (MAJOR + MINOR)	d. NEW 100% MAJOR	d. NEW 100% (MAJOR + MINOR)
SUBAREA	DRAINAGE BASIN	SVC AREA	SVC AREA	SVC AREA	POP95	EMP95	POP2020	EMP2020	TOT 2020				RESIDENTIAL	BUSINESS	RESIDENTIAL	BUSINESS	COSTS	RES & BUS	RES & BUS	PUBLIC	PUBLIC	PRIVATE	PUBLIC	PRIVATE	PUBLIC	PRIVATE	PUBLIC	PRIVATE
WEST SIDE																												
NORTHWEST	BLACK	0%	0%	100%	1,361	1,175	3,399	4,298	7,697	$1,000,000	$1,000,000	$0	243	63	$1,942,229	$758,532	$2,700,761	$107,096	$6,142	$0	$0	$0	$0	$0	$0	$0	$1,000,000	$2,700,761
basalt	BOCA NEGRA	0%	0%	100%	0	0	1,007	90	1,097	$1,912,777	$1,859,397	$53,380	72	1	$862,971	$23,824	$886,795	$25,633	$0	$0	$0	$0	$0	$0	$0	$0	$1,859,397	$940,175
	CABEZON	0%	0%	100%	926	505	719	529	1,247	$580,000	$580,000	$0	51	8	$410,686	$93,282	$503,968	$20,688	$2,663	$0	$0	$0	$0	$0	$0	$0	$580,000	$503,968
	CALABACILLAS - NORTH COORS	0%	25%	75%	7,820	2,876	16,388	6,038	22,425	$7,692,000	$6,356,900	$1,335,100	1,171	89	$9,364,343	$1,065,485	$10,429,828	$440,767	$15,360	$0	$0	$0	$1,112,458	$2,058,862	$476,768	$882,370	$4,767,675	$8,823,696
25% basalt	DOUBLE EAGLE II AIRPORT	0%	0%	100%	0	24	378	34	411	$4,476,000	$2,238,000	$2,238,000	27	0	$242,711	$6,700	$249,411	$9,612	$124	$0	$0	$0	$0	$0	$0	$0	$2,238,000	$2,487,411
	LADERA - MIREHAVEN	0%	25%	75%	2,822	124	5,760	420	6,180	$8,838,209	$7,307,342	$1,530,868	411	6	$3,291,486	$74,144	$3,365,630	$146,165	$838	$0	$0	$0	$1,278,785	$856,887	$548,051	$367,237	$5,480,506	$3,672,373
	LADERA PLAYA	0%	0%	100%	0	0	0	0	0	$0 *	$0	$0	0	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
basalt	MARIPOSA	0%	0%	100%	0	0	2,656	134	2,790	$2,303,854	$1,244,081	$1,059,773	190	2	$2,276,314	$35,484	$2,311,798	$67,082	$0	$0	$0	$0	$0	$0	$0	$0	$1,244,081	$3,371,571
	NW MESA	0%	90%	10%	20,383	2,338	7,350	6,604	13,954	$2,722,000	$1,905,400	$816,600	525	97	$4,200,057	$1,602,368	$5,802,426	$217,742	$13,492	$0	$0	$0	$1,200,402	$4,169,986	$514,458	$1,787,137	$190,540	$661,903
75% basalt	PIEDRAS MARCADAS	0%	15%	85%	5,958	301	8,330	2,364	10,694	$21,673,743	$16,945,627	$4,728,117	595	35	$6,544,764	$573,678	$7,118,443	$220,411	$1,972	$0	$0	$0	$1,779,291	$1,243,889	$762,553	$533,095	$14,403,783	$10,069,575
basalt	RINCONADA	0%	0%	100%	0	9	881	78	959	$5,281,719	$2,640,860	$2,640,860	63	1	$755,100	$20,528	$775,628	$22,423	$46	$0	$0	$0	$0	$0	$0	$0	$2,640,860	$3,416,488
	UPPER AMOLE	0%	0%	100%	135	0	868	77	945	$1,304,180	$877,050	$427,130	62	1	$495,771	$13,606	$509,377	$22,087	$10	$0	$0	$0	$0	$0	$0	$0	$877,050	$936,507
	UPPER CALABACILLAS	0%	0%	100%	0	0	0	0	0	$0	$0	$0	0	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	WEST BLUFF	10%	90%	0%	3,969	2,443	2,707	3,273	5,980	$1,000,000	$800,000	$200,000	193	48	$1,546,571	$577,615	$2,124,186	$84,510	$12,856	$30,000	$56,000	$226,419	$504,000	$1,464,237	$216,000	$627,530	$0	$0
	WEST I-40	0%	50%	50%	2,525	154	5,515	398	5,913	$7,885,000	$7,483,000	$402,000	394	6	$3,151,514	$70,226	$3,221,741	$139,927	$971	$0	$0	$0	$2,619,050	$1,268,309	$1,122,450	$543,561	$3,741,500	$1,811,870
	WEST MESA DIVERSION	5%	95%	0%	1,734	2,309	2,933	2,776	5,709	$9,385,000	$7,508,000	$1,877,000	210	41	$1,676,171	$489,891	$2,166,063	$87,621	$12,010	$140,775	$262,780	$173,998	$4,992,820	$2,688,637	$2,139,780	$1,152,273	$0	$0
SOUTHWEST	AMOLE HUBBELL	10%	40%	50%	15,271	1,552	14,365	4,297	18,661	$24,396,939	$22,530,258	$1,866,680	1,026	63	$8,208,514	$758,206	$8,966,720	$381,237	$9,076	$731,908	$1,577,118	$1,027,340	$6,308,472	$3,033,352	$2,703,631	$1,300,008	$11,265,129	$5,416,700
	AMOLE WESTGATE	0%	0%	100%	200	19	292	37	330	$7,000,000	$7,000,000	$0	21	1	$166,971	$6,591	$173,563	$7,497	$110	$0	$0	$0	$0	$0	$0	$0	$7,000,000	$173,563
	DON FELIPE - RAYMAC - MCCOY	0%	2%	98%	1,996	56	1,097	16	1,113	$6,268,950	$6,268,950	$0	78	0	$626,971	$2,788	$629,760	$27,511	$430	$0	$0	$0	$87,765	$8,817	$37,614	$3,779	$6,143,571	$617,164
	SW MESA	0%	0%	100%	79	70	-2	0	-2	$0 *	$0	$0	0	0	$0	$0	$0	$0	$365	$0	$0	$0	$0	$0	$0	$0	$0	$0
VALLEY	ISLETA	60%	40%	0%	18,705	2,289	2,779	1,042	3,821	$23,868,000	$17,517,600	$6,350,400	198	15	$1,587,743	$183,882	$1,771,625	$74,827	$13,116	$4,296,240	$7,357,392	$3,730,143	$4,904,928	$2,274,167	$2,102,112	$974,643	$0	$0
	SW VALLEY	0%	55%	45%	31,326	4,842	1,911	1,064	2,975	$14,011,499	$12,113,167	$1,898,332	137	16	$1,092,114	$187,703	$1,279,817	$53,255	$27,161	$0	$0	$0	$4,663,569	$1,223,587	$1,998,672	$524,395	$5,450,925	$1,430,167
EAST SIDE																												
NORTHEAST	FAR NE HEIGHTS	2%	73%	25%	66,995	35,639	18,295	14,786	33,081	$26,224,079	$24,601,100	$1,622,979	1,307	217	$10,454,343	$2,609,241	$13,063,584	$533,480	$188,223	$157,344	$344,415	$283,993	$12,571,162	$7,504,834	$5,387,641	$3,216,357	$6,150,275	$3,671,641
	FOOTHILLS	20%	65%	15%	17,225	1,279	859	626	1,484	$100,000	$0	$100,000	61	9	$490,743	$110,400	$601,143	$24,690	$7,815	$6,000	$0	$134,229	$0	$319,020	$0	$136,723	$0	$105,171
	LA CUEVA - CAMINO	0%	45%	55%	3,608	4,271	6,190	6,431	12,621	$20,007,911	$17,993,294	$2,014,617	442	95	$3,537,343	$1,134,900	$4,672,243	$187,860	$22,242	$0	$0	$0	$5,667,888	$2,106,361	$2,429,095	$902,726	$9,896,312	$3,677,773
	NE HEIGHTS	90%	10%	0%	113,029	64,426	-174	22,835	22,661	$64,444,000	$64,444,000	$0	-12	336	$0	$4,029,715	$4,029,715	$113,187	$339,676	$17,399,880	$40,599,720	$3,626,743	$4,511,080	$282,080	$1,933,320	$120,891	$0	$0
	SANDIA	0%	2%	98%	757	1,064	338	1,413	1,751	$480,000	$480,000	$0	24	21	$193,114	$249,335	$442,450	$15,721	$5,531	$0	$0	$0	$6,720	$6,194	$2,880	$2,655	$470,400	$433,601
SOUTHEAST	MESA DEL SOL	0%	0%	100%	2,945	8,213	8,605	182	8,786	$1,812,162	$362,432	$1,449,730	615	3	$4,916,857	$32,082	$4,948,939	$216,048	$42,485	$0	$0	$0	$0	$0	$0	$0	$362,432	$6,398,669
	SE-NEAR HEIGHTS	85%	5%	15%	83,321	57,425	3,091	12,571	15,662	$26,370,000	$26,370,000	$0	221	185	$1,766,143	$2,218,438	$3,984,581	$141,973	$301,521	$6,724,350	$15,690,150	$3,386,894	$922,950	$139,460	$395,550	$59,769	$3,955,500	$597,687
	SOUTH EUBANK	40%	60%	0%	10,685	3,377	1,576	2,996	4,572	$8,973,000	$8,973,000	$0	113	44	$900,629	$528,768	$1,429,396	$54,825	$18,147	$1,076,760	$2,512,440	$571,758	$3,768,660	$600,346	$1,615,140	$257,291	$0	$0
	SOUTH I25 - SUNPORT	10%	50%	40%	2,474	11,267	577	6,023	6,601	$2,800,000	$2,800,000	$0	41	89	$329,914	$1,062,926	$1,392,841	$45,436	$58,167	$84,000	$196,000	$139,284	$980,000	$487,494	$420,000	$208,926	$1,120,000	$557,136
	TIJERAS	0%	15%	85%	5,749	10,237	3,977	114	4,091	$8,803,163	$8,803,163	$0	284	2	$2,272,343	$20,197	$2,292,540	$100,004	$53,099	$0	$0	$0	$924,332	$240,717	$396,142	$103,164	$7,482,689	$1,948,659
VALLEY	DOWNTOWN - OLD TOWN	100%	0%	0%	12,119	28,412	3,304	20,302	23,606	$1,687,467	$1,687,467	$0	236	299	$1,887,800	$3,582,741	$5,470,541	$187,088	$147,106	$506,240	$1,181,227	$5,470,541	$0	$0	$0	$0	$0	$0
	NORTH I-25	75%	25%	0%	7,565	28,118	2,128	12,569	14,697	$4,500,000	$4,500,000	$0	152	185	$1,215,971	$2,218,041	$3,434,013	$117,892	$145,267	$1,012,500	$2,362,500	$2,575,509	$787,500	$600,952	$337,500	$257,551	$0	$0
	NORTH VALLEY	5%	95%	0%	16,848	8,299	4,110	3,131	7,241	$21,487,467	$21,487,467	$0	294	46	$2,348,657	$552,476	$2,901,134	$118,868	$43,917	$322,312	$752,061	$145,057	$14,289,165	$1,929,254	$6,123,928	$826,823	$0	$0
	SE VALLEY	0%	100%	0%	2,984	3,136	456	2,770	3,227	$7,743,733	$4,293,733	$3,450,000	33	41	$260,829	$488,850	$749,679	$25,669	$16,355	$0	$0	$0	$3,005,613	$2,939,775	$1,288,120	$1,259,904	$0	$0
	SOUTH BROADWAY	75%	25%	0%	8,400	6,859	2,604	2,335	4,938	$6,563,000	$3,281,500	$3,281,500	186	34	$1,487,857	$411,971	$1,899,828	$77,110	$35,901	$1,476,675	$1,722,788	$3,147,658	$574,263	$906,732	$246,113	$388,600	$0	$0
	VALLEY	80%	20%	0%	21,379	4,034	2,975	1,423	4,398	$6,520,333	$6,520,333	$0	213	21	$1,700,114	$251,029	$1,951,144	$81,702	$22,291	$1,564,880	$3,651,387	$1,560,915	$912,847	$273,160	$391,220	$117,069	$0	$0
									SUBTOTALS	$360,116,185	$320,773,121	$39,343,064	9,874	2,119	$82,205,661	$26,045,647	$108,251,308	$4,197,645	$1,564,487	$35,529,865	$78,265,978	$26,200,482	$78,373,719	$38,627,111	$33,588,737	$16,554,476	$98,320,625	$64,424,230
																	25-YR O&M****	$14,500,720	$15,360,364								

NOTES

"DOWNTOWN" formerly known as "TES"

* Included as on-site ponding under Minor Costs.

** Costs increase for regions with basalt.

*** 25% density increase for BALANCED and DOWNTOWN alternatives results in reduced acreage development.

**** For GROWTH BASED, the O&M was calculated using gradient assuming the subtotal given is the maximum of the gradient.
For EXISTING BASED, the present annual value was used.

DOWNTOWN SCENARIO TOTALS	a. O&M	b. REHAB
	$29,861,085	$35,529,865

c. DEFICIENCY	PUBLIC	PRIVATE	d. NEW	PUBLIC	PRIVATE	TOTAL b+c+d
$221,467,290	$156,639,697	$64,827,592	$212,888,068	$131,909,362	$80,978,706	**$469,885,222**

Total O&M and REHAB: $65,390,949
Total DEFICIENCY and NEW - PUBLIC: $288,549,059
Total DEFICIENCY and NEW - PRIVATE: $145,806,299

COST ANALYSIS FOR DRAINAGE

Table A.7 Balanced Scenario

Drainage Costs
BALANCED Scenario
December 11, 2000

																			APPORTIONED CAPITAL COSTS								
										MAJOR			MINOR					a. O&M	WITHIN 1960 BOUNDARY			BETWEEN 1960 BOUNDARY & WSA				OUTSIDE WSA	
		%WITHIN 1960 BNDRY	% BETWN 1960 BNDRY & WATER	% OUTSIDE WATER						TOTAL PROJECTS COSTS	PUBLIC COSTS	PRIVATE COSTS	ACRES ADDED		COSTS**			GROWTH BASED $350/acre/yr	EXISTING BASED $350/acre/yr	**b. REHAB**	**c. DEFICIENCY**		**c. DEFICIENCY**		**d. NEW**		**d. NEW**	
													@14 persons per acre	@68 persons per acre	$8K to $12K per acre	$12K to $18K per acre	TOTAL MINOR			30% MAJOR	70% MAJOR	MINOR + 70% MAJOR	70% MAJOR	70% (MAJOR + MINOR)	30% (MAJOR + MINOR)	100% MAJOR	100% (MAJOR + MINOR)
SUBAREA	DRAINAGE BASIN	SVC AREA	SVC AREA	SVC AREA	POP95	EMP95	POP2020	EMP2020	TOT 2020				RESIDENTIAL	BUSINESS	RESIDENTIAL	BUSINESS	COSTS	RES & BUS	RES & BUS	PUBLIC	PUBLIC	PRIVATE	PUBLIC	PRIVATE	PUBLIC	PRIVATE	PUBLIC	PRIVATE
WEST SIDE																												
NORTHWEST	BLACK	0%	0%	100%	1,361	1,175	1,981	4,746	6,727	$1,000,000	$1,000,000	$0	142	70	$1,132,143	$837,547	$1,969,690	$73,960	$6,142	$0	$0	$0	$0	$0	$0	$0	$1,000,000	$1,969,690
basalt	BOCA NEGRA	0%	0%	100%	0	0	1,109	103	1,212	$2,097,927	$2,039,380	$58,547	79	2	$950,400	$27,318	$977,718	$28,251	$0	$0	$0	$0	$0	$0	$0	$0	$2,039,380	$1,036,264
	CABEZON	0%	0%	100%	926	505	229	614	842	$580,000	$580,000	$0	16	9	$130,800	$108,265	$239,065	$8,880	$2,663	$0	$0	$0	$0	$0	$0	$0	$580,000	$239,065
	CALABACILLAS - NORTH COORS	0%	25%	75%	7,820	2,876	10,251	6,297	16,547	$6,457,369	$5,336,564	$1,120,805	732	93	$5,857,429	$1,111,147	$6,968,576	$288,671	$15,360	$0	$0	$0	$933,899	$1,415,642	$400,242	$606,704	$4,002,423	$6,067,036
25% basalt	DOUBLE EAGLE II AIRPORT	0%	0%	100%	0	24	416	2,169	2,585	$4,476,000	$2,238,000	$2,238,000	30	32	$267,300	$430,551	$697,851	$21,557	$124	$0	$0	$0	$0	$0	$0	$0	$2,238,000	$2,935,851
	LADERA - MIREHAVEN	0%	25%	75%	2,822	124	8,832	1,085	9,917	$13,383,987	$11,065,745	$2,318,243	631	16	$5,047,086	$191,409	$5,238,495	$226,393	$838	$0	$0	$0	$1,936,505	$1,322,429	$829,931	$566,755	$8,299,309	$5,667,553
	LADERA PLAYA	0%	0%	100%	0	0	0	0	0	$0 *	$0	$0	0	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
basalt	MARIPOSA	0%	0%	100%	0	0	2,635	148	2,784	$2,299,974	$1,241,986	$1,057,988	188	2	$2,258,957	$39,256	$2,298,213	$66,650	$0	$0	$0	$0	$0	$0	$0	$0	$1,241,986	$3,356,201
	NW MESA	0%	90%	10%	20,383	2,338	4,619	4,171	8,790	$2,722,000	$1,905,400	$816,600	330	61	$2,639,286	$1,012,154	$3,651,439	$136,939	$13,492	$0	$0	$0	$1,200,402	$2,814,865	$514,458	$1,206,371	$190,540	$446,804
75% basalt	PIEDRAS MARCADAS	0%	15%	85%	5,958	301	5,614	2,544	8,158	$20,212,792	$15,803,381	$4,409,411	401	37	$4,411,079	$617,270	$5,028,348	$153,446	$1,972	$0	$0	$0	$1,659,355	$990,965	$711,152	$424,699	$13,432,874	$8,022,095
basalt	RINCONADA	0%	0%	100%	0	9	970	90	1,061	$5,843,780	$2,921,890	$2,921,890	69	1	$831,600	$23,903	$855,503	$24,720	$46	$0	$0	$0	$0	$0	$0	$0	$2,921,890	$3,777,393
	UPPER AMOLE	0%	0%	100%	135	0	2,379	1,014	3,393	$4,684,115	$3,150,028	$1,534,087	170	15	$1,359,257	$178,994	$1,538,251	$64,688	$10	$0	$0	$0	$0	$0	$0	$0	$3,150,028	$3,072,339
	UPPER CALABACILLAS	0%	0%	100%	0	0	0	0	0	$0	$0	$0	0	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	WEST BLUFF	10%	90%	0%	3,969	2,443	1,006	2,035	3,041	$1,000,000	$800,000	$200,000	72	30	$575,000	$359,100	$934,100	$35,630	$12,856	$30,000	$56,000	$107,410	$504,000	$714,483	$216,000	$306,207	$0	$0
	WEST I-40	0%	50%	50%	2,525	154	6,327	433	6,760	$7,885,000	$7,483,000	$402,000	452	6	$3,615,429	$76,429	$3,691,858	$160,404	$971	$0	$0	$0	$2,619,050	$1,432,850	$1,122,450	$614,079	$3,741,500	$2,046,929
	WEST MESA DIVERSION	5%	95%	0%	1,734	2,309	530	18,128	18,658	$9,385,000	$7,508,000	$1,877,000	38	267	$302,829	$3,198,988	$3,501,817	$106,553	$12,010	$140,775	$262,780	$240,786	$4,992,820	$3,576,913	$2,139,780	$1,532,963	$0	$0
SOUTHWEST	AMOLE HUBBELL	10%	40%	50%	15,271	1,552	8,719	12,472	21,191	$24,619,656	$22,735,935	$1,883,721	623	183	$4,982,114	$2,201,021	$7,183,135	$282,164	$9,076	$738,590	$1,591,515	$850,174	$6,366,062	$2,538,720	$2,728,312	$1,088,023	$11,367,968	$4,533,428
	AMOLE WESTGATE	0%	0%	100%	200	19	649	52	700	$7,000,000	$7,000,000	$0	46	1	$370,629	$9,132	$379,761	$16,481	$110	$0	$0	$0	$0	$0	$0	$0	$7,000,000	$379,761
	DON FELIPE - RAYMAC - MCCOY	0%	2%	98%	1,996	56	509	52	561	$5,792,210	$5,792,210	$0	36	1	$290,914	$9,229	$300,144	$12,997	$430	$0	$0	$0	$81,091	$4,202	$34,753	$1,801	$5,676,366	$294,141
	SW MESA	0%	0%	100%	79	70	1,854	682	2,535	$0 *	$0	$0	132	10	$1,059,257	$120,309	$1,179,566	$49,852	$365	$0	$0	$0	$0	$0	$0	$0	$0	$1,179,566
VALLEY	ISLETA	60%	40%	0%	18,705	2,289	2,451	1,319	3,770	$23,868,000	$17,517,600	$6,350,400	175	19	$1,400,400	$232,765	$1,633,165	$68,056	$13,116	$4,296,240	$7,357,392	$3,647,067	$4,904,928	$2,235,398	$2,102,112	$958,028	$0	$0
	SW VALLEY	0%	55%	45%	31,326	4,842	3,729	2,298	6,027	$17,050,000	$14,740,000	$2,310,000	266	34	$2,131,057	$405,476	$2,536,534	$105,060	$27,161	$0	$0	$0	$5,674,900	$1,865,915	$2,432,100	$799,678	$6,633,000	$2,180,940
EAST SIDE																												
NORTHEAST	FAR NE HEIGHTS	2%	73%	25%	66,995	35,639	14,482	12,139	26,622	$25,279,404	$23,714,890	$1,564,514	1,034	179	$8,275,686	$2,142,185	$10,417,871	$424,542	$188,223	$151,676.42	$332,008	$230,261	$12,118,309	$6,122,999	$5,193,561	$2,624,142	$5,928,722	$2,995,596
	FOOTHILLS	20%	65%	15%	17,225	1,279	811	627	1,438	$100,000	$0	$100,000	58	9	$463,371	$110,629	$574,001	$23,499	$7,815	$6,000.00	$0	$128,800	$0	$306,670	$0	$131,430	$0	$101,100
	LA CUEVA - CAMINO	0%	45%	55%	3,608	4,271	5,569	5,633	11,203	$19,083,062	$17,161,569	$1,921,493	398	83	$3,182,486	$994,129	$4,176,615	$168,229	$22,242	$0.00	$0	$0	$5,405,894	$1,920,904	$2,316,812	$823,245	$9,438,863	$3,353,959
	NE HEIGHTS	90%	10%	0%	113,029	64,426	1,074	11,843	12,917	$64,444,000	$64,444,000	$0	77	174	$613,800	$2,089,924	$2,703,724	$87,810	$339,676	$17,399,880.00	$40,599,720	$2,433,351	$4,511,080	$189,261	$1,933,320	$81,112	$0	$0
	SANDIA	0%	2%	98%	757	1,064	331	2,183	2,514	$480,000	$480,000	$0	24	32	$188,914	$385,262	$574,176	$19,502	$5,531	$0.00	$0	$0	$6,720	$8,038	$2,880	$3,445	$470,400	$562,693
SOUTHEAST	MESA DEL SOL	0%	0%	100%	2,945	8,213	18,650	10,441	29,091	$6,000,000	$1,200,000	$4,800,000	1,332	154	$10,657,143	$1,842,547	$12,499,690	$519,991	$42,485	$0.00	$0	$0	$0	$0	$0	$0	$1,200,000	$17,299,690
	SE-NEAR HEIGHTS	85%	5%	15%	83,321	57,425	10,524	11,438	21,962	$26,370,000	$26,370,000	$0	752	168	$6,013,686	$2,018,515	$8,032,200	$321,972	$301,521	$6,724,350.00	$15,690,150	$6,827,370	$922,950	$281,127	$395,550	$120,483	$3,955,500	$1,204,830
	SOUTH EUBANK	40%	60%	0%	10,685	3,377	1,572	2,687	4,259	$8,973,000	$8,973,000	$0	112	40	$898,229	$474,115	$1,372,343	$53,126	$18,147	$1,076,760.00	$2,512,440	$548,937	$3,768,660	$576,384	$1,615,140	$247,022	$0	$0
	SOUTH I25 - SUNPORT	10%	50%	40%	2,474	11,267	-12	4,541	4,529	$2,800,000	$2,800,000	$0	-1	67	$0	$801,265	$801,265	$23,081	$58,167	$84,000.00	$196,000	$80,126	$980,000	$280,443	$420,000	$120,190	$1,120,000	$320,506
	TIJERAS	0%	15%	85%	5,749	10,237	6,734	2,561	9,295	$20,000,000	$20,000,000	$0	481	38	$3,847,771	$451,924	$4,299,695	$181,521	$53,099	$0.00	$0	$0	$2,100,000	$451,468	$900,000	$193,486	$17,000,000	$3,654,741
VALLEY	DOWNTOWN - OLD TOWN	100%	0%	0%	12,119	28,412	9,759	4,788	14,547	$1,687,467	$1,687,467	$0	697	70	$5,576,571	$844,906	$6,421,477	$268,618	$147,106	$506,240.00	$1,181,227	$6,421,477	$0	$0	$0	$0	$0	$0
	NORTH I-25	75%	25%	0%	7,565	28,118	1,447	9,005	10,452	$4,500,000	$4,500,000	$0	103	132	$826,971	$1,589,109	$2,416,080	$82,529	$145,267	$1,012,500.00	$2,362,500	$1,812,060	$787,500	$422,814	$337,500	$181,206	$0	$0
	NORTH VALLEY	5%	95%	0%	16,848	8,299	2,902	3,371	6,273	$21,487,467	$21,487,467	$0	207	50	$1,658,086	$594,935	$2,253,021	$89,894	$43,917	$322,312.00	$752,061	$112,651	$14,289,165	$1,498,259	$6,123,928	$642,111	$0	$0
	SE VALLEY	0%	100%	0%	2,984	3,136	693	2,267	2,960	$7,743,733	$4,293,733	$3,450,000	49	33	$395,857	$400,138	$795,995	$28,989	$16,355	$0.00	$0	$0	$3,005,613	$2,972,197	$1,288,120	$1,273,799	$0	$0
	SOUTH BROADWAY	75%	25%	0%	8,400	6,859	1,501	2,113	3,614	$6,563,000	$3,281,500	$3,281,500	107	31	$857,657	$372,874	$1,230,531	$48,398	$35,901	$1,476,675.00	$1,722,788	$2,645,686	$574,263	$789,605	$246,113	$338,402	$0	$0
	VALLEY	80%	20%	0%	21,379	4,034	4,204	1,308	5,511	$6,520,333	$6,520,333	$0	300	19	$2,402,143	$230,771	$2,632,913	$111,825	$22,291	$1,564,880.00	$3,651,387	$2,106,331	$912,847	$368,608	$391,220	$157,975	$0	$0
									SUBTOTALS	$382,389,277	$337,773,078	$44,616,199	10,361	2,168	$85,471,336	$26,533,489	$112,004,825	$4,384,877	$1,564,487	$35,530,878	$78,267,968	$28,192,488	$80,256,013	$35,101,159	$34,395,434	$15,043,354	$112,628,748	$76,698,170
																	25-YR O&M***	$15,147,512	$15,360,364								

NOTES

"BALANCED" formerly known as "COUNTY"

* Included as on-site ponding under Minor Costs.

** Costs increase for regions with basalt.

*** 25% density increase for BALANCED and DOWNTOWN alternatives results in reduced acreage development.

*** For GROWTH BASED, the O&M was calculated using gradient assuming the subtotal given is the maximum of the gradient.
For EXISTING BASED, the present annual value was used.

	a. O&M	b. REHAB
BALANCED SCENARIO TOTALS	$30,507,877	$35,530,878

c. DEFICIENCY	PUBLIC	PRIVATE	d. NEW	PUBLIC	PRIVATE	TOTAL b+c+d
$221,817,627	$158,523,981	$63,293,646	$238,765,706	$147,024,182	$91,741,524	**$496,114,212**

Total O&M and REHAB: $66,038,755
Total DEFICIENCY and NEW - PUBLIC: $305,548,163
Total DEFICIENCY and NEW - PRIVATE: $155,035,170

COST ANALYSIS FOR DRAINAGE

Table A.8 Trend Scenario

Drainage Costs
TREND Scenario
December 11, 2000

																		APPORTIONED CAPITAL COSTS								
										MAJOR			MINOR					a. O&M	WITHIN 1960 BOUNDARY			BETWEEN 1960 BOUNDARY & WSA				OUTSIDE WSA	
		%WITHIN 1960 BNDRY	% BETWN 1960 BNDRY & WATER	% OUTSIDE WATER						TOTAL PROJECTS COSTS	PUBLIC COSTS	PRIVATE COSTS	ACRES ADDED @11 persons per acre	ACRES ADDED @54 persons per acre	COSTS** $8K to $12K per acre	COSTS** $12K to $18K per acre	TOTAL MINOR COSTS	GROWTH BASED $350/acre/yr	EXISTING BASED $350/acre/yr	b. REHAB 30% MAJOR	c. DEFICIENCY 70% MAJOR	c. DEFICIENCY MINOR + 70% MAJOR	c. DEFICIENCY 70% MAJOR	d. NEW 70% (MAJOR + MINOR)	d. NEW 30% MAJOR	d. NEW 30% (MAJOR + MINOR)	d. NEW 100% MAJOR	d. NEW 100% (MAJOR + MINOR)
SUBAREA	DRAINAGE BASIN	SVC AREA	SVC AREA	SVC AREA	POP95	EMP95	POP2020	EMP2020	TOT 2020				RESIDENTIAL	BUSINESS	RESIDENTIAL	BUSINESS		RES & BUS	RES & BUS	PUBLIC	PUBLIC	PRIVATE	PUBLIC	PRIVATE	PUBLIC	PRIVATE	PUBLIC	PRIVATE
WEST SIDE																													
NORTHWEST	BLACK	0%	0%	100%	1,361	1,175	2,995	5,107	8,102	$1,000,000	$1,000,000	$0	272	95	$2,178,218	$1,134,822	$3,313,040	$128,396	$7,736	$0	$0	$0	$0	$0	$0	$0	$1,000,000	$3,313,040
basalt	BOCA NEGRA	0%	0%	100%	0	0	1,141	103	1,244	$2,150,000	$2,090,000	$60,000	104	2	$1,244,945	$34,400	$1,279,345	$36,980	$0	$0	$0	$0	$0	$0	$0	$0	$2,090,000	$1,339,345
	CABEZON	0%	0%	100%	926	505	579	681	1,260	$580,000	$580,000	$0	53	13	$421,164	$151,400	$572,564	$22,842	$3,355	$0	$0	$0	$0	$0	$0	$0	$580,000	$572,564
	CALABACILLAS - NORTH COORS	0%	25%	75%	7,820	2,876	15,568	6,837	22,405	$7,687,789	$6,353,420	$1,334,369	1,415	127	$11,322,218	$1,519,389	$12,841,607	$539,663	$19,350	$0	$0	$0	$1,111,848	$2,480,796	$476,506	$1,063,198	$4,765,065	$10,631,982
25% basalt	DOUBLE EAGLE II AIRPORT	0%	0%	100%	0	24	1,693	3,647	5,340	$4,476,000	$2,238,000	$2,238,000	154	68	$1,384,977	$911,825	$2,296,802	$77,500	$156	$0	$0	$0	$0	$0	$0	$0	$2,238,000	$4,534,802
	LADERA - MIREHAVEN	0%	25%	75%	2,822	124	9,242	3,911	13,153	$17,320,000	$14,320,000	$3,000,000	840	72	$6,721,418	$869,033	$7,590,452	$319,409	$1,058	$0	$0	$0	$2,506,000	$1,853,329	$1,074,000	$794,284	$10,740,000	$7,942,839
	LADERA PLAYA	0%	0%	100%	0	0	1,265	811	2,075	$0 *	$0	$0	115	15	$919,855	$180,133	$1,099,988	$45,498	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,099,988
basalt	MARIPOSA	0%	0%	100%	0	0	2,940	153	3,093	$2,500,000	$1,350,000	$1,150,000	267	3	$3,207,055	$51,100	$3,258,155	$94,533	$0	$0	$0	$0	$0	$0	$0	$0	$1,350,000	$4,408,155
	NW MESA	0%	90%	10%	20,383	2,338	6,234	4,321	10,555	$2,722,000	$1,905,400	$816,600	567	80	$4,533,855	$1,320,397	$5,854,252	$226,365	$17,009	$0	$0	$0	$1,200,402	$4,202,637	$514,458	$1,801,130	$190,540	$667,085
75% basalt	PIEDRAS MARCADAS	0%	15%	85%	5,958	301	8,906	3,244	12,151	$22,513,000	$17,601,800	$4,911,200	810	60	$8,906,300	$991,360	$9,897,660	$304,411	$2,490	$0	$0	$0	$1,848,189	$1,554,930	$792,081	$666,399	$14,961,530	$12,587,531
basalt	RINCONADA	0%	0%	100%	0	9	999	90	1,089	$6,000,000	$3,000,000	$3,000,000	91	2	$1,089,327	$30,100	$1,119,427	$32,357	$58	$0	$0	$0	$0	$0	$0	$0	$3,000,000	$4,119,427
	UPPER AMOLE	0%	0%	100%	135	0	3,281	3,145	6,425	$8,870,000	$5,965,000	$2,905,000	298	58	$2,385,818	$698,800	$3,084,618	$124,761	$12	$0	$0	$0	$0	$0	$0	$0	$5,965,000	$5,989,618
	UPPER CALABACILLAS	0%	0%	100%	0	0	1,054	676	1,730	$2,250,000	$1,575,000	$675,000	96	13	$766,545	$150,111	$916,657	$37,915	$0	$0	$0	$0	$0	$0	$0	$0	$1,575,000	$1,591,657
	WEST BLUFF	10%	90%	0%	3,969	2,443	1,536	1,858	3,394	$1,000,000	$800,000	$200,000	140	34	$1,116,982	$412,944	$1,529,926	$60,912	$16,192	$30,000	$56,000	$166,993	$504,000	$1,089,854	$216,000	$467,080	$0	$0
	WEST I-40	0%	50%	50%	2,525	154	6,744	1,692	8,435	$7,885,000	$7,483,000	$402,000	613	31	$4,904,400	$375,911	$5,280,311	$225,532	$1,225	$0	$0	$0	$2,619,050	$1,988,809	$1,122,450	$852,347	$3,741,500	$2,841,156
	WEST MESA DIVERSION	5%	95%	0%	1,734	2,309	637	2,781	3,418	$9,385,000	$7,508,000	$1,877,000	58	51	$463,273	$617,911	$1,081,184	$38,291	$15,125	$140,775	$262,780	$119,754	$4,992,820	$1,967,192	$2,139,780	$843,082	$0	$0
SOUTHWEST	AMOLE HUBBELL	10%	40%	50%	15,271	1,552	16,161	6,556	22,717	$24,754,000	$22,860,000	$1,894,000	1,469	121	$11,753,273	$1,456,967	$13,210,239	$556,701	$11,444	$742,620	$1,600,200	$1,453,604	$6,400,800	$4,229,187	$2,743,200	$1,812,509	$11,430,000	$7,552,120
	AMOLE WESTGATE	0%	0%	100%	200	19	874	78	952	$7,000,000	$7,000,000	$0	79	1	$635,418	$17,322	$652,740	$28,305	$139	$0	$0	$0	$0	$0	$0	$0	$7,000,000	$652,740
	DON FELIPE - RAYMAC - MCCOY	0%	2%	98%	1,996	56	4,274	354	4,628	$9,307,000	$9,307,000	$0	389	7	$3,108,509	$78,644	$3,187,154	$138,291	$544	$0	$0	$0	$130,298	$44,620	$55,842	$19,123	$9,120,860	$3,123,410
	SW MESA	0%	0%	100%	79	70	3,878	1,249	5,127	$0 *	$0	$0	353	23	$2,820,218	$277,511	$3,097,729	$131,479	$460	$0	$0	$0	$0	$0	$0	$0	$0	$3,097,729
VALLEY	ISLETA	60%	40%	0%	18,705	2,289	203	820	1,023	$23,868,000	$17,517,600	$6,350,400	18	15	$147,782	$182,267	$330,048	$11,782	$16,535	$4,296,240	$7,357,392	$2,865,197	$4,904,928	$1,870,526	$2,102,112	$801,654	$0	$0
	SW VALLEY	0%	55%	45%	31,326	4,842	3,157	2,074	5,231	$16,257,174	$14,054,589	$2,202,585	287	38	$2,295,855	$460,856	$2,756,710	$113,885	$34,233	$0	$0	$0	$5,411,017	$1,909,329	$2,319,007	$818,284	$6,324,565	$2,231,683
EAST SIDE																													
NORTHEAST	FAR NE HEIGHTS	2%	73%	25%	66,995	35,639	16,184	18,004	34,188	$26,386,000	$24,753,000	$1,633,000	1,471	333	$11,770,000	$4,000,933	$15,770,933	$631,631	$237,087	$158,316	$346,542	$338,281	$12,648,783	$8,893,410	$5,420,907	$3,811,461	$6,188,250	$4,350,983
	FOOTHILLS	20%	65%	15%	17,225	1,279	811	719	1,530	$100,000	$0	$100,000	74	13	$589,636	$159,800	$749,436	$30,457	$9,858	$6,000	$0	$163,887	$0	$386,494	$0	$165,640	$0	$127,415
	LA CUEVA - CAMINO	0%	45%	55%	3,608	4,271	5,857	7,151	13,008	$20,260,000	$18,220,000	$2,040,000	532	132	$4,259,818	$1,589,089	$5,848,907	$232,715	$28,012	$0	$0	$0	$5,739,300	$2,485,006	$2,459,700	$1,065,002	$10,021,000	$4,338,899
	NE HEIGHTS	90%	10%	0%	113,029	64,426	-1,265	15,532	14,267	$64,444,000	$64,444,000	$0	-115	288	$0	$3,451,489	$3,451,489	$60,415	$427,848	$17,399,880	$40,599,720	$3,106,340	$4,511,080	$241,604	$1,933,320	$103,545	$0	$0
	SANDIA	0%	2%	98%	757	1,064	376	2,296	2,672	$480,000	$480,000	$0	34	43	$273,309	$510,211	$783,520	$26,838	$6,966	$0	$0	$0	$6,720	$10,969	$2,880	$4,701	$470,400	$767,850
SOUTHEAST	MESA DEL SOL	0%	0%	100%	2,945	8,213	10,368	6,138	16,506	$3,404,381	$680,876	$2,723,505	943	114	$7,540,509	$1,364,000	$8,904,509	$369,681	$53,502	$0	$0	$0	$0	$0	$0	$0	$680,876	$11,628,014
	SE-NEAR HEIGHTS	85%	5%	15%	83,321	57,425	-491	9,145	8,654	$26,370,000	$26,370,000	$0	-45	169	$0	$2,032,122	$2,032,122	$43,659	$379,773	$6,724,350	$15,690,150	$1,727,304	$922,950	$71,124	$395,550	$30,482	$3,955,500	$304,818
	SOUTH EUBANK	40%	60%	0%	10,685	3,377	1,571	2,982	4,553	$8,973,000	$8,973,000	$0	143	55	$1,142,618	$662,667	$1,805,285	$69,317	$22,862	$1,076,760	$2,512,440	$722,114	$3,768,660	$758,220	$1,615,140	$324,951	$0	$0
	SOUTH I25 - SUNPORT	10%	50%	40%	2,474	11,267	-12	6,434	6,422	$2,800,000	$2,800,000	$0	-1	119	$0	$1,429,678	$1,429,678	$41,331	$73,250	$84,000	$196,000	$142,968	$980,000	$500,387	$420,000	$214,452	$1,120,000	$571,871
	TIJERAS	0%	15%	85%	5,749	10,237	4,433	1,783	6,216	$13,375,867	$13,375,867	$0	403	33	$3,224,073	$396,222	$3,620,295	$152,610	$66,871	$0	$0	$0	$1,404,466	$380,131	$601,914	$162,913	$11,369,487	$3,077,251
VALLEY	DOWNTOWN - OLD TOWN	100%	0%	0%	12,119	28,412	-151	3,849	3,699	$1,687,467	$1,687,467	$0	-14	71	$0	$855,433	$855,433	$20,155	$185,256	$506,240	$1,181,227	$855,433	$0	$0	$0	$0	$0	$0
	NORTH I-25	75%	25%	0%	7,565	28,118	1,248	11,747	12,996	$4,500,000	$4,500,000	$0	113	218	$907,964	$2,610,544	$3,518,508	$115,864	$182,936	$1,012,500	$2,362,500	$2,638,881	$787,500	$615,739	$337,500	$263,888	$0	$0
	NORTH VALLEY	5%	95%	0%	16,848	8,299	3,801	4,126	7,927	$21,487,467	$21,487,467	$0	346	76	$2,764,509	$916,822	$3,681,331	$147,688	$55,319	$322,312	$752,061	$184,067	$14,289,165	$2,448,085	$6,123,928	$1,049,179	$0	$0
	SE VALLEY	0%	100%	0%	2,984	3,136	538	3,046	3,584	$7,743,733	$4,293,733	$3,450,000	49	56	$391,236	$676,867	$1,068,103	$36,859	$20,597	$0	$0	$0	$3,005,613	$3,162,672	$1,288,120	$1,355,431	$0	$0
	SOUTH BROADWAY	75%	25%	0%	8,400	6,859	141	2,232	2,373	$6,563,000	$3,281,500	$3,281,500	13	41	$102,218	$496,067	$598,285	$18,941	$45,217	$1,476,675	$1,722,788	$2,171,501	$574,263	$678,962	$246,113	$290,984	$0	$0
	VALLEY	80%	20%	0%	21,379	4,034	1,893	1,261	3,154	$6,520,333	$6,520,333	$0	172	23	$1,376,873	$280,167	$1,657,039	$68,410	$28,091	$1,564,880	$3,651,387	$1,325,632	$912,847	$231,986	$391,220	$99,422	$0	$0
									SUBTOTALS	$392,620,212	$346,376,053	$46,244,159	12,606	2,715	$106,670,168	$33,355,315	$140,025,483	$5,362,376	$1,970,567	$35,541,548	$78,291,186	$17,981,955	$81,180,699	$44,055,997	$34,791,728	$18,881,141	$119,877,574	$103,463,973
																	25-YR O&M***	$18,524,272	$19,347,321							

NOTES

"TREND" formerly known as "COG"

* Included as on-site ponding under Minor Costs.

** Costs increase for regions with basalt.

*** For GROWTH BASED, the O&M was calculated using gradient assuming the subtotal given is the maximum of the gradient.
For EXISTING BASED, the present annual value was used.

TREND SCENARIO TOTALS	a. O&M	b. REHAB
	$37,871,594	$35,541,548

c. DEFICIENCY	PUBLIC	PRIVATE	d. NEW	PUBLIC	PRIVATE	TOTAL b+c+d
$221,509,837	$159,471,885	$62,037,952	$277,014,416	$154,669,302	$122,345,114	**$534,065,802**

Total O&M and REHAB: $73,413,142
Total DEFICIENCY and NEW - PUBLIC: $314,141,187
Total DEFICIENCY and NEW - PRIVATE: $184,383,066

Table A.9. - Current Population and Employment Parallel Lines Cost Analysis by Scenario

CURRENT-Parallel Lines Cost Analysis															
Basin	Sub-Basin	BASE Population	BASE Employment	Pipe Capacity (mgd)	Sub-Basin Demand (mgd)	Upgradient Demand (mgd)	Total Sub-Basin Demand (mgd)	Difference (Cap.-Tot. Dmd) (mgd)	Upgradient Sub-Basins	Current Flow Deficiency (mgd)	Average Slope (%)	Pipe Diameter (in)	Pipe Length (ft)	Cost ($)	
Academy	AC-01	20682	21925	10.95	8.17	0	8.17	2.78			0.0057	0.0	11900	$	-
Academy	AC-02	13938	5571	6.44	4.05	0	4.05	2.39							
Academy	AC-03	1862	14061	24.1	3.46	12.22	15.67	8.43	AC-01, AC-02						
Campus	CA-01	16565	9524	4.5	5.26	0	5.26	-0.76		0.76	0.0053	8.9	5900	$	393,312
Campus	CA-02	22328	14770	76.56	7.19	28.21	35.40	41.16	FH-03, FH-04, FH-05, NE-01, NE-02, NE-03, NE-04, NE-05, NE-06, SH-01						
Campus	CA-03	25283	17090	16.36	8.09	11.38	19.48	-3.12	CA-01, CA-04	3.12	0.002	18.1	1050	$	142,704
Campus	CA-04	8454	22112	65.82	6.13	43.22	49.34	16.48	AC-01, AC-02, AC-03, ED-01, NW-05, UP-01, UP-02, UP-03, UP-04, UP-05						
Campus	CA-05	6155	3757	25.9	2.23	0	2.23	23.67							
Campus	CA-06	3971	1545	3.98	1.32	0	1.32	2.66							
Coors	CO-01	11064	1162	9.76	2.66	3.85	6.50	3.26	NMU-03, WF-01, WF-04		0.0017	0.0	8200	$	-
Coors	CO-02	10023	3023	25.61	2.83	8.72	11.55	14.06	CO-01, NMU-01, NMU-02, NMU-03, RV-01, RV-02, WF-01, WF-03, WF-04		0.0026	0.0	12900	$	-
Coors	CO-03	12452	3383	30.24	3.36	11.55	14.91	15.33	CO-01, C0-02, NMU-01, NMU-02, NMU-03, RV-01, RV-02, WF-01, WF-03, WF-04		0.0015	0.0	12900	$	-
Coors	CO-04	12752	1157	20.76	2.98	1.74	4.71	16.05	WF-02						
Coors	CO-05	10190	635	nda	2.38	0	2.38								
Edith	ED-01	1398	3399	43.56	1.18	42.03	43.22	0.34	AC-01, AC-02, AC-03, NW-05, UP-01, UP-02, UP-03, UP-04, UP-05		0.0045	0.0	8400	$	-
Edith	ED-02	2955	1227	1.72	1.03	2.12	3.15	-1.43	NW-03, NW-04	1.43	0.0009	15.7	12800	$	1,508,073
Edith	ED-03	7811	1488	24.33	2.09	4.62	6.71	17.62	NW-01, NW-02						
Edith	ED-04	7023	840	3.39	1.80	0	1.80	1.59							
Edith	ED-05	3053	2154	1.44	1.26	0	1.26	0.18			0.0015	0.0	6100	$	-
Edith	ED-06	8351	15717	16.37	4.94	12.92	17.86	-1.49	ED-02, ED-03, ED-04, ED-05, NW-01, NW-02, NW-03, NW-04	1.49	0.0008	16.3	4800	$	587,136
Edith	ED-07	1137	9932	48.77	2.50	80.55	83.06	-34.29	AC-01,AC-02,AC-03,CA-01,CA-03,CA-04,ED-01, ED-02,ED-03,ED-04,ED-05,ED-06,NW-01, NW-02,NW-03,NW-04,NW-05,UP-01,UP-02,UP-03,UP-04,UP-05	34.29	0.0069	35.3	8400	$	2,223,641
Edith	ED-08	1083	313	0.71	0.39	0	0.39	0.32							
Four Hills	FH-01	1354	77	4.9	0.40	0.00	0.40	4.50							
Four Hills	FH-02	3796	293	2.42	1.00	0	1.00	1.42							
Four Hills	FH-03	7251	2597	2.64	2.21	0	2.21	0.43							
Four Hills	FH-04	5862	2286	1.69	1.87	0	1.87	-0.18		0.18	0.005	5.2	5000	$	196,346
Four Hills	FH-05	315	574	71.19	0.26	28.58	28.85	42.34	FH-03, FH-04, NE-01, NE-02, NE-03, NE-04, NE-05, NE-06, NE-08, SH-01						
Four Hills	FH-06	5546	4142	61.28	2.19	36.04	38.22	23.06	CA-02, FH-03, FH-04, FH-05, NE-01, NE-02, NE-03, NE-04, NE-05, NE-06, NE-08, SH-01						
Isleta	IS-01	9551	1295	7.23	2.39	0.39	2.78	4.45	ED-08						
Isleta	IS-02	7456	1261	10.77	1.97	2.78	4.75	6.02	ED-08, IS-01						
Isleta	IS-03	9623	1782	27.41	2.50	21.39	23.90	3.51	CO-1,CO-2,CO-3,ED-8,IS-1,IS-2,NMU-1,NMU-2,NMU-3,RV-1,RV-2,WF-1,WF-2, WF-3, WF-4		0.0005	0.0	12500	$	-
Isleta	IS-04	2413	560	0.76	0.76	0	0.76	0.00			0.0008	0.0	1400	$	-
Kirtland	KI-01	11127	15715	9.01	5.43	1.40	6.83	2.18	FH-01, FH-02						
Kirtland	KI-02	1723	5989	51.83	1.81	45.45	47.26	4.57	CA-02, FH-01, FH-02, FH-03, FH-04, FH-05, FH-06, KI-01, KI-03, NE-01, NE-02, NE-03, NE-04, NE-05, NE-06, NE-08, SH-01		0.0077	0.0	5100	$	-
Kirtland	KI-03	375	1015	83.04	0.39	39.62	40.02	43.02	CA-02, FH-01, FH-02, FH-03, FH-04, FH-05, FH-06, NE-01, NE-02, NE-03, NE-04, NE-05, NE-06, NE-08, SH-01						
Mesadelsol	ME-01	41	95	nda	0.05	0	0.05								
NM Utilities	NMU-01	1273	919	12.71	0.58	0	0.58	12.13							
NM Utilities	NMU-02	528	636	36.25	0.33	0.58	0.92	35.33	NMU-01						
NM Utilities	NMU-03	11543	2758	13.66	3.06	0.92	3.98	9.68	NMU-01, NMU-02						
Northeast	NE-01	19463	3028	5.17	4.57	0	4.57	0.60							
Northeast	NE-02	9399	3354	39.77	2.77	21.74	24.51	15.26	NE-01, NE-03, NE-04, NE-05, NE-06, NE-08, SH-01						
Northeast	NE-03	14814	3187	9.26	3.75	0	3.75	5.51							
Northeast	NE-04	20813	6043	3.45	5.36	0	5.36	-1.91		1.91	0.0027	14.3	15600	$	1,667,298
Northeast	NE-05	4192	1249	39.77	1.30	15.23	16.53	23.24	NE-03, NE-04, NE-06, SH-01						
Northeast	NE-06	23060	2971	15.44	5.20	1.55	6.75	8.69	NE-08, SH-01						
Northeast	NE-07	1704	398	nda	0.56	0	0.56								
Northeast	NE-08	2180	264	nda	0.64	0	0.64								
NW Valley	NW-01	9232	2284	11	2.53	2.09	4.62	6.38	NW-02						
NW Valley	NW-02	6193	3057	14.5	2.09	0	2.09	12.41							
NW Valley	NW-03	2793	2841	0.56	1.36	0	1.36	-0.80		0.80	0.0013	11.8	5700	$	504,140
NW Valley	NW-04	2142	848	1.23	0.77	0	0.77	0.46							
NW Valley	NW-05	8908	8925	2.14	3.77	0	3.77	-1.63		1.63	0.0081	10.9	9900	$	811,421

Table A.9. - Current Population and Employment Parallel Lines Cost Analysis by Scenario

CURRENT-Parallel Lines Cost Analysis														
Basin	Sub-Basin	BASE Population	BASE Employment	Pipe Capacity (mgd)	Sub-Basin Demand (mgd)	Upgradient Demand (mgd)	Total Sub-Basin Demand (mgd)	Difference (Cap.-Tot. Dmd) (mgd)	Upgradient Sub-Basins	Current Flow Deficiency (mgd)	Average Slope (%)	Pipe Diameter (in)	Pipe Length (ft)	Cost ($)
Riverview	RV-01	4618	221	6.38	1.16	0.99	2.15	4.23	NMU-01, NMU-02, RV-02					
Riverview	RV-02	174	19	nda	0.07	0	0.07							
Sandia Hts	SH-01	3388	300	nda	0.92	0	0.92							
Southeast	SE-01	755	812	nda	0.44	0	0.44							
Southeast	SE-02	931	742	51.83	0.46	47.40	47.86	3.97	CA-02,FH-01,FH-02,FH-03,FH-04,FH-05,FH-06,KI-01,KI-02,KI-03,NE-01,NE-02,NE-03, NE-04,NE-05,NE-06,NE-08, SH-01,TJ-01		0.0077	0.0	9900	$ -
Southeast	SE-03	280	1461	77.89	0.48	1.99	2.48	75.41	TJ-02, TJ-03, TJ-04					
Southeast	SE-04	367	280	19.39	0.20	83.89	84.09	-64.70	AC-01,AC-02,AC-03,CA-01,CA-03,CA-04,ED-01,ED-02,ED-03,ED-04,ED-05,ED-06,ED-07,NW-01, NW-02,NW-03,NW-04,NW-05,TJ-05, UP-01,UP-02,UP-03,UP-04,UP-05	64.70	0.0006	70.8	11100	$ 5,893,734
Tijeras	TJ-01	81	333	51.83	0.14	46.62	46.76	5.07	CA-02,FH-01, FH-02, FH-03, FH-04, FH-05, FH-06, KI-01, KI-02, KI-03, NE-01, NE-02, NE-03, NE-04, NE-05, NE-06, SH-01					
Tijeras	TJ-02	2	1361	6.58	0.39	0	0.39	6.19						
Tijeras	TJ-03	1	906	1.62	0.27	0	0.27	1.35						
Tijeras	TJ-04	2775	2733	57.61	1.33	0.00	1.33	56.28						
Tijeras	TJ-05	2365	932	78.22	0.84	83.06	83.89	-5.67	AC-01,AC-02,AC-03,CA-01,CA-03,CA-04,ED-01,ED-02,ED-03,ED-04,ED-05,ED-06,ED-07,NW-01, NW-02,NW-03,NW-04,NW-05,UP-01,UP-02,UP-03,UP-04,UP-05	5.67	0.0022	22.3	7200	$ 1,202,551
Tijeras	TJ-06	804	185	3.63	0.29	0	0.29	3.34						
Uptown	UP-01	23649	12890	8.95	7.08	0	7.08	1.87						
Uptown	UP-02	1108	5721	22.1	1.63	19.44	21.07	1.03	AC-01, AC-02, AC-03, NW-05		0.0006	0.0	4500	$ -
Uptown	UP-03	9848	17322	11.99	5.50	1.32	6.82	5.17	CA-06					
Uptown	UP-04	14291	8801	21.09	4.72	12.59	17.31	3.78	UP-01, UP-03					
Uptown	UP-05	6307	10847	42	3.66	38.37	42.03	-0.03	AC-01, AC-02, AC-03, NW-05, UP-01, UP-02, UP-03, UP-04	0.03	0.0011	3.6	4500	$ 119,882
W Fringe	WF-01	2918	172	nda	0.78	0	0.78							
W Fringe	WF-02	6382	1179	8.61	1.74	0	1.74	6.87						
W Fringe	WF-03	215	0	nda	0.07	0	0.07							
W Fringe	WF-04	0	0	nda	0.00	0	0.00							
												TOTAL		$ 15,250,237

Table A.10. Capital Cost Analysis by Scenario

TREND SCENARIO

Capital Cost Analysis - 1998 Dollars

Basin	Sub-Basin	Trend Population Increase	Trend Employment Increase	Trend Population 2020	Trend Employment 2020	PERCENTAGE OF TOTAL In 1960	In Srv. Area	Out Srv. Area	Vacant Parcel Count	Vacant Parcel Count with Sewer Connection	Percent of Vacant Parcels Served by Sewer	CAPITAL 2020 NEEDS Service Lines $	Parallel Lines $	Master Plan Sewer Lines $	Small Collection Lines $	Lift Station & Odor Control $	Treatment Plant $	Rehab./ Replacement $	Septic Tank $	Total Capital Costs By Coverage Total	In 1960	In Srv. Area	Out Srv. Area
Academy	AC-01	6633	21580	27315	43505	0	100	0	1517	123	8.1%	$ 15,399,723	$ 1,107,746	$ 0	$ 8,830,669	$ 0	$7,307,167	$ 18,601,790		$ 51,247,095	$ 0	$ 51,247,095	$ 0
Academy	AC-02	840	613	14778	6184	0	100	0	27	4	14.8%	$ 735,218	$ 0	$ 0	$ 0	$ 0	$376,327	$ 8,517,434		$ 9,628,979	$ 0	$ 9,628,979	$ 0
Academy	AC-03	1542	9529	3404	23590	0	100	0	371	19	5.1%	$ 6,239,389	$ 0	$ 0	$ 3,465,223	$ 0	$2,867,389	$ 6,951,823		$ 19,523,823	$ 0	$ 19,523,823	$ 0
ACADEMY TOTAL		**9015**	**31722**	**45497**	**73279**							**$ 22,374,330**	**$ 1,107,746**	**$ 0**	**$ 12,295,892**	**$ 0**	**$10,550,883**	**$ 34,071,047**		**$ 80,399,898**	**$ 0**	**$ 80,399,898**	**$ 0**
Campus	CA-01	-199	989	16366	10513	90	0	10	53	12	22.6%	$ 363,012	$ 25,745	$ 0	$ 0	$ 0	$204,610	$ 11,390,197		$ 11,983,564	$ 10,785,208	$ 0	$ 1,198,356
Campus	CA-02	-445	560	21883	15330	100	0	0	150	26	17.3%	$ 56,470	$ 0	$ 0	$ 0	$ 0	$29,785	$ 16,196,616		$ 16,282,870	$ 16,282,870	$ 0	$ 0
Campus	CA-03	-344	5787	24939	22877	85	0	15	291	71	24.4%	$ 2,444,300	$ 32,228	$ 0	$ 0	$ 0	$1,409,737	$ 18,499,628		$ 22,385,893	$ 19,028,009	$ 0	$ 3,357,884
Campus	CA-04	90	6428	8544	28540	100	0	0	147	46	31.3%	$ 2,660,142	$ 0	$ 0	$ 0	$ 0	$1,688,162	$ 13,344,810		$ 17,693,114	$ 17,693,114	$ 0	$ 0
Campus	CA-05	-103	521	6052	4278	100	0	0	11	2	18.2%	$ 203,148	$ 0	$ 0	$ 0	$ 0	$108,262	$ 4,327,480		$ 4,638,890	$ 4,638,890	$ 0	$ 0
Campus	CA-06	-24	674	3947	2219	90	10	0	10	1	10.0%	$ 347,490	$ 0	$ 0	$ 0	$ 0	$168,350	$ 2,408,230		$ 2,924,070	$ 2,631,663	$ 292,407	$ 0
CAMPUS TOTAL		**-1025**	**14959**	**81731**	**83757**							**$ 6,074,562**	**$ 57,973**	**$ 0**	**$ 0**	**$ 0**	**$3,608,906**	**$ 66,166,961**		**$ 75,908,402**	**$ 71,059,754**	**$ 292,407**	**$ 4,556,240**
Coors	CO-01	868	249	11932	1411	0	100	0	90	11	12.2%	$ 582,404	$ 1,466,390	$ 0	$ 0	$ 0	$289,303	$ 5,337,749		$ 7,675,846	$ 0	$ 7,675,846	$ 0
Coors	CO-02	7731	5031	17754	8054	0	100	0	516	202	39.1%	$ 4,613,018	$ 1,790,026	$ 0	$ 3,994,506	$ 0	$3,305,358	$ 5,695,753		$ 19,398,661	$ 0	$ 19,398,661	$ 0
Coors	CO-03	1494	4161	13946	7544	65	35	0	684	58	8.5%	$ 3,074,237	$ 1,942,182	$ 0	$ 1,770,015	$ 0	$1,464,645	$ 6,913,403		$ 15,164,481	$ 9,856,913	$ 5,307,568	$ 0
Coors	CO-04	6617	1808	19369	2965	0	55	45	1135	218	19.2%	$ 4,043,243	$ 0	$ 0	$ 2,637,025	$ 0	$2,182,075	$ 6,072,530		$ 14,934,873	$ 0	$ 8,214,180	$ 6,720,693
Coors	CO-05	2850	652	13040	1287	0	0	100	Unserved Area			$ 2,080,188	$ 0	$ 1,819,529	$ 1,096,126	$ 114,616	$907,018	$ 4,726,087		$ 10,743,564	$ 0	$ 0	$ 10,743,564
COORS TOTAL		**19560**	**11901**	**76041**	**21261**							**$ 14,393,089**	**$ 5,198,598**	**$ 1,819,529**	**$ 9,497,672**	**$ 114,616**	**$ 8,148,399**	**$ 28,745,522**		**$ 67,917,425**	**$ 9,856,913**	**$ 40,596,256**	**$ 17,464,257**
East Mtn.	EM-01	14807	2586	30198	4139	0	0	100	Unserved Area			$ 0	$ 0	$ 0	$ 0	$ 0	$0	$ 0	$ 17,393,000	$ 17,393,000	$ 0	$ 0	$ 17,393,000
EAST MTN. TOTAL		**14807**	**2586**	**30198**	**4139**							**$ 0**	**$ 0**	**$ 0**	**$ 0**	**$ 0**	**$ 0**	**$ 0**	**$ 17,393,000**	**$ 17,393,000**	**$ 0**	**$ 0**	**$ 17,393,000**
Edith	ED-01	-41	740	1357	4139	90	10	0	75	6	8.0%	$ 381,990	$ 1,499,875	$ 0	$ 0	$ 0	$181,041	$ 2,094,322		$ 4,157,228	$ 3,741,505	$ 415,723	$ 0
Edith	ED-02	-41	667	2914	1894	100	0	0	119	18	15.1%	$ 315,599	$ 176,187	$ 0	$ 0	$ 0	$162,134	$ 1,825,819		$ 2,479,739	$ 2,479,739	$ 0	$ 0
Edith	ED-03	219	535	8030	2023	90	10	0	310	30	9.7%	$ 404,533	$ 0	$ 0	$ 0	$ 0	$195,286	$ 4,059,850		$ 4,659,670	$ 4,193,703	$ 465,967	$ 0
Edith	ED-04	872	125	7895	965	75	25	0	478	83	17.4%	$ 489,385	$ 0	$ 0	$ 0	$ 0	$258,223	$ 3,432,907		$ 4,180,515	$ 3,135,387	$ 1,045,129	$ 0
Edith	ED-05	670	389	3723	2543	85	15	0	184	25	13.6%	$ 543,578	$ 170,792	$ 0	$ 0	$ 0	$274,281	$ 2,273,324		$ 3,261,975	$ 2,772,679	$ 489,296	$ 0
Edith	ED-06	-188	1572	8163	17289	95	5	0	391	82	21.0%	$ 649,687	$ 251,868	$ 0	$ 0	$ 0	$358,456	$ 10,507,848		$ 11,767,859	$ 11,179,466	$ 588,393	$ 0
Edith	ED-07	-28	1588	1109	11520	95	5	0	160	24	15.0%	$ 787,644	$ 323,554	$ 0	$ 0	$ 0	$404,040	$ 4,832,615		$ 6,347,853	$ 6,030,460	$ 317,393	$ 0
Edith	ED-08	250	188	1333	501	60	40	0	76	9	11.8%	$ 229,362	$ 0	$ 0	$ 137,094	$ 0	$113,442	$ 609,480		$ 1,089,378	$ 653,627	$ 435,751	$ 0
EDITH TOTAL		**1713**	**5804**	**34524**	**40874**							**$ 3,801,778**	**$ 2,422,276**	**$ 0**	**$ 137,094**	**$ 0**	**$ 1,946,903**	**$ 29,636,166**		**$ 37,944,216**	**$ 34,186,565**	**$ 3,757,652**	**$ 0**
Four Hills	FH-01	1685	657	3039	734	0	100	0	129	81	62.8%	$ 517,636	$ 0	$ 0	$ 733,046	$ 0	$606,578	$ 624,760		$ 2,482,021	$ 0	$ 2,482,021	$ 0
Four Hills	FH-02	345	299	4141	592	45	55	0	90	5	5.6%	$ 361,284	$ 0	$ 0	$ 201,572	$ 0	$166,796	$ 1,785,217		$ 2,514,869	$ 1,131,691	$ 1,383,178	$ 0
Four Hills	FH-03	1	1748	7252	4345	90	10	0	134	9	6.7%	$ 969,129	$ 0	$ 0	$ 0	$ 0	$452,991	$ 4,299,538		$ 5,721,658	$ 5,149,492	$ 572,166	$ 0
Four Hills	FH-04	138	814	6000	3100	100	0	0	59	3	5.1%	$ 536,734	$ 60,913	$ 0	$ 0	$ 0	$246,568	$ 3,557,335		$ 4,401,551	$ 4,401,551	$ 0	$ 0
Four Hills	FH-05	-7	103	308	677	100	0	0				$ 57,024	$ 0	$ 0	$ 0	$ 0	$24,864	$ 388,129		$ 470,017	$ 470,017	$ 0	$ 0
Four Hills	FH-06	-47	96	5499	4238	40	25	35	53	5	9.4%	$ 26,360	$ 0	$ 0	$ 0	$ 0	$12,691	$ 4,229,684		$ 4,268,735	$ 1,707,494	$ 1,067,184	$ 1,494,057
FOUR HILLS TOTAL		**2115**	**3717**	**26239**	**13686**							**$ 2,468,168**	**$ 60,913**	**$ 0**	**$ 934,618**	**$ 0**	**$ 1,510,488**	**$ 14,884,663**		**$ 19,858,850**	**$ 12,860,244**	**$ 5,504,548**	**$ 1,494,057**

Table A.10. Capital Cost Analysis by Scenario

TREND SCENARIO

Capital Cost Analysis - 1998 Dollars

Basin	Sub-Basin	Trend Population Increase	Trend Employment Increase	Trend Population 2020	Trend Employment 2020	PERCENTAGE OF TOTAL In 1960	In Srv. Area	Out Srv. Area	Vacant Parcel Count	Vacant Parcel Count with Sewer Connection	Percent of Vacant Parcels Served by Sewer	CAPITAL 2020 NEEDS Service Lines $	Parallel Lines $	Master Plan Sewer Lines $	Small Collection Lines $	Lift Station & Odor Control $	Treatment Plant $	Rehab./ Replacement $	Septic Tank $	Total Capital Costs By Coverage Total	In 1960	In Srv. Area	Out Srv. Area
Isleta	IS-01	321	521	9872	1816	50	50	0	509	59	11.6%	$ 442,174	$ 0	$ 0	$ 263,546	$ 0	$218,078	$ 4,735,255		$ 5,659,053	$ 2,829,527	$ 2,829,527	$ 0
Isleta	IS-02	368	444	7824	1705	0	100	0	226	37	16.4%	$ 403,363	$ 0	$ 0	$ 254,156	$ 0	$210,308	$ 3,805,755		$ 4,673,582	$ 0	$ 4,673,582	$ 0
Isleta	IS-03	639	626	10262	2408	0	100	0	352	46	13.1%	$ 653,214	$ 4,500,457	$ 0	$ 395,945	$ 0	$327,635	$ 4,979,309		$ 10,856,560	$ 0	$ 10,856,560	$ 0
Isleta	IS-04	17	44	2430	604	0	100	0	30	2	6.7%	$ 33,818	$ 26,223	$ 0	$ 19,093	$ 0	$15,799	$ 1,297,982		$ 1,392,915	$ 0	$ 1,392,915	$ 0
ISLETA TOTAL		**1345**	**1635**	**30388**	**6533**							**$ 1,532,570**	**$ 4,526,680**	**$ 0**	**$ 932,740**	**$ 0**	**$ 771,820**	**$ 14,818,301**		**$ 22,582,111**	**$ 2,829,527**	**$ 19,752,584**	**$ 0**
Kirtland	KI-01	2021	36	13148	15751	0	5	95	Unserved Area			$ 1,221,858	$ 0	$ 3,670,173	$ 643,841	$ 231,192	$532,763	$ 11,718,949		$ 18,018,776	$ 0	$ 900,939	$ 17,117,837
Kirtland	KI-02	-51	259	1672	6248	0	5	95	Unserved Area			$ 123,552	$ 295,452	$ 1,005,840	$ 65,104	$ 63,360	$53,872	$ 3,366,982		$ 4,974,162	$ 0	$ 248,708	$ 4,725,454
Kirtland	KI-03	-9	-96	366	919	0	0	100	Unserved Area			- $ 62,370	$ 0	$ 163,195	- $ 32,865	$ 10,280	($27,195)	$ 606,860		$ 657,905	$ 0	$ 0	$ 657,905
KIRTLAND TOTAL		**1961**	**199**	**15186**	**22918**							**$ 1,283,040**	**$ 295,452**	**$ 4,839,208**	**$ 676,080**	**$ 304,832**	**$ 559,440**	**$ 15,692,791**		**$ 23,650,843**	**$ 0**	**$ 1,149,647**	**$ 22,501,196**
Mesadelsol	ME-01	10428	6992	10469	7087	0	4	96	Unserved Area			$ 10,347,480	$ 0	$ 2,229,612	$ 5,452,460	$ 140,448	$4,511,780	$ 59,376		$ 22,741,156	$ 0	$ 909,646	$ 21,831,510
MESADELSOL TOTAL		**10428**	**6992**	**10469**	**7087**							**$ 10,347,480**	**$ 0**	**$ 2,229,612**	**$ 5,452,460**	**$ 140,448**	**$ 4,511,780**	**$ 59,376**		**$ 22,741,156**	**$ 0**	**$ 909,646**	**$ 21,831,510**
NM Utilities	NMU-01	1952	4112	3225	5031	0	0	100	355	0	0.0%	$ 3,602,016	$ 0	$ 0	$ 1,898,032	$ 0	$1,570,576	$ 957,005		$ 8,027,629	$ 0	$ 0	$ 8,027,629
NM Utilities	NMU-02	2734	3623	3262	4259	0	0	100	243	0	0.0%	$ 3,776,058	$ 0	$ 0	$ 1,989,741	$ 0	$1,646,463	$ 508,191		$ 7,920,453	$ 0	$ 0	$ 7,920,453
NM Utilities	NMU-03	23233	7014	34776	9772	0	20	80	3750	73	1.9%	$ 17,616,966	$ 0	$ 0	$ 9,467,311	$ 0	$7,833,973	$ 6,243,674		$ 41,161,923	$ 0	$ 8,232,385	$ 32,929,539
NM UTILITIES TOTAL		**27919**	**14749**	**41263**	**19062**							**$ 24,995,040**	**$ 0**	**$ 0**	**$ 13,355,084**	**$ 0**	**$ 11,051,012**	**$ 7,708,870**		**$ 57,110,006**	**$ 0**	**$ 8,232,385**	**$ 48,877,621**
Northeast	NE-01	81	870	19544	3898	50	50	0	109	14	12.8%	$ 492,339	$ 0	$ 0	$ 0	$ 0	$246,309	$ 9,819,346		$ 10,557,993	$ 5,278,997	$ 5,278,997	$ 0
Northeast	NE-02	-154	336	9245	3690	100	0	0	7	1	14.3%	$ 92,664	$ 0	$ 0	$ 0	$ 0	$47,138	$ 5,567,832		$ 5,707,634	$ 5,707,634	$ 0	$ 0
Northeast	NE-03	-115	987	14699	4174	70	25	5	93	29	31.2%	$ 356,451	$ 0	$ 0	$ 0	$ 0	$225,848	$ 7,859,057		$ 8,441,356	$ 5,908,949	$ 2,110,339	$ 422,068
Northeast	NE-04	1004	3145	21817	9188	65	30	5	298	32	10.7%	$ 2,199,861	$ 220,503	$ 0	$ 0	$ 0	$1,074,591	$ 11,725,061		$ 15,220,016	$ 9,893,010	$ 4,566,005	$ 761,001
Northeast	NE-05	-69	275	4123	1524	100	0	0	5	1	20.0%	$ 97,891	$ 0	$ 0	$ 0	$ 0	$53,354	$ 2,375,486		$ 2,526,731	$ 2,526,731	$ 0	$ 0
Northeast	NE-06	4388	1151	27448	4122	0	75	25	1061	61	5.7%	$ 3,101,005	$ 0	$ 0	$ 1,733,707	$ 0	$1,434,601	$ 11,364,874		$ 17,634,187	$ 0	$ 13,225,640	$ 4,408,547
Northeast	NE-07	3747	373	5451	771	0	0	100	Unserved Area			$ 2,447,280	$ 0	$ 790,194	$ 1,289,560	$ 49,776	$1,067,080	$ 917,712		$ 6,561,602	$ 0	$ 0	$ 6,561,602
Northeast	NE-08	3572	163	5752	427	0	100	0	593	100	16.9%	$ 1,844,460	$ 0	$ 0	$ 1,169,055	$ 0	$967,365	$ 1,067,026		$ 5,047,906	$ 0	$ 5,047,906	$ 0
NORTHEAST TOTAL		**12454**	**7300**	**108079**	**27794**							**$ 10,631,951**	**$ 220,503**	**$ 790,194**	**$ 4,192,322**	**$ 49,776**	**$ 5,116,286**	**$ 50,696,394**		**$ 71,697,426**	**$ 29,315,322**	**$ 30,228,887**	**$ 12,153,218**
NW Valley	NW-01	1960	691	11192	2975	5	95	0	602	46	7.6%	$ 1,454,369	$ 0	$ 0	$ 829,763	$ 0	$686,609	$ 5,027,770		$ 7,998,511	$ 399,926	$ 7,598,585	$ 0
NW Valley	NW-02	966	1722	7159	4779	0	95	5	378	26	6.9%	$ 1,486,848	$ 0	$ 0	$ 841,344	$ 0	$696,192	$ 4,038,458		$ 7,062,842	$ 0	$ 6,709,699	$ 353,142
NW Valley	NW-03	410	985	3203	3826	50	50	0	83	12	14.5%	$ 708,828	$ 62,004	$ 0	$ 0	$ 0	$361,305	$ 2,459,748		$ 3,591,885	$ 1,795,943	$ 1,795,943	$ 0
NW Valley	NW-04	55	161	2197	1009	60	40	0	58	4	6.9%	$ 119,455	$ 0	$ 0	$ 0	$ 0	$55,944	$ 1,305,404		$ 1,480,804	$ 888,482	$ 592,321	$ 0
NW Valley	NW-05	148	2671	9056	11596	100	0	0	60	4	6.7%	$ 1,562,854	$ 90,350	$ 0	$ 0	$ 0	$730,121	$ 7,785,709		$ 10,169,034	$ 10,169,034	$ 0	$ 0
NW VALLEY TOTAL		**3539**	**6230**	**32807**	**24185**							**$ 5,332,354**	**$ 152,354**	**$ 0**	**$ 1,671,107**	**$ 0**	**$ 2,530,171**	**$ 20,617,090**		**$ 30,303,075**	**$ 13,253,384**	**$ 16,696,549**	**$ 353,142**
Riverview	RV-01	1107	350	5725	571	0	100	0	140	11	7.9%	$ 797,458	$ 0	$ 0	$ 456,041	$ 0	$377,363	$ 2,112,659		$ 3,743,521	$ 0	$ 3,743,521	$ 0
Riverview	RV-02	805	269	979	288	0	100	0	1	0	0.0%	$ 637,956	$ 0	$ 0	$ 336,162	$ 0	$278,166	$ 84,262		$ 1,336,546	$ 0	$ 1,336,546	$ 0
RIVERVIEW TOTAL		**1912**	**619**	**6704**	**859**							**$ 1,435,414**	**$ 0**	**$ 0**	**$ 792,203**	**$ 0**	**$ 655,529**	**$ 2,196,921**		**$ 5,080,067**	**$ 0**	**$ 5,080,067**	**$ 0**
Sandia Hts	SH-01	2564	125	5952	425	0	0	100	325	0	0.0%	$ 1,597,266	$ 0	$ 0	$ 841,657	$ 0	$696,451	$ 1,610,144		$ 4,745,518	$ 0	$ 0	$ 4,745,518
SANDIA HTS TOTAL		**2564**	**125**	**5952**	**425**							**$ 1,597,266**	**$ 0**	**$ 0**	**$ 841,657**	**$ 0**	**$ 696,451**	**$ 1,610,144**		**$ 4,745,518**	**$ 0**	**$ 0**	**$ 4,745,518**

Table A.10. Capital Cost Analysis by Scenario

TREND SCENARIO																							
Capital Cost Analysis - 1998 Dollars																							
															CAPITAL 2020 NEEDS								
Basin	Sub-	Trend	Trend	Trend	Trend	PERCENTAGE OF TOTAL			Vacant	Vacant Parcel	Percent of Vacant	Service	Parallel	Master Plan	Small Collection	Lift Station &	Treatment	Rehab./	Septic	Total Capital Costs By Coverage			
	Basin	Population	Employment	Population	Employment	In	In Srv.	Out Srv.	Parcel	Count with	Parcels Served	Lines	Lines	Sewer Lines	Lines	Odor Control	Plant	Replacement	Tank	Total	In	In Srv.	Out Srv.
		Increase	Increase	2020	2020	1960	Area	Area	Count	Sewer Connection	by Sewer	$	$	$	$	$	$	$	$		1960	Area	Area
Southeast	SE-01	171	269	926	1081	0	100	0	Unserved Area			$ 261,360	$ 0	$ 254,889	$ 137,720	$ 16,056	$113,960	$ 684,137		$ 1,468,122	$ 0	$ 1,468,122	$ 0
Southeast	SE-02	60	440	991	1182	0	100	0	44	5	11.4%	$ 263,250	$ 881,149	$ 0	$ 156,500	$ 0	$129,500	$ 730,415		$ 2,160,814	$ 0	$ 2,160,814	$ 0
Southeast	SE-03	12	2684	292	4145	0	100	0	77	51	66.2%	$ 540,741	$ 0	$ 0	$ 843,848	$ 0	$698,264	$ 760,103		$ 2,842,956	$ 0	$ 2,842,956	$ 0
Southeast	SE-04	206	368	573	648	0	100	0	54	0	0.0%	$ 340,956	$ 484,424	$ 0	$ 179,662	$ 0	$148,666	$ 282,474		$ 1,436,182	$ 0	$ 1,436,182	$ 0
SOUTHEAST TOTAL		**449**	**3761**	**2782**	**7056**							**$ 1,406,307**	**$ 1,365,573**	**$ 254,889**	**$ 1,317,730**	**$ 16,056**	**$ 1,090,390**	**$ 2,457,129**		**$ 7,908,073**	**$ 0**	**$ 7,908,073**	**$ 0**
Tijeras	TJ-01	1602	923	1683	1256	0	50	50	Unserved Area			$ 1,499,850	$ 0	$ 373,253	$ 790,325	$ 23,512	$653,975	$ 180,748		$ 3,521,663	$ 0	$ 1,760,832	$ 1,760,832
Tijeras	TJ-02	23	1690	25	3051	0	100	0	18	0	0.0%	$ 1,017,522	$ 0	$ 0	$ 536,169	$ 0	$443,667	$ 595,072		$ 2,592,430	$ 0	$ 2,592,430	$ 0
Tijeras	TJ-03	0	1106	1	2012	5	95	0	25	0	0.0%	$ 656,964	$ 0	$ 0	$ 346,178	$ 0	$286,454	$ 395,987		$ 1,685,583	$ 84,279	$ 1,601,304	$ 0
Tijeras	TJ-04	71	2518	2846	5251	55	45	0	223	17	7.6%	$ 1,420,630	$ 0	$ 0	$ 810,357	$ 0	$670,551	$ 2,404,738		$ 5,306,275	$ 2,918,451	$ 2,387,824	$ 0
Tijeras	TJ-05	158	65	2523	997	40	60	0	208	51	24.5%	$ 99,983	$ 751,429	$ 0	$ 0	$ 0	$57,757	$ 1,439,437		$ 2,348,607	$ 939,443	$ 1,409,164	$ 0
Tijeras	TJ-06	145	-31	949	154	0	100	0	104	17	16.3%	$ 56,647	$ 0	$ 0	$ 35,682	$ 0	$29,526	$ 431,788		$ 553,643	$ 0	$ 553,643	$ 0
TIJERAS TOTAL		**1999**	**6271**	**8027**	**12721**							**$ 4,751,596**	**$ 751,429**	**$ 373,253**	**$ 2,518,711**	**$ 23,512**	**$ 2,141,930**	**$ 5,447,770**		**$ 16,008,201**	**$ 3,942,173**	**$ 10,305,196**	**$ 1,760,832**
Uptown	UP-01	-490	477	23159	13367	60	40	0	37	4	10.8%	- $ 6,887	$ 0	$ 0	$ 0	$ 0	($3,367)	$ 15,952,562		$ 15,942,308	$ 9,565,385	$ 6,376,923	$ 0
Uptown	UP-02	45	2066	1153	7787	40	60	0	32	4	12.5%	$ 1,097,192	$ 1,036,104	$ 0	$ 0	$ 0	$546,749	$ 2,981,473		$ 5,661,518	$ 2,264,607	$ 3,396,911	$ 0
Uptown	UP-03	-317	5917	9531	23239	100	0	0	38	11	28.9%	$ 2,363,495	$ 0	$ 0	$ 0	$ 0	$1,450,400	$ 11,862,150		$ 15,676,045	$ 15,676,045	$ 0	$ 0
Uptown	UP-04	57	1528	14348	10329	100	0	0	169	18	10.7%	$ 841,213	$ 0	$ 0	$ 0	$ 0	$410,515	$ 10,081,736		$ 11,333,464	$ 11,333,464	$ 0	$ 0
Uptown	UP-05	-65	3055	6242	13902	100	0	0	109	36	33.0%	$ 1,189,471	$ 935,781	$ 0	$ 0	$ 0	$774,410	$ 7,489,265		$ 10,388,927	$ 10,388,927	$ 0	$ 0
UPTOWN TOTAL		**-770**	**13043**	**54433**	**68624**							**$ 5,484,484**	**$ 1,971,885**	**$ 0**	**$ 0**	**$ 0**	**$ 3,178,707**	**$ 48,367,187**		**$ 59,002,263**	**$ 49,228,429**	**$ 9,773,834**	**$ 0**
W Fringe	WF-01	8046	5831	10964	6003	0	0	100	Unserved Area			$ 8,242,938	$ 0	$ 2,154,809	$ 4,343,501	$ 135,736	$3,594,143	$ 1,349,063		$ 19,820,190	$ 0	$ 0	$ 19,820,190
W Fringe	WF-02	21064	5554	27446	6733	0	5	95	Unserved Area			$ 15,811,092	$ 0	$ 4,340,733	$ 8,331,434	$ 273,432	$6,894,062	$ 3,301,057		$ 38,951,810	$ 0	$ 1,947,590	$ 37,004,219
W Fringe	WF-03	7342	5966	7557	5966	0	5	95	Unserved Area			$ 7,904,952	$ 0	$ 1,717,421	$ 4,165,404	$ 108,184	$3,446,772	$ 93,867		$ 17,436,600	$ 0	$ 871,830	$ 16,564,770
W Fringe	WF-04	2108	1351	2108	1351	0	0	100	Unserved Area			$ 2,054,646	$ 0	$ 439,293	$ 1,082,667	$ 27,672	$895,881	$ 0		$ 4,500,159	$ 0	$ 0	$ 4,500,159
W FRINGE TOTAL		**38560**	**18702**	**48075**	**20053**							**$ 34,013,628**	**$ 0**	**$ 8,652,256**	**$ 17,923,006**	**$ 545,024**	**$ 14,830,858**	**$ 4,743,987**		**$ 80,708,759**	**$ 0**	**$ 2,819,420**	**$ 77,889,338**
GRAND TOTAL		**148545**	**150315**	**658395**	**454313**							**$ 151,923,055**	**$ 18,131,382**	**$ 18,958,941**	**$ 72,538,376**	**$ 1,194,264**	**$ 72,899,953**	**$ 347,920,317**	**$ 17,393,000**	**$ 700,959,288**	**$ 226,532,311**	**$ 243,407,048**	**$ 231,019,929**

Table A.10 Capital Cost Analysis by Scenario

BALANCED SCENARIO																							
Capital Cost Analysis - 1998 Dollars																							
															CAPITAL 2020 NEEDS								
Basin	Sub-	Balanced	Balanced	Balanced	Balanced	PERCENTAGE OF TOTAL			Vacant	Vacant Parcel	Percent of Vacant	Service	Parallel	Master Plan	Small Collection	Lift Station &	Treatment	Rehab./	Septic	Total Capital Costs By Coverage			
	Basin	Population	Employment	Population	Employment	In	In Srv.	Out Srv.	Parcel	Count with	Parcels Served	Lines	Lines	Sewer Lines	Lines	Odor Control	Plant	Replacement	Tank	Total	In	In Srv.	Out Srv.
		Increase	Increase	2020	2020	1960	Area	Area	Count	Sewer Connection	by Sewer	$	$	$	$	$	$	$	$		1960	Area	Area
Academy	AC-01	5886	16346	26568	38271	0	100	0	1517	123	8.1%	$ 12,135,067	$ 847,472	$ 0	$ 6,958,616	$ 0	$5,758,088	$ 18,601,790		$ 44,301,033	$ 0	$ 44,301,033	$ 0
Academy	AC-02	393	177	14331	5748	0	100	0	27	4	14.8%	$ 288,420	$ 0	$ 0	$ 0	$ 0	$147,630	$ 8,517,434		$ 8,953,484	$ 0	$ 8,953,484	$ 0
Academy	AC-03	1267	6183	3129	20244	0	100	0	371	19	5.1%	$ 4,198,667	$ 0	$ 0	$ 2,331,850	$ 0	$1,929,550	$ 6,951,823		$ 15,411,890	$ 0	$ 15,411,890	$ 0
ACADEMY TOTAL		**7546**	**22706**	**44028**	**64263**							**$ 16,622,154**	**$ 847,472**	**$ 0**	**$ 9,290,466**	**$ 0**	**$7,835,268**	**$ 34,071,047**		**$ 68,666,407**	**$ 0**	**$ 68,666,407**	**$ 0**
Campus	CA-01	466	694	17031	10218	90	0	10	53	12	22.6%	$ 533,031	$ 36,011	$ 0	$ 0	$ 0	$300,440	$ 11,390,197		$ 12,259,678	$ 11,033,711	$ 0	$ 1,225,968
Campus	CA-02	6252	5028	28580	19798	100	0	0	150	26	17.3%	$ 5,538,931	$ 0	$ 0	$ 0	$ 0	$2,921,520	$ 16,196,616		$ 24,657,067	$ 24,657,067	$ 0	$ 0
Campus	CA-03	2397	4255	27680	21345	85	0	15	291	71	24.4%	$ 2,987,228	$ 36,419	$ 0	$ 0	$ 0	$1,722,868	$ 18,499,628		$ 23,246,143	$ 19,759,222	$ 0	$ 3,486,921
Campus	CA-04	1426	5763	9880	27875	100	0	0	147	46	31.3%	$ 2,933,992	$ 0	$ 0	$ 0	$ 0	$1,861,951	$ 13,344,810		$ 18,140,753	$ 18,140,753	$ 0	$ 0
Campus	CA-05	-26	326	6129	4083	100	0	0	11	2	18.2%	$ 145,800	$ 0	$ 0	$ 0	$ 0	$77,700	$ 4,327,480		$ 4,550,980	$ 4,550,980	$ 0	$ 0
Campus	CA-06	-24	571	3947	2116	90	10	0	10	1	10.0%	$ 292,426	$ 0	$ 0	$ 0	$ 0	$141,673	$ 2,408,230		$ 2,842,330	$ 2,558,097	$ 284,233	$ 0
CAMPUS TOTAL		**10491**	**16637**	**93247**	**85435**							**$ 12,431,409**	**$ 72,430**	**$ 0**	**$ 0**	**$ 0**	**$7,026,152**	**$ 66,166,961**		**$ 85,696,952**	**$ 80,699,829**	**$ 284,233**	**$ 4,712,889**
Coors	CO-01	478	248	11542	1410	0	100	0	90	11	12.2%	$ 378,536	$ 1,068,345	$ 0	$ 0	$ 0	$188,034	$ 5,337,749		$ 6,972,665	$ 0	$ 6,972,665	$ 0
Coors	CO-02	6601	4841	16624	7864	0	100	0	516	202	39.1%	$ 4,135,884	$ 0	$ 0	$ 3,581,346	$ 0	$2,963,478	$ 5,695,753		$ 16,376,461	$ 0	$ 16,376,461	$ 0
Coors	CO-03	1100	21123	13552	24506	65	35	0	684	58	8.5%	$ 12,081,125	$ 1,328,696	$ 0	$ 6,955,799	$ 0	$5,755,757	$ 6,913,403		$ 33,034,779	$ 21,472,606	$ 11,562,173	$ 0
Coors	CO-04	1920	1194	14672	2351	0	55	45	1135	218	19.2%	$ 1,494,440	$ 0	$ 0	$ 974,682	$ 0	$806,526	$ 6,072,530		$ 9,348,178	$ 0	$ 5,141,498	$ 4,206,680
Coors	CO-05	1560	494	11750	1129	0	10	90	Unserved Area			$ 1,220,076	$ 0	$ 1,635,633	$ 642,902	$ 103,032	$531,986	$ 4,726,087		$ 8,859,716	$ 0	$ 885,972	$ 7,973,744
COORS TOTAL		**11659**	**27900**	**68140**	**37260**							**$ 19,310,061**	**$ 2,397,041**	**$ 1,635,633**	**$ 12,154,729**	**$ 103,032**	**$ 10,245,781**	**$ 28,745,522**		**$ 74,591,799**	**$ 21,472,606**	**$ 40,938,768**	**$ 12,180,424**
East Mtn.	EM-01	8307	1501	23698	3054	0	0	100	Unserved Area			$ 0	$ 0	$ 0	$ 0	$ 0	$0	$ 0	$ 9,808,000	$ 9,808,000	$ 0	$ 0	$ 9,808,000
EAST MTN. TOTAL		**8307**	**1501**	**23698**	**3054**							**$ 0**	**$ 0**	**$ 0**	**$ 0**	**$ 0**	**$ 0**	**$ 0**	**$ 9,808,000**	**$ 9,808,000**	**$ 0**	**$ 0**	**$ 9,808,000**
Edith	ED-01	187	640	1585	4039	90	10	0	75	6	8.0%	$ 451,939	$ 1,378,006	$ 0	$ 0	$ 0	$214,193	$ 2,094,322		$ 4,138,460	$ 3,724,614	$ 413,846	$ 0
Edith	ED-02	657	725	3612	1952	100	0	0	119	18	15.1%	$ 696,737	$ 255,298	$ 0	$ 0	$ 0	$357,938	$ 1,825,819		$ 3,135,792	$ 3,135,792	$ 0	$ 0
Edith	ED-03	926	531	8737	2019	90	10	0	310	30	9.7%	$ 781,704	$ 0	$ 0	$ 0	$ 0	$377,363	$ 4,059,850		$ 5,218,917	$ 4,697,026	$ 521,892	$ 0
Edith	ED-04	743	91	7766	931	75	25	0	478	83	17.4%	$ 409,375	$ 0	$ 0	$ 0	$ 0	$216,006	$ 3,432,907		$ 4,058,289	$ 3,043,716	$ 1,014,572	$ 0
Edith	ED-05	2522	750	5575	2904	85	15	0	184	25	13.6%	$ 1,679,496	$ 440,360	$ 0	$ 0	$ 0	$847,448	$ 2,273,324		$ 5,240,628	$ 4,454,534	$ 786,094	$ 0
Edith	ED-06	5724	1994	14075	17711	95	5	0	391	82	21.0%	$ 3,623,038	$ 374,912	$ 0	$ 0	$ 0	$1,998,962	$ 10,507,848		$ 16,504,761	$ 15,679,523	$ 825,238	$ 0
Edith	ED-07	2377	1673	3514	11605	95	5	0	160	24	15.0%	$ 2,044,845	$ 334,568	$ 0	$ 0	$ 0	$1,048,950	$ 4,832,615		$ 8,260,978	$ 7,847,929	$ 413,049	$ 0
Edith	ED-08	80	169	1163	482	60	40	0	76	9	11.8%	$ 130,391	$ 0	$ 0	$ 77,937	$ 0	$64,491	$ 609,480		$ 882,298	$ 529,379	$ 352,919	$ 0
EDITH TOTAL		**13216**	**6573**	**46027**	**41643**							**$ 9,817,526**	**$ 2,783,144**	**$ 0**	**$ 77,937**	**$ 0**	**$ 5,125,351**	**$ 29,636,166**		**$ 47,440,124**	**$ 43,112,513**	**$ 4,327,610**	**$ 0**
Four Hills	FH-01	1685	623	3039	700	0	100	0	129	81	62.8%	$ 510,122	$ 0	$ 0	$ 722,404	$ 0	$597,772	$ 624,760		$ 2,455,058	$ 0	$ 2,455,058	$ 0
Four Hills	FH-02	346	272	4142	565	45	55	0	90	5	5.6%	$ 346,698	$ 0	$ 0	$ 193,434	$ 0	$160,062	$ 1,785,217		$ 2,485,411	$ 1,118,435	$ 1,366,976	$ 0
Four Hills	FH-03	1	1546	7252	4143	90	10	0	134	9	6.7%	$ 857,200	$ 0	$ 0	$ 0	$ 0	$400,673	$ 4,299,538		$ 5,557,411	$ 5,001,670	$ 555,741	$ 0
Four Hills	FH-04	138	672	6000	2958	100	0	0	59	3	5.1%	$ 456,675	$ 52,884	$ 0	$ 0	$ 0	$209,790	$ 3,557,335		$ 4,276,685	$ 4,276,685	$ 0	$ 0
Four Hills	FH-05	-7	72	308	646	100	0	0				$ 38,610	$ 0	$ 0	$ 0	$ 0	$16,835	$ 388,129		$ 443,574	$ 443,574	$ 0	$ 0
Four Hills	FH-06	104	-77	5650	4065	40	25	35	53	5	9.4%	$ 14,525	$ 0	$ 0	$ 0	$ 0	$6,993	$ 4,229,684		$ 4,251,202	$ 1,700,481	$ 1,062,800	$ 1,487,921
FOUR HILLS TOTAL		**2267**	**3108**	**26391**	**13077**							**$ 2,223,830**	**$ 52,884**	**$ 0**	**$ 915,838**	**$ 0**	**$ 1,392,125**	**$ 14,884,663**		**$ 19,469,339**	**$ 12,540,843**	**$ 5,440,575**	**$ 1,487,921**

Table A.10 Capital Cost Analysis by Scenario

BALANCED SCENARIO																							
Capital Cost Analysis - 1998 Dollars																							
															CAPITAL 2020 NEEDS								
Basin	Sub-	Balanced	Balanced	Balanced	Balanced	PERCENTAGE OF TOTAL			Vacant	Vacant Parcel	Percent of Vacant	Service	Parallel	Master Plan	Small Collection	Lift Station &	Treatment	Rehab./	Septic	Total Capital Costs By Coverage			
	Basin	Population	Employment	Population	Employment	In	In Srv.	Out Srv.	Parcel	Count with	Parcels Served	Lines	Lines	Sewer Lines	Lines	Odor Control	Plant	Replacement	Tank	Total	In	In Srv.	Out Srv.
		Increase	Increase	2020	2020	1960	Area	Area	Count	Sewer Connection	by Sewer	$	$	$	$	$	$	$	$		1960	Area	Area
Isleta	IS-01	2526	1041	12077	2336	50	50	0	509	59	11.6%	$ 1,873,201	$ 0	$ 0	$ 1,116,471	$ 0	$923,853	$ 4,735,255		$ 8,648,780	$ 4,324,390	$ 4,324,390	$ 0
Isleta	IS-02	1683	828	9139	2089	0	100	0	226	37	16.4%	$ 1,247,345	$ 0	$ 0	$ 785,943	$ 0	$650,349	$ 3,805,755		$ 6,489,392	$ 0	$ 6,489,392	$ 0
Isleta	IS-03	-4	555	9619	2337	0	100	0	352	46	13.1%	$ 284,523	$ 4,328,345	$ 0	$ 172,463	$ 0	$142,709	$ 4,979,309		$ 9,907,349	$ 0	$ 9,907,349	$ 0
Isleta	IS-04	-135	26	2278	586	0	100	0	30	2	6.7%	- $ 60,430	$ 0	$ 0	- $ 34,117	$ 0	($28,231)	$ 1,297,982		$ 1,175,204	$ 0	$ 1,175,204	$ 0
ISLETA TOTAL		**4070**	**2450**	**33113**	**7348**							**$ 3,344,638**	**$ 4,328,345**	**$ 0**	**$ 2,040,760**	**$ 0**	**$ 1,688,680**	**$ 14,818,301**		**$ 26,220,725**	**$ 4,324,390**	**$ 21,896,335**	**$ 0**
Kirtland	KI-01	1644	-810	12771	14905	0	5	95	Unserved Area			$ 495,396	$ 0	$ 3,514,852	$ 261,042	$ 221,408	$216,006	$ 11,718,949		$ 16,427,653	$ 0	$ 821,383	$ 15,606,270
Kirtland	KI-02	-51	-234	1672	5755	0	5	95	Unserved Area			- $ 169,290	$ 333,964	$ 943,229	- $ 89,205	$ 59,416	($73,815)	$ 3,366,982		$ 4,371,281	$ 0	$ 218,564	$ 4,152,717
Kirtland	KI-03	-9	-139	366	876	0	0	100	Unserved Area			- $ 87,912	$ 0	$ 157,734	- $ 46,324	$ 9,936	($38,332)	$ 606,860		$ 601,962	$ 0	$ 0	$ 601,962
KIRTLAND TOTAL		**1584**	**-1183**	**14809**	**21536**							**$ 238,194**	**$ 333,964**	**$ 4,615,815**	**$ 125,513**	**$ 290,760**	**$ 103,859**	**$ 15,692,791**		**$ 21,400,896**	**$ 0**	**$ 1,039,947**	**$ 20,360,949**
Mesadelsol	ME-01	18710	11614	18751	11709	0	4	96	Unserved Area			$ 18,012,456	$ 0	$ 3,868,420	$ 9,491,412	$ 243,680	$7,853,916	$ 59,376		$ 39,529,260	$ 0	$ 1,581,170	$ 37,948,090
MESADELSOL TOTAL		**18710**	**11614**	**18751**	**11709**							**$ 18,012,456**	**$ 0**	**$ 3,868,420**	**$ 9,491,412**	**$ 243,680**	**$ 7,853,916**	**$ 59,376**		**$ 39,529,260**	**$ 0**	**$ 1,581,170**	**$ 37,948,090**
NM Utilities	NMU-01	1202	3823	2475	4742	0	0	100	355	0	0.0%	$ 2,984,850	$ 0	$ 0	$ 1,572,825	$ 0	$1,301,475	$ 957,005		$ 6,816,155	$ 0	$ 0	$ 6,816,155
NM Utilities	NMU-02	1975	3378	2503	4014	0	0	100	243	0	0.0%	$ 3,179,682	$ 0	$ 0	$ 1,675,489	$ 0	$1,386,427	$ 508,191		$ 6,749,789	$ 0	$ 0	$ 6,749,789
NM Utilities	NMU-03	15401	6348	26944	9106	0	20	80	3750	73	1.9%	$ 12,667,418	$ 0	$ 0	$ 6,807,437	$ 0	$5,632,991	$ 6,243,674		$ 31,351,520	$ 0	$ 6,270,304	$ 25,081,216
NM UTILITIES TOTAL		**18578**	**13549**	**31922**	**17862**							**$ 18,831,950**	**$ 0**	**$ 0**	**$ 10,055,751**	**$ 0**	**$ 8,320,893**	**$ 7,708,870**		**$ 44,917,464**	**$ 0**	**$ 6,270,304**	**$ 38,647,160**
Northeast	NE-01	81	690	19544	3718	50	50	0	109	14	12.8%	$ 399,152	$ 0	$ 0	$ 0	$ 0	$199,689	$ 9,819,346		$ 10,418,186	$ 5,209,093	$ 5,209,093	$ 0
Northeast	NE-02	-154	164	9245	3518	100	0	0	7	1	14.3%	$ 5,091	$ 0	$ 0	$ 0	$ 0	$2,590	$ 5,567,832		$ 5,575,514	$ 5,575,514	$ 0	$ 0
Northeast	NE-03	-115	794	14699	3981	70	25	5	93	29	31.2%	$ 277,558	$ 0	$ 0	$ 0	$ 0	$175,861	$ 7,859,057		$ 8,312,475	$ 5,818,733	$ 2,078,119	$ 415,624
Northeast	NE-04	1004	2721	21817	8764	65	30	5	298	32	10.7%	$ 1,975,050	$ 199,009	$ 0	$ 0	$ 0	$964,775	$ 11,725,061		$ 14,863,895	$ 9,661,532	$ 4,459,169	$ 743,195
Northeast	NE-05	-69	204	4123	1453	100	0	0	5	1	20.0%	$ 64,152	$ 0	$ 0	$ 0	$ 0	$34,965	$ 2,375,486		$ 2,474,603	$ 2,474,603	$ 0	$ 0
Northeast	NE-06	4125	945	27185	3916	0	75	25	1061	61	5.7%	$ 2,838,435	$ 0	$ 0	$ 1,586,910	$ 0	$1,313,130	$ 11,364,874		$ 17,103,350	$ 0	$ 12,827,512	$ 4,275,837
Northeast	NE-07	3569	335	5273	733	0	0	100	Unserved Area			$ 2,318,976	$ 0	$ 762,762	$ 1,221,952	$ 48,048	$1,011,136	$ 917,712		$ 6,280,586	$ 0	$ 0	$ 6,280,586
Northeast	NE-08	3425	138	5605	402	0	100	0	593	100	16.9%	$ 1,759,521	$ 0	$ 0	$ 1,115,219	$ 0	$922,817	$ 1,067,026		$ 4,864,583	$ 0	$ 4,864,583	$ 0
NORTHEAST TOTAL		**11866**	**5991**	**107491**	**26485**							**$ 9,637,935**	**$ 199,009**	**$ 762,762**	**$ 3,924,081**	**$ 48,048**	**$ 4,624,963**	**$ 50,696,394**		**$ 69,893,193**	**$ 28,739,475**	**$ 29,438,476**	**$ 11,715,242**
NW Valley	NW-01	1589	573	10821	2857	5	95	0	602	46	7.6%	$ 1,186,098	$ 0	$ 0	$ 676,706	$ 0	$559,958	$ 5,027,770		$ 7,450,532	$ 372,527	$ 7,078,005	$ 0
NW Valley	NW-02	626	1472	6819	4529	0	95	5	378	26	6.9%	$ 1,160,494	$ 0	$ 0	$ 656,674	$ 0	$543,382	$ 4,038,458		$ 6,399,007	$ 0	$ 6,079,057	$ 319,950
NW Valley	NW-03	534	809	3327	3650	50	50	0	83	12	14.5%	$ 682,406	$ 60,051	$ 0	$ 0	$ 0	$347,837	$ 2,459,748		$ 3,550,042	$ 1,775,021	$ 1,775,021	$ 0
NW Valley	NW-04	478	184	2620	1032	60	40	0	58	4	6.9%	$ 366,109	$ 0	$ 0	$ 0	$ 0	$171,458	$ 1,305,404		$ 1,842,971	$ 1,105,783	$ 737,188	$ 0
NW Valley	NW-05	148	2058	9056	10983	100	0	0	60	4	6.7%	$ 1,223,006	$ 72,847	$ 0	$ 0	$ 0	$571,354	$ 7,785,709		$ 9,652,917	$ 9,652,917	$ 0	$ 0
NW VALLEY TOTAL		**3375**	**5096**	**32643**	**23051**							**$ 4,618,112**	**$ 132,898**	**$ 0**	**$ 1,333,380**	**$ 0**	**$ 2,193,989**	**$ 20,617,090**		**$ 28,895,469**	**$ 12,906,247**	**$ 15,669,272**	**$ 319,950**
Riverview	RV-01	536	333	5154	554	0	100	0	140	11	7.9%	$ 475,629	$ 0	$ 0	$ 271,997	$ 0	$225,071	$ 2,112,659		$ 3,085,356	$ 0	$ 3,085,356	$ 0
Riverview	RV-02	694	260	868	279	0	100	0	1	0	0.0%	$ 566,676	$ 0	$ 0	$ 298,602	$ 0	$247,086	$ 84,262		$ 1,196,626	$ 0	$ 1,196,626	$ 0
RIVERVIEW TOTAL		**1230**	**593**	**6022**	**833**							**$ 1,042,305**	**$ 0**	**$ 0**	**$ 570,599**	**$ 0**	**$ 472,157**	**$ 2,196,921**		**$ 4,281,981**	**$ 0**	**$ 4,281,981**	**$ 0**
Sandia Hts	SH-01	2370	98	5758	398	0	0	100	325	0	0.0%	$ 1,465,992	$ 0	$ 0	$ 772,484	$ 0	$639,212	$ 1,610,144		$ 4,487,832	$ 0	$ 0	$ 4,487,832
SANDIA HTS TOTAL		**2370**	**98**	**5758**	**398**							**$ 1,465,992**	**$ 0**	**$ 0**	**$ 772,484**	**$ 0**	**$ 639,212**	**$ 1,610,144**		**$ 4,487,832**	**$ 0**	**$ 0**	**$ 4,487,832**

Table A.10 Capital Cost Analysis by Scenario

BALANCED SCENARIO																							
Capital Cost Analysis - 1998 Dollars																							
															CAPITAL 2020 NEEDS								
Basin	Sub-	Balanced	Balanced	Balanced	Balanced	PERCENTAGE OF TOTAL			Vacant	Vacant Parcel	Percent of Vacant	Service	Parallel	Master Plan	Small Collection	Lift Station &	Treatment	Rehab./	Septic	Total Capital Costs By Coverage			
	Basin	Population	Employment	Population	Employment	In	In Srv.	Out Srv.	Parcel	Count with	Parcels Served	Lines	Lines	Sewer Lines	Lines	Odor Control	Plant	Replacement	Tank	Total	In	In Srv.	Out Srv.
		Increase	Increase	2020	2020	1960	Area	Area	Count	Sewer Connection	by Sewer	$	$	$	$	$	$	$	$		1960	Area	Area
Southeast	SE-01	171	102	926	914	0	100	0	Unserved Area			$ 162,162	$ 0	$ 233,680	$ 85,449	$ 14,720	$70,707	$ 684,137		$ 1,250,855	$ 0	$ 1,250,855	$ 0
Southeast	SE-02	60	244	991	986	0	100	0	44	5	11.4%	$ 160,056	$ 1,075,626	$ 0	$ 95,152	$ 0	$78,736	$ 730,415		$ 2,139,985	$ 0	$ 2,139,985	$ 0
Southeast	SE-03	12	1993	292	3454	0	100	0	77	51	66.2%	$ 402,146	$ 0	$ 0	$ 627,565	$ 0	$519,295	$ 760,103		$ 2,309,109	$ 0	$ 2,309,109	$ 0
Southeast	SE-04	206	350	573	630	0	100	0	54	0	0.0%	$ 330,264	$ 501,455	$ 0	$ 174,028	$ 0	$144,004	$ 282,474		$ 1,432,225	$ 0	$ 1,432,225	$ 0
SOUTHEAST TOTAL		**449**	**2689**	**2782**	**5984**							**$ 1,054,628**	**$ 1,577,081**	**$ 233,680**	**$ 982,194**	**$ 14,720**	**$ 812,742**	**$ 2,457,129**		**$ 7,132,173**	**$ 0**	**$ 7,132,173**	**$ 0**
Tijeras	TJ-01	2522	1407	2603	1740	0	50	50	Unserved Area			$ 2,333,826	$ 2,445,515	$ 551,561	$ 1,229,777	$ 34,744	$1,017,611	$ 180,748		$ 7,793,782	$ 0	$ 3,896,891	$ 3,896,891
Tijeras	TJ-02	23	1326	25	2687	0	100	0	18	0	0.0%	$ 801,306	$ 0	$ 0	$ 422,237	$ 0	$349,391	$ 595,072		$ 2,168,006	$ 0	$ 2,168,006	$ 0
Tijeras	TJ-03	0	915	1	1821	5	95	0	25	0	0.0%	$ 543,510	$ 0	$ 0	$ 286,395	$ 0	$236,985	$ 395,987		$ 1,462,877	$ 73,144	$ 1,389,733	$ 0
Tijeras	TJ-04	71	2020	2846	4753	55	45	0	223	17	7.6%	$ 1,147,368	$ 0	$ 0	$ 654,483	$ 0	$541,569	$ 2,404,738		$ 4,748,158	$ 2,611,487	$ 2,136,671	$ 0
Tijeras	TJ-05	164	90	2529	1022	40	60	0	208	51	24.5%	$ 113,882	$ 771,793	$ 0	$ 0	$ 0	$65,786	$ 1,439,437		$ 2,390,899	$ 956,359	$ 1,434,539	$ 0
Tijeras	TJ-06	145	-35	949	150	0	100	0	104	17	16.3%	$ 54,659	$ 0	$ 0	$ 34,430	$ 0	$28,490	$ 431,788		$ 549,367	$ 0	$ 549,367	$ 0
TIJERAS TOTAL		**2925**	**5723**	**8953**	**12173**							**$ 4,994,552**	**$ 3,217,308**	**$ 551,561**	**$ 2,627,322**	**$ 34,744**	**$ 2,239,832**	**$ 5,447,770**		**$ 19,113,089**	**$ 3,640,990**	**$ 11,575,208**	**$ 3,896,891**
Uptown	UP-01	-522	-158	23127	12732	60	40	0	37	4	10.8%	- $ 360,253	$ 0	$ 0	$ 0	$ 0	($176,120)	$ 15,952,562		$ 15,416,189	$ 9,249,713	$ 6,166,476	$ 0
Uptown	UP-02	36	1017	1144	6738	40	60	0	32	4	12.5%	$ 547,297	$ 902,965	$ 0	$ 0	$ 0	$272,727	$ 2,981,473		$ 4,704,462	$ 1,881,785	$ 2,822,677	$ 0
Uptown	UP-03	2683	5338	12531	22660	100	0	0	38	11	28.9%	$ 3,385,284	$ 0	$ 0	$ 0	$ 0	$2,077,439	$ 11,862,150		$ 17,324,873	$ 17,324,873	$ 0	$ 0
Uptown	UP-04	384	1062	14675	9863	100	0	0	169	18	10.7%	$ 767,441	$ 0	$ 0	$ 0	$ 0	$374,514	$ 10,081,736		$ 11,223,691	$ 11,223,691	$ 0	$ 0
Uptown	UP-05	-27	2443	6280	13290	100	0	0	109	36	33.0%	$ 961,125	$ 850,764	$ 0	$ 0	$ 0	$625,744	$ 7,489,265		$ 9,926,898	$ 9,926,898	$ 0	$ 0
UPTOWN TOTAL		**2554**	**9702**	**57757**	**65283**							**$ 5,300,894**	**$ 1,753,729**	**$ 0**	**$ 0**	**$ 0**	**$ 3,174,304**	**$ 48,367,187**		**$ 58,596,113**	**$ 49,606,960**	**$ 8,989,153**	**$ 0**
W Fringe	WF-01	5170	3377	8088	3549	0	0	100	Unserved Area			$ 5,076,918	$ 0	$ 1,477,899	$ 2,675,211	$ 93,096	$2,213,673	$ 1,349,063		$ 12,885,860	$ 0	$ 0	$ 12,885,860
W Fringe	WF-02	14024	9633	20406	10812	0	5	95	Unserved Area			$ 14,052,258	$ 0	$ 3,964,686	$ 7,404,641	$ 249,744	$6,127,163	$ 3,301,057		$ 35,099,549	$ 0	$ 1,754,977	$ 33,344,572
W Fringe	WF-03	7129	966	7344	966	0	5	95	Unserved Area			$ 4,808,430	$ 0	$ 1,055,370	$ 2,533,735	$ 66,480	$2,096,605	$ 93,867		$ 10,654,487	$ 0	$ 532,724	$ 10,121,763
W Fringe	WF-04	0	0	0	0	0	0	100	Unserved Area			$ 0	$ 0	$ 0	$ 0	$ 0	$0	$ 0		$ 0	$ 0	$ 0	$ 0
W FRINGE TOTAL		**26323**	**13976**	**35838**	**15327**							**$ 23,937,606**	**$ 0**	**$ 6,497,955**	**$ 12,613,587**	**$ 409,320**	**$ 10,437,441**	**$ 4,743,987**		**$ 58,639,896**	**$ 0**	**$ 2,287,702**	**$ 56,352,194**
GRAND TOTAL		**147520**	**148723**	**657370**	**452721**							**$ 152,884,241**	**$ 17,695,305**	**$ 18,165,826**	**$ 66,976,053**	**$ 1,144,304**	**$ 74,186,665**	**$ 347,920,317**	**$ 9,808,000**	**$ 688,780,712**	**$ 257,043,854**	**$ 229,819,314**	**$ 201,917,543**

Table A.10 Capital Cost Analysis by Scenario

DOWNTOWN SCENARIO																							
Capital Cost Analysis - 1998 Dollars																							
														CAPITAL 2020 NEEDS									
Basin	Sub-	Downtown	Downtown	Downtown	Downtown	PERCENTAGE OF TOTAL			Vacant	Vacant Parcel	Percent of Vacant	Service	Parallel	Master Plan	Small Collection	Lift Station &	Treatment	Rehab./	Septic	Total Capital Costs By Coverage			
	Basin	Population	Employment	Population	Employment	In	In Srv.	Out Srv.	Parcel	Count with	Parcels Served	Lines	Lines	Sewer Lines	Lines	Odor Control	Plant	Replacement	Tank	Total	In	In Srv.	Out Srv.
		Increase	Increase	2020	2020	1960	Area	Area	Count	Sewer Connection	by Sewer	$	$	$	$	$	$	$	$		1960	Area	Area
Academy	AC-01	8832	18510	29514	40435	0	100	0	1517	123	8.1%	$ 14,924,298	$ 1,072,184	$ 0	$ 8,558,046	$ 0	$7,081,578	$ 18,601,790		$ 50,237,896	$ 0	$ 50,237,896	$ 0
Academy	AC-02	858	274	14796	5845	0	100	0	27	4	14.8%	$ 572,792	$ 0	$ 0	$ 0	$ 0	$293,188	$ 8,517,434		$ 9,383,414	$ 0	$ 9,383,414	$ 0
Academy	AC-03	1611	7843	3473	21904	0	100	0	371	19	5.1%	$ 5,328,081	$ 0	$ 0	$ 2,959,102	$ 0	$2,448,586	$ 6,951,823		$ 17,687,591	$ 0	$ 17,687,591	$ 0
ACADEMY TOTAL		**11301**	**26627**	**47783**	**68184**							**$ 20,825,171**	**$ 1,072,184**	**$ 0**	**$ 11,517,148**	**$ 0**	**$9,823,352**	**$ 34,071,047**		**$ 77,308,902**	**$ 0**	**$ 77,308,902**	**$ 0**
Campus	CA-01	19	1007	16584	10531	90	0	10	53	12	22.6%	$ 471,457	$ 32,634	$ 0	$ 0	$ 0	$265,734	$ 11,390,197		$ 12,160,021	$ 10,944,019	$ 0	$ 1,216,002
Campus	CA-02	99	916	22427	15686	100	0	0	150	26	17.3%	$ 498,406	$ 0	$ 0	$ 0	$ 0	$262,885	$ 16,196,616		$ 16,957,906	$ 16,957,906	$ 0	$ 0
Campus	CA-03	2710	6606	27993	23696	85	0	15	291	71	24.4%	$ 4,183,556	$ 46,936	$ 0	$ 0	$ 0	$2,412,844	$ 18,499,628		$ 25,142,964	$ 21,371,520	$ 0	$ 3,771,445
Campus	CA-04	1307	8787	9761	30899	100	0	0	147	46	31.3%	$ 4,119,588	$ 0	$ 0	$ 0	$ 0	$2,614,346	$ 13,344,810		$ 20,078,744	$ 20,078,744	$ 0	$ 0
Campus	CA-05	-52	624	6103	4381	100	0	0	11	2	18.2%	$ 277,992	$ 0	$ 0	$ 0	$ 0	$148,148	$ 4,327,480		$ 4,753,620	$ 4,753,620	$ 0	$ 0
Campus	CA-06	-8	688	3963	2233	90	10	0	10	1	10.0%	$ 363,528	$ 0	$ 0	$ 0	$ 0	$176,120	$ 2,408,230		$ 2,947,878	$ 2,653,091	$ 294,788	$ 0
CAMPUS TOTAL		**4075**	**18628**	**86831**	**87426**							**$ 9,914,527**	**$ 79,570**	**$ 0**	**$ 0**	**$ 0**	**$5,880,077**	**$ 66,166,961**		**$ 82,041,134**	**$ 76,758,900**	**$ 294,788**	**$ 4,987,447**
Coors	CO-01	-279	104	10785	1266	0	100	0	90	11	12.2%	- $ 91,245	$ 1,132,158	$ 0	$ 0	$ 0	($45,325)	$ 5,337,749		$ 6,333,337	$ 0	$ 6,333,337	$ 0
Coors	CO-02	8724	7995	18747	11018	0	100	0	516	202	39.1%	$ 6,043,335	$ 0	$ 0	$ 5,233,047	$ 0	$4,330,221	$ 5,695,753		$ 21,302,356	$ 0	$ 21,302,356	$ 0
Coors	CO-03	5293	4128	17745	7511	65	35	0	684	58	8.5%	$ 5,121,553	$ 0	$ 0	$ 2,948,773	$ 0	$2,440,039	$ 6,913,403		$ 17,423,768	$ 11,325,449	$ 6,098,319	$ 0
Coors	CO-04	5270	716	18022	1873	0	55	45	1135	218	19.2%	$ 2,872,742	$ 0	$ 0	$ 1,873,618	$ 0	$1,550,374	$ 6,072,530		$ 12,369,264	$ 0	$ 6,803,095	$ 5,566,169
Coors	CO-05	1528	294	11718	929	0	10	90	Unserved Area			$ 1,082,268	$ 0	$ 1,606,169	$ 570,286	$ 101,176	$471,898	$ 4,726,087		$ 8,557,884	$ 0	$ 855,788	$ 7,702,095
COORS TOTAL		**20536**	**13237**	**77017**	**22597**							**$ 15,028,653**	**$ 1,132,158**	**$ 1,606,169**	**$ 10,625,724**	**$ 101,176**	**$ 8,747,207**	**$ 28,745,522**		**$ 65,986,610**	**$ 11,325,449**	**$ 41,392,896**	**$ 13,268,264**
East Mtn.	EM-01	12634	1625	28025	3178	0	0	100	Unserved Area			$ 0	$ 0	$ 0	$ 0	$ 0	$0	$ 0	$ 14,259,000	$ 14,259,000	$ 0	$ 0	$ 14,259,000
EAST MTN. TOTAL		**12634**	**1625**	**28025**	**3178**							**$ 0**	**$ 0**	**$ 0**	**$ 0**	**$ 0**	**$ 0**	**$ 0**	**$ 14,259,000**	**$ 14,259,000**	**$ 0**	**$ 0**	**$ 14,259,000**
Edith	ED-01	32	940	1430	4339	90	10	0	75	6	8.0%	$ 531,179	$ 1,577,731	$ 0	$ 0	$ 0	$251,748	$ 2,094,322		$ 4,454,980	$ 4,009,482	$ 445,498	$ 0
Edith	ED-02	4	697	2959	1924	100	0	0	119	18	15.1%	$ 353,410	$ 189,261	$ 0	$ 0	$ 0	$181,559	$ 1,825,819		$ 2,550,049	$ 2,550,049	$ 0	$ 0
Edith	ED-03	480	579	8291	2067	90	10	0	310	30	9.7%	$ 568,171	$ 0	$ 0	$ 0	$ 0	$274,281	$ 4,059,850		$ 4,902,302	$ 4,412,072	$ 490,230	$ 0
Edith	ED-04	1311	180	8334	1020	75	25	0	478	83	17.4%	$ 731,869	$ 0	$ 0	$ 0	$ 0	$386,169	$ 3,432,907		$ 4,550,945	$ 3,413,209	$ 1,137,736	$ 0
Edith	ED-05	1496	405	4549	2559	85	15	0	184	25	13.6%	$ 975,771	$ 323,670	$ 0	$ 0	$ 0	$492,359	$ 2,273,324		$ 4,065,124	$ 3,455,355	$ 609,769	$ 0
Edith	ED-06	1834	10733	10185	26450	95	5	0	391	82	21.0%	$ 5,899,290	$ 411,384	$ 0	$ 0	$ 0	$3,254,853	$ 10,507,848		$ 20,073,376	$ 19,069,707	$ 1,003,669	$ 0
Edith	ED-07	836	9097	1973	19029	95	5	0	160	24	15.0%	$ 5,015,172	$ 446,175	$ 0	$ 0	$ 0	$2,572,647	$ 4,832,615		$ 12,866,608	$ 12,223,278	$ 643,330	$ 0
Edith	ED-08	616	454	1699	767	60	40	0	76	9	11.8%	$ 560,314	$ 0	$ 0	$ 334,910	$ 0	$277,130	$ 609,480		$ 1,781,834	$ 1,069,100	$ 712,733	$ 0
EDITH TOTAL		**6609**	**23085**	**39420**	**58155**							**$ 14,635,175**	**$ 2,948,221**	**$ 0**	**$ 334,910**	**$ 0**	**$ 7,690,746**	**$ 29,636,166**		**$ 55,245,218**	**$ 50,202,252**	**$ 5,042,966**	**$ 0**
Four Hills	FH-01	1687	659	3041	736	0	100	0	129	81	62.8%	$ 518,521	$ 0	$ 0	$ 734,298	$ 0	$607,614	$ 624,760		$ 2,485,193	$ 0	$ 2,485,193	$ 0
Four Hills	FH-02	347	301	4143	594	45	55	0	90	5	5.6%	$ 363,528	$ 0	$ 0	$ 202,824	$ 0	$167,832	$ 1,785,217		$ 2,519,401	$ 1,133,730	$ 1,385,670	$ 0
Four Hills	FH-03	4	1758	7255	4355	90	10	0	134	9	6.7%	$ 976,332	$ 0	$ 0	$ 0	$ 0	$456,358	$ 4,299,538		$ 5,732,228	$ 5,159,006	$ 573,223	$ 0
Four Hills	FH-04	141	821	6003	3107	100	0	0	59	3	5.1%	$ 542,372	$ 60,913	$ 0	$ 0	$ 0	$249,158	$ 3,557,335		$ 4,409,779	$ 4,409,779	$ 0	$ 0
Four Hills	FH-05	-7	105	308	679	100	0	0				$ 58,212	$ 0	$ 0	$ 0	$ 0	$25,382	$ 388,129		$ 471,723	$ 471,723	$ 0	$ 0
Four Hills	FH-06	7	114	5553	4256	40	25	35	53	5	9.4%	$ 65,093	$ 0	$ 0	$ 0	$ 0	$31,339	$ 4,229,684		$ 4,326,116	$ 1,730,447	$ 1,081,529	$ 1,514,141
FOUR HILLS TOTAL		**2179**	**3758**	**26303**	**13727**							**$ 2,524,058**	**$ 60,913**	**$ 0**	**$ 937,122**	**$ 0**	**$ 1,537,683**	**$ 14,884,663**		**$ 19,944,439**	**$ 12,904,684**	**$ 5,525,615**	**$ 1,514,141**

Table A.10 Capital Cost Analysis by Scenario

DOWNTOWN SCENARIO																							
Capital Cost Analysis - 1998 Dollars																							
															CAPITAL 2020 NEEDS								
Basin	Sub-	Downtown	Downtown	Downtown	Downtown	PERCENTAGE OF TOTAL			Vacant	Vacant Parcel	Percent of Vacant	Service	Parallel	Master Plan	Small Collection	Lift Station &	Treatment	Rehab./	Septic	Total Capital Costs By Coverage			
	Basin	Population	Employment	Population	Employment	In	In Srv.	Out Srv.	Parcel	Count with	Parcels Served	Lines	Lines	Sewer Lines	Lines	Odor Control	Plant	Replacement	Tank	Total	In	In Srv.	Out Srv.
		Increase	Increase	2020	2020	1960	Area	Area	Count	Sewer Connection	by Sewer	$	$	$	$	$	$	$	$		1960	Area	Area
Isleta	IS-01	1619	617	11170	1912	50	50	0	509	59	11.6%	$ 1,174,229	$ 0	$ 0	$ 699,868	$ 0	$579,124	$ 4,735,255		$ 7,188,477	$ 3,594,238	$ 3,594,238	$ 0
Isleta	IS-02	142	221	7598	1482	0	100	0	226	37	16.4%	$ 180,321	$ 0	$ 0	$ 113,619	$ 0	$94,017	$ 3,805,755		$ 4,193,712	$ 0	$ 4,193,712	$ 0
Isleta	IS-03	142	299	9765	2081	0	100	0	352	46	13.1%	$ 227,721	$ 4,062,283	$ 0	$ 138,033	$ 0	$114,219	$ 4,979,309		$ 9,521,565	$ 0	$ 9,521,565	$ 0
Isleta	IS-04	-101	-38	2312	522	0	100	0	30	2	6.7%	- $ 77,062	$ 0	$ 0	- $ 43,507	$ 0	($36,001)	$ 1,297,982		$ 1,141,412	$ 0	$ 1,141,412	$ 0
ISLETA TOTAL		**1802**	**1099**	**30845**	**5997**							**$ 1,505,210**	**$ 4,062,283**	**$ 0**	**$ 908,013**	**$ 0**	**$ 751,359**	**$ 14,818,301**		**$ 22,045,166**	**$ 3,594,238**	**$ 18,450,928**	**$ 0**
Kirtland	KI-01	1965	-97	13092	15618	0	5	95	Unserved Area			$ 1,109,592	$ 0	$ 3,646,170	$ 584,684	$ 229,680	$483,812	$ 11,718,949		$ 17,772,887	$ 0	$ 888,644	$ 16,884,242
Kirtland	KI-02	-32	193	1691	6182	0	5	95	Unserved Area			$ 95,634	$ 284,569	$ 999,871	$ 50,393	$ 62,984	$41,699	$ 3,366,982		$ 4,902,132	$ 0	$ 245,107	$ 4,657,025
Kirtland	KI-03	-5	-96	370	919	0	0	100	Unserved Area			- $ 59,994	$ 0	$ 163,703	- $ 31,613	$ 10,312	($26,159)	$ 606,860		$ 663,109	$ 0	$ 0	$ 663,109
KIRTLAND TOTAL		**1928**	**0**	**15153**	**22719**							**$ 1,145,232**	**$ 284,569**	**$ 4,809,744**	**$ 603,464**	**$ 302,976**	**$ 499,352**	**$ 15,692,791**		**$ 23,338,128**	**$ 0**	**$ 1,133,751**	**$ 22,204,377**
Mesadelsol	ME-01	8630	1031	8671	1126	0	4	96	Unserved Area			$ 5,738,634	$ 0	$ 1,244,219	$ 3,023,893	$ 78,376	$2,502,199	$ 59,376		$ 12,646,697	$ 0	$ 505,868	$ 12,140,829
MESADELSOL TOTAL		**8630**	**1031**	**8671**	**1126**							**$ 5,738,634**	**$ 0**	**$ 1,244,219**	**$ 3,023,893**	**$ 78,376**	**$ 2,502,199**	**$ 59,376**		**$ 12,646,697**	**$ 0**	**$ 505,868**	**$ 12,140,829**
NM Utilities	NMU-01	2251	3464	3524	4383	0	0	100	355	0	0.0%	$ 3,394,710	$ 0	$ 0	$ 1,788,795	$ 0	$1,480,185	$ 957,005		$ 7,620,695	$ 0	$ 0	$ 7,620,695
NM Utilities	NMU-02	3036	3075	3564	3711	0	0	100	243	0	0.0%	$ 3,629,934	$ 0	$ 0	$ 1,912,743	$ 0	$1,582,749	$ 508,191		$ 7,633,617	$ 0	$ 0	$ 7,633,617
NM Utilities	NMU-03	24429	6093	35972	8851	0	20	80	3750	73	1.9%	$ 17,777,136	$ 0	$ 0	$ 9,553,386	$ 0	$7,905,198	$ 6,243,674		$ 41,479,394	$ 0	$ 8,295,879	$ 33,183,515
NM UTILITIES TOTAL		**29716**	**12632**	**43060**	**16945**							**$ 24,801,780**	**$ 0**	**$ 0**	**$ 13,254,924**	**$ 0**	**$ 10,968,132**	**$ 7,708,870**		**$ 56,733,706**	**$ 0**	**$ 8,295,879**	**$ 48,437,827**
Northeast	NE-01	108	747	19571	3775	50	50	0	109	14	12.8%	$ 442,639	$ 0	$ 0	$ 0	$ 0	$221,445	$ 9,819,346		$ 10,483,430	$ 5,241,715	$ 5,241,715	$ 0
Northeast	NE-02	-139	348	9260	3702	100	0	0	7	1	14.3%	$ 106,411	$ 0	$ 0	$ 0	$ 0	$54,131	$ 5,567,832		$ 5,728,374	$ 5,728,374	$ 0	$ 0
Northeast	NE-03	-28	729	14786	3916	70	25	5	93	29	31.2%	$ 286,551	$ 0	$ 0	$ 0	$ 0	$181,559	$ 7,859,057		$ 8,327,166	$ 5,829,016	$ 2,081,792	$ 416,358
Northeast	NE-04	1131	2502	21944	8545	65	30	5	298	32	10.7%	$ 1,926,270	$ 196,293	$ 0	$ 0	$ 0	$940,947	$ 11,725,061		$ 14,788,571	$ 9,612,571	$ 4,436,571	$ 739,429
Northeast	NE-05	-52	284	4140	1533	100	0	0	5	1	20.0%	$ 110,246	$ 0	$ 0	$ 0	$ 0	$60,088	$ 2,375,486		$ 2,545,821	$ 2,545,821	$ 0	$ 0
Northeast	NE-06	4529	742	27589	3713	0	75	25	1061	61	5.7%	$ 2,950,965	$ 0	$ 0	$ 1,649,823	$ 0	$1,365,189	$ 11,364,874		$ 17,330,851	$ 0	$ 12,998,139	$ 4,332,713
Northeast	NE-07	3751	268	5455	666	0	0	100	Unserved Area			$ 2,387,286	$ 0	$ 777,367	$ 1,257,947	$ 48,968	$1,040,921	$ 917,712		$ 6,430,201	$ 0	$ 0	$ 6,430,201
Northeast	NE-08	3583	125	5763	389	0	100	0	593	100	16.9%	$ 1,831,127	$ 0	$ 0	$ 1,160,604	$ 0	$960,372	$ 1,067,026		$ 5,019,129	$ 0	$ 5,019,129	$ 0
NORTHEAST TOTAL		**12883**	**5745**	**108508**	**26239**							**$ 10,041,495**	**$ 196,293**	**$ 777,367**	**$ 4,068,374**	**$ 48,968**	**$ 4,824,652**	**$ 50,696,394**		**$ 70,653,543**	**$ 28,957,497**	**$ 29,777,345**	**$ 11,918,701**
NW Valley	NW-01	2143	462	11375	2746	5	95	0	602	46	7.6%	$ 1,429,132	$ 0	$ 0	$ 815,365	$ 0	$674,695	$ 5,027,770		$ 7,946,963	$ 397,348	$ 7,549,615	$ 0
NW Valley	NW-02	1039	1280	7232	4337	0	95	5	378	26	6.9%	$ 1,282,738	$ 0	$ 0	$ 725,847	$ 0	$600,621	$ 4,038,458		$ 6,647,664	$ 0	$ 6,315,281	$ 332,383
NW Valley	NW-03	525	939	3318	3780	50	50	0	83	12	14.5%	$ 743,888	$ 65,878	$ 0	$ 0	$ 0	$379,176	$ 2,459,748		$ 3,648,690	$ 1,824,345	$ 1,824,345	$ 0
NW Valley	NW-04	89	168	2231	1016	60	40	0	58	4	6.9%	$ 142,130	$ 0	$ 0	$ 0	$ 0	$66,563	$ 1,305,404		$ 1,514,097	$ 908,458	$ 605,639	$ 0
NW Valley	NW-05	42	3037	8950	11962	100	0	0	60	4	6.7%	$ 1,706,998	$ 98,122	$ 0	$ 0	$ 0	$797,461	$ 7,785,709		$ 10,388,290	$ 10,388,290	$ 0	$ 0
NW VALLEY TOTAL		**3838**	**5886**	**33106**	**23841**							**$ 5,304,887**	**$ 164,000**	**$ 0**	**$ 1,541,212**	**$ 0**	**$ 2,518,516**	**$ 20,617,090**		**$ 30,145,704**	**$ 13,518,442**	**$ 16,294,879**	**$ 332,383**
Riverview	RV-01	2452	634	7070	855	0	100	0	140	11	7.9%	$ 1,689,056	$ 0	$ 0	$ 965,918	$ 0	$799,274	$ 2,112,659		$ 5,566,907	$ 0	$ 5,566,907	$ 0
Riverview	RV-02	1104	432	1278	451	0	100	0	1	0	0.0%	$ 912,384	$ 0	$ 0	$ 480,768	$ 0	$397,824	$ 84,262		$ 1,875,238	$ 0	$ 1,875,238	$ 0
RIVERVIEW TOTAL		**3556**	**1066**	**8348**	**1306**							**$ 2,601,440**	**$ 0**	**$ 0**	**$ 1,446,686**	**$ 0**	**$ 1,197,098**	**$ 2,196,921**		**$ 7,442,145**	**$ 0**	**$ 7,442,145**	**$ 0**
Sandia Hts	SH-01	2568	89	5956	389	0	0	100	325	0	0.0%	$ 1,578,258	$ 0	$ 0	$ 831,641	$ 0	$688,163	$ 1,610,144		$ 4,708,206	$ 0	$ 0	$ 4,708,206
SANDIA HTS TOTAL		**2568**	**89**	**5956**	**389**							**$ 1,578,258**	**$ 0**	**$ 0**	**$ 831,641**	**$ 0**	**$ 688,163**	**$ 1,610,144**		**$ 4,708,206**	**$ 0**	**$ 0**	**$ 4,708,206**

Table A.10 Capital Cost Analysis by Scenario

DOWNTOWN SCENARIO																							
Capital Cost Analysis - 1998 Dollars																							
															CAPITAL 2020 NEEDS								
Basin	Sub-	Downtown	Downtown	Downtown	Downtown	PERCENTAGE OF TOTAL			Vacant	Vacant Parcel	Percent of Vacant	Service	Parallel	Master Plan	Small Collection	Lift Station &	Treatment	Rehab./	Septic	Total Capital Costs By Coverage			
	Basin	Population	Employment	Population	Employment	In	In Srv.	Out Srv.	Parcel	Count with	Parcels Served	Lines	Lines	Sewer Lines	Lines	Odor Control	Plant	Replacement	Tank	Total	In	In Srv.	Out Srv.
		Increase	Increase	2020	2020	1960	Area	Area	Count	Sewer Connection	by Sewer	$	$	$	$	$	$	$	$		1960	Area	Area
Southeast	SE-01	135	223	890	1035	0	100	0	Unserved Area			$ 212,652	$ 0	$ 244,475	$ 112,054	$ 15,400	$92,722	$ 684,137		$ 1,361,440	$ 0	$ 1,361,440	$ 0
Southeast	SE-02	60	400	991	1142	0	100	0	44	5	11.4%	$ 242,190	$ 832,182	$ 0	$ 143,980	$ 0	$119,140	$ 730,415		$ 2,067,907	$ 0	$ 2,067,907	$ 0
Southeast	SE-03	12	2541	292	4002	0	100	0	77	51	66.2%	$ 512,059	$ 0	$ 0	$ 799,089	$ 0	$661,227	$ 760,103		$ 2,732,478	$ 0	$ 2,732,478	$ 0
Southeast	SE-04	181	286	548	566	0	100	0	54	0	0.0%	$ 277,398	$ 680,316	$ 0	$ 146,171	$ 0	$120,953	$ 282,474		$ 1,507,312	$ 0	$ 1,507,312	$ 0
SOUTHEAST TOTAL		**388**	**3450**	**2721**	**6745**							**$ 1,244,299**	**$ 1,512,498**	**$ 244,475**	**$ 1,201,294**	**$ 15,400**	**$ 994,042**	**$ 2,457,129**		**$ 7,669,136**	**$ 0**	**$ 7,669,136**	**$ 0**
Tijeras	TJ-01	1403	256	1484	589	0	50	50	Unserved Area			$ 985,446	$ 1,725,173	$ 263,271	$ 519,267	$ 16,584	$429,681	$ 180,748		$ 4,120,170	$ 0	$ 2,060,085	$ 2,060,085
Tijeras	TJ-02	23	1604	25	2965	0	100	0	18	0	0.0%	$ 966,438	$ 0	$ 0	$ 509,251	$ 0	$421,393	$ 595,072		$ 2,492,154	$ 0	$ 2,492,154	$ 0
Tijeras	TJ-03	0	1053	1	1959	5	95	0	25	0	0.0%	$ 625,482	$ 0	$ 0	$ 329,589	$ 0	$272,727	$ 395,987		$ 1,623,785	$ 81,189	$ 1,542,596	$ 0
Tijeras	TJ-04	1267	2465	4042	5198	55	45	0	223	17	7.6%	$ 2,047,814	$ 0	$ 0	$ 1,168,116	$ 0	$966,588	$ 2,404,738		$ 6,587,255	$ 3,622,990	$ 2,964,265	$ 0
Tijeras	TJ-05	864	83	3229	1015	40	60	0	208	51	24.5%	$ 424,593	$ 969,373	$ 0	$ 0	$ 0	$245,273	$ 1,439,437		$ 3,078,676	$ 1,231,470	$ 1,847,206	$ 0
Tijeras	TJ-06	105	-50	909	135	0	100	0	104	17	16.3%	$ 27,330	$ 0	$ 0	$ 17,215	$ 0	$14,245	$ 431,788		$ 490,577	$ 0	$ 490,577	$ 0
TIJERAS TOTAL		**3662**	**5411**	**9690**	**11861**							**$ 5,077,102**	**$ 2,694,546**	**$ 263,271**	**$ 2,543,438**	**$ 16,584**	**$ 2,349,907**	**$ 5,447,770**		**$ 18,392,618**	**$ 4,935,650**	**$ 11,396,883**	**$ 2,060,085**
Uptown	UP-01	-442	742	23207	13632	60	40	0	37	4	10.8%	$ 158,935	$ 0	$ 0	$ 0	$ 0	$77,700	$ 15,952,562		$ 16,189,197	$ 9,713,518	$ 6,475,679	$ 0
Uptown	UP-02	55	1716	1163	7437	40	60	0	32	4	12.5%	$ 920,477	$ 1,005,827	$ 0	$ 0	$ 0	$458,689	$ 2,981,473		$ 5,366,466	$ 2,146,587	$ 3,219,880	$ 0
Uptown	UP-03	719	14536	10567	31858	100	0	0	38	11	28.9%	$ 6,438,413	$ 0	$ 0	$ 0	$ 0	$3,951,045	$ 11,862,150		$ 22,251,608	$ 22,251,608	$ 0	$ 0
Uptown	UP-04	184	1550	14475	10351	100	0	0	169	18	10.7%	$ 920,292	$ 0	$ 0	$ 0	$ 0	$449,106	$ 10,081,736		$ 11,451,135	$ 11,451,135	$ 0	$ 0
Uptown	UP-05	23	3502	6330	14349	100	0	0	109	36	33.0%	$ 1,402,303	$ 986,782	$ 0	$ 0	$ 0	$912,975	$ 7,489,265		$ 10,791,325	$ 10,791,325	$ 0	$ 0
UPTOWN TOTAL		**539**	**22046**	**55742**	**77627**							**$ 9,840,421**	**$ 1,992,609**	**$ 0**	**$ 0**	**$ 0**	**$ 5,849,515**	**$ 48,367,187**		**$ 66,049,731**	**$ 56,354,173**	**$ 9,695,559**	**$ 0**
W Fringe	WF-01	4060	227	6978	399	0	0	100	Unserved Area			$ 2,546,478	$ 0	$ 936,879	$ 1,341,831	$ 59,016	$1,110,333	$ 1,349,063		$ 7,343,600	$ 0	**$ 0**	$ 7,343,600
W Fringe	WF-02	13498	3000	19880	4179	0	5	95	Unserved Area			$ 9,799,812	$ 0	$ 3,055,493	$ 5,163,874	$ 192,472	$4,272,982	$ 3,301,057		$ 25,785,690	$ 0	**$ 1,289,284**	$ 24,496,405
W Fringe	WF-03	2892	257	3107	257	0	5	95	Unserved Area			$ 1,870,506	$ 0	$ 427,228	$ 985,637	$ 26,912	$815,591	$ 93,867		$ 4,219,741	$ 0	**$ 210,987**	$ 4,008,754
W Fringe	WF-04	0	0	0	0	0	0	100	Unserved Area			$ 0	$ 0	$ 0	$ 0	$ 0	$0	$ 0		$ 0	$ 0	**$ 0**	$ 0
W FRINGE TOTAL		**20450**	**3484**	**29965**	**4835**							**$ 14,216,796**	**$ 0**	**$ 4,419,600**	**$ 7,491,342**	**$ 278,400**	**$ 6,198,906**	**$ 4,743,987**		**$ 37,349,031**	**$ 0**	**$ 1,500,272**	**$ 35,848,759**
GRAND TOTAL		**147294**	**148899**	**657144**	**452897**							**$ 146,023,138**	**$ 16,199,844**	**$ 13,364,845**	**$ 60,329,185**	**$ 841,880**	**$ 73,020,906**	**$ 347,920,317**	**$ 14,259,000**	**$ 671,959,116**	**$ 258,551,285**	**$ 241,727,811**	**$ 171,680,020**

Table A.11. Annual Cost Analysis by Scenario

TREND SCENARIO																	
Annual Operation and Maintenance Cost Analysis - 1998 Dollars																	
										ANNUAL OPERATION & MAINTENANCE NEEDS							
Basin	Sub-	Trend	Trend	Trend	Trend	PERCENTAGE OF TOTAL			Septic Tank	Plant	Existing Lines	Parallel & New	Lift Stations	Total Annual O&M Costs By Coverage			
	Basin	Population	Employment	Population	Employment	In	In Srv.	Out Srv.	Annual Maint.	Oper./Maint	Maintenance	Lines Maint.	& Odor Control	Total	In	In Srv.	Out Srv.
		Increase	Increase	2020	2020	1960	Area	Area	$	$	$	$	$		1960	Area	Area
Academy	AC-01	6633	21580	27315	43505	0	100	0	$ 0	$ 778,312	$ 294,611	$ 4,760	$ 118,978	$ 1,196,661	$ 0	$ 1,196,661	$ 0
Academy	AC-02	840	613	14778	6184	0	100	0	$ 0	$ 230,372	$ 87,202	$ 0	$ 35,216	$ 352,790	$ 0	$ 352,790	$ 0
Academy	AC-03	1542	9529	3404	23590	0	100	0	$ 0	$ 296,664	$ 112,295	$ 0	$ 45,350	$ 454,309	$ 0	$ 454,309	$ 0
ACADEMY TOTAL		**9015**	**31722**	**45497**	**73279**				**$ 0**	**$ 1,305,348**	**$ 494,108**	**$ 4,760**	**$ 199,544**	**$ 2,003,760**	**$ 0**	**$ 2,003,760**	**$ 0**
Campus	CA-01	-199	989	16366	10513	90	0	10	$ 0	$ 295,400	$ 111,817	$ 142	$ 45,157	$ 452,515	$ 407,264	$ 0	$ 45,252
Campus	CA-02	-445	560	21883	15330	100	0	0	$ 0	$ 408,971	$ 154,806	$ 0	$ 62,518	$ 626,295	$ 626,295	$ 0	$ 0
Campus	CA-03	-344	5787	24939	22877	85	0	15	$ 0	$ 525,498	$ 198,915	$ 76	$ 80,331	$ 804,819	$ 684,096	$ 0	$ 120,723
Campus	CA-04	90	6428	8544	28540	100	0	0	$ 0	$ 407,553	$ 154,269	$ 0	$ 62,301	$ 624,124	$ 624,124	$ 0	$ 0
Campus	CA-05	-103	521	6052	4278	100	0	0	$ 0	$ 113,527	$ 42,973	$ 0	$ 17,354	$ 173,854	$ 173,854	$ 0	$ 0
Campus	CA-06	-24	674	3947	2219	90	10	0	$ 0	$ 67,764	$ 25,651	$ 0	$ 10,359	$ 103,774	$ 93,396	$ 10,377	$ 0
CAMPUS TOTAL		**-1025**	**14959**	**81731**	**83757**				**$ 0**	**$ 1,818,713**	**$ 688,430**	**$ 217**	**$ 278,020**	**$ 2,785,380**	**$ 2,609,029**	**$ 10,377**	**$ 165,974**
Coors	CO-01	868	249	11932	1411	0	100	0	$ 0	$ 146,640	$ 55,507	$ 3,280	$ 22,416	$ 227,843	$ 0	$ 227,843	$ 0
Coors	CO-02	7731	5031	17754	8054	0	100	0	$ 0	$ 283,630	$ 107,361	$ 5,160	$ 43,357	$ 439,509	$ 0	$ 439,509	$ 0
Coors	CO-03	1494	4161	13946	7544	65	35	0	$ 0	$ 236,175	$ 89,398	$ 5,160	$ 36,103	$ 366,837	$ 238,444	$ 128,393	$ 0
Coors	CO-04	6617	1808	19369	2965	0	55	45	$ 0	$ 245,451	$ 92,909	$ 0	$ 37,521	$ 375,881	$ 0	$ 206,735	$ 169,147
Coors	CO-05	2850	652	13040	1287	0	10	90	$ 0	$ 157,454	$ 59,600	$ 0	$ 24,069	$ 241,123	$ 0	$ 24,112	$ 217,011
COORS TOTAL		**19560**	**11901**	**76041**	**21261**				**$ 0**	**$ 1,069,349**	**$ 404,776**	**$ 13,600**	**$ 163,467**	**$ 1,651,193**	**$ 238,444**	**$ 1,026,591**	**$ 386,158**
East Mtn.	EM-01	14807	2586	30198	4139	0	0	100	$ 1,373,480	$ 0	$ 0	$ 0	$ 0	$ 1,373,480	$ 0	$ 0	$ 1,373,480
EAST MTN. TOTAL		**14807**	**2586**	**30198**	**4139**				**$ 1,373,480**	**$ 0**	**$ 0**	**$ 0**	**$ 0**	**$ 1,373,480**	**$ 0**	**$ 0**	**$ 1,373,480**
Edith	ED-01	-41	740	1357	4139	90	10	0	$ 0	$ 60,401	$ 22,863	$ 3,360	$ 9,233	$ 95,858	$ 86,272	$ 9,586	$ 0
Edith	ED-02	-41	667	2914	1894	100	0	0	$ 0	$ 52,840	$ 20,001	$ 512	$ 8,077	$ 81,431	$ 81,431	$ 0	$ 0
Edith	ED-03	219	535	8030	2023	90	10	0	$ 0	$ 110,482	$ 41,820	$ 0	$ 16,889	$ 169,192	$ 152,273	$ 16,919	$ 0
Edith	ED-04	872	125	7895	965	75	25	0	$ 0	$ 97,371	$ 36,858	$ 0	$ 14,885	$ 149,114	$ 111,835	$ 37,278	$ 0
Edith	ED-05	670	389	3723	2543	85	15	0	$ 0	$ 68,863	$ 26,067	$ 2,440	$ 10,527	$ 107,897	$ 91,712	$ 16,185	$ 0
Edith	ED-06	-188	1572	8163	17289	95	5	0	$ 0	$ 279,717	$ 105,880	$ 576	$ 42,759	$ 428,933	$ 407,487	$ 21,447	$ 0
Edith	ED-07	-28	1588	1109	11520	95	5	0	$ 0	$ 138,793	$ 52,537	$ 437	$ 21,217	$ 212,983	$ 202,334	$ 10,649	$ 0
Edith	ED-08	250	188	1333	501	60	40	0	$ 0	$ 20,156	$ 7,629	$ 0	$ 3,081	$ 30,866	$ 18,520	$ 12,346	$ 0
EDITH TOTAL		**1713**	**5804**	**34524**	**40874**				**$ 0**	**$ 828,624**	**$ 313,656**	**$ 7,325**	**$ 126,669**	**$ 1,276,273**	**$ 1,151,863**	**$ 124,410**	**$ 0**
Four Hills	FH-01	1685	657	3039	734	0	100	0	$ 0	$ 41,465	$ 15,696	$ 0	$ 6,339	$ 63,500	$ 0	$ 63,500	$ 0
Four Hills	FH-02	345	299	4141	592	45	55	0	$ 0	$ 52,016	$ 19,689	$ 0	$ 7,951	$ 79,656	$ 35,845	$ 43,811	$ 0
Four Hills	FH-03	1	1748	7252	4345	90	10	0	$ 0	$ 127,451	$ 48,244	$ 0	$ 19,483	$ 195,178	$ 175,660	$ 19,518	$ 0
Four Hills	FH-04	138	814	6000	3100	100	0	0	$ 0	$ 100,009	$ 37,856	$ 480	$ 15,288	$ 153,633	$ 153,633	$ 0	$ 0
Four Hills	FH-05	-7	103	308	677	100	0	0	$ 0	$ 10,825	$ 4,098	$ 0	$ 1,655	$ 16,578	$ 16,578	$ 0	$ 0
Four Hills	FH-06	-47	96	5499	4238	40	25	35	$ 0	$ 107,010	$ 40,506	$ 0	$ 16,358	$ 163,874	$ 65,549	$ 40,968	$ 57,356
FOUR HILLS TOTAL		**2115**	**3717**	**26239**	**13686**				**$ 0**	**$ 438,776**	**$ 166,088**	**$ 480**	**$ 67,074**	**$ 672,418**	**$ 447,265**	**$ 167,797**	**$ 57,356**

Table A.11. Annual Cost Analysis by Scenario

TREND SCENARIO																	
Annual Operation and Maintenance Cost Analysis - 1998 Dollars																	
										ANNUAL OPERATION & MAINTENANCE NEEDS							
Basin	Sub-	Trend	Trend	Trend	Trend	PERCENTAGE OF TOTAL			Septic Tank	Plant	Existing Lines	Parallel & New	Lift Stations	Total Annual O&M Costs By Coverage			
	Basin	Population	Employment	Population	Employment	In	In Srv.	Out Srv.	Annual Maint.	Oper./Maint	Maintenance	Lines Maint.	& Odor Control	Total	In	In Srv.	Out Srv.
		Increase	Increase	2020	2020	1960	Area	Area	$	$	$	$	$		1960	Area	Area
Isleta	IS-01	321	521	9872	1816	50	50	0	$ 0	$ 128,451	$ 48,622	$ 0	$ 19,636	$ 196,709	$ 98,355	$ 98,355	$ 0
Isleta	IS-02	368	444	7824	1705	0	100	0	$ 0	$ 104,724	$ 39,641	$ 0	$ 16,009	$ 160,373	$ 0	$ 160,373	$ 0
Isleta	IS-03	639	626	10262	2408	0	100	0	$ 0	$ 139,243	$ 52,707	$ 5,000	$ 21,286	$ 218,236	$ 0	$ 218,236	$ 0
Isleta	IS-04	17	44	2430	604	0	100	0	$ 0	$ 33,344	$ 12,621	$ 560	$ 5,097	$ 51,622	$ 0	$ 51,622	$ 0
ISLETA TOTAL		**1345**	**1635**	**30388**	**6533**				**$ 0**	**$ 405,762**	**$ 153,591**	**$ 5,560**	**$ 62,027**	**$ 626,940**	**$ 98,355**	**$ 528,586**	**$ 0**
Kirtland	KI-01	2021	36	13148	15751	0	5	95	$ 0	$ 317,600	$ 120,220	$ 0	$ 48,550	$ 486,370	$ 0	$ 24,319	$ 462,052
Kirtland	KI-02	-51	259	1672	6248	0	5	95	$ 0	$ 87,041	$ 32,947	$ 2,040	$ 13,306	$ 135,334	$ 0	$ 6,767	$ 128,567
Kirtland	KI-03	-9	-96	366	919	0	0	100	$ 0	$ 14,122	$ 5,346	$ 0	$ 2,159	$ 21,627	$ 0	$ 0	$ 21,627
KIRTLAND TOTAL		**1961**	**199**	**15186**	**22918**				**$ 0**	**$ 418,763**	**$ 158,513**	**$ 2,040**	**$ 64,015**	**$ 643,330**	**$ 0**	**$ 31,085**	**$ 612,245**
Mesadelsol	ME-01	10428	6992	10469	7087	0	4	96	$ 0	$ 192,940	$ 73,033	$ 7,440	$ 29,494	$ 302,907	$ 0	$ 12,116	$ 290,791
MESADELSOL TOTAL		**10428**	**6992**	**10469**	**7087**				**$ 0**	**$ 192,940**	**$ 73,033**	**$ 7,440**	**$ 29,494**	**$ 302,907**	**$ 0**	**$ 12,116**	**$ 290,791**
NM Utilities	NMU-01	1952	4112	3225	5031	0	0	100	$ 0	$ 90,733	$ 34,345	$ 0	$ 13,870	$ 138,948	$ 0	$ 0	$ 138,948
NM Utilities	NMU-02	2734	3623	3262	4259	0	0	100	$ 0	$ 82,656	$ 31,287	$ 0	$ 12,635	$ 126,578	$ 0	$ 0	$ 126,578
NM Utilities	NMU-03	23233	7014	34776	9772	0	20	80	$ 0	$ 489,583	$ 185,320	$ 0	$ 74,841	$ 749,743	$ 0	$ 149,949	$ 599,794
NM UTILITIES TOTAL		**27919**	**14749**	**41263**	**19062**				**$ 0**	**$ 662,972**	**$ 250,952**	**$ 0**	**$ 101,346**	**$ 1,015,270**	**$ 0**	**$ 149,949**	**$ 865,321**
Northeast	NE-01	81	870	19544	3898	50	50	0	$ 0	$ 257,628	$ 97,519	$ 0	$ 39,383	$ 394,529	$ 197,264	$ 197,264	$ 0
Northeast	NE-02	-154	336	9245	3690	100	0	0	$ 0	$ 142,156	$ 53,810	$ 0	$ 21,731	$ 217,696	$ 217,696	$ 0	$ 0
Northeast	NE-03	-115	987	14699	4174	70	25	5	$ 0	$ 207,414	$ 78,512	$ 0	$ 31,707	$ 317,633	$ 222,343	$ 79,408	$ 15,882
Northeast	NE-04	1004	3145	21817	9188	65	30	5	$ 0	$ 340,745	$ 128,981	$ 749	$ 52,088	$ 522,563	$ 339,666	$ 156,769	$ 26,128
Northeast	NE-05	-69	275	4123	1524	100	0	0	$ 0	$ 62,061	$ 23,492	$ 0	$ 9,487	$ 95,039	$ 95,039	$ 0	$ 0
Northeast	NE-06	4388	1151	27448	4122	0	75	25	$ 0	$ 346,954	$ 131,331	$ 0	$ 53,038	$ 531,323	$ 0	$ 398,492	$ 132,831
Northeast	NE-07	3747	373	5451	771	0	0	100	$ 0	$ 68,380	$ 25,884	$ 0	$ 10,453	$ 104,716	$ 0	$ 0	$ 104,716
Northeast	NE-08	3572	163	5752	427	0	100	0	$ 0	$ 67,907	$ 25,705	$ 0	$ 10,381	$ 103,993	$ 0	$ 103,993	$ 0
NORTHEAST TOTAL		**12454**	**7300**	**108079**	**27794**				**$ 0**	**$ 1,493,244**	**$ 565,232**	**$ 749**	**$ 228,267**	**$ 2,287,491**	**$ 1,072,008**	**$ 935,926**	**$ 279,557**
NW Valley	NW-01	1960	691	11192	2975	5	95	0	$ 0	$ 155,695	$ 58,935	$ 0	$ 23,801	$ 238,431	$ 11,922	$ 226,509	$ 0
NW Valley	NW-02	966	1722	7159	4779	0	95	5	$ 0	$ 131,199	$ 49,662	$ 0	$ 20,056	$ 200,917	$ 0	$ 190,871	$ 10,046
NW Valley	NW-03	410	985	3203	3826	50	50	0	$ 0	$ 77,249	$ 29,241	$ 251	$ 11,809	$ 118,549	$ 59,274	$ 59,274	$ 0
NW Valley	NW-04	55	161	2197	1009	60	40	0	$ 0	$ 35,234	$ 13,337	$ 0	$ 5,386	$ 53,957	$ 32,374	$ 21,583	$ 0
NW Valley	NW-05	148	2671	9056	11596	100	0	0	$ 0	$ 226,965	$ 85,912	$ 396	$ 34,695	$ 347,969	$ 347,969	$ 0	$ 0
NW VALLEY TOTAL		**3539**	**6230**	**32807**	**24185**				**$ 0**	**$ 626,342**	**$ 237,087**	**$ 647**	**$ 95,747**	**$ 959,822**	**$ 451,539**	**$ 498,237**	**$ 10,046**
Riverview	RV-01	1107	350	5725	571	0	100	0	$ 0	$ 69,193	$ 26,191	$ 0	$ 10,577	$ 105,962	$ 0	$ 105,962	$ 0
Riverview	RV-02	805	269	979	288	0	100	0	$ 0	$ 13,924	$ 5,271	$ 0	$ 2,129	$ 21,324	$ 0	$ 21,324	$ 0
RIVERVIEW TOTAL		**1912**	**619**	**6704**	**859**				**$ 0**	**$ 83,117**	**$ 31,462**	**$ 0**	**$ 12,706**	**$ 127,285**	**$ 0**	**$ 127,285**	**$ 0**
Sandia Hts	SH-01	2564	125	5952	425	0	0	100	$ 0	$ 70,083	$ 26,528	$ 0	$ 10,713	$ 107,325	$ 0	$ 0	$ 107,325
SANDIA HTS TOTAL		**2564**	**125**	**5952**	**425**				**$ 0**	**$ 70,083**	**$ 26,528**	**$ 0**	**$ 10,713**	**$ 107,325**	**$ 0**	**$ 0**	**$ 107,325**

Table A.11. Annual Cost Analysis by Scenario

TREND SCENARIO																
Annual Operation and Maintenance Cost Analysis - 1998 Dollars																
										ANNUAL OPERATION & MAINTENANCE NEEDS						
Basin	Sub-	Trend	Trend	Trend	Trend	PERCENTAGE OF TOTAL			Septic Tank	Plant	Existing Lines	Parallel & New	Lift Stations	Total Annual O&M Costs By Coverage		
	Basin	Population	Employment	Population	Employment	In	In Srv.	Out Srv.	Annual Maint.	Oper./Maint	Maintenance	Lines Maint.	& Odor Control	Total	In	In Srv.	Out Srv.
		Increase	Increase	2020	2020	1960	Area	Area	$	$	$	$	$		1960	Area	Area
Southeast	SE-01	171	269	926	1081	0	100	0	$ 0	$ 22,057	$ 8,349	$ 0	$ 3,372	$ 33,778	$ 0	$ 33,778	$ 0
Southeast	SE-02	60	440	991	1182	0	100	0	$ 0	$ 23,881	$ 9,040	$ 3,960	$ 3,651	$ 40,532	$ 0	$ 40,532	$ 0
Southeast	SE-03	12	2684	292	4145	0	100	0	$ 0	$ 48,763	$ 18,458	$ 0	$ 7,454	$ 74,675	$ 0	$ 74,675	$ 0
Southeast	SE-04	206	368	573	648	0	100	0	$ 0	$ 13,419	$ 5,079	$ 355	$ 2,051	$ 20,905	$ 0	$ 20,905	$ 0
SOUTHEAST TOTAL		**449**	**3761**	**2782**	**7056**				**$ 0**	**$ 108,120**	**$ 40,926**	**$ 4,315**	**$ 16,528**	**$ 169,889**	**$ 0**	**$ 169,889**	**$ 0**
Tijeras	TJ-01	1602	923	1683	1256	0	50	50	$ 0	$ 32,300	$ 12,226	$ 0	$ 4,938	$ 49,463	$ 0	$ 24,732	$ 24,732
Tijeras	TJ-02	23	1690	25	3051	0	100	0	$ 0	$ 33,805	$ 12,796	$ 0	$ 5,168	$ 51,769	$ 0	$ 51,769	$ 0
Tijeras	TJ-03	0	1106	1	2012	5	95	0	$ 0	$ 22,123	$ 8,374	$ 0	$ 3,382	$ 33,879	$ 1,694	$ 32,185	$ 0
Tijeras	TJ-04	71	2518	2846	5251	55	45	0	$ 0	$ 88,986	$ 33,684	$ 0	$ 13,603	$ 136,273	$ 74,950	$ 61,323	$ 0
Tijeras	TJ-05	158	65	2523	997	40	60	0	$ 0	$ 38,685	$ 14,643	$ 1,094	$ 5,914	$ 60,336	$ 24,134	$ 36,202	$ 0
Tijeras	TJ-06	145	-31	949	154	0	100	0	$ 0	$ 12,122	$ 4,588	$ 0	$ 1,853	$ 18,563	$ 0	$ 18,563	$ 0
TIJERAS TOTAL		**1999**	**6271**	**8027**	**12721**				**$ 0**	**$ 228,021**	**$ 86,312**	**$ 1,094**	**$ 34,857**	**$ 350,283**	**$ 100,778**	**$ 224,773**	**$ 24,732**
Uptown	UP-01	-490	477	23159	13367	60	40	0	$ 0	$ 401,421	$ 151,948	$ 0	$ 61,364	$ 614,733	$ 368,840	$ 245,893	$ 0
Uptown	UP-02	45	2066	1153	7787	40	60	0	$ 0	$ 98,251	$ 37,190	$ 1,800	$ 15,019	$ 152,260	$ 60,904	$ 91,356	$ 0
Uptown	UP-03	-317	5917	9531	23239	100	0	0	$ 0	$ 360,142	$ 136,323	$ 0	$ 55,054	$ 551,519	$ 551,519	$ 0	$ 0
Uptown	UP-04	57	1528	14348	10329	100	0	0	$ 0	$ 271,200	$ 102,656	$ 0	$ 41,457	$ 415,314	$ 415,314	$ 0	$ 0
Uptown	UP-05	-65	3055	6242	13902	100	0	0	$ 0	$ 221,383	$ 83,799	$ 1,602	$ 33,842	$ 340,626	$ 340,626	$ 0	$ 0
UPTOWN TOTAL		**-770**	**13043**	**54433**	**68624**				**$ 0**	**$ 1,352,396**	**$ 511,917**	**$ 3,402**	**$ 206,736**	**$ 2,074,451**	**$ 1,737,202**	**$ 337,249**	**$ 0**
W Fringe	WF-01	8046	5831	10964	6003	0	0	100	$ 0	$ 186,467	$ 70,583	$ 0	$ 28,505	$ 285,555	$ 0	$ 0	$ 285,555
W Fringe	WF-02	21064	5554	27446	6733	0	5	95	$ 0	$ 375,627	$ 142,185	$ 0	$ 57,421	$ 575,233	$ 0	$ 28,762	$ 546,471
W Fringe	WF-03	7342	5966	7557	5966	0	5	95	$ 0	$ 148,618	$ 56,256	$ 2,100	$ 22,719	$ 229,692	$ 0	$ 11,485	$ 218,207
W Fringe	WF-04	2108	1351	2108	1351	0	0	100	$ 0	$ 38,014	$ 14,389	$ 13,200	$ 5,811	$ 71,415	$ 0	$ 0	$ 71,415
W FRINGE TOTAL		**38560**	**18702**	**48075**	**20053**				**$ 0**	**$ 748,727**	**$ 283,412**	**$ 15,300**	**$ 114,455**	**$ 1,161,894**	**$ 0**	$ 40,246	**$ 1,121,648**
GRAND TOTAL		**148545**	**150315**	**658395**	**454313**				**$ 1,373,480**	**$ 11,851,297**	**$ 4,486,023**	**$ 66,929**	**$ 1,811,663**	**$ 19,589,393**	**$ 7,906,483**	**$ 6,388,278**	**$ 5,294,633**

Table A.11. Annual Cost Analysis by Scenario

BALANCED SCENARIO																		
Annual Operation and Maintenance Cost Analysis - 1998 Dollars																		
											ANNUAL OPERATION & MAINTENANCE NEEDS							
Basin	Sub-	Balanced	Balanced	Balanced	Balanced	PERCENTAGE OF TOTAL			Septic Tank	Plant	Existing Lines	Parallel & New	Lift Stations	Total Annual O&M Costs By Coverage				
	Basin	Population	Employment	Population	Employment	In	In Srv.	Out Srv.	Annual Maint.	Oper./Maint	Maintenance	Lines Maint.	& Odor Control	Total	In	In Srv.	Out Srv.	
		Increase	Increase	2020	2020	1960	Area	Area	$	$	$	$	$		1960	Area	Area	
Academy	AC-01	5886	16346	26568	38271	0	100	0	$ 0	$ 712,581	$ 269,730	$ 4,760	$ 108,930	$ 1,096,000	$ 0	$ 1,096,000	$ 0	
Academy	AC-02	393	177	14331	5748	0	100	0	$ 0	$ 220,668	$ 83,529	$ 0	$ 33,733	$ 337,930	$ 0	$ 337,930	$ 0	
Academy	AC-03	1267	6183	3129	20244	0	100	0	$ 0	$ 256,869	$ 97,232	$ 0	$ 39,267	$ 393,368	$ 0	$ 393,368	$ 0	
ACADEMY TOTAL		**7546**	**22706**	**44028**	**64263**				**$ 0**	**$ 1,190,118**	**$ 450,491**	**$ 4,760**	**$ 181,929**	**$ 1,827,298**	**$ 0**	**$ 1,827,298**	**$ 0**	
Campus	CA-01	466	694	17031	10218	90	0	10	$ 0	$ 299,467	$ 113,356	$ 189	$ 45,778	$ 458,789	$ 412,911	$ 0	$ 45,879	
Campus	CA-02	6252	5028	28580	19798	100	0	0	$ 0	$ 531,674	$ 201,252	$ 0	$ 81,275	$ 814,202	$ 814,202	$ 0	$ 0	
Campus	CA-03	2397	4255	27680	21345	85	0	15	$ 0	$ 538,785	$ 203,944	$ 84	$ 82,362	$ 825,175	$ 701,399	$ 0	$ 123,776	
Campus	CA-04	1426	5763	9880	27875	100	0	0	$ 0	$ 414,927	$ 157,061	$ 0	$ 63,428	$ 635,417	$ 635,417	$ 0	$ 0	
Campus	CA-05	-26	326	6129	4083	100	0	0	$ 0	$ 112,230	$ 42,482	$ 0	$ 17,156	$ 171,868	$ 171,868	$ 0	$ 0	
Campus	CA-06	-24	571	3947	2116	90	10	0	$ 0	$ 66,632	$ 25,222	$ 0	$ 10,186	$ 102,040	$ 91,836	$ 10,204	$ 0	
CAMPUS TOTAL		**10491**	**16637**	**93247**	**85435**				**$ 0**	**$ 1,963,715**	**$ 743,317**	**$ 273**	**$ 300,186**	**$ 3,007,491**	**$ 2,827,632**	**$ 10,204**	**$ 169,655**	
Coors	CO-01	478	248	11542	1410	0	100	0	$ 0	$ 142,342	$ 53,880	$ 3,280	$ 21,759	$ 221,262	$ 0	$ 221,262	$ 0	
Coors	CO-02	6601	4841	16624	7864	0	100	0	$ 0	$ 269,123	$ 101,870	$ 0	$ 41,140	$ 412,133	$ 0	$ 412,133	$ 0	
Coors	CO-03	1100	21123	13552	24506	65	35	0	$ 0	$ 418,257	$ 158,321	$ 5,160	$ 63,937	$ 645,676	$ 419,689	$ 225,987	$ 0	
Coors	CO-04	1920	1194	14672	2351	0	55	45	$ 0	$ 187,083	$ 70,816	$ 0	$ 28,599	$ 286,497	$ 0	$ 157,573	$ 128,924	
Coors	CO-05	1560	494	11750	1129	0	10	90	$ 0	$ 141,540	$ 53,577	$ 0	$ 21,637	$ 216,754	$ 0	$ 21,675	$ 195,078	
COORS TOTAL		**11659**	**27900**	**68140**	**37260**				**$ 0**	**$ 1,158,346**	**$ 438,464**	**$ 8,440**	**$ 177,072**	**$ 1,782,322**	**$ 419,689**	**$ 1,038,631**	**$ 324,002**	
East Mtn.	EM-01	8307	1501	23698	3054	0	0	100	$ 1,070,080	$ 0	$ 0	$ 0	$ 0	$ 1,070,080	$ 0	$ 0	$ 1,070,080	
EAST MTN. TOTAL		**8307**	**1501**	**23698**	**3054**				**$ 1,070,080**	**$ 0**	**$ 0**	**$ 0**	**$ 0**	**$ 1,070,080**	**$ 0**	**$ 0**	**$ 1,070,080**	
Edith	ED-01	187	640	1585	4039	90	10	0	$ 0	$ 61,808	$ 23,396	$ 3,360	$ 9,448	$ 98,012	$ 88,211	$ 9,801	$ 0	
Edith	ED-02	657	725	3612	1952	100	0	0	$ 0	$ 61,148	$ 23,146	$ 717	$ 9,348	$ 94,359	$ 94,359	$ 0	$ 0	
Edith	ED-03	926	531	8737	2019	90	10	0	$ 0	$ 118,208	$ 44,745	$ 0	$ 18,070	$ 181,023	$ 162,921	$ 18,102	$ 0	
Edith	ED-04	743	91	7766	931	75	25	0	$ 0	$ 95,580	$ 36,180	$ 0	$ 14,611	$ 146,371	$ 109,778	$ 36,593	$ 0	
Edith	ED-05	2522	750	5575	2904	85	15	0	$ 0	$ 93,184	$ 35,273	$ 2,440	$ 14,245	$ 145,142	$ 123,370	$ 21,771	$ 0	
Edith	ED-06	5724	1994	14075	17711	95	5	0	$ 0	$ 349,328	$ 132,230	$ 749	$ 53,400	$ 535,707	$ 508,922	$ 26,785	$ 0	
Edith	ED-07	2377	1673	3514	11605	95	5	0	$ 0	$ 166,158	$ 62,895	$ 437	$ 25,400	$ 254,890	$ 242,145	$ 12,744	$ 0	
Edith	ED-08	80	169	1163	482	60	40	0	$ 0	$ 18,079	$ 6,843	$ 0	$ 2,764	$ 27,685	$ 16,611	$ 11,074	$ 0	
EDITH TOTAL		**13216**	**6573**	**46027**	**41643**				**$ 0**	**$ 963,493**	**$ 364,707**	**$ 7,702**	**$ 147,286**	**$ 1,483,189**	**$ 1,346,317**	**$ 136,871**	**$ 0**	
Four Hills	FH-01	1685	623	3039	700	0	100	0	$ 0	$ 41,092	$ 15,554	$ 0	$ 6,282	$ 62,927	$ 0	$ 62,927	$ 0	
Four Hills	FH-02	346	272	4142	565	45	55	0	$ 0	$ 51,730	$ 19,581	$ 0	$ 7,908	$ 79,219	$ 35,648	$ 43,570	$ 0	
Four Hills	FH-03	1	1546	7252	4143	90	10	0	$ 0	$ 125,231	$ 47,403	$ 0	$ 19,144	$ 191,778	$ 172,600	$ 19,178	$ 0	
Four Hills	FH-04	138	672	6000	2958	100	0	0	$ 0	$ 98,448	$ 37,265	$ 420	$ 15,049	$ 151,183	$ 151,183	$ 0	$ 0	
Four Hills	FH-05	-7	72	308	646	100	0	0	$ 0	$ 10,484	$ 3,969	$ 0	$ 1,603	$ 16,056	$ 16,056	$ 0	$ 0	
Four Hills	FH-06	104	-77	5650	4065	40	25	35	$ 0	$ 106,768	$ 40,414	$ 0	$ 16,321	$ 163,503	$ 65,401	$ 40,876	$ 57,226	
FOUR HILLS TOTAL		**2267**	**3108**	**26391**	**13077**				**$ 0**	**$ 433,753**	**$ 164,187**	**$ 420**	**$ 66,306**	**$ 664,666**	**$ 440,889**	**$ 166,551**	**$ 57,226**	

Table A.11. Annual Cost Analysis by Scenario

BALANCED SCENARIO																		
Annual Operation and Maintenance Cost Analysis - 1998 Dollars																		
											ANNUAL OPERATION & MAINTENANCE NEEDS							
Basin	Sub-	Balanced	Balanced	Balanced	Balanced	PERCENTAGE OF TOTAL			Septic Tank	Plant	Existing Lines	Parallel & New	Lift Stations	Total Annual O&M Costs By Coverage				
	Basin	Population	Employment	Population	Employment	In	In Srv.	Out Srv.	Annual Maint.	Oper./Maint	Maintenance	Lines Maint.	& Odor Control	Total	In	In Srv.	Out Srv.	
		Increase	Increase	2020	2020	1960	Area	Area	$	$	$	$	$		1960	Area	Area	
Isleta	IS-01	2526	1041	12077	2336	50	50	0	$ 0	$ 158,399	$ 59,958	$ 0	$ 24,214	$ 242,571	$ 121,285	$ 121,285	$ 0	
Isleta	IS-02	1683	828	9139	2089	0	100	0	$ 0	$ 123,396	$ 46,708	$ 0	$ 18,863	$ 188,967	$ 0	$ 188,967	$ 0	
Isleta	IS-03	-4	555	9619	2337	0	100	0	$ 0	$ 131,396	$ 49,737	$ 5,000	$ 20,086	$ 206,219	$ 0	$ 206,219	$ 0	
Isleta	IS-04	-135	26	2278	586	0	100	0	$ 0	$ 31,475	$ 11,914	$ 0	$ 4,812	$ 48,201	$ 0	$ 48,201	$ 0	
ISLETA TOTAL		**4070**	**2450**	**33113**	**7348**				**$ 0**	**$ 444,666**	**$ 168,318**	**$ 5,000**	**$ 67,974**	**$ 685,959**	**$ 121,285**	**$ 564,673**	**$ 0**	
Kirtland	KI-01	1644	-810	12771	14905	0	5	95	$ 0	$ 304,159	$ 115,132	$ 0	$ 46,496	$ 465,787	$ 0	$ 23,289	$ 442,498	
Kirtland	KI-02	-51	-234	1672	5755	0	5	95	$ 0	$ 81,623	$ 30,896	$ 2,040	$ 12,477	$ 127,036	$ 0	$ 6,352	$ 120,685	
Kirtland	KI-03	-9	-139	366	876	0	0	100	$ 0	$ 13,650	$ 5,167	$ 0	$ 2,087	$ 20,903	$ 0	$ 0	$ 20,903	
KIRTLAND TOTAL		**1584**	**-1183**	**14809**	**21536**				**$ 0**	**$ 399,432**	**$ 151,195**	**$ 2,040**	**$ 61,060**	**$ 613,726**	**$ 0**	**$ 29,641**	**$ 584,085**	
Mesadelsol	ME-01	18710	11614	18751	11709	0	4	96	$ 0	$ 334,755	$ 126,714	$ 7,440	$ 51,173	$ 520,082	$ 0	$ 20,803	$ 499,279	
MESADELSOL TOTAL		**18710**	**11614**	**18751**	**11709**				**$ 0**	**$ 334,755**	**$ 126,714**	**$ 7,440**	**$ 51,173**	**$ 520,082**	**$ 0**	**$ 20,803**	**$ 499,279**	
NM Utilities	NMU-01	1202	3823	2475	4742	0	0	100	$ 0	$ 79,315	$ 30,023	$ 0	$ 12,125	$ 121,462	$ 0	$ 0	$ 121,462	
NM Utilities	NMU-02	1975	3378	2503	4014	0	0	100	$ 0	$ 71,622	$ 27,111	$ 0	$ 10,949	$ 109,681	$ 0	$ 0	$ 109,681	
NM Utilities	NMU-03	15401	6348	26944	9106	0	20	80	$ 0	$ 396,190	$ 149,968	$ 0	$ 60,564	$ 606,722	$ 0	$ 121,344	$ 485,377	
NM UTILITIES TOTAL		**18578**	**13549**	**31922**	**17862**				**$ 0**	**$ 547,126**	**$ 207,101**	**$ 0**	**$ 83,637**	**$ 837,865**	**$ 0**	**$ 121,344**	**$ 716,520**	
Northeast	NE-01	81	690	19544	3718	50	50	0	$ 0	$ 255,649	$ 96,770	$ 0	$ 39,080	$ 391,499	$ 195,750	$ 195,750	$ 0	
Northeast	NE-02	-154	164	9245	3518	100	0	0	$ 0	$ 140,265	$ 53,094	$ 0	$ 21,442	$ 214,801	$ 214,801	$ 0	$ 0	
Northeast	NE-03	-115	794	14699	3981	70	25	5	$ 0	$ 205,293	$ 77,709	$ 0	$ 31,382	$ 314,384	$ 220,069	$ 78,596	$ 15,719	
Northeast	NE-04	1004	2721	21817	8764	65	30	5	$ 0	$ 336,085	$ 127,217	$ 686	$ 51,376	$ 515,365	$ 334,987	$ 154,609	$ 25,768	
Northeast	NE-05	-69	204	4123	1453	100	0	0	$ 0	$ 61,280	$ 23,196	$ 0	$ 9,368	$ 93,844	$ 93,844	$ 0	$ 0	
Northeast	NE-06	4125	945	27185	3916	0	75	25	$ 0	$ 341,800	$ 129,380	$ 0	$ 52,250	$ 523,430	$ 0	$ 392,572	$ 130,857	
Northeast	NE-07	3569	335	5273	733	0	0	100	$ 0	$ 66,006	$ 24,985	$ 0	$ 10,090	$ 101,081	$ 0	$ 0	$ 101,081	
Northeast	NE-08	3425	138	5605	402	0	100	0	$ 0	$ 66,017	$ 24,989	$ 0	$ 10,092	$ 101,098	$ 0	$ 101,098	$ 0	
NORTHEAST TOTAL		**11866**	**5991**	**107491**	**26485**				**$ 0**	**$ 1,472,396**	**$ 557,340**	**$ 686**	**$ 225,080**	**$ 2,255,502**	**$ 1,059,451**	**$ 922,625**	**$ 273,426**	
NW Valley	NW-01	1589	573	10821	2857	5	95	0	$ 0	$ 150,321	$ 56,900	$ 0	$ 22,979	$ 230,201	$ 11,510	$ 218,691	$ 0	
NW Valley	NW-02	626	1472	6819	4529	0	95	5	$ 0	$ 124,715	$ 47,208	$ 0	$ 19,065	$ 190,987	$ 0	$ 181,437	$ 9,549	
NW Valley	NW-03	534	809	3327	3650	50	50	0	$ 0	$ 76,677	$ 29,024	$ 251	$ 11,721	$ 117,674	$ 58,837	$ 58,837	$ 0	
NW Valley	NW-04	478	184	2620	1032	60	40	0	$ 0	$ 40,135	$ 15,192	$ 0	$ 6,135	$ 61,463	$ 36,878	$ 24,585	$ 0	
NW Valley	NW-05	148	2058	9056	10983	100	0	0	$ 0	$ 220,229	$ 83,362	$ 317	$ 33,666	$ 337,573	$ 337,573	$ 0	$ 0	
NW VALLEY TOTAL		**3375**	**5096**	**32643**	**23051**				**$ 0**	**$ 612,077**	**$ 231,687**	**$ 568**	**$ 93,566**	**$ 937,898**	**$ 444,798**	**$ 483,550**	**$ 9,549**	
Riverview	RV-01	536	333	5154	554	0	100	0	$ 0	$ 62,731	$ 23,745	$ 0	$ 9,589	$ 96,066	$ 0	$ 96,066	$ 0	
Riverview	RV-02	694	260	868	279	0	100	0	$ 0	$ 12,606	$ 4,772	$ 0	$ 1,927	$ 19,304	$ 0	$ 19,304	$ 0	
RIVERVIEW TOTAL		**1230**	**593**	**6022**	**833**				**$ 0**	**$ 75,336**	**$ 28,517**	**$ 0**	**$ 11,516**	**$ 115,370**	**$ 0**	**$ 115,370**	**$ 0**	
Sandia Hts	SH-01	2370	98	5758	398	0	0	100	$ 0	$ 67,654	$ 25,609	$ 0	$ 10,342	$ 103,605	$ 0	$ 0	$ 103,605	
SANDIA HTS TOTAL		**2370**	**98**	**5758**	**398**				**$ 0**	**$ 67,654**	**$ 25,609**	**$ 0**	**$ 10,342**	**$ 103,605**	**$ 0**	**$ 0**	**$ 103,605**	

Table A.11. Annual Cost Analysis by Scenario

BALANCED SCENARIO																	
Annual Operation and Maintenance Cost Analysis - 1998 Dollars																	
											ANNUAL OPERATION & MAINTENANCE NEEDS						
Basin	Sub-	Balanced	Balanced	Balanced	Balanced	PERCENTAGE OF TOTAL			Septic Tank	Plant	Existing Lines	Parallel & New	Lift Stations	Total Annual O&M Costs By Coverage			
	Basin	Population	Employment	Population	Employment	In	In Srv.	Out Srv.	Annual Maint.	Oper./Maint	Maintenance	Lines Maint.	& Odor Control	Total	In	In Srv.	Out Srv.
		Increase	Increase	2020	2020	1960	Area	Area	$	$	$	$	$		1960	Area	Area
Southeast	SE-01	171	102	926	914	0	100	0	$ 0	$ 20,222	$ 7,654	$ 0	$ 3,091	$ 30,967	$ 0	$ 30,967	$ 0
Southeast	SE-02	60	244	991	986	0	100	0	$ 0	$ 21,727	$ 8,224	$ 3,960	$ 3,321	$ 37,233	$ 0	$ 37,233	$ 0
Southeast	SE-03	12	1993	292	3454	0	100	0	$ 0	$ 41,169	$ 15,583	$ 0	$ 6,293	$ 63,045	$ 0	$ 63,045	$ 0
Southeast	SE-04	206	350	573	630	0	100	0	$ 0	$ 13,221	$ 5,004	$ 355	$ 2,021	$ 20,602	$ 0	$ 20,602	$ 0
SOUTHEAST TOTAL		**449**	**2689**	**2782**	**5984**				**$ 0**	**$ 96,338**	**$ 36,467**	**$ 4,315**	**$ 14,727**	**$ 151,847**	**$ 0**	**$ 151,847**	**$ 0**
Tijeras	TJ-01	2522	1407	2603	1740	0	50	50	$ 0	$ 47,730	$ 18,067	$ 0	$ 7,296	$ 73,093	$ 0	$ 36,546	$ 36,546
Tijeras	TJ-02	23	1326	25	2687	0	100	0	$ 0	$ 29,805	$ 11,282	$ 0	$ 4,556	$ 45,643	$ 0	$ 45,643	$ 0
Tijeras	TJ-03	0	915	1	1821	5	95	0	$ 0	$ 20,024	$ 7,580	$ 0	$ 3,061	$ 30,664	$ 1,533	$ 29,131	$ 0
Tijeras	TJ-04	71	2020	2846	4753	55	45	0	$ 0	$ 83,513	$ 31,612	$ 0	$ 12,766	$ 127,891	$ 70,340	$ 57,551	$ 0
Tijeras	TJ-05	164	90	2529	1022	40	60	0	$ 0	$ 39,025	$ 14,772	$ 1,123	$ 5,966	$ 60,887	$ 24,355	$ 36,532	$ 0
Tijeras	TJ-06	145	-35	949	150	0	100	0	$ 0	$ 12,078	$ 4,572	$ 0	$ 1,846	$ 18,496	$ 0	$ 18,496	$ 0
TIJERAS TOTAL		**2925**	**5723**	**8953**	**12173**				**$ 0**	**$ 232,175**	**$ 87,884**	**$ 1,123**	**$ 35,492**	**$ 356,674**	**$ 96,228**	**$ 223,899**	**$ 36,546**
Uptown	UP-01	-522	-158	23127	12732	60	40	0	$ 0	$ 394,090	$ 149,173	$ 0	$ 60,243	$ 603,507	$ 362,104	$ 241,403	$ 0
Uptown	UP-02	36	1017	1144	6738	40	60	0	$ 0	$ 86,623	$ 32,789	$ 1,800	$ 13,242	$ 134,454	$ 53,782	$ 80,672	$ 0
Uptown	UP-03	2683	5338	12531	22660	100	0	0	$ 0	$ 386,749	$ 146,395	$ 0	$ 59,121	$ 592,265	$ 592,265	$ 0	$ 0
Uptown	UP-04	384	1062	14675	9863	100	0	0	$ 0	$ 269,673	$ 102,078	$ 0	$ 41,224	$ 412,975	$ 412,975	$ 0	$ 0
Uptown	UP-05	-27	2443	6280	13290	100	0	0	$ 0	$ 215,074	$ 81,411	$ 1,584	$ 32,878	$ 330,947	$ 330,947	$ 0	$ 0
UPTOWN TOTAL		**2554**	**9702**	**57757**	**65283**				**$ 0**	**$ 1,352,210**	**$ 511,846**	**$ 3,384**	**$ 206,707**	**$ 2,074,147**	**$ 1,752,072**	**$ 322,075**	**$ 0**
W Fringe	WF-01	5170	3377	8088	3549	0	0	100	$ 0	$ 127,891	$ 48,410	$ 0	$ 19,550	$ 195,851	$ 0	$ 0	$ 195,851
W Fringe	WF-02	14024	9633	20406	10812	0	5	95	$ 0	$ 343,086	$ 129,867	$ 0	$ 52,446	$ 525,399	$ 0	$ 26,270	$ 499,129
W Fringe	WF-03	7129	966	7344	966	0	5	95	$ 0	$ 91,327	$ 34,570	$ 2,100	$ 13,961	$ 141,957	$ 0	$ 7,098	$ 134,859
W Fringe	WF-04	0	0	0	0	0	0	100	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
W FRINGE TOTAL		**26323**	**13976**	**35838**	**15327**				**$ 0**	**$ 562,303**	**$ 212,846**	**$ 2,100**	**$ 85,957**	**$ 863,207**	**$ 0**	$ 33,368	**$ 829,839**
GRAND TOTAL		**147520**	**148723**	**657370**	**452721**				**$ 1,070,080**	**$ 11,905,896**	**$ 4,506,690**	**$ 48,252**	**$ 1,820,010**	**$ 19,350,927**	**$ 8,508,362**	**$ 6,168,752**	**$ 4,673,814**

Table A.11. Annual Cost Analysis by Scenario

DOWNTOWN SCENARIO																	
Annual Operation and Maintenance Cost Analysis - 1998 Dollars																	
											ANNUAL OPERATION & MAINTENANCE NEEDS						
Basin	Sub-	Downtown	Downtown	Downtown	Downtown	PERCENTAGE OF TOTAL			Septic Tank	Plant	Existing Lines	Parallel & New	Lift Stations	Total Annual O&M Costs By Coverage			
	Basin	Population	Employment	Population	Employment	In	In Srv.	Out Srv.	Annual Maint.	Oper./Maint	Maintenance	Lines Maint.	& Odor Control	Total	In	In Srv.	Out Srv.
		Increase	Increase	2020	2020	1960	Area	Area	$	$	$	$	$		1960	Area	Area
Academy	AC-01	8832	18510	29514	40435	0	100	0	$ 0	$ 768,740	$ 290,988	$ 4,760	$ 117,514	$ 1,182,002	$ 0	$ 1,182,002	$ 0
Academy	AC-02	858	274	14796	5845	0	100	0	$ 0	$ 226,845	$ 85,867	$ 0	$ 34,677	$ 347,388	$ 0	$ 347,388	$ 0
Academy	AC-03	1611	7843	3473	21904	0	100	0	$ 0	$ 278,893	$ 105,568	$ 0	$ 42,633	$ 427,095	$ 0	$ 427,095	$ 0
ACADEMY TOTAL		**11301**	**26627**	**47783**	**68184**				**$ 0**	**$ 1,274,477**	**$ 482,423**	**$ 4,760**	**$ 194,825**	**$ 1,956,485**	**$ 0**	**$ 1,956,485**	**$ 0**
Campus	CA-01	19	1007	16584	10531	90	0	10	$ 0	$ 297,994	$ 112,798	$ 189	$ 45,553	$ 456,534	$ 410,881	$ 0	$ 45,653
Campus	CA-02	99	916	22427	15686	100	0	0	$ 0	$ 418,862	$ 158,550	$ 0	$ 64,030	$ 641,442	$ 641,442	$ 0	$ 0
Campus	CA-03	2710	6606	27993	23696	85	0	15	$ 0	$ 568,062	$ 215,026	$ 105	$ 86,838	$ 870,031	$ 739,526	$ 0	$ 130,505
Campus	CA-04	1307	8787	9761	30899	100	0	0	$ 0	$ 446,853	$ 169,146	$ 0	$ 68,309	$ 684,308	$ 684,308	$ 0	$ 0
Campus	CA-05	-52	624	6103	4381	100	0	0	$ 0	$ 115,219	$ 43,613	$ 0	$ 17,613	$ 176,446	$ 176,446	$ 0	$ 0
Campus	CA-06	-8	688	3963	2233	90	10	0	$ 0	$ 68,094	$ 25,775	$ 0	$ 10,409	$ 104,279	$ 93,851	$ 10,428	$ 0
CAMPUS TOTAL		**4075**	**18628**	**86831**	**87426**				**$ 0**	**$ 1,915,084**	**$ 724,909**	**$ 294**	**$ 292,752**	**$ 2,933,039**	**$ 2,746,453**	**$ 10,428**	**$ 176,158**
Coors	CO-01	-279	104	10785	1266	0	100	0	$ 0	$ 132,440	$ 50,132	$ 3,280	$ 20,246	$ 206,098	$ 0	$ 206,098	$ 0
Coors	CO-02	8724	7995	18747	11018	0	100	0	$ 0	$ 327,117	$ 123,822	$ 0	$ 50,005	$ 500,945	$ 0	$ 500,945	$ 0
Coors	CO-03	5293	4128	17745	7511	65	35	0	$ 0	$ 277,563	$ 105,065	$ 0	$ 42,430	$ 425,058	$ 276,288	$ 148,770	$ 0
Coors	CO-04	5270	716	18022	1873	0	55	45	$ 0	$ 218,646	$ 82,763	$ 0	$ 33,424	$ 334,833	$ 0	$ 184,158	$ 150,675
Coors	CO-05	1528	294	11718	929	0	10	90	$ 0	$ 138,991	$ 52,612	$ 0	$ 21,247	$ 212,849	$ 0	$ 21,285	$ 191,564
COORS TOTAL		**20536**	**13237**	**77017**	**22597**				**$ 0**	**$ 1,094,758**	**$ 414,394**	**$ 3,280**	**$ 167,352**	**$ 1,679,784**	**$ 276,288**	**$ 1,061,257**	**$ 342,239**
East Mtn.	EM-01	12634	1625	28025	3178	0	0	100	$ 1,248,120	$ 0	$ 0	$ 0	$ 0	$ 1,248,120	$ 0	$ 0	$ 1,248,120
EAST MTN. TOTAL		**12634**	**1625**	**28025**	**3178**				**$ 1,248,120**	**$ 0**	**$ 0**	**$ 0**	**$ 0**	**$ 1,248,120**	**$ 0**	**$ 0**	**$ 1,248,120**
Edith	ED-01	32	940	1430	4339	90	10	0	$ 0	$ 63,401	$ 23,999	$ 3,360	$ 9,692	$ 100,452	$ 90,407	$ 10,045	$ 0
Edith	ED-02	4	697	2959	1924	100	0	0	$ 0	$ 53,664	$ 20,313	$ 563	$ 8,203	$ 82,744	$ 82,744	$ 0	$ 0
Edith	ED-03	480	579	8291	2067	90	10	0	$ 0	$ 113,834	$ 43,089	$ 0	$ 17,401	$ 174,325	$ 156,893	$ 17,433	$ 0
Edith	ED-04	1311	180	8334	1020	75	25	0	$ 0	$ 102,800	$ 38,913	$ 0	$ 15,715	$ 157,428	$ 118,071	$ 39,357	$ 0
Edith	ED-05	1496	405	4549	2559	85	15	0	$ 0	$ 78,117	$ 29,569	$ 2,440	$ 11,941	$ 122,068	$ 103,757	$ 18,310	$ 0
Edith	ED-06	1834	10733	10185	26450	95	5	0	$ 0	$ 402,619	$ 152,402	$ 787	$ 61,547	$ 617,354	$ 586,487	$ 30,868	$ 0
Edith	ED-07	836	9097	1973	19029	95	5	0	$ 0	$ 230,812	$ 87,368	$ 571	$ 35,283	$ 354,035	$ 336,333	$ 17,702	$ 0
Edith	ED-08	616	454	1699	767	60	40	0	$ 0	$ 27,101	$ 10,259	$ 0	$ 4,143	$ 41,503	$ 24,902	$ 16,601	$ 0
EDITH TOTAL		**6609**	**23085**	**39420**	**58155**				**$ 0**	**$ 1,072,349**	**$ 405,912**	**$ 7,722**	**$ 163,926**	**$ 1,649,909**	**$ 1,499,593**	**$ 150,315**	**$ 0**
Four Hills	FH-01	1687	659	3041	736	0	100	0	$ 0	$ 41,509	$ 15,712	$ 0	$ 6,345	$ 63,567	$ 0	$ 63,567	$ 0
Four Hills	FH-02	347	301	4143	594	45	55	0	$ 0	$ 52,060	$ 19,706	$ 0	$ 7,958	$ 79,724	$ 35,876	$ 43,848	$ 0
Four Hills	FH-03	4	1758	7255	4355	90	10	0	$ 0	$ 127,594	$ 48,298	$ 0	$ 19,505	$ 195,396	$ 175,857	$ 19,540	$ 0
Four Hills	FH-04	141	821	6003	3107	100	0	0	$ 0	$ 100,119	$ 37,898	$ 480	$ 15,305	$ 153,801	$ 153,801	$ 0	$ 0
Four Hills	FH-05	-7	105	308	679	100	0	0	$ 0	$ 10,847	$ 4,106	$ 0	$ 1,658	$ 16,611	$ 16,611	$ 0	$ 0
Four Hills	FH-06	7	114	5553	4256	40	25	35	$ 0	$ 107,801	$ 40,805	$ 0	$ 16,479	$ 165,085	$ 66,034	$ 41,271	$ 57,780
FOUR HILLS TOTAL		**2179**	**3758**	**26303**	**13727**				**$ 0**	**$ 439,930**	**$ 166,525**	**$ 480**	**$ 67,250**	**$ 674,185**	**$ 448,179**	**$ 168,226**	**$ 57,780**

Table A.11. Annual Cost Analysis by Scenario

DOWNTOWN SCENARIO																	
Annual Operation and Maintenance Cost Analysis - 1998 Dollars																	
											ANNUAL OPERATION & MAINTENANCE NEEDS						
Basin	Sub-	Downtown	Downtown	Downtown	Downtown	PERCENTAGE OF TOTAL			Septic Tank	Plant	Existing Lines	Parallel & New	Lift Stations	Total Annual O&M Costs By Coverage			
	Basin	Population	Employment	Population	Employment	In	In Srv.	Out Srv.	Annual Maint.	Oper./Maint	Maintenance	Lines Maint.	& Odor Control	Total	In	In Srv.	Out Srv.
		Increase	Increase	2020	2020	1960	Area	Area	$	$	$	$	$		1960	Area	Area
Isleta	IS-01	1619	617	11170	1912	50	50	0	$ 0	$ 143,771	$ 54,421	$ 0	$ 21,978	$ 220,170	$ 110,085	$ 110,085	$ 0
Isleta	IS-02	142	221	7598	1482	0	100	0	$ 0	$ 99,789	$ 37,773	$ 0	$ 15,254	$ 152,816	$ 0	$ 152,816	$ 0
Isleta	IS-03	142	299	9765	2081	0	100	0	$ 0	$ 130,188	$ 49,279	$ 5,000	$ 19,901	$ 204,368	$ 0	$ 204,368	$ 0
Isleta	IS-04	-101	-38	2312	522	0	100	0	$ 0	$ 31,146	$ 11,789	$ 0	$ 4,761	$ 47,696	$ 0	$ 47,696	$ 0
ISLETA TOTAL		**1802**	**1099**	**30845**	**5997**				**$ 0**	**$ 404,894**	**$ 153,263**	**$ 5,000**	**$ 61,895**	**$ 625,051**	**$ 110,085**	**$ 514,966**	**$ 0**
Kirtland	KI-01	1965	-97	13092	15618	0	5	95	$ 0	$ 315,523	$ 119,434	$ 0	$ 48,233	$ 483,189	$ 0	$ 24,159	$ 459,030
Kirtland	KI-02	-32	193	1691	6182	0	5	95	$ 0	$ 86,524	$ 32,752	$ 2,040	$ 13,227	$ 134,543	$ 0	$ 6,727	$ 127,815
Kirtland	KI-03	-5	-96	370	919	0	0	100	$ 0	$ 14,166	$ 5,362	$ 0	$ 2,166	$ 21,694	$ 0	$ 0	$ 21,694
KIRTLAND TOTAL		**1928**	**0**	**15153**	**22719**				**$ 0**	**$ 416,213**	**$ 157,548**	**$ 2,040**	**$ 63,625**	**$ 639,426**	**$ 0**	**$ 30,887**	**$ 608,539**
Mesadelsol	ME-01	8630	1031	8671	1126	0	4	96	$ 0	$ 107,669	$ 40,756	$ 7,440	$ 27,432	$ 183,296	$ 0	$ 7,332	$ 175,964
MESADELSOL TOTAL		**8630**	**1031**	**8671**	**1126**				**$ 0**	**$ 107,669**	**$ 40,756**	**$ 7,440**	**$ 27,432**	**$ 183,296**	**$ 0**	**$ 7,332**	**$ 175,964**
NM Utilities	NMU-01	2251	3464	3524	4383	0	0	100	$ 0	$ 86,898	$ 32,893	$ 0	$ 13,284	$ 133,075	$ 0	$ 0	$ 133,075
NM Utilities	NMU-02	3036	3075	3564	3711	0	0	100	$ 0	$ 79,952	$ 30,264	$ 0	$ 12,222	$ 122,438	$ 0	$ 0	$ 122,438
NM Utilities	NMU-03	24429	6093	35972	8851	0	20	80	$ 0	$ 492,605	$ 186,464	$ 0	$ 75,303	$ 754,371	$ 0	$ 150,874	$ 603,497
NM UTILITIES TOTAL		**29716**	**12632**	**43060**	**16945**				**$ 0**	**$ 659,455**	**$ 249,621**	**$ 0**	**$ 100,808**	**$ 1,009,884**	**$ 0**	**$ 150,874**	**$ 859,010**
Northeast	NE-01	108	747	19571	3775	50	50	0	$ 0	$ 256,573	$ 97,119	$ 0	$ 39,221	$ 392,913	$ 196,457	$ 196,457	$ 0
Northeast	NE-02	-139	348	9260	3702	100	0	0	$ 0	$ 142,452	$ 53,922	$ 0	$ 21,776	$ 218,150	$ 218,150	$ 0	$ 0
Northeast	NE-03	-28	729	14786	3916	70	25	5	$ 0	$ 205,535	$ 77,800	$ 0	$ 31,419	$ 314,755	$ 220,328	$ 78,689	$ 15,738
Northeast	NE-04	1131	2502	21944	8545	65	30	5	$ 0	$ 335,074	$ 126,834	$ 686	$ 51,222	$ 513,816	$ 333,981	$ 154,145	$ 25,691
Northeast	NE-05	-52	284	4140	1533	100	0	0	$ 0	$ 62,346	$ 23,600	$ 0	$ 9,531	$ 95,477	$ 95,477	$ 0	$ 0
Northeast	NE-06	4529	742	27589	3713	0	75	25	$ 0	$ 344,009	$ 130,216	$ 0	$ 52,587	$ 526,813	$ 0	$ 395,109	$ 131,703
Northeast	NE-07	3751	268	5455	666	0	0	100	$ 0	$ 67,270	$ 25,463	$ 0	$ 10,283	$ 103,016	$ 0	$ 0	$ 103,016
Northeast	NE-08	3583	125	5763	389	0	100	0	$ 0	$ 67,610	$ 25,592	$ 0	$ 10,335	$ 103,538	$ 0	$ 103,538	$ 0
NORTHEAST TOTAL		**12883**	**5745**	**108508**	**26239**				**$ 0**	**$ 1,480,870**	**$ 560,548**	**$ 686**	**$ 226,375**	**$ 2,268,478**	**$ 1,064,392**	**$ 927,938**	**$ 276,148**
NW Valley	NW-01	2143	462	11375	2746	5	95	0	$ 0	$ 155,190	$ 58,743	$ 0	$ 23,723	$ 237,656	$ 11,883	$ 225,774	$ 0
NW Valley	NW-02	1039	1280	7232	4337	0	95	5	$ 0	$ 127,143	$ 48,127	$ 0	$ 19,436	$ 194,706	$ 0	$ 184,971	$ 9,735
NW Valley	NW-03	525	939	3318	3780	50	50	0	$ 0	$ 78,007	$ 29,528	$ 274	$ 11,925	$ 119,733	$ 59,866	$ 59,866	$ 0
NW Valley	NW-04	89	168	2231	1016	60	40	0	$ 0	$ 35,685	$ 13,508	$ 0	$ 5,455	$ 54,647	$ 32,788	$ 21,859	$ 0
NW Valley	NW-05	42	3037	8950	11962	100	0	0	$ 0	$ 229,823	$ 86,994	$ 436	$ 35,132	$ 352,385	$ 352,385	$ 0	$ 0
NW VALLEY TOTAL		**3838**	**5886**	**33106**	**23841**				**$ 0**	**$ 625,848**	**$ 236,900**	**$ 709**	**$ 95,671**	**$ 959,127**	**$ 456,922**	**$ 492,470**	**$ 9,735**
Riverview	RV-01	2452	634	7070	855	0	100	0	$ 0	$ 87,096	$ 32,968	$ 0	$ 13,314	$ 133,378	$ 0	$ 133,378	$ 0
Riverview	RV-02	1104	432	1278	451	0	100	0	$ 0	$ 19,002	$ 7,193	$ 0	$ 2,905	$ 29,099	$ 0	$ 29,099	$ 0
RIVERVIEW TOTAL		**3556**	**1066**	**8348**	**1306**				**$ 0**	**$ 106,097**	**$ 40,161**	**$ 0**	**$ 16,219**	**$ 162,477**	**$ 0**	**$ 162,477**	**$ 0**
Sandia Hts	SH-01	2568	89	5956	389	0	0	100	$ 0	$ 69,732	$ 26,395	$ 0	$ 10,660	$ 106,786	$ 0	$ 0	$ 106,786
SANDIA HTS TOTAL		**2568**	**89**	**5956**	**389**				**$ 0**	**$ 69,732**	**$ 26,395**	**$ 0**	**$ 10,660**	**$ 106,786**	**$ 0**	**$ 0**	**$ 106,786**

Table A.11. Annual Cost Analysis by Scenario

DOWNTOWN SCENARIO																	
Annual Operation and Maintenance Cost Analysis - 1998 Dollars																	
										ANNUAL OPERATION & MAINTENANCE NEEDS							
Basin	Sub-	Downtown	Downtown	Downtown	Downtown	PERCENTAGE OF TOTAL			Septic Tank	Plant	Existing Lines	Parallel & New	Lift Stations	Total Annual O&M Costs By Coverage			
	Basin	Population	Employment	Population	Employment	In	In Srv.	Out Srv.	Annual Maint.	Oper./Maint	Maintenance	Lines Maint.	& Odor Control	Total	In	In Srv.	Out Srv.
		Increase	Increase	2020	2020	1960	Area	Area	$	$	$	$	$		1960	Area	Area
Southeast	SE-01	135	223	890	1035	0	100	0	$ 0	$ 21,156	$ 8,008	$ 0	$ 3,234	$ 32,398	$ 0	$ 32,398	$ 0
Southeast	SE-02	60	400	991	1142	0	100	0	$ 0	$ 23,442	$ 8,873	$ 3,960	$ 3,583	$ 39,858	$ 0	$ 39,858	$ 0
Southeast	SE-03	12	2541	292	4002	0	100	0	$ 0	$ 47,191	$ 17,863	$ 0	$ 7,214	$ 72,268	$ 0	$ 72,268	$ 0
Southeast	SE-04	181	286	548	566	0	100	0	$ 0	$ 12,243	$ 4,634	$ 444	$ 1,872	$ 19,193	$ 0	$ 19,193	$ 0
SOUTHEAST TOTAL		**388**	**3450**	**2721**	**6745**				**$ 0**	**$ 104,031**	**$ 39,379**	**$ 4,404**	**$ 15,903**	**$ 163,717**	**$ 0**	**$ 163,717**	**$ 0**
Tijeras	TJ-01	1403	256	1484	589	0	50	50	$ 0	$ 22,782	$ 8,624	$ 9,600	$ 3,483	$ 44,489	$ 0	$ 22,244	$ 22,244
Tijeras	TJ-02	23	1604	25	2965	0	100	0	$ 0	$ 32,860	$ 12,438	$ 0	$ 5,023	$ 50,322	$ 0	$ 50,322	$ 0
Tijeras	TJ-03	0	1053	1	1959	5	95	0	$ 0	$ 21,540	$ 8,154	$ 0	$ 3,293	$ 32,987	$ 1,649	$ 31,337	$ 0
Tijeras	TJ-04	1267	2465	4042	5198	55	45	0	$ 0	$ 101,548	$ 38,438	$ 0	$ 15,523	$ 155,509	$ 85,530	$ 69,979	$ 0
Tijeras	TJ-05	864	83	3229	1015	40	60	0	$ 0	$ 46,642	$ 17,655	$ 1,296	$ 7,130	$ 72,723	$ 29,089	$ 43,634	$ 0
Tijeras	TJ-06	105	-50	909	135	0	100	0	$ 0	$ 11,474	$ 4,343	$ 0	$ 1,754	$ 17,571	$ 0	$ 17,571	$ 0
TIJERAS TOTAL		**3662**	**5411**	**9690**	**11861**				**$ 0**	**$ 236,845**	**$ 89,652**	**$ 10,896**	**$ 36,206**	**$ 373,599**	**$ 116,268**	**$ 235,087**	**$ 22,244**
Uptown	UP-01	-442	742	23207	13632	60	40	0	$ 0	$ 404,861	$ 153,250	$ 0	$ 61,890	$ 620,000	$ 372,000	$ 248,000	$ 0
Uptown	UP-02	55	1716	1163	7437	40	60	0	$ 0	$ 94,514	$ 35,776	$ 1,800	$ 14,448	$ 146,538	$ 58,615	$ 87,923	$ 0
Uptown	UP-03	719	14536	10567	31858	100	0	0	$ 0	$ 466,251	$ 176,488	$ 0	$ 71,274	$ 714,013	$ 714,013	$ 0	$ 0
Uptown	UP-04	184	1550	14475	10351	100	0	0	$ 0	$ 272,838	$ 103,276	$ 0	$ 41,708	$ 417,822	$ 417,822	$ 0	$ 0
Uptown	UP-05	23	3502	6330	14349	100	0	0	$ 0	$ 227,262	$ 86,025	$ 1,602	$ 34,741	$ 349,630	$ 349,630	$ 0	$ 0
UPTOWN TOTAL		**539**	**22046**	**55742**	**77627**				**$ 0**	**$ 1,465,725**	**$ 554,815**	**$ 3,402**	**$ 224,060**	**$ 2,248,002**	**$ 1,912,079**	**$ 335,923**	**$ 0**
W Fringe	WF-01	4060	227	6978	399	0	0	100	$ 0	$ 81,073	$ 30,688	$ 0	$ 12,393	$ 124,155	$ 0	$ 0	$ 124,155
W Fringe	WF-02	13498	3000	19880	4179	0	5	95	$ 0	$ 264,408	$ 100,085	$ 0	$ 40,419	$ 404,913	$ 0	$ 20,246	$ 384,667
W Fringe	WF-03	2892	257	3107	257	0	5	95	$ 0	$ 36,970	$ 13,994	$ 2,100	$ 5,652	$ 58,716	$ 0	$ 2,936	$ 55,780
W Fringe	WF-04	0	0	0	0	0	0	100	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
W FRINGE TOTAL		**20450**	**3484**	**29965**	**4835**				**$ 0**	**$ 382,452**	**$ 144,768**	**$ 2,100**	**$ 58,464**	**$ 587,784**	**$ 0**	$ 23,181	**$ 564,603**
GRAND TOTAL		**147294**	**148899**	**657144**	**452897**				**$ 1,248,120**	**$ 11,856,430**	**$ 4,487,966**	**$ 53,213**	**$ 1,823,420**	**$ 19,469,149**	**$ 8,630,261**	**$ 6,391,561**	**$ 4,447,327**

Table A.12 Costs to Mitigate Deficiencies

From	Roadway	From	To	Description	Year of Improvement (1)	Cost of Improvement	Trend	Downtown	Balanced	Trend	Downtown	Balanced	Location 1960	Location WSA	Location Outside WSA	Trend 1960	Trend WSA	Trend Outside WSA	Downtown 1960	Downtown WSA	Downtown Outside WSA	Balanced 1960	Balanced WSA	Balanced Outside WSA
MTP	2nd Street	I-40	North City Limits	4 lanes to 6 lanes	2005	$30,000,000	X	X	X	$30,000,000	$30,000,000	$30,000,000	100%			$30,000,000	$0	$0	$30,000,000	$0	$0	$30,000,000	$0	$0
MTP	Coors	Pajarito	Central	4 lanes to 6 lanes	2020	$13,000,000	X	X	X	$13,000,000	$13,000,000	$13,000,000		86%	14%	$0	$11,180,000	$1,820,000	$0	$11,180,000	$1,820,000	$0	$11,180,000	$1,820,000
MTP	Coors	Paseo del Norte	St. Joseph	4 lanes to 6 lanes	2010	$4,650,000	X	X	X	$4,650,000	$4,650,000	$4,650,000		100%		$0	$4,650,000	$0	$0	$4,650,000	$0	$0	$4,650,000	$0
MTP	Eagle Ranch	Paradise	Paseo del Norte	2 lanes to 4 lanes	2010	$1,500,000	X	X	X	$1,500,000	$1,500,000	$1,500,000		100%		$0	$1,500,000	$0	$0	$1,500,000	$0	$0	$1,500,000	$0
MTP	Edith	Candelaria	Montano	2 lanes to 4 lanes	2020	$6,000,000	X	X	X	$6,000,000	$6,000,000	$6,000,000		100%		$0	$6,000,000	$0	$0	$6,000,000	$0	$0	$6,000,000	$0
MTP	Eubank	Paseo del Norte	South of San Rafael	2 lanes to 4 lanes	2010	$5,000,000	X	X	X	$5,000,000	$5,000,000	$5,000,000			100%	$0	$0	$5,000,000	$0	$0	$5,000,000	$0	$0	$5,000,000
MTP	Gibson	Eubank	Juan Tabo	2 lanes to 4 lanes	2020	$1,067,000	X	X	X	$1,067,000	$1,067,000	$1,067,000		100%		$0	$1,067,000	$0	$0	$1,067,000	$0	$0	$1,067,000	$0
MTP	Golf Course	Westside	Paseo del Norte	2 lanes to 4 lanes	2010	$5,250,000	X	X	X	$5,250,000	$5,250,000	$5,250,000			100%	$0	$0	$5,250,000	$0	$0	$5,250,000	$0	$0	$5,250,000
MTP	Griegos	Edith	I-25	2 lanes to 4 lanes	2020	$2,000,000	X	X	X	$2,000,000	$2,000,000	$2,000,000		100%		$0	$2,000,000	$0	$0	$2,000,000	$0	$0	$2,000,000	$0
MTP	I-25	Gibson	Rio Bravo	4 lanes to 6 lanes	2020	$5,000,000	X	X	X	$5,000,000	$5,000,000	$5,000,000		100%		$0	$5,000,000	$0	$0	$5,000,000	$0	$0	$5,000,000	$0
MTP	Irving	Chantilly	Unser	2 lanes to 4 lanes	2010	$12,000,000	X	X	X	$12,000,000	$12,000,000	$12,000,000			100%	$0	$0	$12,000,000	$0	$0	$12,000,000	$0	$0	$12,000,000
MTP	McMahon	Golf Course	Unser	2 lanes to 4 lanes	2005	$1,500,000	X	X	X	$1,500,000	$1,500,000	$1,500,000			100%	$0	$0	$1,500,000	$0	$0	$1,500,000	$0	$0	$1,500,000
MTP	Paradise	Golf Course	Eagle Ranch	2 lanes to 4 lanes	2010	$1,500,000	X	X	X	$1,500,000	$1,500,000	$1,500,000			100%	$0	$0	$1,500,000	$0	$0	$1,500,000	$0	$0	$1,500,000
MTP	Paseo del Norte	Eubank	Tramway	2 lanes to 4 lanes	2005	$6,000,000	X	X	X	$6,000,000	$6,000,000	$6,000,000			100%	$0	$0	$6,000,000	$0	$0	$6,000,000	$0	$0	$6,000,000
MTP	Paseo del Norte	Wyoming	Eubank	2 lanes to 6 lanes	2000	$9,000,000	X	X	X	$9,000,000	$9,000,000	$9,000,000		69%	31%	$0	$6,210,000	$2,790,000	$0	$6,210,000	$2,790,000	$0	$6,210,000	$2,790,000
MTP	University	Sunport	Rio Bravo	2 lanes to 4 lanes	2020	$2,300,000	X	X	X	$2,300,000	$2,300,000	$2,300,000		100%		$0	$2,300,000	$0	$0	$2,300,000	$0	$0	$2,300,000	$0
MTP	Unser	Central	Sage	2 lanes to 4 lanes	2020	$13,000,000	X	X	X	$13,000,000	$13,000,000	$13,000,000	17%	83%		$2,210,000	$10,790,000	$0	$2,210,000	$10,790,000	$0	$2,210,000	$10,790,000	$0
MTP	Unser	Paradise	Irving	2 lanes to 4 lanes	2010	$2,600,000	X	X	X	$2,600,000	$2,600,000	$2,600,000			100%	$0	$0	$2,600,000	$0	$0	$2,600,000	$0	$0	$2,600,000
MTP	Unser	Sage	Arenal	2 lanes to 4 lanes	2020	$2,816,000	X	X	X	$2,816,000	$2,816,000	$2,816,000		100%		$0	$2,816,000	$0	$0	$2,816,000	$0	$0	$2,816,000	$0
MTP	Unser	Irving	Westside	2 lanes to 4 lanes	2000	$3,000,000	X	X	X	$3,000,000	$3,000,000	$3,000,000			100%	$0	$0	$3,000,000	$0	$0	$3,000,000	$0	$0	$3,000,000
MTP	I-25/I-40 Interchange			reconstructed	2005	$232,000,000	X	X	X	$232,000,000	$232,000,000	$232,000,000	100%			$232,000,000	$0	$0	$232,000,000	$0	$0	$232,000,000	$0	$0
MTP	I-40/Coors Interchange			reconstructed	2020	$25,000,000	X	X	X	$25,000,000	$25,000,000	$25,000,000	100%			$25,000,000	$0	$0	$25,000,000	$0	$0	$25,000,000	$0	$0
MTP	I-25/Mesa del Sol Interchange			reconstructed	2020	$20,000,000	X	X	X	$20,000,000	$20,000,000	$20,000,000		50%	50%	$0	$10,000,000	$10,000,000	$0	$10,000,000	$10,000,000	$0	$10,000,000	$10,000,000
Network Opt.	Coors	Paseo del Norte	Coors Bypass	6 lanes to 8 lanes	2010	$1,082,000	X	X	X	$1,082,000	$1,082,000	$1,082,000			100%	$0	$0	$1,082,000	$0	$0	$1,082,000	$0	$0	$1,082,000
Network Opt.	Alameda	Rio Grande (river)	2nd Street	4 lanes to 6 lanes	2010	$2,544,000	X	X	X	$2,544,000	$2,544,000	$2,544,000		100%		$0	$2,544,000	$0	$0	$2,544,000	$0	$0	$2,544,000	$0
Network Opt.	Eagle Ranch (3)	Paradise	Irving	2 lanes to 4 lanes	2010	$1,264,000	X	X	X	$1,264,000	$1,264,000	$1,264,000			100%	$0	$0	$1,264,000	$0	$0	$1,264,000	$0	$0	$1,264,000
Network Opt.	Rio Grande/Alameda intersection			intersection improvements	2010	$100,000	X	X	X	$100,000	$100,000	$100,000		100%		$0	$100,000	$0	$0	$100,000	$0	$0	$100,000	$0
Network Opt.	Unser	Paradise	Westside	4 lanes to 6 lanes	2010	$4,188,000	X	X	X	$4,188,000	$4,188,000	$4,188,000			100%	$0	$0	$4,188,000	$0	$0	$4,188,000	$0	$0	$4,188,000
Network Opt.	Unser	Western Trail	Dellyne	4 lanes to 6 lanes	2010	$1,024,000	X	X	X	$1,024,000	$1,024,000	$1,024,000		100%		$0	$1,024,000	$0	$0	$1,024,000	$0	$0	$1,024,000	$0
Network Opt.	I-40/Coors Interchange	WB to SB ramp		1 lane to 2 lanes	2010	$500,000	X	X	X	$500,000	$500,000	$500,000		100%		$0	$500,000	$0	$0	$500,000	$0	$0	$500,000	$0
Network Opt.	I-40/Unser Interchange	WB offramp		1 lane to 2 lanes	2010	$500,000	X	X	X	$500,000	$500,000	$500,000		100%		$0	$500,000	$0	$0	$500,000	$0	$0	$500,000	$0
Network Opt.	I-40/98th Street Interchange	WB offramp		1 lane to 2 lanes	2010	$5,000,000	X	X	X	$5,000,000	$5,000,000	$5,000,000			100%	$0	$0	$5,000,000	$0	$0	$5,000,000	$0	$0	$5,000,000
Network Opt.	I-40/Paseo del Volcan Interchange	WB offramp		1 lane to 2 lanes	2010	$500,000	X	X	X	$500,000	$500,000	$500,000			100%	$0	$0	$500,000	$0	$0	$500,000	$0	$0	$500,000
Network Opt.	Tingley (3)			2 lanes to 4 lanes	2010	$4,149,000	X	X	X	$4,149,000	$4,149,000	$4,149,000	100%			$4,149,000	$0	$0	$4,149,000	$0	$0	$4,149,000	$0	$0
Network Opt.	Alcalde/Tingley Intersection (3)			signalization	2010	$75,000	X	X	X	$75,000	$75,000	$75,000	100%			$75,000	$0	$0	$75,000	$0	$0	$75,000	$0	$0
Network Opt.	Alcalde (3)			2 lanes to 4 lanes	2010	$685,000	X	X	X	$685,000	$685,000	$685,000	100%			$685,000	$0	$0	$685,000	$0	$0	$685,000	$0	$0
Network Opt.	I-25	Rio Grande (river)	Rio Bravo	4 lanes to 6 lanes	2010	$17,025,000	X	X	X	$17,025,000	$17,025,000	$17,025,000		100%		$0	$17,025,000	$0	$0	$17,025,000	$0	$0	$17,025,000	$0
Network Opt.	I-25/Isleta Interchange	SB offramp		1 lane to 2 lanes	2010	$500,000	X	X	X	$500,000	$500,000	$500,000		100%		$0	$500,000	$0	$0	$500,000	$0	$0	$500,000	$0
Network Opt.	San Antonio	Jefferson	I-25	2 lanes to 4 lanes	2010	$1,861,000	X	X	X	$1,861,000	$1,861,000	$1,861,000		100%		$0	$1,861,000	$0	$0	$1,861,000	$0	$0	$1,861,000	$0
Network Opt.	I-40/Eubank Interchange	EB offramp		1 lane to 2 lanes	2010	$500,000	X	X	X	$500,000	$500,000	$500,000	100%			$500,000	$0	$0	$500,000	$0	$0	$500,000	$0	$0
Network Opt.	I-40/Wyoming Interchange	EB offramp		1 lane to 2 lanes	2010	$500,000	X	X	X	$500,000	$500,000	$500,000	100%			$500,000	$0	$0	$500,000	$0	$0	$500,000	$0	$0
				Total of costs common to all three scenarios		$446,180,000				$446,180,000	$446,180,000	$446,180,000				$295,119,000	$87,567,000	$63,494,000	$295,119,000	$87,567,000	$63,494,000	$295,119,000	$87,567,000	$63,494,000
Network Opt.	Montano	Coors	4th Street	2 lanes to 4 lanes	2010	$70,000	X	X		$70,000	$70,000	$0	22%	78%		$15,400	$54,600	$0	$15,400	$54,600	$0	$0	$0	$0
MTP	Arenal (3)	Isleta	Coors	2 lanes to 4 lanes	2010	$4,000,000	X	X	(2)	$4,000,000	$4,000,000	$0		100%		$0	$4,000,000	$0	$0	$4,000,000	$0	$0	$0	$0
MTP	Isleta	Rio Bravo	Arenal	2 lanes to 4 lanes	2000	$3,000,000	X	X	(2)	$3,000,000	$3,000,000	$0		100%		$0	$3,000,000	$0	$0	$3,000,000	$0	$0	$0	$0
Network Opt.	I-40/98th Street Interchange	Overpass		2 lanes to 4 lanes	2010	$1,500,000	X			$1,500,000	$0	$0			100%	$0	$0	$1,500,000	$0	$0	$0	$0	$0	$0
Network Opt.	I-40/Paseo del Volcan Interchange	Overpass		2 lanes to 4 lanes	2010	$1,500,000	X			$1,500,000	$0	$0			100%	$0	$0	$1,500,000	$0	$0	$0	$0	$0	$0
Network Opt.	Rio Bravo	Isleta	Broadway	4 lanes to 6 lanes	2010	$6,904,000	X			$6,904,000	$0	$0		100%		$0	$6,904,000	$0	$0	$0	$0	$0	$0	$0
Network Opt.	Rio Bravo	Isleta	I-25	4 lanes to 6 lanes	2010	$7,857,000		X	X	$0	$7,857,000	$7,857,000		100%		$0	$0	$0	$0	$7,857,000	$0	$0	$7,857,000	$0
Network Opt.	I-40/Unser Interchange	EB offramp and onramp		1 lane to 2 lanes	2010	$1,000,000			X	$0	$0	$1,000,000		100%		$0	$0	$0	$0	$0	$0	$0	$1,000,000	$0
Network Opt.	I-40/Unser Interchange	Overpass		5 lanes to 6 lanes	2010	$1,500,000			X	$0	$0	$1,500,000		100%		$0	$0	$0	$0	$0	$0	$0	$1,500,000	$0
Network Opt.	Unser	I-40	Central	4 lanes to 6 lanes	2010	$11,845,000			X	$0	$0	$11,845,000	17%	83%		$0	$0	$0	$0	$0	$0	$2,013,650	$9,831,350	$0
Network Opt.	Central	Gold/Copper	Louisiana	HOV lane	2010	$120,000			X	$0	$0	$120,000	100%			$0	$0	$0	$0	$0	$0	$120,000	$0	$0
Network Opt.	Uptown Boulevard/Americas Pkwy	Loop		HOV lane	2010	$40,000			X	$0	$0	$40,000	100%			$0	$0	$0	$0	$0	$0	$40,000	$0	$0
Network Opt.	Louisiana	Central	Americas Parkway	HOV lane	2010	$50,000			X	$0	$0	$50,000	100%			$0	$0	$0	$0	$0	$0	$50,000	$0	$0
Network Opt.	Montano/4th Street			grade separation	2010	$20,000,000			X	$0	$0	$20,000,000	100%			$0	$0	$0	$0	$0	$0	$20,000,000	$0	$0
Network Opt.	4th Street	I-40	Alameda	HOV lane	2010	$160,000			X	$0	$0	$160,000	45%	55%		$0	$0	$0	$0	$0	$0	$72,000	$88,000	$0
				Total of costs different among scenarios		$59,546,000				$16,974,000	$14,927,000	$42,572,000				$15,400	$13,958,600	$3,000,000	$15,400	$14,911,600	$0	$22,295,650	$20,276,350	$0
									TOTALS	**$463,154,000**	**$461,107,000**	**$488,752,000**				**$295,134,400**	**$101,525,600**	**$66,494,000**	**$295,134,400**	**$102,478,600**	**$63,494,000**	**$317,414,650**	**$107,843,350**	**$63,494,000**
									Arterial Total	$452,981,000	$450,934,000	$482,579,000				$290,225,400	$97,525,600	$65,230,000	$290,225,400	$98,478,600	$62,230,000	$312,505,650	$107,843,350	$62,230,000
									Collector Total	$10,173,000	$10,173,000	$6,173,000				$4,909,000	$4,000,000	$1,264,000	$4,909,000	$4,000,000	$1,264,000	$4,909,000	$0	$1,264,000
									Public Total (4)	$273,823,200	$272,595,000	$290,782,000				$175,117,040	$59,315,360	$39,390,800	$175,117,040	$59,887,160	$37,590,800	$188,485,190	$64,706,010	$37,590,800
									Private Total (4)	$189,330,800	$188,512,000	$197,970,000				$120,017,360	$42,210,240	$27,103,200	$120,017,360	$42,591,440	$25,903,200	$128,929,460	$43,137,340	$25,903,200

Notes

(1) No year of improvement is given in the Network Optimization Summary. The year 2010 is assumed.

(2) The MTP shows the improvement in this scenario; it was removed according to the Network Optimization Summary.

(3) This roadway is a collector. Other roadways listed are arterials.

(4) Roadway costs allocated as follows: arterials 60% public/40%private, collectors 20% public/80% private, per City of Albuquerque

Table A.13 New Construction Costs for Major Roads

From	Roadway	From	To	Description	Year of Improvement (1)	Cost of Improvement	Trend	Downtown	Balanced	Trend	Downtown	Balanced	Location 1960	Location WSA	Location Outside WSA	Trend 1960	Trend WSA	Trend Outside WSA	Downtown 1960	Downtown WSA	Downtown Outside WSA	Balanced 1960	Balanced WSA	Balanced Outside WSA
MTP	98th Street	Sage	Rio Bravo	2 new lanes	2020	$2,000,000	X	X	X	$2,000,000	$2,000,000	$2,000,000		50%	50%	$0	$1,000,000	$1,000,000	$0	$1,000,000	$1,000,000	$0	$1,000,000	$1,000,000
MTP	Alameda	Barstow	Eubank	2 new lanes	2020	$7,500,000	X	X	X	$7,500,000	$7,500,000	$7,500,000		40%	60%	$0	$3,000,000	$4,500,000	$0	$3,000,000	$4,500,000	$0	$3,000,000	$4,500,000
MTP	Gibson	Louisiana	Eubank	4 new lanes	2020	$27,600,000	X	X	X	$27,600,000	$27,600,000	$27,600,000		50%	50%	$0	$13,800,000	$13,800,000	$0	$13,800,000	$13,800,000	$0	$13,800,000	$13,800,000
MTP	Ladera	Unser	98th Street	2 new lanes	2000	$12,000,000	X	X	X	$12,000,000	$12,000,000	$12,000,000		60%	40%	$0	$7,200,000	$4,800,000	$0	$7,200,000	$4,800,000	$0	$7,200,000	$4,800,000
MTP	McMahon	Golf Course	Unser	2 new lanes	2000	$14,200,000	X	X	X	$14,200,000	$14,200,000	$14,200,000			100%	$0	$0	$14,200,000	$0	$0	$14,200,000	$0	$0	$14,200,000
MTP	McMahon	Unser	Rainbow	4 new lanes	2005	$12,000,000	X	X	X	$12,000,000	$12,000,000	$12,000,000			100%	$0	$0	$12,000,000	$0	$0	$12,000,000	$0	$0	$12,000,000
MTP	Mesa del Sol Parkway	NM 47	University	4 new lanes	2020	$20,000,000	X	X	X	$20,000,000	$20,000,000	$20,000,000			100%	$0	$0	$20,000,000	$0	$0	$20,000,000	$0	$0	$20,000,000
MTP	Rio Bravo	Paseo del Volcan	Coors	2 new lanes	2000	$10,000,000	X	X	X	$10,000,000	$10,000,000	$10,000,000			100%	$0	$0	$10,000,000	$0	$0	$10,000,000	$0	$0	$10,000,000
MTP	Unser	Atrisco	Rainbow	4 new lanes	2010	$6,000,000	X	X	X	$6,000,000	$6,000,000	$6,000,000			100%	$0	$0	$6,000,000	$0	$0	$6,000,000	$0	$0	$6,000,000
MTP	Unser	Paseo del Norte	Paradise	4 new lanes	2010	$6,000,000	X	X	X	$6,000,000	$6,000,000	$6,000,000			100%	$0	$0	$6,000,000	$0	$0	$6,000,000	$0	$0	$6,000,000
MTP	Unser	Rainbow	Paseo del Norte	4 new lanes	2010	$6,500,000	X	X	X	$6,500,000	$6,500,000	$6,500,000			100%	$0	$0	$6,500,000	$0	$0	$6,500,000	$0	$0	$6,500,000
MTP	Unser	Arenal	Rio Bravo	4 new lanes	2020	$8,000,000	X	X	X	$8,000,000	$8,000,000	$8,000,000		50%	50%	$0	$4,000,000	$4,000,000	$0	$4,000,000	$4,000,000	$0	$4,000,000	$4,000,000
MTP	Westside	Golf Course	NM 528	4 new lanes	2000	$5,000,000	X	X	X	$5,000,000	$5,000,000	$5,000,000			100%	$0	$0	$5,000,000	$0	$0	$5,000,000	$0	$0	$5,000,000
MTP	Westside	Unser	Golf Course	4 new lanes	2005	$5,000,000	X	X	X	$5,000,000	$5,000,000	$5,000,000			100%	$0	$0	$5,000,000	$0	$0	$5,000,000	$0	$0	$5,000,000
Total of costs common to all three scenarios						$141,800,000				$141,800,000	$141,800,000	$141,800,000				$0	$29,000,000	$112,800,000	$0	$29,000,000	$112,800,000	$0	$29,000,000	$112,800,000
Network Opt.	University	Rio Bravo	Los Picaros	2 new lanes	2010	$2,930,000	X	X		$2,930,000	$2,930,000	$0		50%	50%	$0	$1,465,000	$1,465,000	$0	$1,465,000	$1,465,000	$0	$0	$0
Network Opt.	University	Los Picaros	Mesa del Sol Parkway	4 new lanes	2010	$855,000	X	X		$855,000	$855,000	$0		50%	50%	$0	$427,500	$427,500	$0	$427,500	$427,500	$0	$0	$0
MTP	Los Picaros (3)	Broadway	University	2 new lanes	2020	$1,000,000	X	(2)	X	$1,000,000	$0	$1,000,000		50%	50%	$0	$500,000	$500,000	$0	$0	$0	$0	$500,000	$500,000
MTP	Paseo del Norte	Golf Course	Rainbow	4 new lanes	2010	$13,500,000	X	X	X	$13,500,000	$13,500,000	$13,500,000			100%	$0	$0	$13,500,000	$0	$0	$13,500,000	$0	$0	$13,500,000
MTP	Rainbow	Irving	McMahon	4 new lanes	2005	$3,000,000	X	(2)	(2)	$3,000,000	$0	$0			100%	$0	$0	$3,000,000	$0	$0	$0	$0	$0	$0
MTP	Rainbow	Paseo del Norte	Irving	4 new lanes	2000	$3,000,000	X	(2)	(2)	$3,000,000	$0	$0			100%	$0	$0	$3,000,000	$0	$0	$0	$0	$0	$0
MTP	Rainbow	Unser	Paseo del Norte	4 new lanes	2020	$5,000,000	X	(2)	(2)	$5,000,000	$0	$0			100%	$0	$0	$5,000,000	$0	$0	$0	$0	$0	$0
MTP	University	Rio Bravo	Mesa del Sol Parkway	4 new lanes	2020	$4,000,000	(2)	(2)	X	$0	$0	$4,000,000		50%	50%	$0	$0	$0	$0	$0	$0	$0	$2,000,000	$2,000,000
Total of costs different among scenarios						$33,285,000				$29,285,000	$17,285,000	$18,500,000				$0	$2,392,500	$26,892,500	$0	$1,892,500	$15,392,500	$0	$2,500,000	$16,000,000
										TOTALS	**$171,085,000**	**$159,085,000**	**$160,300,000**				**$0**	**$31,392,500**	**$139,692,500**	**$0**	**$30,892,500**	**$128,192,500**	**$0**	**$31,500,000**	**$128,800,000**
										Arterial Total	$170,085,000	$159,085,000	$159,300,000				$0	$30,892,500	$139,192,500	$0	$30,892,500	$128,192,500	$0	$31,000,000	$128,300,000
										Collector Total	$1,000,000	$0	$1,000,000				$0	$500,000	$500,000	$0	$0	$0	$0	$500,000	$500,000
										Public Total (4)	$102,251,000	$95,451,000	$95,780,000				$0	$18,635,500	$83,615,500	$0	$18,535,500	$76,915,500	$0	$18,700,000	$77,080,000
										Private Total (4)	$68,834,000	$63,634,000	$64,520,000				$0	$12,757,000	$56,077,000	$0	$12,357,000	$51,277,000	$0	$12,800,000	$51,720,000

Notes

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Table A.14 New Construction Costs for Minor Roads

TREND SCENARIO

DASZ	GENERAL LOCATION	LOCATION 1960	LOCATION WSA	LOCATION Outside WSA	#ADD'L JOBS	# ADD'L DUs	ADD'L EMP. MILES (2)	COST EMPL. ROADS (4)	ADD'L RESID MILES (1, 3)	COST RESID. ROADS (4)	TOTAL LOCAL ROADS COST	COST PER LOCATION 1960	COST PER LOCATION WSA	COST PER LOCATION Outside WSA
1001	Far NW			100%	24	235	0.00	$0	2.23	$688,278	$688,278	$0	$0	$688,278
1111	Far NW			100%	2702	1763	0.00	$0	16.75	$5,163,549	$5,163,549	$0	$0	$5,163,549
1121	Far NW			100%	2798	0	1.26	$388,180	0.00	$0	$388,180	$0	$0	$388,180
1131	Far NW			100%	1266	204	0.00	$0	1.94	$597,484	$597,484	$0	$0	$597,484
1211	Far SW			100%	103	6	0.00	$0	0.06	$17,573	$17,573	$0	$0	$17,573
1311	Far NW			100%	0	4	0.00	$0	0.04	$11,715	$11,715	$0	$0	$11,715
1321	Far NW			100%	50	18	0.00	$0	0.17	$52,719	$52,719	$0	$0	$52,719
1411	Far SW			100%	1	1	0.00	$0	0.01	$2,929	$2,929	$0	$0	$2,929
3111	East Mountain			100%	406	463	0.00	$0	38.85	$3,629,178	$3,629,178	$0	$0	$3,629,178
3121	East Mountain			100%	274	827	0.00	$0	69.40	$6,482,354	$6,482,354	$0	$0	$6,482,354
3122	East Mountain			100%	267	1219	0.00	$0	102.30	$9,555,005	$9,555,005	$0	$0	$9,555,005
3131	East Mountain			100%	386	717	0.00	$0	60.17	$5,620,130	$5,620,130	$0	$0	$5,620,130
3132	East Mountain			100%	208	1197	0.00	$0	100.45	$9,382,561	$9,382,561	$0	$0	$9,382,561
3141	N Albuquerque			100%	0	0	0.00	$0	0.00	$0	$0	$0	$0	$0
3142	East Mountain			100%	4	160	0.00	$0	13.43	$1,254,143	$1,254,143	$0	$0	$1,254,143
3211	East Mountain			100%	565	2051	0.00	$0	172.12	$16,076,551	$16,076,551	$0	$0	$16,076,551
3221	East Mountain			100%	399	562	0.00	$0	47.16	$4,405,179	$4,405,179	$0	$0	$4,405,179
3222	East Mountain			100%	34	153	0.00	$0	12.84	$1,199,275	$1,199,275	$0	$0	$1,199,275
3301	East Mountain			100%	43	149	0.00	$0	12.50	$1,167,921	$1,167,921	$0	$0	$1,167,921
4101	Isleta Reservat			100%	0	0	0.00	$0	0.00	$0	$0	$0	$0	$0
4111	Isleta Reservat			100%	35	3	0.00	$0	0.03	$8,787	$8,787	$0	$0	$8,787
4112	Isleta Reservat			100%	22	54	0.00	$0	0.51	$158,157	$158,157	$0	$0	$158,157
4113	Isleta Reservat			100%	10	18	0.00	$0	0.17	$52,719	$52,719	$0	$0	$52,719
4121	Isleta Reservat			100%	14	193	0.00	$0	1.83	$565,267	$565,267	$0	$0	$565,267
4122	Isleta Reservat			100%	75	137	0.00	$0	1.30	$401,251	$401,251	$0	$0	$401,251
4211	Isleta Reservat			100%	1740	7	0.78	$241,398	0.00	$0	$241,398	$0	$0	$241,398
5001	Central ABQ	100%			359	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5002	Central ABQ	100%			220	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5003	Central ABQ	100%			136	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5004	Central ABQ	100%			25	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5005	Central ABQ	100%			0	4	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5006	Central ABQ	100%			157	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5007	Central ABQ	100%			37	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5008	Central ABQ	100%			236	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5009	Central ABQ	100%			0	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5011	Central ABQ	100%			42	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5012	Central ABQ	100%			75	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5101	Central ABQ	100%			15	54	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5102	Central ABQ	100%			44	31	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5103	Central ABQ	100%			10	11	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5111	Central ABQ	100%			24	98	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5112	Central ABQ	100%			0	56	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5121	Central ABQ	100%			72	104	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5131	Central ABQ	100%			3	4	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5132	Central ABQ	100%			0	53	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5141	Central ABQ	100%			0	13	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5142	Central ABQ	100%			7	5	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5143	Central ABQ	100%			92	104	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5151	N Valley	100%			2	304	0.00	$0	2.89	$890,368	$890,368	$890,368	$0	$0
5152	N Valley	100%			35	600	0.00	$0	5.70	$1,757,305	$1,757,305	$1,757,305	$0	$0
5161	N Valley	100%			22	9	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5162	Central ABQ	100%			0	19	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5163	Central ABQ	100%			7	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5171	Central ABQ	100%			12	5	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5172	Central ABQ	100%			82	11	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5173	Central ABQ	100%			36	23	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5201	N Valley	100%			949	10	0.43	$131,659	0.00	$0	$131,659	$131,659	$0	$0
5211	N Valley	100%			0	25	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5212	N Valley	100%			1	28	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5213	N Valley	100%			0	6	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5221	N Valley	100%			0	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5231	Central ABQ	100%			175	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5232	Central ABQ	100%			0	1	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5241	Central ABQ	100%			1638	7	0.00	$0	0.07	$20,502	$20,502	$20,502	$0	$0
5242	Central ABQ	100%			83	20	0.00	$0	0.19	$58,577	$58,577	$58,577	$0	$0
5251	N Valley	100%			62	2	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5261	Central ABQ	100%			603	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5262	N Valley	100%			514	2	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5271	Central ABQ	100%			388	75	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5272	Central ABQ	100%			4	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5273	Central ABQ	100%			917	5	0.41	$127,220	0.00	$0	$127,220	$127,220	$0	$0
5301	Central ABQ		100%		87	1	0.04	$12,070	0.00	$0	$12,070	$0	$12,070	$0
5311	Central ABQ		100%		0	149	0.00	$0	1.42	$436,398	$436,398	$0	$436,398	$0
5312	Central ABQ		100%		138	0	0.06	$19,145	0.00	$0	$19,145	$0	$19,145	$0
5321	S Valley		100%		2607	0	1.17	$361,681	0.00	$0	$361,681	$0	$361,681	$0
5322	S Valley		100%		598	0	0.27	$82,963	0.00	$0	$82,963	$0	$82,963	$0
5331	S Valley		100%		515	69	0.00	$0	0.66	$202,090	$202,090	$0	$202,090	$0
5401	S Valley		100%		0	41	0.00	$0	0.39	$120,083	$120,083	$0	$120,083	$0
5402	S Valley		100%		0	154	0.00	$0	1.46	$451,042	$451,042	$0	$451,042	$0
5411	S Valley		100%		309	74	0.00	$0	0.70	$216,734	$216,734	$0	$216,734	$0
5412	S Valley		100%		168	1	0.00	$0	0.01	$2,929	$2,929	$0	$2,929	$0
5421	S Valley		100%		277	4	0.12	$38,429	0.00	$0	$38,429	$0	$38,429	$0
5422	S Valley		100%		124	2	0.00	$0	0.02	$5,858	$5,858	$0	$5,858	$0
5431	S Valley		100%		0	82	0.00	$0	0.78	$240,165	$240,165	$0	$240,165	$0
5501	SW Mesa			100%	1127	1523	0.00	$0	14.47	$4,460,627	$4,460,627	$0	$0	$4,460,627
5502	SW Mesa		25%	75%	48	285	0.00	$0	2.71	$834,720	$834,720	$0	$208,680	$626,040
5503	SW Mesa			100%	2	298	0.00	$0	2.83	$872,795	$872,795	$0	$0	$872,795
5504	SW Mesa			100%	0	1375	0.00	$0	13.06	$4,027,158	$4,027,158	$0	$0	$4,027,158
5505	SW Mesa		25%	75%	20	232	0.00	$0	2.20	$679,491	$679,491	$0	$169,873	$509,619
5511	S Valley		100%		52	149	0.00	$0	1.42	$436,398	$436,398	$0	$436,398	$0
5512	S Valley		100%		6	48	0.00	$0	0.46	$140,584	$140,584	$0	$140,584	$0
5513	S Valley		100%		373	111	0.00	$0	1.05	$325,102	$325,102	$0	$325,102	$0
5521	S Valley			100%	6	89	0.00	$0	0.85	$260,667	$260,667	$0	$0	$260,667
5522	S Valley		100%		24	148	0.00	$0	1.41	$433,469	$433,469	$0	$433,469	$0
5523	S Valley		100%		34	74	0.00	$0	0.70	$216,734	$216,734	$0	$216,734	$0
5524	S Valley		50%	50%	15	124	0.00	$0	1.18	$363,176	$363,176	$0	$181,588	$181,588
5525	S Valley		50%	50%	352	24	0.00	$0	0.23	$70,292	$70,292	$0	$35,146	$35,146
5526	S Valley			100%	0	39	0.00	$0	0.37	$114,225	$114,225	$0	$0	$114,225
5531	S Valley			100%	0	38	0.00	$0	0.36	$111,296	$111,296	$0	$0	$111,296
5532	S Valley			100%	2	124	0.00	$0	1.18	$363,176	$363,176	$0	$0	$363,176
5533	S Valley			100%	1	80	0.00	$0	0.76	$234,307	$234,307	$0	$0	$234,307
5534	S Valley			100%	13	25	0.00	$0	0.24	$73,221	$73,221	$0	$0	$73,221
5535	S Valley			100%	2	45	0.00	$0	0.43	$131,798	$131,798	$0	$0	$131,798
5536	S Valley		100%		17	88	0.00	$0	0.84	$257,738	$257,738	$0	$257,738	$0
5537	S Valley			100%	63	8	0.00	$0	0.08	$23,431	$23,431	$0	$0	$23,431
5601	S Valley	50%	50%		7	122	0.00	$0	1.16	$357,319	$357,319	$178,659	$178,659	$0
5602	S Valley		100%		217	134	0.00	$0	1.27	$392,465	$392,465	$0	$392,465	$0
5603	S Valley		100%		1	45	0.00	$0	0.43	$131,798	$131,798	$0	$131,798	$0
5611	S Valley		100%		16	38	0.00	$0	0.36	$111,296	$111,296	$0	$111,296	$0
5612	S Valley		100%		1	70	0.00	$0	0.67	$205,019	$205,019	$0	$205,019	$0

DOWNTOWN SCENARIO

DASZ	#ADD'L JOBS	# ADD'L DUs	ADD'L EMP. MILES (2)	COST EMPL. ROADS (4)	ADD'L RESID. MILES (1, 3)	COST RESID. ROADS (4)	TOTAL LOCAL ROADS COST	COST PER LOCATION 1960	COST PER LOCATION WSA	COST PER LOCATION Outside WSA
1001	0	0	0.00	$0	0.00	$0	$0	$0	$0	$0
1111	0	0	0.00	$0	0.00	$0	$0	$0	$0	$0
1121	0	0	0.00	$0	0.00	$0	$0	$0	$0	$0
1131	0	5	0.00	$0	0.04	$11,715	$11,715	$0	$0	$11,715
1211	0	0	0.00	$0	0.00	$0	$0	$0	$0	$0
1311	0	0	0.00	$0	0.00	$0	$0	$0	$0	$0
1321	0	0	0.00	$0	0.00	$0	$0	$0	$0	$0
1411	0	0	0.00	$0	0.00	$0	$0	$0	$0	$0
3111	218	378	0.00	$0	31.72	$2,962,914	$2,962,914	$0	$0	$2,962,914
3121	186	749	0.00	$0	62.86	$5,870,959	$5,870,959	$0	$0	$5,870,959
3122	186	1072	0.00	$0	89.96	$8,402,761	$8,402,761	$0	$0	$8,402,761
3131	260	607	0.00	$0	50.94	$4,757,907	$4,757,907	$0	$0	$4,757,907
3132	156	1046	0.00	$0	87.78	$8,198,963	$8,198,963	$0	$0	$8,198,963
3141	0	0	0.00	$0	0.00	$0	$0	$0	$0	$0
3142	0	122	0.00	$0	10.24	$956,284	$956,284	$0	$0	$956,284
3211	380	1830	0.00	$0	153.57	$14,344,266	$14,344,266	$0	$0	$14,344,266
3221	204	486	0.00	$0	40.79	$3,809,461	$3,809,461	$0	$0	$3,809,461
3222	25	136	0.00	$0	11.41	$1,066,022	$1,066,022	$0	$0	$1,066,022
3301	27	118	0.00	$0	9.90	$924,931	$924,931	$0	$0	$924,931
4101	0	0	0.00	$0	0.00	$0	$0	$0	$0	$0
4111	20	3	0.00	$0	0.02	$7,029	$7,029	$0	$0	$7,029
4112	0	54	0.00	$0	0.41	$126,526	$126,526	$0	$0	$126,526
4113	1	18	0.00	$0	0.14	$42,175	$42,175	$0	$0	$42,175
4121	4	193	0.00	$0	1.47	$452,213	$452,213	$0	$0	$452,213
4122	41	137	0.00	$0	1.04	$321,001	$321,001	$0	$0	$321,001
4211	1126	7	0.41	$124,972	0.00	$0	$124,972	$0	$0	$124,972
5001	2702	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5002	521	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5003	3542	25	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5004	280	77	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5005	342	15	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5006	2199	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5007	494	25	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5008	612	173	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5009	422	5	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5011	274	62	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5012	312	20	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5101	22	242	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5102	49	92	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5103	67	143	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5111	35	212	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5112	0	215	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5121	68	161	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5131	8	18	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5132	664	407	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5141	31	48	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5142	0	64	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5143	661	299	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5151	8	472	0.00	$0	3.59	$1,105,931	$1,105,931	$1,105,931	$0	$0
5152	68	670	0.00	$0	5.09	$1,569,860	$1,569,860	$1,569,860	$0	$0
5161	41	78	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5162	43	128	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5163	0	12	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5171	0	72	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5172	306	224	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5173	51	178	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5201	1296	22	0.47	$143,840	0.00	$0	$143,840	$143,840	$0	$0
5211	9	49	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5212	11	48	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5213	111	14	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5221	8	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5231	213	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5232	0	4	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5241	1685	63	0.00	$0	0.48	$147,614	$147,614	$147,614	$0	$0
5242	107	231	0.00	$0	1.76	$541,250	$541,250	$541,250	$0	$0
5251	88	3	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5261	4645	19	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5262	1525	51	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5271	0	151	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5272	26	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5273	1037	64	0.37	$115,094	0.00	$0	$115,094	$115,094	$0	$0
5301	85	1	0.03	$9,434	0.00	$0	$9,434	$0	$9,434	$0
5311	7	305	0.00	$0	2.32	$714,638	$714,638	$0	$714,638	$0
5312	202	3	0.07	$22,420	0.00	$0	$22,420	$0	$22,420	$0
5321	2470	0	0.89	$274,140	0.00	$0	$274,140	$0	$274,140	$0
5322	575	0	0.21	$63,818	0.00	$0	$63,818	$0	$63,818	$0
5331	417	64	0.00	$0	0.49	$149,957	$149,957	$0	$149,957	$0
5401	0	29	0.00	$0	0.22	$67,949	$67,949	$0	$67,949	$0
5402	0	136	0.00	$0	1.03	$318,658	$318,658	$0	$318,658	$0
5411	282	74	0.00	$0	0.56	$173,387	$173,387	$0	$173,387	$0
5412	149	1	0.00	$0	0.01	$2,343	$2,343	$0	$2,343	$0
5421	242	4	0.09	$26,859	0.00	$0	$26,859	$0	$26,859	$0
5422	117	2	0.00	$0	0.02	$4,686	$4,686	$0	$4,686	$0
5431	0	73	0.00	$0	0.55	$171,044	$171,044	$0	$171,044	$0
5501	0	10	0.00	$0	0.08	$23,431	$23,431	$0	$0	$23,431
5502	28	282	0.00	$0	2.14	$660,747	$660,747	$0	$165,187	$495,560
5503	2	298	0.00	$0	2.26	$698,236	$698,236	$0	$0	$698,236
5504	0	4	0.00	$0	0.03	$9,372	$9,372	$0	$0	$9,372
5505	20	232	0.00	$0	1.76	$543,593	$543,593	$0	$135,898	$407,695
5511	0	103	0.00	$0	0.78	$241,337	$241,337	$0	$241,337	$0
5512	0	34	0.00	$0	0.26	$79,665	$79,665	$0	$79,665	$0
5513	312	100	0.00	$0	0.76	$234,307	$234,307	$0	$234,307	$0
5521	0	79	0.00	$0	0.60	$185,103	$185,103	$0	$0	$185,103
5522	16	108	0.00	$0	0.82	$253,052	$253,052	$0	$253,052	$0
5523	26	61	0.00	$0	0.46	$142,928	$142,928	$0	$142,928	$0
5524	3	103	0.00	$0	0.78	$241,337	$241,337	$0	$120,668	$120,668
5525	293	18	0.00	$0	0.14	$42,175	$42,175	$0	$21,088	$21,088
5526	0	30	0.00	$0	0.23	$70,292	$70,292	$0	$0	$70,292
5531	0	30	0.00	$0	0.23	$70,292	$70,292	$0	$0	$70,292
5532	0	122	0.00	$0	0.93	$285,855	$285,855	$0	$0	$285,855
5533	0	79	0.00	$0	0.60	$185,103	$185,103	$0	$0	$185,103
5534	11	24	0.00	$0	0.18	$56,234	$56,234	$0	$0	$56,234
5535	0	35	0.00	$0	0.27	$82,008	$82,008	$0	$0	$82,008
5536	3	86	0.00	$0	0.65	$201,504	$201,504	$0	$201,504	$0
5537	53	5	0.00	$0	0.04	$11,715	$11,715	$0	$0	$11,715
5601	25	376	0.00	$0	2.86	$880,996	$880,996	$440,498	$440,498	$0
5602	409	536	0.00	$0	4.07	$1,255,888	$1,255,888	$0	$1,255,888	$0
5603	0	32	0.00	$0	0.24	$74,978	$74,978	$0	$74,978	$0
5611	12	24	0.00	$0	0.18	$56,234	$56,234	$0	$56,234	$0
5612	0	51	0.00	$0	0.39	$119,497	$119,497	$0	$119,497	$0

BALANCED SCENARIO

DASZ	#ADD'L JOBS	# ADD'L DUs	ADD'L EMP. MILES (2)	COST EMPL. ROADS (4)	ADD'L RESID. MILES (1, 3)	COST RESID. ROADS (4)	TOTAL LOCAL ROADS COST	COST PER LOCATION 1960	COST PER LOCATION WSA	COST PER LOCATION Outside WSA
1001	4	27	0.00	$0	0.21	$63,263	$63,263	$0	$0	$63,263
1111	0	0	0.00	$0	0.00	$0	$0	$0	$0	$0
1121	2130	0	0.77	$236,404	0.00	$0	$236,404	$0	$0	$236,404
1131	966	112	0.00	$0	0.85	$262,424	$262,424	$0	$0	$262,424
1211	3	6	0.00	$0	0.05	$14,058	$14,058	$0	$0	$14,058
1311	0	2	0.00	$0	0.02	$4,686	$4,686	$0	$0	$4,686
1321	38	10	0.00	$0	0.08	$23,431	$23,431	$0	$0	$23,431
1411	1	1	0.00	$0	0.01	$2,343	$2,343	$0	$0	$2,343
3111	180	214	0.00	$0	17.96	$1,677,417	$1,677,417	$0	$0	$1,677,417
3121	169	600	0.00	$0	50.35	$4,703,038	$4,703,038	$0	$0	$4,703,038
3122	170	787	0.00	$0	66.05	$6,168,818	$6,168,818	$0	$0	$6,168,818
3131	235	393	0.00	$0	32.98	$3,080,490	$3,080,490	$0	$0	$3,080,490
3132	145	754	0.00	$0	63.28	$5,910,151	$5,910,151	$0	$0	$5,910,151
3141	0	0	0.00	$0	0.00	$0	$0	$0	$0	$0
3142	0	48	0.00	$0	4.03	$376,243	$376,243	$0	$0	$376,243
3211	374	1367	0.00	$0	114.72	$10,715,088	$10,715,088	$0	$0	$10,715,088
3221	199	327	0.00	$0	27.44	$2,563,156	$2,563,156	$0	$0	$2,563,156
3222	25	101	0.00	$0	8.48	$791,678	$791,678	$0	$0	$791,678
3301	26	55	0.00	$0	4.62	$431,112	$431,112	$0	$0	$431,112
4101	0	0	0.00	$0	0.00	$0	$0	$0	$0	$0
4111	35	3	0.00	$0	0.02	$7,029	$7,029	$0	$0	$7,029
4112	22	54	0.00	$0	0.41	$126,526	$126,526	$0	$0	$126,526
4113	10	18	0.00	$0	0.14	$42,175	$42,175	$0	$0	$42,175
4121	14	193	0.00	$0	1.47	$452,213	$452,213	$0	$0	$452,213
4122	75	137	0.00	$0	1.04	$321,001	$321,001	$0	$0	$321,001
4211	1740	7	0.63	$193,119	0.00	$0	$193,119	$0	$0	$193,119
5001	376	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5002	222	31	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5003	161	62	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5004	27	307	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5005	0	578	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5006	172	17	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5007	40	62	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5008	239	216	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5009	0	103	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5011	44	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5012	77	115	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5101	8	54	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5102	39	31	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5103	114	299	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5111	14	98	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5112	0	56	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5121	194	731	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5131	0	4	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5132	139	821	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5141	0	88	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5142	81	133	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5143	131	528	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5151	39	691	0.00	$0	5.25	$1,619,064	$1,619,064	$1,619,064	$0	$0
5152	28	600	0.00	$0	4.56	$1,405,844	$1,405,844	$1,405,844	$0	$0
5161	143	167	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5162	61	256	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5163	143	26	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5171	61	152	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5172	190	474	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5173	21	23	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5201	878	10	0.32	$97,447	0.00	$0	$97,447	$97,447	$0	$0
5211	0	25	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5212	0	28	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5213	0	6	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5221	23	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5231	138	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5232	0	1	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5241	1592	7	0.00	$0	0.05	$16,402	$16,402	$16,402	$0	$0
5242	59	20	0.00	$0	0.15	$46,861	$46,861	$46,861	$0	$0
5251	113	16	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5261	632	354	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5262	521	504	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5271	548	239	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5272	0	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5273	800	5	0.29	$88,790	0.00	$0	$88,790	$88,790	$0	$0
5301	171	6	0.06	$18,979	0.00	$0	$18,979	$0	$18,979	$0
5311	0	149	0.00	$0	1.13	$349,118	$349,118	$0	$349,118	$0
5312	118	0	0.04	$13,097	0.00	$0	$13,097	$0	$13,097	$0
5321	1949	0	0.70	$216,315	0.00	$0	$216,315	$0	$216,315	$0
5322	485	0	0.00	$0	0.00	$0	$0	$0	$0	$0
5331	494	69	0.00	$0	0.52	$161,672	$161,672	$0	$161,672	$0
5401	0	41	0.00	$0	0.31	$96,066	$96,066	$0	$96,066	$0
5402	0	154	0.00	$0	1.17	$360,833	$360,833	$0	$360,833	$0
5411	177	74	0.00	$0	0.56	$173,387	$173,387	$0	$173,387	$0
5412	83	1	0.00	$0	0.01	$2,343	$2,343	$0	$2,343	$0
5421	108	4	0.04	$11,987	0.00	$0	$11,987	$0	$11,987	$0
5422	89	2	0.00	$0	0.02	$4,686	$4,686	$0	$4,686	$0
5431	0	82	0.00	$0	0.62	$192,132	$192,132	$0	$192,132	$0
5501	285	600	0.00	$0	4.56	$1,405,844	$1,405,844	$0	$0	$1,405,844
5502	0	0	0.00	$0	0.00	$0	$0	$0	$0	$0
5503	0	0	0.00	$0	0.00	$0	$0	$0	$0	$0
5504	0	540	0.00	$0	4.10	$1,265,260	$1,265,260	$0	$0	$1,265,260
5505	0	0	0.00	$0	0.00	$0	$0	$0	$0	$0
5511	35	90	0.00	$0	0.68	$210,877	$210,877	$0	$210,877	$0
5512	0	30	0.00	$0	0.23	$70,292	$70,292	$0	$70,292	$0
5513	360	97	0.00	$0	0.74	$227,278	$227,278	$0	$227,278	$0
5521	4	76	0.00	$0	0.58	$178,074	$178,074	$0	$0	$178,074
5522	22	97	0.00	$0	0.74	$227,278	$227,278	$0	$227,278	$0
5523	32	58	0.00	$0	0.44	$135,898	$135,898	$0	$135,898	$0
5524	12	96	0.00	$0	0.73	$224,935	$224,935	$0	$112,468	$112,468
5525	339	16	0.00	$0	0.12	$37,489	$37,489	$0	$18,745	$18,745
5526	0	27	0.00	$0	0.21	$63,263	$63,263	$0	$0	$63,263
5531	0	27	0.00	$0	0.21	$63,263	$63,263	$0	$0	$63,263
5532	45	336	0.00	$0	2.55	$787,273	$787,273	$0	$0	$787,273
5533	8	237	0.00	$0	1.80	$555,309	$555,309	$0	$0	$555,309
5534	20	92	0.00	$0	0.70	$215,563	$215,563	$0	$0	$215,563
5535	0	32	0.00	$0	0.24	$74,978	$74,978	$0	$0	$74,978
5536	61	235	0.00	$0	1.79	$550,622	$550,622	$0	$550,622	$0
5537	61	5	0.00	$0	0.04	$11,715	$11,715	$0	$0	$11,715
5601	50	545	0.00	$0	4.14	$1,276,975	$1,276,975	$638,488	$638,488	$0
5602	674	805	0.00	$0	6.12	$1,886,175	$1,886,175	$0	$1,886,175	$0
5603	1	27	0.00	$0	0.21	$63,263	$63,263	$0	$63,263	$0
5611	15	20	0.00	$0	0.15	$46,861	$46,861	$0	$46,861	$0
5612	0	46	0.00	$0	0.35	$107,781	$107,781	$0	$107,781	$0

Table A.14 New Construction Costs for Minor Roads

TREND SCENARIO

DASZ	GENERAL LOCATION	LOCATION 1960	LOCATION WSA	LOCATION Outside WSA	#ADD'L JOBS	# ADD'L DUs	ADD'L EMP. MILES (2)	COST EMPL. ROADS (4)	ADD'L RESID MILES (1, 3)	COST RESID. ROADS (4)	TOTAL LOCAL ROADS COST	COST PER LOCATION 1960	COST PER LOCATION WSA	COST PER LOCATION Outside WSA
5613	S Valley		100%		121	42	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5614	S Valley		100%		177	54	0.00	$0	0.51	$158,157	$158,157	$0	$158,157	$0
5621	S Valley		100%		11	62	0.00	$0	0.59	$181,588	$181,588	$0	$181,588	$0
5622	S Valley		100%		173	150	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5623	S Valley		100%		128	69	0.00	$0	0.66	$202,090	$202,090	$0	$202,090	$0
5631	S Valley		100%		25	194	0.00	$0	1.84	$568,195	$568,195	$0	$568,195	$0
5632	S Valley		100%		1	40	0.00	$0	0.38	$117,154	$117,154	$0	$117,154	$0
5633	S Valley		100%		436	137	0.00	$0	1.30	$401,251	$401,251	$0	$401,251	$0
5634	S Valley		100%		59	129	0.00	$0	1.23	$377,821	$377,821	$0	$377,821	$0
5635	S Valley		100%		14	45	0.00	$0	0.43	$131,798	$131,798	$0	$131,798	$0
5636	S Valley		100%		63	11	0.00	$0	0.10	$32,217	$32,217	$0	$32,217	$0
5637	S Valley		100%		15	59	0.00	$0	0.56	$172,802	$172,802	$0	$172,802	$0
5638	S Valley		100%		32	51	0.00	$0	0.48	$149,371	$149,371	$0	$149,371	$0
5641	S Valley		100%		140	87	0.00	$0	0.83	$254,809	$254,809	$0	$254,809	$0
5642	S Valley		100%		34	102	0.00	$0	0.97	$298,742	$298,742	$0	$298,742	$0
5643	S Valley		100%		12	2	0.00	$0	0.02	$5,858	$5,858	$0	$5,858	$0
5701	SW Mesa			100%	203	532	0.00	$0	5.05	$1,558,144	$1,558,144	$0	$0	$1,558,144
5702	SW Mesa	50%		50%	397	655	0.00	$0	6.22	$1,918,392	$1,918,392	$959,196	$0	$959,196
5711	SW Mesa		100%		85	114	0.00	$0	1.08	$333,888	$333,888	$0	$333,888	$0
5712	SW Mesa	50%	50%		641	517	0.00	$0	4.91	$1,514,212	$1,514,212	$757,106	$757,106	$0
5713	SW Mesa	50%	50%		601	558	0.00	$0	5.30	$1,634,294	$1,634,294	$817,147	$817,147	$0
5714	SW Mesa		100%		90	242	0.00	$0	2.30	$708,780	$708,780	$0	$708,780	$0
5721	SW Mesa			100%	15	543	0.00	$0	5.16	$1,590,361	$1,590,361	$0	$0	$1,590,361
5722	SW Mesa		50%	50%	169	213	0.00	$0	2.02	$623,843	$623,843	$0	$311,922	$311,922
5723	SW Mesa		50%	50%	142	289	0.00	$0	2.75	$846,435	$846,435	$0	$423,218	$423,218
5731	SW Mesa		100%		53	260	0.00	$0	2.47	$761,499	$761,499	$0	$761,499	$0
5732	SW Mesa	20%	80%		76	555	0.00	$0	5.27	$1,625,508	$1,625,508	$325,102	$1,300,406	$0
5733	SW Mesa		100%		78	69	0.00	$0	0.66	$202,090	$202,090	$0	$202,090	$0
5741	SW Mesa			100%	864	799	0.00	$0	7.59	$2,340,145	$2,340,145	$0	$0	$2,340,145
5742	SW Mesa		20%	80%	138	509	0.00	$0	4.84	$1,490,781	$1,490,781	$0	$298,156	$1,192,625
5743	SW Mesa		100%		85	197	0.00	$0	1.87	$576,982	$576,982	$0	$576,982	$0
5744	SW Mesa			100%	13	200	0.00	$0	1.90	$585,768	$585,768	$0	$0	$585,768
5801	SW Mesa		100%		461	370	0.00	$0	3.52	$1,083,672	$1,083,672	$0	$1,083,672	$0
5802	SW Mesa	20%	80%		1359	440	0.00	$0	4.18	$1,288,691	$1,288,691	$257,738	$1,030,953	$0
5803	SW Mesa		100%		673	131	0.00	$0	1.24	$383,678	$383,678	$0	$383,678	$0
5804	SW Mesa		100%		739	243	0.00	$0	2.31	$711,709	$711,709	$0	$711,709	$0
5805	SW Mesa	50%	50%		748	0	0.34	$103,774	0.00	$0	$103,774	$51,887	$51,887	$0
5806	SW Mesa	30%	70%		1089	5	0.49	$151,082	0.00	$0	$151,082	$45,325	$105,757	$0
5811	SW Mesa	100%			140	99	0.00	$0	0.94	$289,955	$289,955	$289,955	$0	$0
5812	SW Mesa	100%			38	47	0.00	$0	0.45	$137,656	$137,656	$137,656	$0	$0
5821	SW Mesa	100%			55	35	0.00	$0	0.33	$102,509	$102,509	$102,509	$0	$0
5822	SW Mesa	100%			0	78	0.00	$0	0.74	$228,450	$228,450	$228,450	$0	$0
5831	SW Mesa	100%			75	42	0.00	$0	0.40	$123,011	$123,011	$123,011	$0	$0
5832	SW Mesa	100%			361	125	0.00	$0	1.19	$366,105	$366,105	$366,105	$0	$0
5833	SW Mesa	100%			56	90	0.00	$0	0.86	$263,596	$263,596	$263,596	$0	$0
5841	SW Mesa	20%		80%	521	644	0.00	$0	6.12	$1,886,175	$1,886,175	$377,235	$0	$1,508,940
6001	N Valley	100%			985	29	0.00	$0	0.28	$84,936	$84,936	$84,936	$0	$0
6002	N Valley	100%			21	76	0.00	$0	0.72	$222,592	$222,592	$222,592	$0	$0
6003	N Valley	100%			76	36	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
6004	N Valley	100%			25	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
6011	N Valley	100%			28	30	0.00	$0	0.29	$87,865	$87,865	$87,865	$0	$0
6012	N Valley	100%			0	46	0.00	$0	0.44	$134,727	$134,727	$134,727	$0	$0
6021	N Valley	100%			40	115	0.00	$0	1.09	$336,817	$336,817	$336,817	$0	$0
6022	N Valley	100%			90	54	0.00	$0	0.51	$158,157	$158,157	$158,157	$0	$0
6031	N Valley	100%			159	15	0.00	$0	0.14	$43,933	$43,933	$43,933	$0	$0
6032	N Valley	50%	50%		12	30	0.00	$0	0.29	$87,865	$87,865	$43,933	$43,933	$0
6033	N Valley	100%			78	29	0.00	$0	0.28	$84,936	$84,936	$84,936	$0	$0
6034	N Valley	50%	50%		114	26	0.00	$0	0.25	$76,150	$76,150	$38,075	$38,075	$0
6041	N Valley		100%		56	112	0.00	$0	1.06	$328,030	$328,030	$0	$328,030	$0
6042	N Valley		100%		189	90	0.00	$0	0.86	$263,596	$263,596	$0	$263,596	$0
6043	N Valley		100%		47	87	0.00	$0	0.83	$254,809	$254,809	$0	$254,809	$0
6044	N Valley		100%		69	53	0.00	$0	0.50	$155,229	$155,229	$0	$155,229	$0
6045	N Valley		100%		128	74	0.00	$0	0.70	$216,734	$216,734	$0	$216,734	$0
6046	N Valley		100%		63	36	0.00	$0	0.34	$105,438	$105,438	$0	$105,438	$0
6051	N Valley		100%		594	110	0.00	$0	1.05	$322,173	$322,173	$0	$322,173	$0
6052	N Valley		100%		647	646	0.00	$0	6.14	$1,892,032	$1,892,032	$0	$1,892,032	$0
6053	N Valley		100%		1266	0	0.57	$175,638	0.00	$0	$175,638	$0	$175,638	$0
6054	N Valley		100%		2037	0	0.92	$282,602	0.00	$0	$282,602	$0	$282,602	$0
6055	N Valley		100%		2659	0	1.20	$368,895	0.00	$0	$368,895	$0	$368,895	$0
6056	N Valley		100%		346	0	0.16	$48,002	0.00	$0	$48,002	$0	$48,002	$0
6057	N Valley		100%		938	0	0.42	$130,133	0.00	$0	$130,133	$0	$130,133	$0
6058	N Valley		100%		540	0	0.24	$74,917	0.00	$0	$74,917	$0	$74,917	$0
6061	N Valley		100%		373	20	0.00	$0	0.19	$58,577	$58,577	$0	$58,577	$0
6062	N Valley		100%		444	891	0.00	$0	8.46	$2,609,599	$2,609,599	$0	$2,609,599	$0
6063	N Valley		100%		1980	0	0.89	$274,695	0.00	$0	$274,695	$0	$274,695	$0
6064	N Valley		100%		2091	0	0.94	$290,094	0.00	$0	$290,094	$0	$290,094	$0
6065	N Valley		100%		295	0	0.13	$40,927	0.00	$0	$40,927	$0	$40,927	$0
6066	N Valley		100%		304	12	0.14	$42,175	0.00	$0	$42,175	$0	$42,175	$0
6071	N Valley	100%			171	24	0.00	$0	0.23	$70,292	$70,292	$70,292	$0	$0
6072	N Valley	100.0%			1303	13	0.59	$180,771	0.00	$0	$180,771	$180,771	$0	$0
6073	N Valley	50%	50%		296	1	0.13	$41,065	0.00	$0	$41,065	$20,533	$20,533	$0
6074	N Valley		100%		91	147	0.00	$0	1.40	$430,540	$430,540	$0	$430,540	$0
6075	N Valley	30%	70%		733	16	0.33	$101,692	0.00	$0	$101,692	$30,508	$71,185	$0
6076	N Valley	100%			1136	0	0.51	$157,603	0.00	$0	$157,603	$157,603	$0	$0
6077	N Valley		100%		262	0	0.12	$36,348	0.00	$0	$36,348	$0	$36,348	$0
6101	N Valley	50%	50%		93	269	0.00	$0	2.56	$787,859	$787,859	$393,929	$393,929	$0
6102	N Valley	50%	50%		0	158	0.00	$0	1.50	$462,757	$462,757	$231,379	$231,379	$0
6111	N Valley	60%	40%		11	163	0.00	$0	1.55	$477,401	$477,401	$286,441	$190,961	$0
6112	N Valley	100%			0	79	0.00	$0	0.75	$231,379	$231,379	$231,379	$0	$0
6113	N Valley	100%			3	54	0.00	$0	0.51	$158,157	$158,157	$158,157	$0	$0
6114	N Valley	100%			0	45	0.00	$0	0.43	$131,798	$131,798	$131,798	$0	$0
6115	N Valley	100%			29	82	0.00	$0	0.78	$240,165	$240,165	$240,165	$0	$0
6116	N Valley	80%	20%		1	73	0.00	$0	0.69	$213,805	$213,805	$171,044	$42,761	$0
6121	N Valley		100%		3	65	0.00	$0	0.62	$190,375	$190,375	$0	$190,375	$0
6122	N Valley		100%		62	80	0.00	$0	0.76	$234,307	$234,307	$0	$234,307	$0
6123	N Valley		100%		1	136	0.00	$0	1.29	$398,323	$398,323	$0	$398,323	$0
6124	N Valley		100%		0	99	0.00	$0	0.94	$289,955	$289,955	$0	$289,955	$0
6125	N Valley		100%		0	6	0.00	$0	0.06	$17,573	$17,573	$0	$17,573	$0
6131	N Valley		100%		15	130	0.00	$0	1.24	$380,750	$380,750	$0	$380,750	$0
6141	N Valley	100%			40	148	0.00	$0	1.41	$433,469	$433,469	$433,469	$0	$0
6142	N Valley	100%			45	35	0.00	$0	0.33	$102,509	$102,509	$102,509	$0	$0
6151	N Valley	100%			0	118	0.00	$0	1.12	$345,603	$345,603	$345,603	$0	$0
6152	N Valley	100%			30	76	0.00	$0	0.72	$222,592	$222,592	$222,592	$0	$0
6153	N Valley	100%			164	86	0.00	$0	0.82	$251,880	$251,880	$251,880	$0	$0
6201	NW Mesa		50%	50%	0	903	0.00	$0	8.58	$2,644,745	$2,644,745	$0	$1,322,372	$1,322,372
6202	NW Mesa		100%		230	460	0.00	$0	4.37	$1,347,268	$1,347,268	$0	$1,347,268	$0
6203	NW Mesa		100%		0	134	0.00	$0	1.27	$392,465	$392,465	$0	$392,465	$0
6204	NW Mesa		100%		0	343	0.00	$0	3.26	$1,004,593	$1,004,593	$0	$1,004,593	$0
6205	NW Mesa		100%		40	479	0.00	$0	4.55	$1,402,916	$1,402,916	$0	$1,402,916	$0
6206	NW Mesa			100%	0	331	0.00	$0	3.14	$969,447	$969,447	$0	$0	$969,447
6211	NW Mesa		100%		153	497	0.00	$0	4.72	$1,455,635	$1,455,635	$0	$1,455,635	$0
6212	NW Mesa		100%		57	292	0.00	$0	2.77	$855,222	$855,222	$0	$855,222	$0

DOWNTOWN SCENARIO

DASZ	#ADD'L JOBS	# ADD'L DUs	ADD'L EMP. MILES (2)	COST EMPL. ROADS (4)	ADD'L RESID. MILES (1, 3)	COST RESID. ROADS (4)	TOTAL LOCAL ROADS COST	COST PER LOCATION 1960	COST PER LOCATION WSA	COST PER LOCATION Outside WSA
5613	87	40	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5614	145	52	0.00	$0	0.40	$121,840	$121,840	$0	$121,840	$0
5621	0	43	0.00	$0	0.33	$100,752	$100,752	$0	$100,752	$0
5622	103	144	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5623	53	67	0.00	$0	0.51	$156,986	$156,986	$0	$156,986	$0
5631	0	154	0.00	$0	1.17	$360,833	$360,833	$0	$360,833	$0
5632	0	26	0.00	$0	0.20	$60,920	$60,920	$0	$60,920	$0
5633	321	93	0.00	$0	0.71	$217,906	$217,906	$0	$217,906	$0
5634	43	87	0.00	$0	0.66	$203,847	$203,847	$0	$203,847	$0
5635	0	28	0.00	$0	0.21	$65,606	$65,606	$0	$65,606	$0
5636	0	5	0.00	$0	0.04	$11,715	$11,715	$0	$11,715	$0
5637	0	43	0.00	$0	0.33	$100,752	$100,752	$0	$100,752	$0
5638	7	36	0.00	$0	0.27	$84,351	$84,351	$0	$84,351	$0
5641	95	59	0.00	$0	0.45	$138,241	$138,241	$0	$138,241	$0
5642	0	72	0.00	$0	0.55	$168,701	$168,701	$0	$168,701	$0
5643	9	0	0.00	$0	0.00	$0	$0	$0	$0	$0
5701	130	531	0.00	$0	4.04	$1,244,172	$1,244,172	$0	$0	$1,244,172
5702	267	654	0.00	$0	4.97	$1,532,370	$1,532,370	$766,185	$0	$766,185
5711	30	113	0.00	$0	0.86	$264,767	$264,767	$0	$264,767	$0
5712	416	516	0.00	$0	3.92	$1,209,026	$1,209,026	$604,513	$604,513	$0
5713	424	557	0.00	$0	4.23	$1,305,092	$1,305,092	$652,546	$652,546	$0
5714	34	241	0.00	$0	1.83	$564,681	$564,681	$0	$564,681	$0
5721	0	0	0.00	$0	0.00	$0	$0	$0	$0	$0
5722	83	211	0.00	$0	1.60	$494,389	$494,389	$0	$247,194	$247,194
5723	90	288	0.00	$0	2.19	$674,805	$674,805	$0	$337,403	$337,403
5731	27	260	0.00	$0	1.98	$609,199	$609,199	$0	$609,199	$0
5732	38	554	0.00	$0	4.21	$1,298,063	$1,298,063	$259,613	$1,038,450	$0
5733	0	69	0.00	$0	0.52	$161,672	$161,672	$0	$161,672	$0
5741	0	0	0.00	$0	0.00	$0	$0	$0	$0	$0
5742	97	509	0.00	$0	3.87	$1,192,625	$1,192,625	$0	$238,525	$954,100
5743	0	196	0.00	$0	1.49	$459,242	$459,242	$0	$459,242	$0
5744	0	199	0.00	$0	1.51	$466,272	$466,272	$0	$0	$466,272
5801	324	369	0.00	$0	2.80	$864,594	$864,594	$0	$864,594	$0
5802	1359	913	0.00	$0	6.94	$2,139,226	$2,139,226	$427,845	$1,711,381	$0
5803	673	254	0.00	$0	1.93	$595,141	$595,141	$0	$595,141	$0
5804	739	946	0.00	$0	7.19	$2,216,548	$2,216,548	$0	$2,216,548	$0
5805	748	1	0.27	$83,019	0.00	$0	$83,019	$41,509	$41,509	$0
5806	1089	63	0.39	$120,866	0.00	$0	$120,866	$36,260	$84,606	$0
5811	257	302	0.00	$0	2.30	$707,608	$707,608	$707,608	$0	$0
5812	0	46	0.00	$0	0.35	$107,781	$107,781	$107,781	$0	$0
5821	163	123	0.00	$0	0.93	$288,198	$288,198	$288,198	$0	$0
5822	0	78	0.00	$0	0.59	$182,760	$182,760	$182,760	$0	$0
5831	93	73	0.00	$0	0.55	$171,044	$171,044	$171,044	$0	$0
5832	247	124	0.00	$0	0.94	$290,541	$290,541	$290,541	$0	$0
5833	116	250	0.00	$0	1.90	$585,768	$585,768	$585,768	$0	$0
5841	357	643	0.00	$0	4.89	$1,506,597	$1,506,597	$301,319	$0	$1,205,277
6001	1006	33	0.00	$0	0.25	$77,321	$77,321	$77,321	$0	$0
6002	24	84	0.00	$0	0.64	$196,818	$196,818	$196,818	$0	$0
6003	85	41	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
6004	33	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
6011	33	34	0.00	$0	0.26	$79,665	$79,665	$79,665	$0	$0
6012	0	52	0.00	$0	0.40	$121,840	$121,840	$121,840	$0	$0
6021	43	130	0.00	$0	0.99	$304,600	$304,600	$304,600	$0	$0
6022	100	61	0.00	$0	0.46	$142,928	$142,928	$142,928	$0	$0
6031	228	22	0.00	$0	0.17	$51,548	$51,548	$51,548	$0	$0
6032	61	47	0.00	$0	0.36	$110,124	$110,124	$55,062	$55,062	$0
6033	85	33	0.00	$0	0.25	$77,321	$77,321	$77,321	$0	$0
6034	122	30	0.00	$0	0.23	$70,292	$70,292	$35,146	$35,146	$0
6041	60	120	0.00	$0	0.91	$281,169	$281,169	$0	$281,169	$0
6042	140	94	0.00	$0	0.71	$220,249	$220,249	$0	$220,249	$0
6043	30	90	0.00	$0	0.68	$210,877	$210,877	$0	$210,877	$0
6044	58	55	0.00	$0	0.42	$128,869	$128,869	$0	$128,869	$0
6045	87	79	0.00	$0	0.60	$185,103	$185,103	$0	$185,103	$0
6046	0	41	0.00	$0	0.31	$96,066	$96,066	$0	$96,066	$0
6051	467	113	0.00	$0	0.86	$264,767	$264,767	$0	$264,767	$0
6052	511	662	0.00	$0	5.03	$1,551,115	$1,551,115	$0	$1,551,115	$0
6053	1078	0	0.39	$119,645	0.00	$0	$119,645	$0	$119,645	$0
6054	1829	0	0.66	$202,997	0.00	$0	$202,997	$0	$202,997	$0
6055	2343	0	0.84	$260,044	0.00	$0	$260,044	$0	$260,044	$0
6056	173	0	0.06	$19,201	0.00	$0	$19,201	$0	$19,201	$0
6057	736	0	0.26	$81,687	0.00	$0	$81,687	$0	$81,687	$0
6058	484	0	0.17	$53,718	0.00	$0	$53,718	$0	$53,718	$0
6061	258	23	0.00	$0	0.17	$53,891	$53,891	$0	$53,891	$0
6062	325	914	0.00	$0	6.95	$2,141,570	$2,141,570	$0	$2,141,570	$0
6063	1685	0	0.61	$187,014	0.00	$0	$187,014	$0	$187,014	$0
6064	1551	0	0.56	$172,142	0.00	$0	$172,142	$0	$172,142	$0
6065	252	0	0.00	$0	0.00	$0	$0	$0	$0	$0
6066	251	16	0.09	$27,858	0.00	$0	$27,858	$0	$27,858	$0
6071	232	36	0.00	$0	0.27	$84,351	$84,351	$84,351	$0	$0
6072	1721	20	0.62	$191,010	0.00	$0	$191,010	$191,010	$0	$0
6073	489	3	0.18	$54,273	0.00	$0	$54,273	$27,136	$27,136	$0
6074	116	158	0.00	$0	1.20	$370,206	$370,206	$0	$370,206	$0
6075	517	35	0.19	$57,381	0.00	$0	$57,381	$17,214	$40,166	$0
6076	952	0	0.34	$105,660	0.00	$0	$105,660	$105,660	$0	$0
6077	71	0	0.03	$7,880	0.00	$0	$7,880	$0	$7,880	$0
6101	127	331	0.00	$0	2.52	$775,557	$775,557	$387,779	$387,779	$0
6102	11	203	0.00	$0	1.54	$475,644	$475,644	$237,822	$237,822	$0
6111	28	203	0.00	$0	1.54	$475,644	$475,644	$285,386	$190,258	$0
6112	10	109	0.00	$0	0.83	$255,395	$255,395	$255,395	$0	$0
6113	47	73	0.00	$0	0.55	$171,044	$171,044	$171,044	$0	$0
6114	1	67	0.00	$0	0.51	$156,986	$156,986	$156,986	$0	$0
6115	45	120	0.00	$0	0.91	$281,169	$281,169	$281,169	$0	$0
6116	16	96	0.00	$0	0.73	$224,935	$224,935	$179,948	$44,987	$0
6121	0	70	0.00	$0	0.53	$164,015	$164,015	$0	$164,015	$0
6122	45	86	0.00	$0	0.65	$201,504	$201,504	$0	$201,504	$0
6123	25	161	0.00	$0	1.22	$377,235	$377,235	$0	$377,235	$0
6124	0	105	0.00	$0	0.80	$246,023	$246,023	$0	$246,023	$0
6125	0	6	0.00	$0	0.05	$14,058	$14,058	$0	$14,058	$0
6131	0	141	0.00	$0	1.07	$330,373	$330,373	$0	$330,373	$0
6141	47	162	0.00	$0	1.23	$379,578	$379,578	$379,578	$0	$0
6142	52	39	0.00	$0	0.30	$91,380	$91,380	$91,380	$0	$0
6151	0	125	0.00	$0	0.95	$292,884	$292,884	$292,884	$0	$0
6152	19	83	0.00	$0	0.63	$194,475	$194,475	$194,475	$0	$0
6153	133	97	0.00	$0	0.74	$227,278	$227,278	$227,278	$0	$0
6201	0	771	0.00	$0	5.86	$1,806,510	$1,806,510	$0	$903,255	$903,255
6202	201	400	0.00	$0	3.04	$937,230	$937,230	$0	$937,230	$0
6203	0	82	0.00	$0	0.62	$192,132	$192,132	$0	$192,132	$0
6204	0	284	0.00	$0	2.16	$665,433	$665,433	$0	$665,433	$0
6205	34	394	0.00	$0	2.99	$923,171	$923,171	$0	$923,171	$0
6206	0	292	0.00	$0	2.22	$684,178	$684,178	$0	$0	$684,178
6211	246	746	0.00	$0	5.67	$1,747,933	$1,747,933	$0	$1,747,933	$0
6212	32	188	0.00	$0	1.43	$440,498	$440,498	$0	$440,498	$0

BALANCED SCENARIO

DASZ	#ADD'L JOBS	# ADD'L DUs	ADD'L EMP. MILES (2)	COST EMPL. ROADS (4)	ADD'L RESID. MILES (1, 3)	COST RESID. ROADS (4)	TOTAL LOCAL ROADS COST	COST PER LOCATION 1960	COST PER LOCATION WSA	COST PER LOCATION Outside WSA
5613	225	242	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5614	276	183	0.00	$0	1.39	$428,783	$428,783	$0	$428,783	$0
5621	8	38	0.00	$0	0.29	$89,037	$89,037	$0	$89,037	$0
5622	389	661	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
5623	359	247	0.00	$0	1.88	$578,739	$578,739	$0	$578,739	$0
5631	10	141	0.00	$0	1.07	$330,373	$330,373	$0	$330,373	$0
5632	0	22	0.00	$0	0.17	$51,548	$51,548	$0	$51,548	$0
5633	411	80	0.00	$0	0.61	$187,446	$187,446	$0	$187,446	$0
5634	55	74	0.00	$0	0.56	$173,387	$173,387	$0	$173,387	$0
5635	11	23	0.00	$0	0.17	$53,891	$53,891	$0	$53,891	$0
5636	48	3	0.00	$0	0.02	$7,029	$7,029	$0	$7,029	$0
5637	10	38	0.00	$0	0.29	$89,037	$89,037	$0	$89,037	$0
5638	27	32	0.00	$0	0.24	$74,978	$74,978	$0	$74,978	$0
5641	130	51	0.00	$0	0.39	$119,497	$119,497	$0	$119,497	$0
5642	26	63	0.00	$0	0.48	$147,614	$147,614	$0	$147,614	$0
5643	11	0	0.00	$0	0.00	$0	$0	$0	$0	$0
5701	163	334	0.00	$0	2.54	$782,587	$782,587	$0	$0	$782,587
5702	327	486	0.00	$0	3.69	$1,138,734	$1,138,734	$569,367	$0	$569,367
5711	56	15	0.00	$0	0.11	$35,146	$35,146	$0	$35,146	$0
5712	520	320	0.00	$0	2.43	$749,784	$749,784	$374,892	$374,892	$0
5713	506	440	0.00	$0	3.34	$1,030,953	$1,030,953	$515,476	$515,476	$0
5714	59	132	0.00	$0	1.00	$309,286	$309,286	$0	$309,286	$0
5721	13	429	0.00	$0	3.26	$1,005,179	$1,005,179	$0	$0	$1,005,179
5722	123	0	0.00	$0	0.00	$0	$0	$0	$0	$0
5723	114	172	0.00	$0	1.31	$403,009	$403,009	$0	$201,504	$201,504
5731	39	186	0.00	$0	1.41	$435,812	$435,812	$0	$435,812	$0
5732	56	432	0.00	$0	3.28	$1,012,208	$1,012,208	$202,442	$809,766	$0
5733	14	47	0.00	$0	0.36	$110,124	$110,124	$0	$110,124	$0
5741	727	631	0.00	$0	4.80	$1,478,480	$1,478,480	$0	$0	$1,478,480
5742	116	402	0.00	$0	3.06	$941,916	$941,916	$0	$188,383	$753,533
5743	30	19	0.00	$0	0.14	$44,518	$44,518	$0	$44,518	$0
5744	0	61	0.00	$0	0.46	$142,928	$142,928	$0	$0	$142,928
5801	387	290	0.00	$0	2.20	$679,491	$679,491	$0	$679,491	$0
5802	6938	377	2.50	$770,033	0.00	$0	$770,033	$154,007	$616,026	$0
5803	2730	114	0.98	$302,996	0.00	$0	$302,996	$0	$302,996	$0
5804	6198	149	2.23	$687,902	0.00	$0	$687,902	$0	$687,902	$0
5805	6547	0	2.36	$726,637	0.00	$0	$726,637	$363,318	$363,318	$0
5806	4800	0	1.73	$532,741	0.00	$0	$532,741	$159,822	$372,919	$0
5811	140	57	0.00	$0	0.43	$133,555	$133,555	$133,555	$0	$0
5812	0	0	0.00	$0	0.00	$0	$0	$0	$0	$0
5821	55	17	0.00	$0	0.13	$39,832	$39,832	$39,832	$0	$0
5822	0	0	0.00	$0	0.00	$0	$0	$0	$0	$0
5831	75	35	0.00	$0	0.27	$82,008	$82,008	$82,008	$0	$0
5832	300	31	0.00	$0	0.24	$72,635	$72,635	$72,635	$0	$0
5833	56	57	0.00	$0	0.43	$133,555	$133,555	$133,555	$0	$0
5841	433	499	0.00	$0	3.79	$1,169,194	$1,169,194	$233,839	$0	$935,355
6001	1026	86	0.00	$0	0.65	$201,504	$201,504	$201,504	$0	$0
6002	26	199	0.00	$0	1.51	$466,272	$466,272	$466,272	$0	$0
6003	94	108	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
6004	40	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
6011	37	91	0.00	$0	0.69	$213,220	$213,220	$213,220	$0	$0
6012	0	143	0.00	$0	1.09	$335,060	$335,060	$335,060	$0	$0
6021	47	356	0.00	$0	2.71	$834,134	$834,134	$834,134	$0	$0
6022	109	169	0.00	$0	1.28	$395,979	$395,979	$395,979	$0	$0
6031	145	15	0.00	$0	0.11	$35,146	$35,146	$35,146	$0	$0
6032	2	30	0.00	$0	0.23	$70,292	$70,292	$35,146	$35,146	$0
6033	91	90	0.00	$0	0.68	$210,877	$210,877	$210,877	$0	$0
6034	130	90	0.00	$0	0.68	$210,877	$210,877	$105,438	$105,438	$0
6041	64	244	0.00	$0	1.85	$571,710	$571,710	$0	$571,710	$0
6042	161	72	0.00	$0	0.55	$168,701	$168,701	$0	$168,701	$0
6043	37	70	0.00	$0	0.53	$164,015	$164,015	$0	$164,015	$0
6044	63	43	0.00	$0	0.33	$100,752	$100,752	$0	$100,752	$0
6045	105	48	0.00	$0	0.36	$112,468	$112,468	$0	$112,468	$0
6046	25	14	0.00	$0	0.11	$32,803	$32,803	$0	$32,803	$0
6051	522	94	0.00	$0	0.71	$220,249	$220,249	$0	$220,249	$0
6052	570	566	0.00	$0	4.30	$1,326,180	$1,326,180	$0	$1,326,180	$0
6053	861	0	0.31	$95,560	0.00	$0	$95,560	$0	$95,560	$0
6054	1588	0	0.57	$176,248	0.00	$0	$176,248	$0	$176,248	$0
6055	1978	0	0.71	$219,534	0.00	$0	$219,534	$0	$219,534	$0
6056	0	0	0.00	$0	0.00	$0	$0	$0	$0	$0
6057	503	0	0.18	$55,827	0.00	$0	$55,827	$0	$55,827	$0
6058	420	0	0.15	$46,615	0.00	$0	$46,615	$0	$46,615	$0
6061	308	7	0.00	$0	0.05	$16,402	$16,402	$0	$16,402	$0
6062	376	775	0.00	$0	5.89	$1,815,882	$1,815,882	$0	$1,815,882	$0
6063	1560	0	0.56	$173,141	0.00	$0	$173,141	$0	$173,141	$0
6064	925	0	0.33	$102,664	0.00	$0	$102,664	$0	$102,664	$0
6065	203	0	0.00	$0	0.00	$0	$0	$0	$0	$0
6066	190	12	0.07	$21,088	0.00	$0	$21,088	$0	$21,088	$0
6071	159	24	0.00	$0	0.18	$56,234	$56,234	$56,234	$0	$0
6072	1218	13	0.44	$135,183	0.00	$0	$135,183	$135,183	$0	$0
6073	256	1	0.09	$28,413	0.00	$0	$28,413	$14,206	$14,206	$0
6074	86	147	0.00	$0	1.12	$344,432	$344,432	$0	$344,432	$0
6075	266	16	0.10	$29,523	0.00	$0	$29,523	$8,857	$20,666	$0
6076	739	0	0.27	$82,020	0.00	$0	$82,020	$82,020	$0	$0
6077	0	0	0.00	$0	0.00	$0	$0	$0	$0	$0
6101	86	269	0.00	$0	2.04	$630,287	$630,287	$315,143	$315,143	$0
6102	0	158	0.00	$0	1.20	$370,206	$370,206	$185,103	$185,103	$0
6111	8	163	0.00	$0	1.24	$381,921	$381,921	$229,153	$152,768	$0
6112	0	79	0.00	$0	0.60	$185,103	$185,103	$185,103	$0	$0
6113	0	54	0.00	$0	0.41	$126,526	$126,526	$126,526	$0	$0
6114	0	45	0.00	$0	0.34	$105,438	$105,438	$105,438	$0	$0
6115	26	82	0.00	$0	0.62	$192,132	$192,132	$192,132	$0	$0
6116	0	73	0.00	$0	0.55	$171,044	$171,044	$136,836	$34,209	$0
6121	0	42	0.00	$0	0.32	$98,409	$98,409	$0	$98,409	$0
6122	52	49	0.00	$0	0.37	$114,811	$114,811	$0	$114,811	$0
6123	0	136	0.00	$0	1.03	$318,658	$318,658	$0	$318,658	$0
6124	0	67	0.00	$0	0.51	$156,986	$156,986	$0	$156,986	$0
6125	0	5	0.00	$0	0.04	$11,715	$11,715	$0	$11,715	$0
6131	0	77	0.00	$0	0.59	$180,417	$180,417	$0	$180,417	$0
6141	53	371	0.00	$0	2.82	$869,280	$869,280	$869,280	$0	$0
6142	59	102	0.00	$0	0.78	$238,994	$238,994	$238,994	$0	$0
6151	0	81	0.00	$0	0.62	$189,789	$189,789	$189,789	$0	$0
6152	24	43	0.00	$0	0.33	$100,752	$100,752	$100,752	$0	$0
6153	146	34	0.00	$0	0.26	$79,665	$79,665	$79,665	$0	$0
6201	0	871	0.00	$0	6.62	$2,040,817	$2,040,817	$0	$1,020,409	$1,020,409
6202	230	446	0.00	$0	3.39	$1,045,011	$1,045,011	$0	$1,045,011	$0
6203	0	121	0.00	$0	0.92	$283,512	$283,512	$0	$283,512	$0
6204	0	329	0.00	$0	2.50	$770,871	$770,871	$0	$770,871	$0
6205	40	458	0.00	$0	3.48	$1,073,128	$1,073,128	$0	$1,073,128	$0
6206	0	322	0.00	$0	2.45	$754,470	$754,470	$0	$0	$754,470
6211	148	401	0.00	$0	3.05	$939,573	$939,573	$0	$939,573	$0
6212	57	267	0.00	$0	2.03	$625,601	$625,601	$0	$625,601	$0

Table A.14 New Construction Costs for Minor Roads

TREND SCENARIO

DASZ	GENERAL LOCATION	LOCATION 1960	LOCATION WSA	LOCATION Outside WSA	#ADD'L JOBS	# ADD'L DUs	ADD'L EMP. MILES (2)	COST EMPL. ROADS (4)	ADD'L RESID MILES (1, 3)	COST RESID. ROADS (4)	TOTAL LOCAL ROADS COST	COST PER LOCATION 1960	COST PER LOCATION WSA	COST PER LOCATION Outside WSA
6213	NW Mesa		100%		2700	429	0.00	$0	4.08	$1,256,473	$1,256,473	$0	$1,256,473	$0
6214	NW Mesa		100%		189	886	0.00	$0	8.42	$2,594,954	$2,594,954	$0	$2,594,954	$0
6215	NW Mesa		100%		367	260	0.00	$0	2.47	$761,499	$761,499	$0	$761,499	$0
6216	NW Mesa		100%		943	30	0.00	$0	0.29	$87,865	$87,865	$0	$87,865	$0
6217	NW Mesa		100%		0	295	0.00	$0	2.80	$864,009	$864,009	$0	$864,009	$0
6218	NW Mesa		100%		40	51	0.00	$0	0.48	$149,371	$149,371	$0	$149,371	$0
6221	NW Mesa		100%		88	1208	0.00	$0	11.48	$3,538,042	$3,538,042	$0	$3,538,042	$0
6222	NW Mesa		100%		0	218	0.00	$0	2.07	$638,488	$638,488	$0	$638,488	$0
6223	NW Mesa		100%		105	239	0.00	$0	2.27	$699,993	$699,993	$0	$699,993	$0
6224	NW Mesa		100%		226	558	0.00	$0	5.30	$1,634,294	$1,634,294	$0	$1,634,294	$0
6225	NW Mesa		100%		80	6	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
6226	NW Mesa		100%		63	284	0.00	$0	2.70	$831,791	$831,791	$0	$831,791	$0
6227	NW Mesa		100%		0	345	0.00	$0	3.28	$1,010,451	$1,010,451	$0	$1,010,451	$0
6231	NW Mesa		100%		475	61	0.21	$65,899	0.00	$0	$65,899	$0	$65,899	$0
6232	NW Mesa		100%		524	663	0.00	$0	6.30	$1,941,823	$1,941,823	$0	$1,941,823	$0
6241	NW Mesa		100%		0	70	0.00	$0	0.67	$205,019	$205,019	$0	$205,019	$0
6242	NW Mesa		100%		34	67	0.00	$0	0.64	$196,232	$196,232	$0	$196,232	$0
6243	NW Mesa		100%		19	190	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
6244	NW Mesa		100%		68	288	0.00	$0	2.74	$843,507	$843,507	$0	$843,507	$0
6251	NW Mesa	80%	20%		354	349	0.00	$0	3.32	$1,022,166	$1,022,166	$817,733	$204,433	$0
6252	NW Mesa	20%	80%		998	755	0.00	$0	7.17	$2,211,276	$2,211,276	$442,255	$1,769,021	$0
6253	NW Mesa		100%		486	713	0.00	$0	6.77	$2,088,265	$2,088,265	$0	$2,088,265	$0
6301	NW Mesa			100%	5966	3265	0.00	$0	31.02	$9,562,670	$9,562,670	$0	$0	$9,562,670
6302	NW Mesa			100%	0	0	0.00	$0	0.00	$0	$0	$0	$0	$0
6311	NW Mesa			100%	258	965	0.00	$0	9.17	$2,826,333	$2,826,333	$0	$0	$2,826,333
6312	NW Mesa		70%	30%	0	274	0.00	$0	2.60	$802,503	$802,503	$0	$561,752	$240,751
6313	NW Mesa			100%	11	281	0.00	$0	2.67	$823,005	$823,005	$0	$0	$823,005
6401	NW Mesa			100%	326	424	0.00	$0	4.03	$1,241,829	$1,241,829	$0	$0	$1,241,829
6402	NW Mesa			100%	196	1266	0.00	$0	12.03	$3,707,914	$3,707,914	$0	$0	$3,707,914
6403	NW Mesa			100%	4	845	0.00	$0	8.03	$2,474,872	$2,474,872	$0	$0	$2,474,872
6404	NW Mesa			100%	61	226	0.00	$0	2.15	$661,918	$661,918	$0	$0	$661,918
6405	NW Mesa		100%		65	378	0.00	$0	3.59	$1,107,102	$1,107,102	$0	$1,107,102	$0
6406	NW Mesa			100%	1384	488	0.00	$0	4.64	$1,429,275	$1,429,275	$0	$0	$1,429,275
6411	NW Mesa			100%	905	691	0.00	$0	6.56	$2,023,830	$2,023,830	$0	$0	$2,023,830
6412	NW Mesa			100%	1273	566	0.00	$0	5.38	$1,657,725	$1,657,725	$0	$0	$1,657,725
6413	NW Mesa			100%	180	1507	0.00	$0	14.32	$4,413,765	$4,413,765	$0	$0	$4,413,765
6414	NW Mesa			100%	1099	693	0.00	$0	6.58	$2,029,688	$2,029,688	$0	$0	$2,029,688
6415	NW Mesa		100%		112	110	0.00	$0	1.05	$322,173	$322,173	$0	$322,173	$0
6416	NW Mesa		100%		936	63	0.00	$0	0.60	$184,517	$184,517	$0	$184,517	$0
6417	NW Mesa			100%	6291	0	2.83	$872,780	0.00	$0	$872,780	$0	$0	$872,780
6418	NW Mesa			100%	631	1201	0.00	$0	11.41	$3,517,540	$3,517,540	$0	$0	$3,517,540
6421	NW Mesa			100%	756	1041	0.00	$0	9.89	$3,048,925	$3,048,925	$0	$0	$3,048,925
6422	Far NW			100%	0	538	0.00	$0	5.11	$1,575,717	$1,575,717	$0	$0	$1,575,717
6431	NW Mesa			100%	589	529	0.00	$0	5.03	$1,549,358	$1,549,358	$0	$0	$1,549,358
6432	NW Mesa			100%	228	361	0.00	$0	3.43	$1,057,312	$1,057,312	$0	$0	$1,057,312
6433	NW Mesa			100%	42	423	0.00	$0	4.02	$1,238,900	$1,238,900	$0	$0	$1,238,900
6434	Far NW			100%	3	458	0.00	$0	4.35	$1,341,410	$1,341,410	$0	$0	$1,341,410
6435	NW Mesa			100%	528	794	0.00	$0	7.54	$2,325,501	$2,325,501	$0	$0	$2,325,501
6501	N Valley		100%		257	128	0.00	$0	1.22	$374,892	$374,892	$0	$374,892	$0
6502	N Valley		20%	80%	0	6	0.00	$0	0.06	$17,573	$17,573	$0	$3,515	$14,058
6503	N Valley		100%		81	79	0.00	$0	0.75	$231,379	$231,379	$0	$231,379	$0
6504	N Valley		100%		183	17	0.00	$0	0.16	$49,790	$49,790	$0	$49,790	$0
6505	N Valley		100%		90	167	0.00	$0	1.59	$489,117	$489,117	$0	$489,117	$0
6506	N Valley		100%		106	18	0.00	$0	0.17	$52,719	$52,719	$0	$52,719	$0
6507	N Valley		100%		11	4	0.00	$0	0.04	$11,715	$11,715	$0	$11,715	$0
6511	N Valley			100%	1543	0	0.69	$214,068	0.00	$0	$214,068	$0	$0	$214,068
6512	N Valley		100%		5018	0	2.26	$696,170	0.00	$0	$696,170	$0	$696,170	$0
6513	N Valley			100%	13	82	0.00	$0	0.78	$240,165	$240,165	$0	$0	$240,165
6514	N Valley		100%		995	13	0.45	$138,041	0.00	$0	$138,041	$0	$138,041	$0
6521	N Valley		100%		56	40	0.00	$0	0.38	$117,154	$117,154	$0	$117,154	$0
6522	N Valley		100%		2157	0	0.97	$299,251	0.00	$0	$299,251	$0	$299,251	$0
6523	N Valley		100%		261	16	0.00	$0	0.15	$46,861	$46,861	$0	$46,861	$0
6524	N Valley		100%		0	16	0.00	$0	0.15	$46,861	$46,861	$0	$46,861	$0
6525	N Valley		100%		638	7	0.00	$0	0.07	$20,502	$20,502	$0	$20,502	$0
6526	N Valley		100%		959	52	0.00	$0	0.49	$152,300	$152,300	$0	$152,300	$0
6531	N Valley		100%		182	56	0.00	$0	0.53	$164,015	$164,015	$0	$164,015	$0
6532	N Valley		100%		50	30	0.00	$0	0.29	$87,865	$87,865	$0	$87,865	$0
6533	N Valley		100%		91	261	0.00	$0	2.48	$764,428	$764,428	$0	$764,428	$0
6534	N Valley		100%		0	43	0.00	$0	0.41	$125,940	$125,940	$0	$125,940	$0
6535	N Valley		100%		165	55	0.00	$0	0.52	$161,086	$161,086	$0	$161,086	$0
6541	N Valley		100%		0	22	0.00	$0	0.21	$64,435	$64,435	$0	$64,435	$0
6542	N Valley		100%		6	206	0.00	$0	1.96	$603,342	$603,342	$0	$603,342	$0
6543	N Valley		100%		17	59	0.00	$0	0.56	$172,802	$172,802	$0	$172,802	$0
7001	Mid-Heights	100%			46	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7002	Mid-Heights	100%			502	0	0.23	$69,645	0.00	$0	$69,645	$69,645	$0	$0
7003	Mid-Heights	100%			897	1	0.40	$124,445	0.00	$0	$124,445	$124,445	$0	$0
7004	Mid-Heights	100%			252	0	0.11	$34,961	0.00	$0	$34,961	$34,961	$0	$0
7011	Mid-Heights	100%			374	0	0.17	$51,887	0.00	$0	$51,887	$51,887	$0	$0
7012	Mid-Heights	100%			1687	262	0.00	$0	2.49	$767,357	$767,357	$767,357	$0	$0
7013	Mid-Heights	100%			14	3	0.00	$0	0.03	$8,787	$8,787	$8,787	$0	$0
7014	Mid-Heights	100%			158	54	0.00	$0	0.51	$158,157	$158,157	$158,157	$0	$0
7021	Mid-Heights	100%			57	41	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7022	Mid-Heights	100%			24	6	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7031	Mid-Heights	100%			6	7	0.00	$0	0.07	$20,502	$20,502	$20,502	$0	$0
7032	Mid-Heights	100%			30	47	0.00	$0	0.45	$137,656	$137,656	$137,656	$0	$0
7041	Mid-Heights	100%			434	1	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7042	Mid-Heights	100%			110	32	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7043	Mid-Heights	100%			19	5	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7044	Mid-Heights	100%			705	0	0.32	$97,808	0.00	$0	$97,808	$97,808	$0	$0
7051	Mid-Heights	90%	10%		336	10	0.00	$0	0.10	$29,288	$29,288	$26,360	$2,929	$0
7052	Mid-Heights		100%		243	0	0.11	$33,713	0.00	$0	$33,713	$0	$33,713	$0
7053	Mid-Heights	50%	50%		148	0	0.07	$20,533	0.00	$0	$20,533	$10,266	$10,266	$0
7101	Mid-Heights		100%		22	97	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7102	N Albuquerque		100%		0	3	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7103	N Albuquerque		100%		13	17	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7104	Mid-Heights	50%	50%		25	25	0.00	$0	0.24	$73,221	$73,221	$36,611	$36,611	$0
7105	Mid-Heights	50%	50%		3	29	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7106	Mid-Heights	50%	50%		4	36	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7107	Mid-Heights	50%	50%		9	18	0.00	$0	0.17	$52,719	$52,719	$26,360	$26,360	$0
7111	N Albuquerque		100%		52	34	0.00	$0	0.32	$99,581	$99,581	$0	$99,581	$0
7112	N Albuquerque		100%		336	1	0.15	$46,615	0.00	$0	$46,615	$0	$46,615	$0
7113	N Albuquerque		100%		29	55	0.00	$0	0.52	$161,086	$161,086	$0	$161,086	$0
7114	N Albuquerque		100%		86	78	0.00	$0	0.74	$228,450	$228,450	$0	$228,450	$0
7115	N Albuquerque		100%		6	25	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7116	N Albuquerque		100%		12	272	0.00	$0	2.58	$796,645	$796,645	$0	$796,645	$0
7121	N Albuquerque		100%		38	33	0.00	$0	0.31	$96,652	$96,652	$0	$96,652	$0
7122	N Albuquerque		100%		136	31	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7123	N Albuquerque		100%		164	221	0.00	$0	2.10	$647,274	$647,274	$0	$647,274	$0
7124	N Albuquerque		100%		102	153	0.00	$0	1.45	$448,113	$448,113	$0	$448,113	$0
7125	N Albuquerque		100%		0	36	0.00	$0	0.34	$105,438	$105,438	$0	$105,438	$0
7126	N Albuquerque		100%		102	393	0.00	$0	3.73	$1,151,035	$1,151,035	$0	$1,151,035	$0
7131	Mid-Heights		100%		22	15	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7132	N Albuquerque		100%		365	124	0.00	$0	1.18	$363,176	$363,176	$0	$363,176	$0

DOWNTOWN SCENARIO

DASZ	#ADD'L JOBS	# ADD'L DUs	ADD'L EMP. MILES (2)	COST EMPL. ROADS (4)	ADD'L RESID. MILES (1, 3)	COST RESID. ROADS (4)	TOTAL LOCAL ROADS COST	COST PER LOCATION 1960	COST PER LOCATION WSA	COST PER LOCATION Outside WSA
6213	4225	558	0.00	$0	4.24	$1,307,435	$1,307,435	$0	$1,307,435	$0
6214	360	1239	0.00	$0	9.42	$2,903,069	$2,903,069	$0	$2,903,069	$0
6215	716	453	0.00	$0	3.44	$1,061,412	$1,061,412	$0	$1,061,412	$0
6216	1728	94	0.00	$0	0.71	$220,249	$220,249	$0	$220,249	$0
6217	0	161	0.00	$0	1.22	$377,235	$377,235	$0	$377,235	$0
6218	0	0	0.00	$0	0.00	$0	$0	$0	$0	$0
6221	167	1726	0.00	$0	13.12	$4,044,146	$4,044,146	$0	$4,044,146	$0
6222	0	83	0.00	$0	0.63	$194,475	$194,475	$0	$194,475	$0
6223	91	194	0.00	$0	1.47	$454,556	$454,556	$0	$454,556	$0
6224	429	1102	0.00	$0	8.38	$2,582,067	$2,582,067	$0	$2,582,067	$0
6225	0	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
6226	18	130	0.00	$0	0.99	$304,600	$304,600	$0	$304,600	$0
6227	0	287	0.00	$0	2.18	$672,462	$672,462	$0	$672,462	$0
6231	959	82	0.35	$106,437	0.00	$0	$106,437	$0	$106,437	$0
6232	939	927	0.00	$0	7.05	$2,172,030	$2,172,030	$0	$2,172,030	$0
6241	0	0	0.00	$0	0.00	$0	$0	$0	$0	$0
6242	26	31	0.00	$0	0.24	$72,635	$72,635	$0	$72,635	$0
6243	1	79	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
6244	121	432	0.00	$0	3.28	$1,012,208	$1,012,208	$0	$1,012,208	$0
6251	880	636	0.00	$0	4.83	$1,490,195	$1,490,195	$1,192,156	$298,039	$0
6252	1701	1011	0.00	$0	7.68	$2,368,848	$2,368,848	$473,770	$1,895,078	$0
6253	770	963	0.00	$0	7.32	$2,256,380	$2,256,380	$0	$2,256,380	$0
6301	257	1288	0.00	$0	9.79	$3,017,879	$3,017,879	$0	$0	$3,017,879
6302	0	0	0.00	$0	0.00	$0	$0	$0	$0	$0
6311	225	851	0.00	$0	6.47	$1,993,956	$1,993,956	$0	$0	$1,993,956
6312	0	242	0.00	$0	1.84	$567,024	$567,024	$0	$396,917	$170,107
6313	10	248	0.00	$0	1.88	$581,082	$581,082	$0	$0	$581,082
6401	260	468	0.00	$0	3.56	$1,096,559	$1,096,559	$0	$0	$1,096,559
6402	144	1460	0.00	$0	11.10	$3,420,888	$3,420,888	$0	$0	$3,420,888
6403	0	1023	0.00	$0	7.77	$2,396,965	$2,396,965	$0	$0	$2,396,965
6404	0	267	0.00	$0	2.03	$625,601	$625,601	$0	$0	$625,601
6405	55	413	0.00	$0	3.14	$967,690	$967,690	$0	$967,690	$0
6406	1205	549	0.00	$0	4.17	$1,286,348	$1,286,348	$0	$0	$1,286,348
6411	750	767	0.00	$0	5.83	$1,797,138	$1,797,138	$0	$0	$1,797,138
6412	998	708	0.00	$0	5.38	$1,658,896	$1,658,896	$0	$0	$1,658,896
6413	157	1681	0.00	$0	12.78	$3,938,707	$3,938,707	$0	$0	$3,938,707
6414	901	766	0.00	$0	5.82	$1,794,795	$1,794,795	$0	$0	$1,794,795
6415	74	129	0.00	$0	0.98	$302,257	$302,257	$0	$302,257	$0
6416	806	75	0.00	$0	0.57	$175,731	$175,731	$0	$175,731	$0
6417	5363	0	1.93	$595,227	0.00	$0	$595,227	$0	$0	$595,227
6418	512	1319	0.00	$0	10.02	$3,090,515	$3,090,515	$0	$0	$3,090,515
6421	659	1137	0.00	$0	8.64	$2,664,075	$2,664,075	$0	$0	$2,664,075
6422	0	0	0.00	$0	0.00	$0	$0	$0	$0	$0
6431	513	578	0.00	$0	4.39	$1,354,297	$1,354,297	$0	$0	$1,354,297
6432	178	476	0.00	$0	3.62	$1,115,303	$1,115,303	$0	$0	$1,115,303
6433	37	462	0.00	$0	3.51	$1,082,500	$1,082,500	$0	$0	$1,082,500
6434	0	0	0.00	$0	0.00	$0	$0	$0	$0	$0
6435	460	868	0.00	$0	6.60	$2,033,788	$2,033,788	$0	$0	$2,033,788
6501	224	134	0.00	$0	1.02	$313,972	$313,972	$0	$313,972	$0
6502	0	6	0.00	$0	0.05	$14,058	$14,058	$0	$2,812	$11,247
6503	56	86	0.00	$0	0.65	$201,504	$201,504	$0	$201,504	$0
6504	150	19	0.00	$0	0.14	$44,518	$44,518	$0	$44,518	$0
6505	71	176	0.00	$0	1.34	$412,381	$412,381	$0	$412,381	$0
6506	94	20	0.00	$0	0.15	$46,861	$46,861	$0	$46,861	$0
6507	0	4	0.00	$0	0.03	$9,372	$9,372	$0	$9,372	$0
6511	819	0	0.29	$90,899	0.00	$0	$90,899	$0	$0	$90,899
6512	4441	0	1.60	$492,896	0.00	$0	$492,896	$0	$492,896	$0
6513	2	44	0.00	$0	0.33	$103,095	$103,095	$0	$0	$103,095
6514	922	28	0.33	$102,331	0.00	$0	$102,331	$0	$102,331	$0
6521	49	42	0.00	$0	0.32	$98,409	$98,409	$0	$98,409	$0
6522	1687	2	0.61	$187,236	0.00	$0	$187,236	$0	$187,236	$0
6523	228	24	0.00	$0	0.18	$56,234	$56,234	$0	$56,234	$0
6524	0	18	0.00	$0	0.14	$42,175	$42,175	$0	$42,175	$0
6525	587	57	0.00	$0	0.43	$133,555	$133,555	$0	$133,555	$0
6526	795	231	0.00	$0	1.76	$541,250	$541,250	$0	$541,250	$0
6531	164	58	0.00	$0	0.44	$135,898	$135,898	$0	$135,898	$0
6532	42	33	0.00	$0	0.25	$77,321	$77,321	$0	$77,321	$0
6533	68	272	0.00	$0	2.07	$637,316	$637,316	$0	$637,316	$0
6534	0	46	0.00	$0	0.35	$107,781	$107,781	$0	$107,781	$0
6535	138	59	0.00	$0	0.45	$138,241	$138,241	$0	$138,241	$0
6541	0	23	0.00	$0	0.17	$53,891	$53,891	$0	$53,891	$0
6542	0	213	0.00	$0	1.62	$499,075	$499,075	$0	$499,075	$0
6543	6	63	0.00	$0	0.48	$147,614	$147,614	$0	$147,614	$0
7001	54	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7002	527	0	0.19	$58,491	0.00	$0	$58,491	$58,491	$0	$0
7003	918	1	0.33	$101,887	0.00	$0	$101,887	$101,887	$0	$0
7004	257	0	0.09	$28,524	0.00	$0	$28,524	$28,524	$0	$0
7011	594	0	0.21	$65,927	0.00	$0	$65,927	$65,927	$0	$0
7012	1840	241	0.00	$0	1.83	$564,681	$564,681	$564,681	$0	$0
7013	16	5	0.00	$0	0.04	$11,715	$11,715	$11,715	$0	$0
7014	164	58	0.00	$0	0.44	$135,898	$135,898	$135,898	$0	$0
7021	58	43	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7022	27	9	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7031	9	11	0.00	$0	0.08	$25,774	$25,774	$25,774	$0	$0
7032	42	50	0.00	$0	0.38	$117,154	$117,154	$117,154	$0	$0
7041	443	2	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7042	115	34	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7043	22	8	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7044	719	0	0.26	$79,800	0.00	$0	$79,800	$79,800	$0	$0
7051	435	0	0.00	$0	0.00	$0	$0	$0	$0	$0
7052	469	0	0.17	$52,053	0.00	$0	$52,053	$0	$52,053	$0
7053	161	0	0.06	$17,869	0.00	$0	$17,869	$8,935	$8,935	$0
7101	27	103	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7102	0	3	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7103	0	17	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7104	26	27	0.00	$0	0.21	$63,263	$63,263	$31,631	$31,631	$0
7105	5	33	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7106	5	40	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7107	15	24	0.00	$0	0.18	$56,234	$56,234	$28,117	$28,117	$0
7111	66	493	0.00	$0	3.75	$1,155,135	$1,155,135	$0	$1,155,135	$0
7112	400	6	0.14	$44,395	0.00	$0	$44,395	$0	$44,395	$0
7113	13	55	0.00	$0	0.42	$128,869	$128,869	$0	$128,869	$0
7114	76	78	0.00	$0	0.59	$182,760	$182,760	$0	$182,760	$0
7115	0	25	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7116	4	272	0.00	$0	2.07	$637,316	$637,316	$0	$637,316	$0
7121	30	33	0.00	$0	0.25	$77,321	$77,321	$0	$77,321	$0
7122	43	31	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7123	147	221	0.00	$0	1.68	$517,819	$517,819	$0	$517,819	$0
7124	91	153	0.00	$0	1.16	$358,490	$358,490	$0	$358,490	$0
7125	0	36	0.00	$0	0.27	$84,351	$84,351	$0	$84,351	$0
7126	80	393	0.00	$0	2.99	$920,828	$920,828	$0	$920,828	$0
7131	22	17	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7132	278	125	0.00	$0	0.95	$292,884	$292,884	$0	$292,884	$0

BALANCED SCENARIO

DASZ	#ADD'L JOBS	# ADD'L DUs	ADD'L EMP. MILES (2)	COST EMPL. ROADS (4)	ADD'L RESID. MILES (1, 3)	COST RESID. ROADS (4)	TOTAL LOCAL ROADS COST	COST PER LOCATION 1960	COST PER LOCATION WSA	COST PER LOCATION Outside WSA
6213	2610	379	0.00	$0	2.88	$888,025	$888,025	$0	$888,025	$0
6214	179	750	0.00	$0	5.70	$1,757,305	$1,757,305	$0	$1,757,305	$0
6215	347	186	0.00	$0	1.41	$435,812	$435,812	$0	$435,812	$0
6216	897	6	0.00	$0	0.05	$14,058	$14,058	$0	$14,058	$0
6217	0	263	0.00	$0	2.00	$616,228	$616,228	$0	$616,228	$0
6218	40	27	0.00	$0	0.21	$63,263	$63,263	$0	$63,263	$0
6221	83	1009	0.00	$0	7.67	$2,364,162	$2,364,162	$0	$2,364,162	$0
6222	0	185	0.00	$0	1.41	$433,469	$433,469	$0	$433,469	$0
6223	105	228	0.00	$0	1.73	$534,221	$534,221	$0	$534,221	$0
6224	214	349	0.00	$0	2.65	$817,733	$817,733	$0	$817,733	$0
6225	80	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
6226	63	247	0.00	$0	1.88	$578,739	$578,739	$0	$578,739	$0
6227	0	331	0.00	$0	2.52	$775,557	$775,557	$0	$775,557	$0
6231	447	53	0.16	$49,612	0.00	$0	$49,612	$0	$49,612	$0
6232	500	561	0.00	$0	4.26	$1,314,464	$1,314,464	$0	$1,314,464	$0
6241	0	40	0.00	$0	0.30	$93,723	$93,723	$0	$93,723	$0
6242	34	58	0.00	$0	0.44	$135,898	$135,898	$0	$135,898	$0
6243	19	163	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
6244	65	233	0.00	$0	1.77	$545,936	$545,936	$0	$545,936	$0
6251	323	239	0.00	$0	1.82	$559,995	$559,995	$447,996	$111,999	$0
6252	957	656	0.00	$0	4.99	$1,537,056	$1,537,056	$307,411	$1,229,645	$0
6253	469	617	0.00	$0	4.69	$1,445,677	$1,445,677	$0	$1,445,677	$0
6301	966	3177	0.00	$0	24.15	$7,443,946	$7,443,946	$0	$0	$7,443,946
6302	0	0	0.00	$0	0.00	$0	$0	$0	$0	$0
6311	258	938	0.00	$0	7.13	$2,197,803	$2,197,803	$0	$0	$2,197,803
6312	0	266	0.00	$0	2.02	$623,258	$623,258	$0	$436,280	$186,977
6313	11	273	0.00	$0	2.07	$639,659	$639,659	$0	$0	$639,659
6401	297	313	0.00	$0	2.38	$733,382	$733,382	$0	$0	$733,382
6402	173	779	0.00	$0	5.92	$1,825,255	$1,825,255	$0	$0	$1,825,255
6403	0	398	0.00	$0	3.02	$932,543	$932,543	$0	$0	$932,543
6404	0	123	0.00	$0	0.93	$288,198	$288,198	$0	$0	$288,198
6405	61	290	0.00	$0	2.20	$679,491	$679,491	$0	$679,491	$0
6406	1305	334	0.00	$0	2.54	$782,587	$782,587	$0	$0	$782,587
6411	836	500	0.00	$0	3.80	$1,171,537	$1,171,537	$0	$0	$1,171,537
6412	1151	209	0.00	$0	1.59	$489,702	$489,702	$0	$0	$489,702
6413	170	1072	0.00	$0	8.15	$2,511,775	$2,511,775	$0	$0	$2,511,775
6414	1011	509	0.00	$0	3.87	$1,192,625	$1,192,625	$0	$0	$1,192,625
6415	95	62	0.00	$0	0.47	$145,271	$145,271	$0	$145,271	$0
6416	878	33	0.32	$97,447	0.00	$0	$97,447	$0	$97,447	$0
6417	5878	0	2.12	$652,386	0.00	$0	$652,386	$0	$0	$652,386
6418	578	905	0.00	$0	6.88	$2,120,482	$2,120,482	$0	$0	$2,120,482
6421	713	798	0.00	$0	6.06	$1,869,773	$1,869,773	$0	$0	$1,869,773
6422	0	323	0.00	$0	2.45	$756,813	$756,813	$0	$0	$756,813
6431	555	406	0.00	$0	3.09	$951,288	$951,288	$0	$0	$951,288
6432	206	73	0.00	$0	0.55	$171,044	$171,044	$0	$0	$171,044
6433	40	325	0.00	$0	2.47	$761,499	$761,499	$0	$0	$761,499
6434	2	275	0.00	$0	2.09	$644,345	$644,345	$0	$0	$644,345
6435	498	609	0.00	$0	4.63	$1,426,932	$1,426,932	$0	$0	$1,426,932
6501	238	97	0.00	$0	0.74	$227,278	$227,278	$0	$227,278	$0
6502	0	4	0.00	$0	0.03	$9,372	$9,372	$0	$1,874	$7,498
6503	67	43	0.00	$0	0.33	$100,752	$100,752	$0	$100,752	$0
6504	164	6	0.00	$0	0.05	$14,058	$14,058	$0	$14,058	$0
6505	79	125	0.00	$0	0.95	$292,884	$292,884	$0	$292,884	$0
6506	99	7	0.00	$0	0.05	$16,402	$16,402	$0	$16,402	$0
6507	5	2	0.00	$0	0.02	$4,686	$4,686	$0	$4,686	$0
6511	1543	0	0.56	$171,254	0.00	$0	$171,254	$0	$0	$171,254
6512	3772	0	1.36	$418,646	0.00	$0	$418,646	$0	$418,646	$0
6513	13	82	0.00	$0	0.62	$192,132	$192,132	$0	$0	$192,132
6514	837	13	0.30	$92,897	0.00	$0	$92,897	$0	$92,897	$0
6521	52	31	0.00	$0	0.24	$72,635	$72,635	$0	$72,635	$0
6522	1144	0	0.41	$126,970	0.00	$0	$126,970	$0	$126,970	$0
6523	189	16	0.00	$0	0.12	$37,489	$37,489	$0	$37,489	$0
6524	0	8	0.00	$0	0.06	$18,745	$18,745	$0	$18,745	$0
6525	528	7	0.00	$0	0.05	$16,402	$16,402	$0	$16,402	$0
6526	606	52	0.00	$0	0.40	$121,840	$121,840	$0	$121,840	$0
6531	172	47	0.00	$0	0.36	$110,124	$110,124	$0	$110,124	$0
6532	46	17	0.00	$0	0.13	$39,832	$39,832	$0	$39,832	$0
6533	78	206	0.00	$0	1.57	$482,673	$482,673	$0	$482,673	$0
6534	0	26	0.00	$0	0.20	$60,920	$60,920	$0	$60,920	$0
6535	150	38	0.00	$0	0.29	$89,037	$89,037	$0	$89,037	$0
6541	0	16	0.00	$0	0.12	$37,489	$37,489	$0	$37,489	$0
6542	0	169	0.00	$0	1.28	$395,979	$395,979	$0	$395,979	$0
6543	11	40	0.00	$0	0.30	$93,723	$93,723	$0	$93,723	$0
7001	0	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7002	325	0	0.12	$36,071	0.00	$0	$36,071	$36,071	$0	$0
7003	749	1	0.27	$83,130	0.00	$0	$83,130	$83,130	$0	$0
7004	218	0	0.08	$24,195	0.00	$0	$24,195	$24,195	$0	$0
7011	190	0	0.07	$21,088	0.00	$0	$21,088	$21,088	$0	$0
7012	1559	262	0.00	$0	1.99	$613,885	$613,885	$613,885	$0	$0
7013	0	3	0.00	$0	0.02	$7,029	$7,029	$7,029	$0	$0
7014	113	54	0.00	$0	0.41	$126,526	$126,526	$126,526	$0	$0
7021	46	41	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7022	1	6	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7031	0	7	0.00	$0	0.05	$16,402	$16,402	$16,402	$0	$0
7032	0	47	0.00	$0	0.36	$110,124	$110,124	$110,124	$0	$0
7041	368	1	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7042	77	32	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7043	0	5	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7044	608	0	0.22	$67,481	0.00	$0	$67,481	$67,481	$0	$0
7051	253	10	0.00	$0	0.08	$23,431	$23,431	$21,088	$2,343	$0
7052	54	0	0.02	$5,993	0.00	$0	$5,993	$0	$5,993	$0
7053	51	0	0.02	$5,660	0.00	$0	$5,660	$2,830	$2,830	$0
7101	0	97	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7102	0	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7103	0	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7104	17	25	0.00	$0	0.19	$58,577	$58,577	$29,288	$29,288	$0
7105	0	29	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7106	0	36	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7107	0	18	0.00	$0	0.14	$42,175	$42,175	$21,088	$21,088	$0
7111	22	34	0.00	$0	0.26	$79,665	$79,665	$0	$79,665	$0
7112	203	1	0.07	$22,531	0.00	$0	$22,531	$0	$22,531	$0
7113	9	40	0.00	$0	0.30	$93,723	$93,723	$0	$93,723	$0
7114	73	54	0.00	$0	0.41	$126,526	$126,526	$0	$126,526	$0
7115	0	5	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7116	1	245	0.00	$0	1.86	$574,053	$574,053	$0	$574,053	$0
7121	28	21	0.00	$0	0.16	$49,205	$49,205	$0	$49,205	$0
7122	15	15	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7123	142	199	0.00	$0	1.51	$466,272	$466,272	$0	$466,272	$0
7124	88	132	0.00	$0	1.00	$309,286	$309,286	$0	$309,286	$0
7125	0	17	0.00	$0	0.13	$39,832	$39,832	$0	$39,832	$0
7126	74	380	0.00	$0	2.89	$890,368	$890,368	$0	$890,368	$0
7131	20	15	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7132	252	80	0.00	$0	0.61	$187,446	$187,446	$0	$187,446	$0

Table A.14 New Construction Costs for Minor Roads

TREND SCENARIO

DASZ	GENERAL LOCATION	LOCATION 1960	LOCATION WSA	LOCATION Outside WSA	#ADD'L JOBS	# ADD'L DUs	ADD'L EMP. MILES (2)	COST EMPL. ROADS (4)	ADD'L RESID MILES (1, 3)	COST RESID. ROADS (4)	TOTAL LOCAL ROADS COST	COST PER LOCATION 1960	COST PER LOCATION WSA	COST PER LOCATION Outside WSA
7133	Foothills		100%		0	46	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7134	N Albuquerque		100%		0	62	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7141	Foothills		100%		3	68	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7142	N Albuquerque		100%		1	48	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7143	N Albuquerque			100%	3	69	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7144	N Albuquerque			100%	56	336	0.00	$0	3.19	$984,091	$984,091	$0	$0	$984,091
7145	N Albuquerque		100%		0	349	0.00	$0	3.32	$1,022,166	$1,022,166	$0	$1,022,166	$0
7151	N Albuquerque		100%		25	11	0.00	$0	0.10	$32,217	$32,217	$0	$32,217	$0
7152	N Albuquerque		100%		1	24	0.00	$0	0.23	$70,292	$70,292	$0	$70,292	$0
7153	N Albuquerque		100%		33	71	0.00	$0	0.67	$207,948	$207,948	$0	$207,948	$0
7154	N Albuquerque		100%		2	28	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7155	N Albuquerque		100%		21	53	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7156	N Albuquerque		100%		0	160	0.00	$0	1.52	$468,615	$468,615	$0	$468,615	$0
7157	N Albuquerque		100%		234	12	0.00	$0	0.11	$35,146	$35,146	$0	$35,146	$0
7161	Foothills		100%		0	127	0.00	$0	1.21	$371,963	$371,963	$0	$371,963	$0
7162	N Albuquerque		80%	20%	0	180	0.00	$0	1.71	$527,192	$527,192	$0	$421,753	$105,438
7163	N Albuquerque			100%	50	131	0.00	$0	1.24	$383,678	$383,678	$0	$0	$383,678
7164	N Albuquerque			100%	60	388	0.00	$0	3.69	$1,136,391	$1,136,391	$0	$0	$1,136,391
7165	N Albuquerque		100%		1	197	0.00	$0	1.87	$576,982	$576,982	$0	$576,982	$0
7166	Foothills		100%		0	272	0.00	$0	2.58	$796,645	$796,645	$0	$796,645	$0
7171	Foothills		100%		7	19	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7172	Foothills		100%		217	44	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7173	Foothills		100%		51	71	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7174	Foothills		100%		0	42	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7175	Foothills		100%		35	40	0.00	$0	0.38	$117,154	$117,154	$0	$117,154	$0
7176	Foothills		100%		180	60	0.00	$0	0.57	$175,731	$175,731	$0	$175,731	$0
7201	N Albuquerque		100%		856	163	0.00	$0	1.55	$477,401	$477,401	$0	$477,401	$0
7202	N Albuquerque		100%		467	90	0.21	$64,789	0.00	$0	$64,789	$0	$64,789	$0
7203	N Albuquerque		100%		97	251	0.00	$0	2.38	$735,139	$735,139	$0	$735,139	$0
7204	N Albuquerque		100%		200	212	0.00	$0	2.01	$620,915	$620,915	$0	$620,915	$0
7211	N Albuquerque		100%		1101	610	0.00	$0	5.80	$1,786,594	$1,786,594	$0	$1,786,594	$0
7212	N Albuquerque		80%	20%	67	851	0.00	$0	8.08	$2,492,445	$2,492,445	$0	$1,993,956	$498,489
7213	N Albuquerque			100%	0	314	0.00	$0	2.98	$919,657	$919,657	$0	$0	$919,657
7214	N Albuquerque			100%	75	620	0.00	$0	5.89	$1,815,882	$1,815,882	$0	$0	$1,815,882
7221	N Albuquerque			100%	25	126	0.00	$0	1.20	$369,034	$369,034	$0	$0	$369,034
7222	N Albuquerque			100%	17	87	0.00	$0	0.83	$254,809	$254,809	$0	$0	$254,809
7223	N Albuquerque			100%	40	147	0.00	$0	1.40	$430,540	$430,540	$0	$0	$430,540
7224	N Albuquerque			100%	6	206	0.00	$0	1.96	$603,342	$603,342	$0	$0	$603,342
7225	N Albuquerque			100%	0	298	0.00	$0	2.83	$872,795	$872,795	$0	$0	$872,795
7226	N Albuquerque			100%	1	108	0.00	$0	1.03	$316,315	$316,315	$0	$0	$316,315
7231	Sandia Reservat			100%	434	0	0.00	$0	0.00	$0	$0	$0	$0	$0
7301	N Albuquerque			100%	23	231	0.00	$0	2.19	$676,563	$676,563	$0	$0	$676,563
7302	Split		80%	20%	161	1650	0.00	$0	15.68	$4,832,590	$4,832,590	$0	$3,866,072	$966,518
7303	Foothills		100%		36	362	0.00	$0	3.44	$1,060,241	$1,060,241	$0	$1,060,241	$0
7401	Mid-Heights	100%			20	19	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7402	Mid-Heights	100%			176	25	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7403	Mid-Heights	100%			227	34	0.00	$0	0.32	$99,581	$99,581	$99,581	$0	$0
7411	Mid-Heights	100%			0	4	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7412	Mid-Heights	100%			41	37	0.00	$0	0.35	$108,367	$108,367	$108,367	$0	$0
7421	Mid-Heights	100%			34	31	0.00	$0	0.29	$90,794	$90,794	$90,794	$0	$0
7422	Mid-Heights	100%			618	89	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7423	Mid-Heights	50%	50%		497	84	0.00	$0	0.80	$246,023	$246,023	$123,011	$123,011	$0
7424	Mid-Heights	100%			16	4	0.00	$0	0.04	$11,715	$11,715	$11,715	$0	$0
7431	Mid-Heights	100%			22	43	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7432	Mid-Heights	100%			172	39	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7433	Foothills	80%	20%		558	49	0.00	$0	0.47	$143,513	$143,513	$114,811	$28,703	$0
7434	Mid-Heights	100%			212	4	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7435	Mid-Heights	100%			41	49	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7436	Foothills	80%	20%		640	58	0.00	$0	0.55	$169,873	$169,873	$135,898	$33,975	$0
7441	Foothills	100%			328	80	0.00	$0	0.76	$234,307	$234,307	$234,307	$0	$0
7442	Foothills	50%	50%		684	105	0.00	$0	1.00	$307,528	$307,528	$153,764	$153,764	$0
7443	Foothills		100%		234	64	0.00	$0	0.61	$187,446	$187,446	$0	$187,446	$0
7444	Foothills		100%		11	14	0.00	$0	0.13	$41,004	$41,004	$0	$41,004	$0
7445	Foothills	100%			148	737	0.00	$0	7.00	$2,158,557	$2,158,557	$2,158,557	$0	$0
7451	Foothills	100%			188	46	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7452	Foothills	100%			288	42	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7453	Foothills	100%			133	53	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7454	Foothills	100%			57	59	0.00	$0	0.56	$172,802	$172,802	$172,802	$0	$0
7455	Foothills		50%	50%	0	43	0.00	$0	0.41	$125,940	$125,940	$0	$62,970	$62,970
7456	Foothills		100%		1	19	0.00	$0	0.18	$55,648	$55,648	$0	$55,648	$0
7461	Mid-Heights	100%			21	52	0.00	$0	0.49	$152,300	$152,300	$152,300	$0	$0
7462	Mid-Heights	100%			13	25	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7463	Mid-Heights	100%			63	48	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7464	Mid-Heights	100%			189	38	0.00	$0	0.36	$111,296	$111,296	$111,296	$0	$0
7501	Mid-Heights	100%			34	53	0.00	$0	0.50	$155,229	$155,229	$155,229	$0	$0
7502	E Gateway	100%			5	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7503	Mid-Heights	100%			70	4	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7511	Mid-Heights	100%			170	6	0.00	$0	0.06	$17,573	$17,573	$17,573	$0	$0
7512	Mid-Heights	100%			38	5	0.00	$0	0.05	$14,644	$14,644	$14,644	$0	$0
7521	E Gateway	100%			29	5	0.00	$0	0.05	$14,644	$14,644	$14,644	$0	$0
7522	E Gateway	100%			39	6	0.00	$0	0.06	$17,573	$17,573	$17,573	$0	$0
7531	E Gateway	100%			137	56	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7532	E Gateway	100%			71	32	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7533	Foothills	100%			0	55	0.00	$0	0.52	$161,086	$161,086	$161,086	$0	$0
7534	E Gateway	100%			188	100	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7535	E Gateway		100%		159	55	0.00	$0	0.52	$161,086	$161,086	$0	$161,086	$0
7536	Foothills		100%		14	62	0.00	$0	0.59	$181,588	$181,588	$0	$181,588	$0
7541	E Gateway		100%		20	100	0.00	$0	0.95	$292,884	$292,884	$0	$292,884	$0
7542	E Gateway	70%	30%		19	55	0.00	$0	0.52	$161,086	$161,086	$112,760	$48,326	$0
7551	E Gateway	100%			139	14	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7552	E Gateway	100%			51	27	0.00	$0	0.26	$79,079	$79,079	$79,079	$0	$0
7553	E Gateway	100%			179	80	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7554	E Gateway	100%			225	87	0.00	$0	0.83	$254,809	$254,809	$254,809	$0	$0
7561	E Gateway	100%			419	64	0.19	$58,130	0.00	$0	$58,130	$58,130	$0	$0
7562	E Gateway	100%			36	6	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7571	E Gateway	100%			147	16	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7572	E Gateway	100%			13	25	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7601	Mid-Heights	100%			20	3	0.00	$0	0.03	$8,787	$8,787	$8,787	$0	$0
7602	Mid-Heights	100%			15	4	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7603	Mid-Heights	100%			136	4	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7611	Mid-Heights	100%			1	58	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7612	Mid-Heights	100%			22	26	0.00	$0	0.25	$76,150	$76,150	$76,150	$0	$0
7621	Mid-Heights	100%			5	4	0.00	$0	0.04	$11,715	$11,715	$11,715	$0	$0
7622	Mid-Heights	100%			0	4	0.00	$0	0.04	$11,715	$11,715	$11,715	$0	$0
7631	Mid-Heights	100%			1	4	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7632	Mid-Heights	100%			16	3	0.00	$0	0.03	$8,787	$8,787	$8,787	$0	$0
7633	Mid-Heights	100%			22	6	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7634	Mid-Heights	100%			7	2	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7641	Mid-Heights	100%			37	5	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7642	Mid-Heights	100%			20	3	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7651	Mid-Heights	100%			15	2	0.00	$0	0.02	$5,858	$5,858	$5,858	$0	$0
7652	Mid-Heights	100%			0	3	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0

DOWNTOWN SCENARIO

DASZ	#ADD'L JOBS	# ADD'L DUs	ADD'L EMP. MILES (2)	COST EMPL. ROADS (4)	ADD'L RESID. MILES (1, 3)	COST RESID. ROADS (4)	TOTAL LOCAL ROADS COST	COST PER LOCATION 1960	COST PER LOCATION WSA	COST PER LOCATION Outside WSA
7133	0	53	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7134	0	63	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7141	0	73	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7142	0	48	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7143	1	70	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7144	53	336	0.00	$0	2.55	$787,273	$787,273	$0	$0	$787,273
7145	0	349	0.00	$0	2.65	$817,733	$817,733	$0	$817,733	$0
7151	0	12	0.00	$0	0.09	$28,117	$28,117	$0	$28,117	$0
7152	0	24	0.00	$0	0.18	$56,234	$56,234	$0	$56,234	$0
7153	23	71	0.00	$0	0.54	$166,358	$166,358	$0	$166,358	$0
7154	0	28	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7155	0	53	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7156	0	161	0.00	$0	1.22	$377,235	$377,235	$0	$377,235	$0
7157	195	12	0.00	$0	0.09	$28,117	$28,117	$0	$28,117	$0
7161	0	131	0.00	$0	1.00	$306,943	$306,943	$0	$306,943	$0
7162	0	180	0.00	$0	1.37	$421,753	$421,753	$0	$337,403	$84,351
7163	47	131	0.00	$0	1.00	$306,943	$306,943	$0	$0	$306,943
7164	57	388	0.00	$0	2.95	$909,113	$909,113	$0	$0	$909,113
7165	0	197	0.00	$0	1.50	$461,586	$461,586	$0	$461,586	$0
7166	0	275	0.00	$0	2.09	$644,345	$644,345	$0	$644,345	$0
7171	0	23	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7172	110	54	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7173	0	86	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7174	0	47	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7175	24	44	0.00	$0	0.33	$103,095	$103,095	$0	$103,095	$0
7176	133	63	0.00	$0	0.48	$147,614	$147,614	$0	$147,614	$0
7201	891	421	0.00	$0	3.20	$986,434	$986,434	$0	$986,434	$0
7202	488	151	0.00	$0	1.15	$353,804	$353,804	$0	$353,804	$0
7203	89	251	0.00	$0	1.91	$588,112	$588,112	$0	$588,112	$0
7204	185	212	0.00	$0	1.61	$496,732	$496,732	$0	$496,732	$0
7211	1029	611	0.00	$0	4.64	$1,431,618	$1,431,618	$0	$1,431,618	$0
7212	63	852	0.00	$0	6.48	$1,996,299	$1,996,299	$0	$1,597,039	$399,260
7213	0	314	0.00	$0	2.39	$735,725	$735,725	$0	$0	$735,725
7214	70	620	0.00	$0	4.71	$1,452,706	$1,452,706	$0	$0	$1,452,706
7221	24	126	0.00	$0	0.96	$295,227	$295,227	$0	$0	$295,227
7222	16	87	0.00	$0	0.66	$203,847	$203,847	$0	$0	$203,847
7223	37	147	0.00	$0	1.12	$344,432	$344,432	$0	$0	$344,432
7224	2	206	0.00	$0	1.57	$482,673	$482,673	$0	$0	$482,673
7225	0	298	0.00	$0	2.26	$698,236	$698,236	$0	$0	$698,236
7226	0	108	0.00	$0	0.82	$253,052	$253,052	$0	$0	$253,052
7231	283	0	0.00	$0	0.00	$0	$0	$0	$0	$0
7301	12	232	0.00	$0	1.76	$543,593	$543,593	$0	$0	$543,593
7302	145	1652	0.00	$0	12.56	$3,870,758	$3,870,758	$0	$3,096,606	$774,152
7303	0	369	0.00	$0	2.80	$864,594	$864,594	$0	$864,594	$0
7401	21	20	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7402	190	28	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7403	232	36	0.00	$0	0.27	$84,351	$84,351	$84,351	$0	$0
7411	0	6	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7412	45	40	0.00	$0	0.30	$93,723	$93,723	$93,723	$0	$0
7421	36	34	0.00	$0	0.26	$79,665	$79,665	$79,665	$0	$0
7422	632	93	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7423	506	89	0.00	$0	0.68	$208,534	$208,534	$104,267	$104,267	$0
7424	18	6	0.00	$0	0.05	$14,058	$14,058	$14,058	$0	$0
7431	23	46	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7432	178	41	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7433	461	54	0.00	$0	0.41	$126,526	$126,526	$101,221	$25,305	$0
7434	216	6	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7435	44	53	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7436	409	60	0.00	$0	0.46	$140,584	$140,584	$112,468	$28,117	$0
7441	183	89	0.00	$0	0.68	$208,534	$208,534	$208,534	$0	$0
7442	557	113	0.00	$0	0.86	$264,767	$264,767	$132,384	$132,384	$0
7443	184	69	0.00	$0	0.52	$161,672	$161,672	$0	$161,672	$0
7444	6	17	0.00	$0	0.13	$39,832	$39,832	$0	$39,832	$0
7445	91	748	0.00	$0	5.68	$1,752,619	$1,752,619	$1,752,619	$0	$0
7451	102	51	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7452	188	46	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7453	92	59	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7454	32	64	0.00	$0	0.49	$149,957	$149,957	$149,957	$0	$0
7455	0	47	0.00	$0	0.36	$110,124	$110,124	$0	$55,062	$55,062
7456	0	21	0.00	$0	0.16	$49,205	$49,205	$0	$49,205	$0
7461	24	56	0.00	$0	0.43	$131,212	$131,212	$131,212	$0	$0
7462	14	28	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7463	68	51	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7464	194	41	0.00	$0	0.31	$96,066	$96,066	$96,066	$0	$0
7501	36	56	0.00	$0	0.43	$131,212	$131,212	$131,212	$0	$0
7502	5	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7503	72	6	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7511	174	8	0.00	$0	0.06	$18,745	$18,745	$18,745	$0	$0
7512	42	7	0.00	$0	0.05	$16,402	$16,402	$16,402	$0	$0
7521	30	5	0.00	$0	0.04	$11,715	$11,715	$11,715	$0	$0
7522	40	6	0.00	$0	0.05	$14,058	$14,058	$14,058	$0	$0
7531	138	56	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7532	72	32	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7533	0	60	0.00	$0	0.46	$140,584	$140,584	$140,584	$0	$0
7534	189	100	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7535	160	55	0.00	$0	0.42	$128,869	$128,869	$0	$128,869	$0
7536	0	66	0.00	$0	0.50	$154,643	$154,643	$0	$154,643	$0
7541	20	101	0.00	$0	0.77	$236,650	$236,650	$0	$236,650	$0
7542	20	55	0.00	$0	0.42	$128,869	$128,869	$90,208	$38,661	$0
7551	140	14	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7552	52	27	0.00	$0	0.21	$63,263	$63,263	$63,263	$0	$0
7553	181	80	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7554	226	87	0.00	$0	0.66	$203,847	$203,847	$203,847	$0	$0
7561	422	64	0.15	$46,837	0.00	$0	$46,837	$46,837	$0	$0
7562	37	6	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7571	150	16	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7572	14	25	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7601	28	5	0.00	$0	0.04	$11,715	$11,715	$11,715	$0	$0
7602	22	6	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7603	142	6	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7611	2	61	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7612	30	28	0.00	$0	0.21	$65,606	$65,606	$65,606	$0	$0
7621	6	6	0.00	$0	0.05	$14,058	$14,058	$14,058	$0	$0
7622	0	6	0.00	$0	0.05	$14,058	$14,058	$14,058	$0	$0
7631	1	6	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7632	23	5	0.00	$0	0.04	$11,715	$11,715	$11,715	$0	$0
7633	25	9	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7634	9	3	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7641	43	7	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7642	27	5	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7651	17	3	0.00	$0	0.02	$7,029	$7,029	$7,029	$0	$0
7652	0	5	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0

BALANCED SCENARIO

DASZ	#ADD'L JOBS	# ADD'L DUs	ADD'L EMP. MILES (2)	COST EMPL. ROADS (4)	ADD'L RESID. MILES (1, 3)	COST RESID. ROADS (4)	TOTAL LOCAL ROADS COST	COST PER LOCATION 1960	COST PER LOCATION WSA	COST PER LOCATION Outside WSA
7133	0	46	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7134	0	38	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7141	0	68	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7142	0	29	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7143	1	46	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7144	52	325	0.00	$0	2.47	$761,499	$761,499	$0	$0	$761,499
7145	0	337	0.00	$0	2.56	$789,616	$789,616	$0	$789,616	$0
7151	0	0	0.00	$0	0.00	$0	$0	$0	$0	$0
7152	0	2	0.00	$0	0.02	$4,686	$4,686	$0	$4,686	$0
7153	20	50	0.00	$0	0.38	$117,154	$117,154	$0	$117,154	$0
7154	0	10	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7155	0	36	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7156	0	135	0.00	$0	1.03	$316,315	$316,315	$0	$316,315	$0
7157	184	4	0.00	$0	0.03	$9,372	$9,372	$0	$9,372	$0
7161	0	127	0.00	$0	0.97	$297,570	$297,570	$0	$297,570	$0
7162	0	172	0.00	$0	1.31	$403,009	$403,009	$0	$322,407	$80,602
7163	46	126	0.00	$0	0.96	$295,227	$295,227	$0	$0	$295,227
7164	55	368	0.00	$0	2.80	$862,251	$862,251	$0	$0	$862,251
7165	0	187	0.00	$0	1.42	$438,155	$438,155	$0	$438,155	$0
7166	0	272	0.00	$0	2.07	$637,316	$637,316	$0	$637,316	$0
7171	0	19	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7172	175	44	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7173	20	71	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7174	0	42	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7175	31	40	0.00	$0	0.30	$93,723	$93,723	$0	$93,723	$0
7176	162	60	0.00	$0	0.46	$140,584	$140,584	$0	$140,584	$0
7201	782	163	0.00	$0	1.24	$381,921	$381,921	$0	$381,921	$0
7202	424	90	0.15	$47,059	0.00	$0	$47,059	$0	$47,059	$0
7203	87	242	0.00	$0	1.84	$567,024	$567,024	$0	$567,024	$0
7204	180	205	0.00	$0	1.56	$480,330	$480,330	$0	$480,330	$0
7211	1008	575	0.00	$0	4.37	$1,347,268	$1,347,268	$0	$1,347,268	$0
7212	62	814	0.00	$0	6.19	$1,907,262	$1,907,262	$0	$1,525,810	$381,452
7213	0	301	0.00	$0	2.29	$705,265	$705,265	$0	$0	$705,265
7214	68	598	0.00	$0	4.54	$1,401,158	$1,401,158	$0	$0	$1,401,158
7221	23	121	0.00	$0	0.92	$283,512	$283,512	$0	$0	$283,512
7222	16	82	0.00	$0	0.62	$192,132	$192,132	$0	$0	$192,132
7223	36	139	0.00	$0	1.06	$325,687	$325,687	$0	$0	$325,687
7224	1	195	0.00	$0	1.48	$456,899	$456,899	$0	$0	$456,899
7225	0	284	0.00	$0	2.16	$665,433	$665,433	$0	$0	$665,433
7226	0	103	0.00	$0	0.78	$241,337	$241,337	$0	$0	$241,337
7231	434	0	0.00	$0	0.00	$0	$0	$0	$0	$0
7301	9	191	0.00	$0	1.45	$447,527	$447,527	$0	$0	$447,527
7302	140	1569	0.00	$0	11.92	$3,676,283	$3,676,283	$0	$2,941,026	$735,257
7303	19	362	0.00	$0	2.75	$848,193	$848,193	$0	$848,193	$0
7401	10	19	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7402	75	25	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7403	191	34	0.00	$0	0.26	$79,665	$79,665	$79,665	$0	$0
7411	0	4	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7412	11	37	0.00	$0	0.28	$86,694	$86,694	$86,694	$0	$0
7421	19	31	0.00	$0	0.24	$72,635	$72,635	$72,635	$0	$0
7422	517	89	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7423	433	84	0.00	$0	0.64	$196,818	$196,818	$98,409	$98,409	$0
7424	3	4	0.00	$0	0.03	$9,372	$9,372	$9,372	$0	$0
7431	12	43	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7432	129	39	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7433	521	49	0.00	$0	0.37	$114,811	$114,811	$91,848	$22,962	$0
7434	186	4	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7435	19	49	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7436	551	58	0.00	$0	0.44	$135,898	$135,898	$108,719	$27,180	$0
7441	272	80	0.00	$0	0.61	$187,446	$187,446	$187,446	$0	$0
7442	634	105	0.00	$0	0.80	$246,023	$246,023	$123,011	$123,011	$0
7443	215	64	0.00	$0	0.49	$149,957	$149,957	$0	$149,957	$0
7444	9	14	0.00	$0	0.11	$32,803	$32,803	$0	$32,803	$0
7445	126	737	0.00	$0	5.60	$1,726,845	$1,726,845	$1,726,845	$0	$0
7451	155	46	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7452	249	42	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7453	117	53	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7454	47	59	0.00	$0	0.45	$138,241	$138,241	$138,241	$0	$0
7455	0	43	0.00	$0	0.33	$100,752	$100,752	$0	$50,376	$50,376
7456	1	19	0.00	$0	0.14	$44,518	$44,518	$0	$44,518	$0
7461	2	52	0.00	$0	0.40	$121,840	$121,840	$121,840	$0	$0
7462	4	25	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7463	30	48	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7464	153	38	0.00	$0	0.29	$89,037	$89,037	$89,037	$0	$0
7501	17	53	0.00	$0	0.40	$124,183	$124,183	$124,183	$0	$0
7502	2	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7503	56	4	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7511	143	6	0.00	$0	0.05	$14,058	$14,058	$14,058	$0	$0
7512	11	5	0.00	$0	0.04	$11,715	$11,715	$11,715	$0	$0
7521	10	5	0.00	$0	0.04	$11,715	$11,715	$11,715	$0	$0
7522	15	6	0.00	$0	0.05	$14,058	$14,058	$14,058	$0	$0
7531	110	56	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7532	57	32	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7533	0	55	0.00	$0	0.42	$128,869	$128,869	$128,869	$0	$0
7534	178	100	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7535	147	55	0.00	$0	0.42	$128,869	$128,869	$0	$128,869	$0
7536	3	62	0.00	$0	0.47	$145,271	$145,271	$0	$145,271	$0
7541	12	100	0.00	$0	0.76	$234,307	$234,307	$0	$234,307	$0
7542	6	55	0.00	$0	0.42	$128,869	$128,869	$90,208	$38,661	$0
7551	128	14	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7552	22	27	0.00	$0	0.21	$63,263	$63,263	$63,263	$0	$0
7553	138	80	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7554	208	87	0.00	$0	0.66	$203,847	$203,847	$203,847	$0	$0
7561	352	64	0.13	$39,068	0.00	$0	$39,068	$39,068	$0	$0
7562	11	6	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7571	85	16	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7572	0	25	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7601	0	3	0.00	$0	0.02	$7,029	$7,029	$7,029	$0	$0
7602	0	4	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7603	94	4	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7611	0	58	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7612	0	26	0.00	$0	0.20	$60,920	$60,920	$60,920	$0	$0
7621	0	4	0.00	$0	0.03	$9,372	$9,372	$9,372	$0	$0
7622	0	4	0.00	$0	0.03	$9,372	$9,372	$9,372	$0	$0
7631	0	4	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7632	0	3	0.00	$0	0.02	$7,029	$7,029	$7,029	$0	$0
7633	0	6	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7634	0	2	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7641	0	5	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7642	0	3	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7651	0	2	0.00	$0	0.02	$4,686	$4,686	$4,686	$0	$0
7652	0	3	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0

Table A.14 New Construction Costs for Minor Roads

		LOCATION			TREND SCENARIO									
DASZ	GENERAL LOCATION	1960	WSA	Outside WSA	#ADD'L JOBS	# ADD'L DUs	ADD'L EMP. MILES (2)	COST EMPL. ROADS (4)	ADD'L RESID MILES (1, 3)	COST RESID. ROADS (4)	TOTAL LOCAL ROADS COST	COST PER LOCATION 1960	COST PER LOCATION WSA	COST PER LOCATION Outside WSA
7661	Mid-Heights	100%			90	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7662	Mid-Heights	100%			7	53	0.00	$0	0.50	$155,229	$155,229	$155,229	$0	$0
7671	Mid-Heights	100%			1424	4	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7672	Mid-Heights	100%			238	1	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7673	Mid-Heights	100%			2753	0	1.24	$381,936	0.00	$0	$381,936	$381,936	$0	$0
7674	Mid-Heights	100%			1233	4	0.00	$0	0.04	$11,715	$11,715	$11,715	$0	$0
7701				100%	17	118	0.00	$0	1.12	$345,603	$345,603	$0	$0	$345,603
8001	Near Heights	100%			450	0	0.20	$62,431	0.00	$0	$62,431	$62,431	$0	$0
8002	Near Heights	100%			797	2	0.00	$0	0.02	$5,858	$5,858	$5,858	$0	$0
8011	Near Heights	100%			1018	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8012	Near Heights	100%			1115	122	0.50	$154,689	0.00	$0	$154,689	$154,689	$0	$0
8021	Near Heights	100%			56	13	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8022	Near Heights	100%			121	17	0.00	$0	0.16	$49,790	$49,790	$49,790	$0	$0
8031	Near Heights	100%			968	15	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8032	Near Heights	100%			31	0	0.00	$0	0.00	$0	$0	$0	$0	$0
8041	Near Heights	100%			34	25	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8051	Near Heights	100%			897	0	0.40	$124,445	0.00	$0	$124,445	$124,445	$0	$0
8052	Near Heights	100%			243	3	0.00	$0	0.03	$8,787	$8,787	$8,787	$0	$0
8061	Near Heights	100%			1441	7	0.00	$0	0.07	$20,502	$20,502	$20,502	$0	$0
8062	Near Heights	100%			0	17	0.00	$0	0.16	$49,790	$49,790	$49,790	$0	$0
8071	Near Heights	100%			203	106	0.00	$0	1.01	$310,457	$310,457	$310,457	$0	$0
8072	Near Heights	100%			28	55	0.00	$0	0.52	$161,086	$161,086	$161,086	$0	$0
8081	Near Heights	100%			913	0	0.41	$126,665	0.00	$0	$126,665	$126,665	$0	$0
8082	Near Heights	100%			1291	5	0.58	$179,106	0.00	$0	$179,106	$179,106	$0	$0
8101	Near Heights	100%			25	15	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8102	Near Heights	100%			12	21	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8111	Near Heights	100%			6	6	0.00	$0	0.06	$17,573	$17,573	$17,573	$0	$0
8121	Near Heights	100%			7	4	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8122	Near Heights	100%			18	39	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8123	Near Heights	100%			38	57	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8131	Near Heights	100%			9	9	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8132	Near Heights	100%			27	8	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8133	Near Heights	100%			43	22	0.02	$5,966	0.00	$0	$5,966	$5,966	$0	$0
8141	Near Heights	100%			8	4	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8142	Near Heights	100%			3	12	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8151	Near Heights	100%			123	9	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8161	Near Heights	100%			38	19	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8171	Near Heights	100%			13	4	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8172	Near Heights	100%			3	7	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8201	Near Heights	100%			5	10	0.00	$0	0.10	$29,288	$29,288	$29,288	$0	$0
8202	Near Heights	100%			11	7	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8211	Near Heights	100%			157	21	0.00	$0	0.20	$61,506	$61,506	$61,506	$0	$0
8212	Near Heights	100%			123	3	0.00	$0	0.03	$8,787	$8,787	$8,787	$0	$0
8221	Near Heights	100%			6	0	0.00	$0	0.00	$0	$0	$0	$0	$0
8231	Near Heights	100%			7	11	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8232	Near Heights	100%			25	5	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8233	Near Heights	100%			3	20	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8234	Near Heights	100%			5	8	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8241	Near Heights	50%		50%	2	26	0.00	$0	0.25	$76,150	$76,150	$38,075	$0	$38,075
8242	Near Heights	100%			0	24	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8243	Near Heights	100%			28	9	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8244	Near Heights	100%			1	20	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8251	E Gateway	100%			126	1	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8252	Mid-Heights	100%			0	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8261	E Gateway	100%			161	6	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8262	E Gateway	100%			94	5	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8263	E Gateway	100%			0	5	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8271	E Gateway	100%			904	2	0.00	$0	0.02	$5,858	$5,858	$5,858	$0	$0
8272	E Gateway	100%			166	119	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8273	E Gateway	100%			832	70	0.00	$0	0.67	$205,019	$205,019	$205,019	$0	$0
8281	E Gateway	50%	50%		338	423	0.00	$0	4.02	$1,238,900	$1,238,900	$619,450	$619,450	$0
8282	E Gateway	100%			140	124	0.00	$0	1.18	$363,176	$363,176	$363,176	$0	$0
8301	E Gateway		100%		915	1251	0.00	$0	11.88	$3,663,982	$3,663,982	$0	$3,663,982	$0
8311	E Gateway	70%	30%		321	468	0.00	$0	4.45	$1,370,698	$1,370,698	$959,489	$411,209	$0
8321	E Gateway		20%	80%	0	169	0.00	$0	1.61	$494,974	$494,974	$0	$98,995	$395,979
8322	E Gateway		20%	80%	0	16	0.00	$0	0.15	$46,861	$46,861	$0	$9,372	$37,489
8401	Near Heights		100%		1598	0	0.72	$221,698	0.00	$0	$221,698	$0	$221,698	$0
8402	Near Heights		100%		454	0	0.20	$62,986	0.00	$0	$62,986	$0	$62,986	$0
8411	KAFB			100%	0	1	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8412	Near Heights		50%	50%	1027	0	0.46	$142,480	0.00	$0	$142,480	$0	$71,240	$71,240
8413	Near Heights		100%		1112	0	0.50	$154,273	0.00	$0	$154,273	$0	$154,273	$0
8421	Near Heights			100%	352	0	0.16	$48,835	0.00	$0	$48,835	$0	$0	$48,835
8422	Near Heights	100%			418	4	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8423	Near Heights			100%	4	23	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8431	KAFB			100%	0	33	0.00	$0	0.00	$0	$0	$0	$0	$0
8501	Near Heights	100%			25	20	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8502	Near Heights	100%			1	4	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8511	Near Heights	100%			28	4	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8512	Near Heights	100%			5	1	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8521	Near Heights	100%			463	12	0.00	$0	0.11	$35,146	$35,146	$35,146	$0	$0
8531	Near Heights	100%			0	14	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8532	Near Heights	100%			67	5	0.00	$0	0.05	$14,644	$14,644	$14,644	$0	$0
8533	Near Heights	100%			10	2	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8534	Near Heights	100%			8	14	0.00	$0	0.13	$41,004	$41,004	$41,004	$0	$0
8541	Near Heights	100%			8	49	0.00	$0	0.47	$143,513	$143,513	$143,513	$0	$0
8542	Near Heights	100%			7	8	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8551	Near Heights	100%			1	9	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8552	KAFB	100%			0	2	0.00	$0	0.02	$5,858	$5,858	$5,858	$0	$0
8561	Near Heights	100%			6	11	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8601	Mesa del Sol		60%	40%	128	160	0.00	$0	1.52	$468,615	$468,615	$0	$281,169	$187,446
8611	Mesa del Sol			100%	7685	4916	0.00	$0	46.70	$14,398,189	$14,398,189	$0	$0	$14,398,189
							27		1335		$284,746,038	$25,025,700	#########	$167,918,214

	DOWNTOWN SCENARIO									
DASZ	#ADD'L JOBS	# ADD'L DUs	ADD'L EMP. MILES (2)	COST EMPL. ROADS (4)	ADD'L RESID. MILES (1, 3)	COST RESID. ROADS (4)	TOTAL LOCAL ROADS COST	COST PER LOCATION 1960	COST PER LOCATION WSA	COST PER LOCATION Outside WSA
7661	96	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7662	9	56	0.00	$0	0.43	$131,212	$131,212	$131,212	$0	$0
7671	3169	165	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7672	3595	31	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7673	4655	16	1.68	$516,648	0.00	$0	$516,648	$516,648	$0	$0
7674	2818	182	0.00	$0	1.38	$426,439	$426,439	$426,439	$0	$0
7701	0	118	0.00	$0	0.90	$276,483	$276,483	$0	$0	$276,483
8001	619	0	0.22	$68,701	0.00	$0	$68,701	$68,701	$0	$0
8002	1015	39	0.00	$0	0.30	$91,380	$91,380	$91,380	$0	$0
8011	1815	10	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8012	2292	187	0.83	$254,384	0.00	$0	$254,384	$254,384	$0	$0
8021	116	108	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8022	336	121	0.00	$0	0.92	$283,512	$283,512	$283,512	$0	$0
8031	1683	214	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8032	115	0	0.04	$12,764	0.00	$0	$12,764	$12,764	$0	$0
8041	187	338	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8051	811	1	0.29	$90,011	0.00	$0	$90,011	$90,011	$0	$0
8052	219	117	0.00	$0	0.89	$274,140	$274,140	$274,140	$0	$0
8061	1408	12	0.00	$0	0.09	$28,117	$28,117	$28,117	$0	$0
8062	0	29	0.00	$0	0.22	$67,949	$67,949	$67,949	$0	$0
8071	192	170	0.00	$0	1.29	$398,323	$398,323	$398,323	$0	$0
8072	24	277	0.00	$0	2.11	$649,031	$649,031	$649,031	$0	$0
8081	825	17	0.30	$91,565	0.00	$0	$91,565	$91,565	$0	$0
8082	1191	218	0.00	$0	1.66	$510,790	$510,790	$510,790	$0	$0
8101	15	26	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8102	8	29	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8111	1	14	0.00	$0	0.11	$32,803	$32,803	$32,803	$0	$0
8121	3	9	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8122	12	44	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8123	31	59	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8131	0	15	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8132	18	13	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8133	30	22	0.01	$3,330	0.00	$0	$3,330	$3,330	$0	$0
8141	0	9	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8142	1	18	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8151	248	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8161	143	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8171	60	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8172	25	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8201	40	0	0.00	$0	0.00	$0	$0	$0	$0	$0
8202	17	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8211	247	0	0.00	$0	0.00	$0	$0	$0	$0	$0
8212	95	5	0.00	$0	0.04	$11,715	$11,715	$11,715	$0	$0
8221	12	0	0.00	$0	0.00	$0	$0	$0	$0	$0
8231	32	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8232	68	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8233	0	29	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8234	0	14	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8241	0	31	0.00	$0	0.24	$72,635	$72,635	$36,318	$0	$36,318
8242	0	36	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8243	69	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8244	0	29	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8251	128	1	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8252	2	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8261	167	7	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8262	95	5	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8263	0	5	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8271	908	2	0.00	$0	0.02	$4,686	$4,686	$4,686	$0	$0
8272	167	119	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8273	836	70	0.00	$0	0.53	$164,015	$164,015	$164,015	$0	$0
8281	340	424	0.00	$0	3.22	$993,463	$993,463	$496,732	$496,732	$0
8282	142	125	0.00	$0	0.95	$292,884	$292,884	$292,884	$0	$0
8301	917	1252	0.00	$0	9.52	$2,933,529	$2,933,529	$0	$2,933,529	$0
8311	322	469	0.00	$0	3.56	$1,098,902	$1,098,902	$769,231	$329,671	$0
8321	0	169	0.00	$0	1.28	$395,979	$395,979	$0	$79,196	$316,784
8322	0	16	0.00	$0	0.12	$37,489	$37,489	$0	$7,498	$29,991
8401	1555	0	0.56	$172,586	0.00	$0	$172,586	$0	$172,586	$0
8402	429	0	0.15	$47,614	0.00	$0	$47,614	$0	$47,614	$0
8411	0	6	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8412	922	0	0.33	$102,331	0.00	$0	$102,331	$0	$51,165	$51,165
8413	1053	0	0.38	$116,870	0.00	$0	$116,870	$0	$116,870	$0
8421	311	0	0.11	$34,517	0.00	$0	$34,517	$0	$0	$34,517
8422	370	7	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8423	1	25	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8431	0	54	0.00	$0	0.00	$0	$0	$0	$0	$0
8501	24	28	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8502	0	9	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8511	67	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8512	13	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8521	557	0	0.00	$0	0.00	$0	$0	$0	$0	$0
8531	0	22	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8532	144	0	0.00	$0	0.00	$0	$0	$0	$0	$0
8533	34	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8534	3	21	0.00	$0	0.16	$49,205	$49,205	$49,205	$0	$0
8541	0	66	0.00	$0	0.50	$154,643	$154,643	$154,643	$0	$0
8542	3	16	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8551	0	18	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8552	0	6	0.00	$0	0.05	$14,058	$14,058	$14,058	$0	$0
8561	0	24	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8601	128	160	0.00	$0	1.22	$374,892	$374,892	$0	$224,935	$149,957
8611	1067	4068	0.00	$0	30.92	$9,531,625	$9,531,625	$0	$0	$9,531,625
			20		1101		$227,658,689	$26,966,946	$84,108,607	$116,583,137

	BALANCED SCENARIO									
DASZ	#ADD'L JOBS	# ADD'L DUs	ADD'L EMP. MILES (2)	COST EMPL. ROADS (4)	ADD'L RESID. MILES (1, 3)	COST RESID. ROADS (4)	TOTAL LOCAL ROADS COST	COST PER LOCATION 1960	COST PER LOCATION WSA	COST PER LOCATION Outside WSA
7661	46	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7662	0	53	0.00	$0	0.40	$124,183	$124,183	$124,183	$0	$0
7671	1351	1004	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7672	98	186	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
7673	2674	98	0.96	$296,781	0.00	$0	$296,781	$296,781	$0	$0
7674	1167	1109	0.00	$0	8.43	$2,598,469	$2,598,469	$2,598,469	$0	$0
7701	0	109	0.00	$0	0.83	$255,395	$255,395	$0	$0	$255,395
8001	410	0	0.15	$45,505	0.00	$0	$45,505	$45,505	$0	$0
8002	746	55	0.00	$0	0.42	$128,869	$128,869	$128,869	$0	$0
8011	830	18	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8012	838	214	0.30	$93,008	0.00	$0	$93,008	$93,008	$0	$0
8021	42	148	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8022	70	165	0.00	$0	1.25	$386,607	$386,607	$386,607	$0	$0
8031	800	298	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8032	11	0	0.00	$0	0.00	$0	$0	$0	$0	$0
8041	0	470	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8051	491	0	0.18	$54,495	0.00	$0	$54,495	$54,495	$0	$0
8052	130	3	0.00	$0	0.02	$7,029	$7,029	$7,029	$0	$0
8061	1357	7	0.00	$0	0.05	$16,402	$16,402	$16,402	$0	$0
8062	0	17	0.00	$0	0.13	$39,832	$39,832	$39,832	$0	$0
8071	150	106	0.00	$0	0.81	$248,366	$248,366	$248,366	$0	$0
8072	10	55	0.00	$0	0.42	$128,869	$128,869	$128,869	$0	$0
8081	499	0	0.18	$55,383	0.00	$0	$55,383	$55,383	$0	$0
8082	819	5	0.00	$0	0.04	$11,715	$11,715	$11,715	$0	$0
8101	0	15	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8102	1	21	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8111	0	6	0.00	$0	0.05	$14,058	$14,058	$14,058	$0	$0
8121	0	4	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8122	1	39	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8123	21	57	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8131	0	9	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8132	5	8	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8133	9	22	0.00	$999	0.00	$0	$999	$999	$0	$0
8141	0	4	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8142	0	12	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8151	167	202	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8161	75	263	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8171	30	110	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8172	11	181	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8201	17	121	0.00	$0	0.92	$283,512	$283,512	$283,512	$0	$0
8202	13	83	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8211	189	175	0.00	$0	1.33	$410,038	$410,038	$410,038	$0	$0
8212	52	3	0.00	$0	0.02	$7,029	$7,029	$7,029	$0	$0
8221	4609	1200	0.00	$0	9.12	$2,811,689	$2,811,689	$2,811,689	$0	$0
8231	16	153	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8232	40	110	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8233	0	20	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8234	0	8	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8241	0	26	0.00	$0	0.20	$60,920	$60,920	$30,460	$0	$30,460
8242	0	24	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8243	42	120	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8244	0	20	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8251	90	1	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8252	0	0	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8261	35	6	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8262	81	5	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8263	0	5	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8271	830	2	0.00	$0	0.02	$4,686	$4,686	$4,686	$0	$0
8272	140	119	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8273	747	70	0.00	$0	0.53	$164,015	$164,015	$164,015	$0	$0
8281	297	423	0.00	$0	3.21	$991,120	$991,120	$495,560	$495,560	$0
8282	101	124	0.00	$0	0.94	$290,541	$290,541	$290,541	$0	$0
8301	869	1251	0.00	$0	9.51	$2,931,185	$2,931,185	$0	$2,931,185	$0
8311	296	468	0.00	$0	3.56	$1,096,559	$1,096,559	$767,591	$328,968	$0
8321	0	169	0.00	$0	1.28	$395,979	$395,979	$0	$79,196	$316,784
8322	0	16	0.00	$0	0.12	$37,489	$37,489	$0	$7,498	$29,991
8401	1510	0	0.54	$167,591	0.00	$0	$167,591	$0	$167,591	$0
8402	402	0	0.14	$44,617	0.00	$0	$44,617	$0	$44,617	$0
8411	0	1	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8412	534	0	0.19	$59,267	0.00	$0	$59,267	$0	$29,634	$29,634
8413	836	0	0.30	$92,786	0.00	$0	$92,786	$0	$92,786	$0
8421	248	0	0.09	$27,525	0.00	$0	$27,525	$0	$0	$27,525
8422	295	4	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8423	0	23	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8431	0	33	0.00	$0	0.25	$77,321	$77,321	$0	$0	$77,321
8501	22	20	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8502	0	4	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8511	42	113	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8512	8	39	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8521	496	138	0.00	$0	1.05	$323,344	$323,344	$323,344	$0	$0
8531	0	14	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8532	94	85	0.00	$0	0.65	$199,161	$199,161	$199,161	$0	$0
8533	19	62	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8534	0	14	0.00	$0	0.11	$32,803	$32,803	$32,803	$0	$0
8541	0	49	0.00	$0	0.37	$114,811	$114,811	$114,811	$0	$0
8542	0	8	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8551	0	9	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8552	0	2	0.00	$0	0.02	$4,686	$4,686	$4,686	$0	$0
8561	0	11	BUILT OUT	$0	BUILT OUT	$0	$0	$0	$0	$0
8601	128	160	0.00	$0	1.22	$374,892	$374,892	$0	$224,935	$149,957
8611	12849	8819	0.00	$0	67.02	$20,663,569	$20,663,569	$0	$0	$20,663,569
			26		910		$204,722,471	$28,890,121	$65,683,236	$110,149,114

Table A.15 2020 MTP Roadway Rehabilitation and Reconstruction Projects

Project Name	2000-2005 Total	2006-2010 Total	2011-2015 Total	2016-2020 Total	Total	Location			Cost by Location		
						1960	WSA	Outside WSA	1960	WSA	Outside WSA
Rehabilitation											
Rehabilitating City streets to "good" condition (1)					$102,773,440	67%	33%		$68,515,627	$34,257,813	$0
Additional Roadway Rehabilitation Projects	$5,000,000	$5,000,000	$5,000,000	$5,000,000	$20,000,000	34%	33%	33%	$6,800,000	$6,600,000	$6,600,000
Alameda (NM 528), Coors to Coors Bypass		$1,620,000			$1,620,000			100%	$0	$0	$1,620,000
Broadway, Rio Bravo to Gibson	$2,000,000				$2,000,000	2%	98%		$40,000	$1,960,000	$0
Coors, Gun Club to Pajarito Road			$2,650,000		$2,650,000		47%	53%	$0	$1,245,500	$1,404,500
Coors north to Alameda	$1,530,000				$1,530,000		50%	50%	$0	$765,000	$765,000
Coors, Armijo Lane to Alameda		$2,750,000			$2,750,000			100%	$0	$0	$2,750,000
Coors, Irving to Coors Bypass					$0			100%	$0	$0	$0
Coors, Pajarito to Rio Bravo		$2,000,000			$2,000,000		67%	33%	$0	$1,340,000	$660,000
Coors, Rio Bravo to Edwardo	$1,500,000				$1,500,000		100%		$0	$1,500,000	$0
Edith, Osuna to County Line		$1,000,000			$1,000,000		80%	20%	$0	$800,000	$200,000
Eubank, Modesto to Paseo del Norte		$5,000,000			$5,000,000			100%	$0	$0	$5,000,000
I-25 bridge over Rio Grande		$4,000,000			$4,000,000			100%	$0	$0	$4,000,000
I-25 frontage road bridges		$800,000			$800,000	75%	25%		$600,000	$200,000	$0
I-25 frontage road northbound, Comanche to Paseo del Norte		$615,000			$615,000	35%	65%		$215,250	$399,750	$0
I-25 frontage road northbound, Menaul to Comanche	$500,000				$500,000	100%			$500,000	$0	$0
I-25 frontage road northbound, Paseo del Norte to MPO boundary		$540,000			$540,000		75%	25%	$0	$405,000	$135,000
I-25 frontage road southbound,Comanche to Paseo del Norte	$1,142,500				$1,142,500	35%	65%		$399,875	$742,625	$0
I-25 frontage road southbound, Menaul to Comanche		$540,000			$540,000	100%			$540,000	$0	$0
I-25 lanes northbound and southbound, Comanche to Paseo del Norte			$9,000,000		$9,000,000	35%	65%		$3,150,000	$5,850,000	$0
I-25 lanes northbound and southbound, Gibson to Sunport	$5,000,000				$5,000,000	2%	98%		$100,000	$4,900,000	$0
I-25 lanes northbound and southbound, Los Picaros to Rio Bravo rehab.	$3,000,000				$3,000,000		100%		$0	$3,000,000	$0
I-25 lanes northbound and southbound, MPO boundary to South Broadway			$3,000,000		$3,000,000			100%	$0	$0	$3,000,000
I-25 lanes northbound, Broadway to Los Picaros rehab.	$3,000,000				$3,000,000		100%		$0	$3,000,000	$0
I-25 lanes southbound, Broadway to Los Picaros rehab.	$3,000,000				$3,000,000		100%		$0	$3,000,000	$0
I-25 lanes southbound, Lomas to Sunport				$2,500,000	$2,500,000	75%	25%		$1,875,000	$625,000	$0
I-25/I-40 Interchange Joint Repair			$5,000,000		$5,000,000	100%			$5,000,000	$0	$0
I-25/Sunport ramps				$1,000,000	$1,000,000		100%		$0	$1,000,000	$0
I-40, Coors to Sixth Joint Maintenance		$3,000,000			$3,000,000	70%	30%		$2,100,000	$900,000	$0
I-40/Juan Tabo Joint Maintenance		$150,000			$150,000	100%			$150,000	$0	$0
I-40/Louisiana Joint Maintenance				$500,000	$500,000	100%			$500,000	$0	$0
I-40/San Pedro			$1,500,000		$1,500,000	100%			$1,500,000	$0	$0
I-40/Wyoming Joint Maintenance				$500,000	$500,000	100%			$500,000	$0	$0
Isleta, Rio Bravo to Bridge	$16,000,000				$16,000,000		100%		$0	$16,000,000	$0
La Orilla, Coors to City Limit				$500,000	$500,000		100%		$0	$500,000	$0
Malpais, Isleta to Coors	$1,500,000				$1,500,000			100%	$0	$0	$1,500,000
Modesto, Eubank to Tramway		$3,000,000			$3,000,000			100%	$0	$0	$3,000,000
NM 313 north of Roy Avenue		$650,000			$650,000		100%		$0	$650,000	$0
NM 47, MPO Boundary to south City Boundary rehab.		$4,000,000			$4,000,000		80%	20%	$0	$3,200,000	$800,000
Paradise, Golf Course to La Paz	$1,500,000				$1,500,000			100%	$0	$0	$1,500,000
Paradise, Universe to La Paz				$1,000,000	$1,000,000			100%	$0	$0	$1,000,000
Paseo del Norte, Coors to Jefferson			$9,000,000		$9,000,000		99%	1%	$0	$8,910,000	$90,000
Paseo del Norte, I-25 to Tramway		$2,500,000	$2,500,000	$5,000,000	$10,000,000		50%	50%	$0	$5,000,000	$5,000,000
Rio Grande Blvd.	$1,000,000				$1,000,000	100%			$1,000,000	$0	$0
Sage, Coors to Unser		$1,500,000			$1,500,000		100%		$0	$1,500,000	$0
Sage, Unser to 86th		$1,000,000			$1,000,000		100%		$0	$1,000,000	$0
Second, Paseo del Norte to Fourth		$4,500,000			$4,500,000		100%		$0	$4,500,000	$0
Tramway, Central to Comanche				$10,000,000	$10,000,000	100%			$10,000,000	$0	$0
Tramway Road, I-25 to Tramway			$2,500,000		$2,500,000		33%	67%	$0	$825,000	$1,675,000
Unser, Dellyne to County Line			$2,000,000		$2,000,000		25%	75%	$0	$500,000	$1,500,000
Reconstruction											
Additional Roadway Reconstruction Projects	$47,500,000	$47,500,000	$47,500,000	$47,500,000	$190,000,000	34%	33%	33%	$64,600,000	$62,700,000	$62,700,000
Alameda/Edith and roadway reconstruction		$4,110,000			$4,110,000		100%		$0	$4,110,000	$0
Alameda, Second to Fourth	$1,500,000				$1,500,000		100%		$0	$1,500,000	$0
Central, Paseo del Volcan to 106th			$1,680,000		$1,680,000			100%	$0	$0	$1,680,000
Coors, St. Joseph's to Irving	$8,850,000				$8,850,000		90%	10%	$0	$7,965,000	$885,000
Coors, St. Joseph's to Paseo del Norte	$2,400,000				$2,400,000		100%		$0	$2,400,000	$0
Fourth Street, north of Ortega to south of Mullen	$8,000,000	$4,000,000			$12,000,000		100%		$0	$12,000,000	$0
Gibson, Jackson to University	$14,000,000				$14,000,000	100%			$14,000,000	$0	$0
I-25 lanes northbound and southbound, Rio Bravo to Sunport	$18,000,000				$18,000,000		100%		$0	$18,000,000	$0
I-25 lanes northbound and southbound, San Antonio to Alameda prelim. eng.			$125,000		$125,000		100%		$0	$125,000	$0
I-25 lanes northbound, Broadway to Los Picaros				$18,000,000	$18,000,000		100%		$0	$18,000,000	$0
I-25 lanes southbound, Broadway to Los Picaros				$18,000,000	$18,000,000		100%		$0	$18,000,000	$0
I-25 ramps southbound, Stadium to Lomas		$6,270,000			$6,270,000	100%			$6,270,000	$0	$0
I-25/Los Picaros			$5,000,000		$5,000,000		100%		$0	$5,000,000	$0
I-25/San Mateo/Osuna				$8,000,000	$8,000,000		100%		$0	$8,000,000	$0
I-40 lanes eastbound, Carlisle to San Pedro	$13,000,000				$13,000,000	100%			$13,000,000	$0	$0
I-40 lanes eastbound, Juan Tabo to Wyoming	$12,000,000				$12,000,000	100%			$12,000,000	$0	$0
I-40 lanes eastbound, San Pedro to Wyoming		$17,000,000			$17,000,000	100%			$17,000,000	$0	$0
I-40 lanes westbound, Eubank to Tramway	$12,000,000				$12,000,000	100%			$12,000,000	$0	$0
I-40 lanes westbound, Wyoming to Eubank	$7,000,000				$7,000,000	100%			$7,000,000	$0	$0
I-40 lanes westbound, Wyoming to San Pedro		$17,000,000			$17,000,000	100%			$17,000,000	$0	$0
I-40/Carlisle	$11,000,000				$11,000,000	100%			$11,000,000	$0	$0
I-40/Louisiana	$14,000,000				$14,000,000	100%			$14,000,000	$0	$0
I-40/Pennslyvania and Wasington	$5,000,000				$5,000,000	100%			$5,000,000	$0	$0
I-40/San Mateo	$9,000,000				$9,000,000	100%			$9,000,000	$0	$0
NM47, south City Boundary to MPO Boundary				$20,000,000	$20,000,000		80%	20%	$0	$16,000,000	$4,000,000
Roy (NM 556) bridge over AT&SF Railroad		$800,000			$800,000		100%		$0	$800,000	$0
Roy (NM 556) bridge over Edith		$800,000			$800,000		100%		$0	$800,000	$0
Roy (NM 556), I-25 to Fourth Street	$5,500,000				$5,500,000		100%		$0	$5,500,000	$0
Second and Fourth Intersection Realignment	$1,500,000				$1,500,000		100%		$0	$1,500,000	$0
Unser, Dellyne to County Line	$10,000,000				$10,000,000		25%	75%	$0	$2,500,000	$7,500,000
					$ 724,295,940.00			**TOTALS**	$305,355,752	$299,975,688	$118,964,500

(1) An assumption was made that 2/3rds of the streets needing rehabilitation to "good" standards are in the 1960 City Limits, and the remainder are in the Water Service Area.

Table A.16 Metropolitan Transportation Plan Estimated Roadway Costs

Type of Roadway	Roadway	From	To	Description	Length (miles)	Total Cost	Cost per Mile
Interstate	I-25	Gibson	Rio Bravo	4 lanes to 6 lanes	2.721	$5,000,000	$1,837,560
Limited Access	Coors	PDN	St. Joseph	4 lanes to 6 lanes	4.359	$4,650,000	$1,066,758
Limited Access/ Principal Arterial	Coors	Pajarito	Central	4 lanes to 6 lanes	6.753	$13,000,000	$1,925,070
Limited Access	Gibson	Eubank	Juan Tabo	2 lanes to 4 lanes	1	no cost provided	
Limited Access	PDN	Eubank	Tramway	2 lanes to 4 lanes	1.5	$6,000,000	$4,000,000
Limited Access	Unser	Central	Sage	2 lanes to 4 lanes	1.385	$13,000,000	$9,386,282
Limited Access	Unser	Irving	Westside	2 lanes to 4 lanes	1.187	$3,000,000	$2,527,380
Limited Access	Unser	Paradise	Irving	2 lanes to 4 lanes	0.5	$2,600,000	$5,200,000
Limited Access	Unser	Sage	Arenal	2 lanes to 4 lanes	0.3	no cost provided	
Limited Access	PDN	Wyoming	Eubank	2 lanes to 6 lanes	2	$9,000,000	$4,500,000
Limited Access	PDV	I-40	County Line	2 new lanes	11.17	$14,000,000	$1,253,357
Limited Access	Rio Bravo	PDV	Coors	2 new lanes	4.4	$10,000,000	$2,272,727
Limited Access	Gibson	Louisiana	Eubank	4 new lanes	2	$27,600,000	$13,800,000
Limited Access	PDN	Golf Course	Rainbow	4 new lanes	3.179	$13,500,000	$4,246,618
Limited Access	Unser	PDN	Paradise	4 new lanes	1.353	$6,000,000	$4,434,590
Limited Access	Unser	Rainbow	PDN	4 new lanes	1.08	$6,500,000	$6,018,519
Limited Access	Unser	Arenal	Rio Bravo	4 new lanes	2	$8,000,000	$4,000,000
Principal Arterial	2nd	I-40	North City Limits	4 lanes to 6 lanes	2.82	$30,000,000	$10,638,298
Principal Arterial	Eubank	PDN	San Rafael	2 lanes to 4 lanes	0.742	$5,000,000	$6,738,544
Principal Arterial	Isleta	Rio Bravo	Arenal	2 lanes to 4 lanes	1.954	$3,000,000	$1,535,312
Principal Arterial	McMahon	Golf Course	Unser	2 lanes to 4 lanes	1.336	$1,500,000	$1,122,754
Principal Arterial	98th	Sage	Rio Bravo	2 new lanes	2	$2,000,000	$1,000,000
Principal Arterial	Alameda	Barstow	Eubank	2 new lanes	1.5	$7,500,000	$5,000,000
Principal Arterial	McMahon	Golf Course	Unser	2 new lanes	1.43	$14,200,000	$9,930,070
Principal Arterial	McMahon	Unser	Rainbow	2 new lanes	2.24	$12,000,000	$5,357,143
Principal Arterial	Rainbow	Irving	McMahon	4 new lanes	1.082	$3,000,000	$2,772,643
Principal Arterial	Rainbow	PDN	Irving	4 new lanes	1.04	$3,000,000	$2,884,615
Principal Arterial	Rainbow	Unser	PDN	4 new lanes	1.77	$5,000,000	$2,824,859
Principal Arterial	Mesa del Sol Parkway	NM 47	University	4 new lanes	2.39	$20,000,000	$8,368,201
Minor Arterial	Edith	Candelaria	Montaño	2 lanes to 4 lanes	1.435	$6,000,000	$4,181,185
Minor Arterial	Golf Course	Westside	PDN	2 lanes to 4 lanes	2.968	$5,250,000	$1,768,868
Minor Arterial	Griegos	Edith	I-25	2 lanes to 4 lanes	0.693	$2,000,000	$2,886,003
Minor Arterial	Irving	Chantilly	Unser	2 lanes to 4 lanes	2.028	$12,000,000	$5,917,160
Minor Arterial	Paradise	Golf Course	Eagle Ranch	2 lanes to 4 lanes	0.742	$1,500,000	$2,021,563
Minor Arterial	University	Sunport	Rio Bravo	2 lanes to 4 lanes	2.2	$2,300,000	$1,045,455
Minor Arterial	Eagle Ranch	Paradise	PDN	2 lanes to 4 lanes	0.198	$1,500,000	$7,575,758

Type of Roadway	Roadway	From	To	Description	Length (miles)	Total Cost	Cost per Mile
Minor Arterial	Ladera	Unser	98th	2 new lanes	1.5	$12,000,000	$8,000,000
Minor Arterial	University	Rio Bravo	Mesa del Sol Parkway	4 new lanes	2.7	$4,000,000	$1,481,481
Minor Arterial	Westside	Golf Course	NM 528	4 new lanes	0.828	$5,000,000	$6,038,647
Minor Arterial	Westside	Unser	Golf Course	4 new lanes	1.1	$5,000,000	$4,545,455
Collector Streets	Arenal	Isleta	Coors	2 lanes to 4 lanes	1.88	$4,000,000	$2,127,660
Collector Streets	Los Picaros	Broadway	University	2 new lanes	1.739	$1,000,000	$575,043

Table A.17 Assumptions Made to Determine Cost Estimate

Type of roadway	Roadway	From	To	Description	Length (miles)	Assumption	Cost per mile	Additional Costs	Total Cost
Limited Access	Coors	PDN	Coors Bypass	6 lanes to 8 lanes	1.014	used Coors from PDN to St. Joseph cost per mile (from MTP)	$1,066,758		$1,081,693
Principal Arterial	Alameda	Rio Grande (river)	2nd Street	4 lanes to 6 lanes	1.657	used Isleta from Rio Bravo to Arenal cost per mile (from MTP)	$1,535,312		$2,544,012
Collector Street	Eagle Ranch	Paradise	Irving	2 lanes to 4 lanes	0.594	used Arenal from Isleta to Coors cost per mile (from MTP)	$2,127,660		$1,263,830
	Rio Grande/Unser Intersection			intersection improvements		engineering judgment		$100,000	$100,000
Limited Access	Unser	Paradise	Westside	4 lanes to 6 lanes	1.657	used Unser from Irving to Westside cost per mile (from MTP)	$2,527,380		$4,187,869
Limited Access	Unser	Western Trail	Dellyne	4 lanes to 6 lanes	0.96	used Coors from PDN to St. Joseph cost per mile (from MTP)	$1,066,758		$1,024,088
Minor Arterial	Montano	Coors	4th Street	2 lanes to 4 lanes	2.746	lanes already built; minor striping needed to convert from 2 lanes to 4 lanes *		$70,000	$70,000
	I-40/Coors Interchange	WB to SB ramp		1 lane to 2 lanes		engineering judgment		$500,000	$500,000
	I-40/Unser Interchange	WB offramp		1 lane to 2 lanes		engineering judgment		$500,000	$500,000
	I-40/Unser Interchange	EB offramp and onramp		1 lane to 2 lanes		engineering judgment		$500,000	$500,000
	I-40/Unser Interchange	overpass		5 lanes to 6 lanes		engineering judgment		$1,500,000	$1,500,000
	I-40/98th Street Interchange	WB offramp		1 lane to 2 lanes		engineering judgment		$500,000	$500,000
	I-40/98th Street Interchange	overpass		2 lanes to 4 lanes		engineering judgment		$1,500,000	$1,500,000
	I-40/PDV Interchange	WB offramp		1 lane to 2 lanes		engineering judgment		$500,000	$500,000
	I-40/PDV Interchange	overpass		2 lanes to 4 lanes		engineering judgment		$1,500,000	$1,500,000
Limited Access	Unser	I-40	Central	4 lanes to 6 lanes	1.262	used Unser from Central to Sage cost per mile (from MTP)	$9,386,281		$11,845,487
Collector Street	Tingley			2 lanes to 4 lanes	1.95	used Arenal from Isleta to Coors cost per mile (from MTP)	$2,127,660		$4,148,937
	Alcalde/Tingley Intersection			signalization		$25,000 per approach		$75,000	$75,000
Collector Street	Alcalde			2 lanes to 4 lanes	0.322	used Arenal from Isleta to Coors cost per mile (from MTP)	$2,127,660		$685,107
Limited Access	Rio Bravo	Isleta	Broadway	4 lanes to 6 lanes	2.028	used Coors from Parajito to Central cost per mile (from MTP) plus $3 million for the bridge (engineering judgment)	$1,925,070	$3,000,000	$6,904,042
Limited Access	Rio Bravo	Isleta	I-25	4 lanes to 6 lanes	2.523	used Coors from Parajito to Central cost per mile (from MTP) plus $3 million for the bridge (engineering judgment)	$1,925,070	$3,000,000	$7,856,952
Interstate	I-25	Rio Grande (river)	Rio Bravo	4 lanes to 6 lanes	6	used I-25 from Gibson to Rio Bravo cost per mile (from MTP) plus $6 million for two bridges (engineering judgment)	$1,837,560	$6,000,000	$17,025,360
	I-25/Isleta Interchange	SB offramp		1 lane to 2 lanes		engineering judgment		$500,000	$500,000
Minor Arterial	San Antonio (Ellison)	Jefferson	I-25	2 lanes to 4 lanes	0.445	used Edith from Candelaria to Montano cost per mile	$418,185		$186,092
Principal Arterial	Isleta	Gun Club	Bridge	4 lanes to 2 lanes	4.477	take cost out of County scenario of Isleta from Rio Bravo to Arenal			$0
Minor Arterial	University	Rio Bravo	Los Picaros	4 lanes to 2 lanes		see breakdown below; also take cost out of the Trend and TES scenarios of University from Rio Bravo to Mesa del Sol Pkwy.			$0
	University	Rio Bravo	Los Picaros	2 new lanes	1.275	Assumed that $4 million cost of University from Rio Bravo to Mesa del Sol Pkwy. included $2.5 million bridge (eng. judgment).	$337,424	$2,500,000	$2,930,215
						Calculated that 4 lane road in this area costs $645,000 by taking 43% of $4 million minus $2.5 million.			$0
						Assumed a 2 lane road would be 2/3 of the cost of that 4 lane road plus the cost of the bridge.			$0
						This should be used for the Trend and TES scenarios only.			$0
	University	Los Picaros	Mesa del Sol Parkway	4 new lanes	1.425	Assumed that $4 million cost of University from Rio Bravo to Mesa del Sol Pkwy. included $2.5 million bridge (eng. judgment).	$600,000		$855,000
						Calculated that 4 lane road in this area costs $855,000 by taking 57% of $4 million minus $2.5 million.			$0
						This should be used for the Trend and TES scenarios only.			$0
	I-40/Eubank Interchange	EB offramp		1 lane to 2 lanes		engineering judgment		$500,000	$500,000
	I-40/Wyoming Interchange	EB offramp		1 lane to 2 lanes		engineering judgment		$500,000	$500,000
Principal Arterial	Central/Louisiana	Gold/copper to Uptown		HOV lane		see breakdown below			$0
	Central	Gold/copper	Louisiana	HOV lane	4.601	assumed lanes were there and that they would only need striping *		$120,000	$120,000
	Louisiana	Central	Uptown	HOV lane	1.929	assumed lanes were there and that they would only need striping *		$50,000	$50,000
Principal Arterial	Uptown Boulevard	@ Americas Parkway	(loop road)	HOV lane	1.5	assumed lanes were there and that they would only need striping *		$40,000	$40,000
	Montano/4th Street			grade separation		used I-25/Mesa del Sol Interchange cost (from MTP)		$20,000,000	$20,000,000
Minor Arterial	4th Street	I-40	Alameda	HOV lane	6	assumed lanes were there and that they would only need striping *		$160,000	$160,000
Collector Street	PDN	Rainbow	Black Ranch	2 new lanes	3	used 98th from Sage to Rio Bravo cost per mile (from MTP)	$1,000,000		$3,000,000
Limited Access	Gibson	Eubank	Juan Tabo	2 lanes to 4 lanes	1	used Coors from PDN to St. Joseph cost per mile (from MTP)	$1,067,758		$1,067,758
Limited Access	Unser	Sage	Arenal	2 lanes to 4 lanes	0.3	used Unser from Central to Sage cost per mile (from MTP)	$9,386,281		$2,815,884
									$0

* striping calculated from NMSHTD 4" striping per foot=$2.00/ft x 2 lanes x 5280 ft/mile = $25,000/mile

Notes

1. This $2 million figure is used as the basis for all operation and maintenance calculations in this section. Hydrology staff from the City, however, have independently estimated that annual operation and maintenance costs could exceed $3 million.

2. HERS, which was developed for the FHWA for national level analysis, performs benefit-cost analysis for highway widening, and pavement and alignment improvements, or any combination thereof.

3. Cal-B/C is the California Department of Transportation model that varies vehicle operating costs according to speed for the existing and proposed facilities, and provides separate estimates for autos and trucks.

4. STEAM, which was developed for FHWA for corridor analysis, employs separate vehicle operating cost estimates for fuel and non-fuel components.

5. RailDEC was developed for FTA to forecast changes on the highway adjacent to the new or improved rail facility.

6. Rail-B/C is the California Department of Transportation model that is used to estimate the vehicle operating cost savings of a rail investment parallel to an existing highway facility.

7. StratBENCOST is designed for rapid analysis and comparison of a number of projects; the objective is to allow planners to select the most promising projects for more detailed analysis. It is being updated under NCHRP Project 2-18(4) (Development and Demonstration of StratBENCOST Procedure).

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Maps Created for the Planned Growth Study

The following maps have been created for the Planned Growth Strategy and are available through the City of Albuquerque, Council Services:

Public Facilities

Water line data (includes type, diameter, installation date)

Wastewater line data (includes type, diameter, installation date)

Storm line data (includes material & installation date)

Street data (includes street condition, number of lanes, lane miles)

Parks (includes development status, renovation priority, acreage, jurisdiction)

Public community facilities (libraries, community & senior centers, pools, administrative)

Public safety facilities (fire stations, police stations, command stations, substations, mini-stations)

Public Schools, Private & Parochial Schools
Transit routes (all-day and express) & Trolley routes

Planning Information

Land Use information by acreage and category (includes vacant land as a separate category)

Zoning information by acreage and category

Comprehensive Plan designations

Recent New Construction Residential Building Permits and Subdivision Activity (1994–1997)

City Annexation History overlaid with 1997 New Construction Building Permits

Council of Governments Population Growth Forecast for the Year 2020

Subareas Master Plan for developing urban area of North Albuquerque Acres

Location of Recent Industrial Revenue Bonds in Albuquerque

Capital Facilities Projects 1995–2008

City Water Capital Projects (categorized by growth, deficiency, & rehabilitation)

City Wastewater Capital Projects (categorized by growth, deficiency, & rehabilitation)

City Hydrology Capital Projects (categorized by growth, deficiency, & rehabilitation)

City Street Capital Projects (categorized by growth, deficiency, & rehabilitation)

AMAFCA Drainage Projects (categorized by growth, deficiency, & rehabilitation)

NM State Highway Projects (categorized by growth, deficiency, & rehabilitation)

NM Utilities existing & proposed Well Sites

NM Utilities service area & proposed expanded franchise area

Westland property, proposed well sites and project boundary

Existing and planned capital infrastructure for water, wastewater, storm, and streets

Percentage of *developed* land served by water lines by water trunk and zone

Percentage of *undeveloped* land served by water lines by water trunk and zone

Water pressure zones served by capital projects from 1995–2008

Wastewater basins served by capital projects from 1995–2008

Hydrology basins served by capital projects from 1995–2008

Location of street capital projects from 1995–2008

Location of City & AMAFCA hydrology capital projects

City Public Works capital projects (1995–2008) overlaid onto categorized vacant land use

Street Conditions Map for the City maintained streets

Street Sections & Intersections Currently Over-Capacity

Main & service water line breaks for 1996–97

Distribution of concrete, clay, & PVC Sewer Lines

Natural Resource and Administrative Inventory

Administrative

City jurisdiction

City water and wastewater service areas

Corrales, Los Ranchos, & Paradise Hills jurisdiction

Five-mile Extra-Territorial Boundary

1960 City Boundary

Neighborhood Associations

City & County Fire Zones

City Police Beats

Indian Reservations

National Parks, Monuments & Forest Boundaries

Data Analysis SubZones (DASZ) zones

Middle Rio Grande Council Districts

Pocket of Poverty

Enterprise & Metropolitan Redevelopment Zones

Natural Resources

Flood Plains & Drainage Courses

Soil Types

Open Space

Ground water zones

Ground water contamination sites

City water pumps stations & wells

Proposed open space acquisition

Agricultural land

Subareas Master Plan Boundaries for North Albuquerque Acres

Section 2

Economic Impact of Growth

6.0 The Benefits of Growth to the Bernalillo County Economy, 2000-2020

6.1 Executive Summary

This report is a companion to the study of infrastructure needs conducted by the Parsons Brinckerhoff team. Section 1 of this Planned Growth Strategy, Part 1 – Findings Report focused on the infrastructure additions and refurbishing needed to support a general growth scenario for Bernalillo County. Parsons Brinckerhoff assessed the current conditions and needed expansion of five classes of infrastructure: water delivery system, sewage treatment, transportation, public transit, and drainage (hydrology).

The present study reports estimates of the net pecuniary benefits associated with economic growth in the region. The benefits that will be measured are the growth in output, employment, incomes, and local tax revenues associated with the growth projected for the regional economy. To calculate the net effects of growth, a multisector model of the economy of Bernalillo County was constructed. The basis of this model is an input-output (I-O) model in which the growth scenarios presented in Section 1 are projected as impacts to the local economy. The present study begins with the following premise:

> *Growth of the regional economy requires the existence of a viable houing market. Such housing growth depends on the presence of sound infrastructure in areas such as water delivery, sewage, and transportation. That is, infrastructure development is properly viewed as an investment in the local economy.*

The results are as follows.

- A Slow Growth Scenario represents a baseline or counterfactual projection for the region absent the investment in infrastructure.
- Four growth scenarios are analyzed. These are Balanced A, Balanced B, Balanced C, and Trend
- Balanced A, B, and C use the same spatial development and infrastructure investment projections but differ according to the assumptions concerning how the investment is to be funded. Trend is the spatially diffuse scenario with considerable residential development in the outlying areas.
- For the Balanced A Scenario the infrastructure investment is financed through increased gross receipts tax. The result is that gross output for the local economy is $6.04 billion higher annually than under the Slow Growth Scenario by 2020. Earnings are $2.48 billion higher.
- For Balanced B Scenario the road construction on federal and state roads is financed through transfers from these senior governments, and it is assumed that none of the taxes are raised locally. The result is that gross output is $6.09 billion higher annually by 2020. Total employment is 100,680 jobs higher than the Slow Growth Scenario by 2020.

- For the Balanced C Scenario the infrastructure investment is all financed from local residents. Part of the investment is financed through increased impact fees and the rest is obtained through gross receipts tax increases. The result is that gross output is $6.15 billion higher annually by 2020. Earnings are higher by $2.52 billion in 2020.
- For the Trend Scenario the same structure as Balanced A is adopted, but the spatial distribution is more dispersed . The result is that gross output is $6.00 billion higher by 2020. Employment is 99,214 higher.

It is important to recognize that the differences in the value of output or earnings or employment between the Slow Growth and the growth related scenarios constitute the opportunity cost of foregoing the investment in infrastructure. The proposed investments in infrastructure rehabilitation and extension will yield output increases and subsequent tax revenues that will exceed the costs of the infrastructure itself. That is, the infrastructure is both a necessary and justifiable investment.

6.2 Introduction

This report is a companion to the study of infrastructure needs analysis conducted by the Parsons Brinckerhoff team. Section 1 of the Planned Growth Strategy, Part 1 – Findings Report focused on the identification and costs of infrastructure additions and refurbishing needed to support a general growth scenario for Bernalillo County. Parsons Brinckerhoff assessed the current conditions and needed expansion of five classes of infrastructure: water delivery system, sewage treatment, transportation, public transit, and drainage. Three spatially differentiated growth scenarios were addressed in Section 1. These were labeled the Downtown Scenario, Trend Scenario, and Balanced Scenario. The scenarios will be defined later in this report. Because the required infrastructure additions depend on the spatial distribution of the population, the costs associated with each growth scenario differ.[1] The analysis in this report focuses on the Balanced Scenario under different assumptions regarding the incidence of the taxation to finance the costs of the growth and different methods of financing the growth related infrastructure, correcting deficiencies, and rehabilitating existing infrastructure. For comparison, the present study compares the Trend Scenario and the Balanced Scenario to demonstrate the effect of the spatial distribution of growth.

The present study reports projections of the net pecuniary benefits associated with economic growth in the region. The benefits that will be measured are the growth in output, employment, incomes, and local tax revenues associated with the growth projected for the regional economy. There are other benefits (and costs) associated with economic growth that are not addressed quantitatively here. These include social costs such as congestion and pollution as well as social benefits such as those associated with a local labor market that offers a sufficient range of jobs to retain highly qualified workers in the region. A brief discussion will be presented in the concluding section of this report.

The present study begins with the following premise. Growth of the regional economy requires the existence of a viable housing market. Such housing growth depends on the presence of sound infrastructure in areas such as water delivery, sewage, and transportation. Of course, other components of infrastructure, such as police and fire services, and education, are required to support population growth, but these are not addressed in Section 1 by the terms of the contract.

A primary role of the housing market in the growth of a region is the support of the growth of the labor force. Many major urban areas have seen their growth limited by slowly responding housing markets that have the effect of causing housing prices to rise in response to population growth.[2] Current estimates (first two quarters of 2000) show the housing cost index in the Albuquerque Metropolitan Statistical Area at 100.3. At the same time, however, the earnings index is approximately 91 making the earnings approximately 9% below the average. Clearly, there is a housing affordability issue for the Metropolitan Statistical Area (and for Bernalillo County). Any delays in constructing infrastructure will impose delays on housing construction and will exacerbate this situation. The analysis conducted for this report rests on an assumption that housing construction will keep pace with the projected labor force growth, but this will require that most of the infrastructure issues raised in Section 1 be addressed. Other assumptions will be described later in this report.

6.3 Section 1 of the Planned Growth Strategy, Part 1 – Findings Report

Since it forms the background for the present study, Section 1 of the Planned Growth Strategy, Part 1 – Findings Report will be briefly summarized here.[3] The report describes three categories of infrastructure development for the Albuquerque/Bernalillo County economy. These are rehabilitation (i.e., improving condition without expanding capacity), correcting deficiencies (i.e., adding to infrastructure capacity consistent with engineering standards), and growth. Parsons Brinckerhoff provides an analysis of five components of the physical infrastructure within Bernalillo County: the water delivery system, the sewage system, the transportation infrastructure (primarily roads), public transit, and the drainage (hydrology) system. The study was largely an engineering analysis, and the focus was on the cost of correcting existing deficiencies and rehabilitation, and on the costs associated with the extension of the infrastructure to accommodate future growth. Three spatially differentiated growth scenarios were analyzed, and the difference in the costs of expanding the infrastructure to accommodate each is estimated.

6.3.1 Trend Scenario

A growth scenario based on the current pattern of land use is termed the Trend Scenario. Growth is projected to continue in a spatially diffuse manner. Much of the future development is projected to occur outside of the historic boundaries of Albuquerque. Residential development is projected to occur mainly in the following areas: West Mesa, Southwest Mesa, Quail Ranch, Mesa del Sol, and the East Mountain Area. Employment growth is similarly projected to be widespread. Major concentrations of new employment are projected to be in the Westland Area, Seven Bar Area, Mesa del Sol, Quail Ranch, and areas along the North I–25 corridor.

6.3.2 Downtown Scenario

This scenario is characterized by a greater concentration of population and employment in the Downtown, University of New Mexico, and Uptown areas. Unlike the Trend Scenario, the employment growth under this scenario is projected to occur largely within the existing built-up areas. Population growth is also less dispersed under this scenario. In addition to the above, major concentrations occur along I–25 north of San Antonio, and along Coors Road to the Northwest.

6.3.3 Balanced Scenario

This scenario is a blend of the two previous scenarios. Employment growth is projected to occur in the nearer West Side sections including the Atrisco Business Park, the East Central area, and Mesa del Sol. Population growth is projected to occur in Mesa del Sol, and along the Central and North Fourth Street Corridors. This Scenario was designed, in part, to achieve greater jobs-housing balance.

Within each of these scenarios, a set of cost estimates is developed for the expansion of the infrastructure components, rehabilitation, and addressing existing deficiencies. The aggregate growth in employment and population is projected to be similar across the three scenarios, and this growth is projected to occur in a linear pattern over time.

The Section 1 reports the costs associated with infrastructure development through 2020 for each scenario. These costs are estimated at $3.63 billion for the Trend Scenario, $3.38 for the Downtown Scenario, and $3.44 for the Balanced Scenario. The differences are largely due to growth related considerations concerning extension of services to far-flung areas in the less dense scenarios. Thus, the Downtown Scenario has the lowest costs while the Trend Scenario is the most expensive. While the cost differences may appear to be small ($0.19 billion for the difference between the Trend and Balanced Scenarios) relative to the total costs, they are significant and demonstrate the payoffs to planning for growth.

Parsons Brinckerhoff does supply a timeline for *some* of the infrastructure expenditures. For example, the road construction projects are meticulously described in Section 1. However, in aggregate terms, it is implicitly assumed that the employment and population growth is linear and thus, the infrastructure expenditures will follow that path also. However, this will have implications for financing the infrastructure and for the capacity to pre-build some of it to reduce disruptions to existing areas of development as future expansions are undertaken. I would argue that the timing of the growth as well as the spatial order is something that should be addressed in subsequent analyses.

Since it is primarily an engineering analysis, Section 1 addresses only the costs (actually a subset of these costs) associated with growth, and it does not *quantify* the benefits that may be associated with the growth. Consequently, the present study will address this by reporting on projections of the pecuniary benefits of growth. As stated earlier, the infrastructure is an essential input to the housing sector, and it is in this context that the benefits from growth will be assessed.

Parsons Brinckerhoff did address some additional consequences of the different spatial distributions of the population. For example, the costs of private transportation will vary by the spatial distribution of growth. The key variable that determines these costs is vehicle miles traveled. Based on the MRGCOG metropolitan transportation study, Parsons Brinckerhoff reported the vehicle miles traveled and associated annual costs for the three scenarios. The differences are as high as $130 million per year in 2020 between the Balanced and Trend scenarios when all costs (including travel time) are incorporated. An additional factor that will likely vary by scenario is the mix of employment opportunities. If a growth strategy is

successful in directing non-residential development toward the Downtown or Balanced Scenarios, the types of occupations will be more concentrated in the areas of Business Services than under the Trend Scenario. The relatively constant populations and employment projections provided by MRGCOG do not take account of the effect of the spatial distribution on the mix of employment and the impact on which sectors would be encouraged to grow under each spatial scenario.[4] This was done in the Planned Growth Strategy study to isolate the infrastructure related costs associated with the different urban growth Scenarios.

The cost data used for this present study are those provided in Section 1 of the Planned Growth Strategy, Part 1 – Findings Report. The Balanced Scenario is analyzed in some detail because it constitutes a middle ground between the Trend and the Downtown Scenarios. In particular, the Balanced Scenario is investigated under different fiscal assumptions concerning the structure of the revenue sources to finance the infrastructure. The public sector data were provided by the City and are derived from analysis using the FISCALS model.[5]

6.4 Methodology of the Projection of Economic Growth

To calculate the net effects of growth, a multisector model of the economy of Bernalillo County was constructed. The basis of this model is an input-output (I-O) model that relates the linkages in the local economy. A brief overview of the I-O methodology is provided in Appendix B, and the economic aggregation sectors are set forth in Appendix C. The growth scenarios presented in Section 1 are projected via impacts to the local economy. The results of the present study quantify the economic benefits of growth as measured by the increase in the level of economic activity in the regional economy. Much of Section 1 focuses on the provision of infrastructure required to support the housing market. It is clear that a healthy housing market is an important input to the economic growth of the area. The local economic benefits of this infrastructure rehabilitation and expansion are measured as the increased economic activity made possible by the growth in the labor force served by the housing market.[6]

The data set to construct the I-O model of Bernalillo County was derived from the IMPLAN database. This database provides information on interindustry transactions, employment, output, employee earnings, indirect taxes, and payments to capital for

Table 90 Economic Sectors Represented in I-O Model

Sector No.	Sector Name
1	Agriculture
2	Mining
3	Construction
4	Food Processing
5	Textiles
6	Wood Processing
7	Print and Publishing
8	Chemical and Drugs
9	Miscellaneous Manufacturing
10	Building Materials
11	Heavy Manufacturing
12	Technical Manufacturing
13	Light Manufacturing
14	Transportation, Communications, and Utilities
15	Personal Services
16	Wholesale and Retail Trade
17	Recreation Services
18	Finance, Insurance, and Real Estate
19	Business Services
20	Medical, Legal, and Educational Services
21	State and Local Government
22	Federal Government

all of the firms in the County. In the full database, the economic activities are grouped together (aggregated) into approximately 300 industrial categories.[7] For the purposes of analysis, these are further aggregated into 22 economic activities. The 22 sectors are reported in Table 90 (pg. 323). In economic analysis, aggregation is done for several reasons. First, many of the sectors in the regional economy are small and models are poorly behaved when small sectors are included. Second, it is extremely difficult to analyze the sector level changes associated with an impact, such as growth in the economy, with many economic sectors depicted. For this reason, most regional analysis is conducted with aggregated models. A third reason for aggregation is that it allows the analysis to focus on key sectors of concern to the question at hand. Appendix C presents a brief discussion of the aggregation scheme.

Once the aggregation was completed some further adjustments to the database were made to reflect local information. The IMPLAN database is constructed by applying some local data (primarily employment levels available from the Bureau of Labor Statistics) to national data to derive local I-O coefficients and also earnings data, and so on. For areas in which New Mexico is unique, the database needs to be modified based on local data. There are two differences between the local Bernalillo County data and what IMPLAN reports. The first concerns the measurement of employment. IMPLAN records all jobs rather than reporting full-time equivalent positions as are reported in Section 1. This will lead to higher employment levels being reported in the current study, and the differences will be greatest in those sectors characterized by a greater incidence of part-time employment (such as Retail Trade, Agriculture, and Recreation Services). The average earnings per job are, consequently slightly reduced by the inclusion of part-time workers in the analysis, but the total earnings are consistent with the Bureau of Labor Statistics data in use by others doing analysis of the labor market in New Mexico. Since reliable data on part-time jobs are not readily available, the IMPLAN employment levels were utilized for the analysis reported here, and the interpretation of the results incorporates the differences.

The second major adjustment concerns the computation of indirect business taxes. New Mexico is unique among the states in its reliance on the gross receipts tax, which has a much broader coverage than the retails sales tax that is more typical of state revenue structures. The gross receipts tax is imposed “for the privilege of doing business in New Mexico,” and its coverage includes services, construction, and many other activities not typically covered by sales tax. Further, New Mexico relies very little on property taxation and somewhat less than other states on the corporate income tax. The net effect is that the IMPLAN database (which employs national averages) reports low indirect tax levels for sectors such as Business Services and Medical, Legal, and Educational Services while reporting very high property tax levels for Finance, Insurance, and Real Estate. In some earlier work done with the state Government (Clifford and McKee 1996; McKee et al. 1995) we developed effective indirect tax rates for many sectors of the economy. These rates are used for the present study.

6.5 Growth Analyses

Once the aggregated and updated I-O model is constructed, it is ready for use in analysis.[8] The first step in the analysis was to construct a Slow Growth Scenario. This represents a growth pattern that would result if no infrastructure deficiencies were corrected and no expansions of the infrastructure were undertaken. Under this scenario, the housing market would constrain future growth in the region. The next step was to construct growth scenarios assuming that the infrastructure developed to support such growth.

The employment and population growth figures are assumed (under the MRGCOG projection) to be linear, and Section 1 reports the level for the current year and for 2020. However, it may be useful to have the capability of investigating alternative timelines for the projected growth. Accordingly, the I-O model results are projected through 2020 in five-year intervals. This would permit investigation of the financial implications of alternative programs of infrastructure development. The costs of the infrastructure development and rehabilitation may vary depending on the timing of the projects. Certainly, the City and County financing capacity is limited at a given time, and this may necessitate scheduling the projects. Thus, while the current analysis assumes a linear time path, the model and method are capable of analyzing different programs of development and growth.

The underlying mechanism of growth is the projected increase in population and labor supply that is supported by the infrastructure development and housing expansion. In I-O models one can introduce an exogenous shock as a change in final demand or as a change in the supply of a productive input. Exogenous shocks are impacts generated by forces outside the local economy. The exogenous shock is the population growth projected for the local economy. In this case, the labor growth is generated by the policy decision to invest in the local infrastructure. Thus, for the purposes of this study, I treat the labor growth as an exogenous supply-side effect. I assume the demand side of the local economy will accommodate this supply effect subject to the caveat that the tax structure is altered to meet the fiscal requirements of the infrastructure development in Section 1.

The three spatial development scenarios evaluated by Parsons Brinckerhoff generate similar aggregate growth levels in the labor market since they are based on the growth projections conducted by MRGCOG. The spatial patterns of growth suggest that the sector distribution of the growth in jobs will be different for the scenarios. At this time, the employment projections do not permit such differentiation, and this could be a useful avenue for further evaluation of the growth strategies. To evaluate the economic benefits from the planned growth, the Balanced Scenario is analyzed in depth since it represents a middle ground. Within this Balanced Scenario there are some policy options on the government revenue side that can be evaluated. As well, the model can be used to compare the effects of intergovernmental fiscal relations in the funding of some of the public sector infrastructure projects.

Demand side impacts arise through the effects of the taxation required to cover the cost of the infrastructure rehabilitation and expansion. The mechanism for introducing the tax effects is described below. The key point here is that increased tax levels are applied to finance the infrastructure needs identified in Section 1. The existence of substantial deficiencies and rehabilitation back-logs is prima facie evidence that historic tax levels have been inadequate to fund the infrastructure needs of the City and County. The growth projections reported here do account for the public and private sector financial costs necessary to fund the growth, including the infrastructure requirements identified by Parsons Brinckerhoff. The scenarios differ by the revenue mix applied and by assumptions concerning the level of state and federal government participation in the funding of rehabilitation for roadways under their jurisdiction.

The scenarios investigated are presented in Table 91. The Slow Growth Scenario provides a baseline or counterfactual for comparison. Absent the infrastructure development presented in Section 1, the housing market in the Bernalillo County may be expected to stagnate and to constrain the overall growth of the economy. That is, infrastructure such as roads, water delivery systems, and sewage systems are seen as essential inputs into the housing market development. Although developers will be providing the local infrastructure (local streets, curbs, etc) within new developments, they cannot be expected to undertake the provision at the regional level, such as major arterial roads, major water facilities, and large scale hydrology projects. Failure to construct such infrastructure, to remedy deficiencies, and to perform needed rehabilitation will curtail future growth in employment and result in the output projections derived for the Slow Growth Scenario. Section 1 provides estimates of some of the financial costs of growth. The financial benefits of the growth are provided in this study by comparing the various measures of economic activity (output, earnings, and tax revenues) between the Slow Growth Scenario and the growth scenarios.

Table 91 Growth Scenarios Analyzed

	Scenario			
Attributes	**Balanced A**	**Balanced B**	**Balanced C**	**Trend**
Spatial Configuration	Balanced	Balanced	Balanced	Trend
Infrastructure Finance	Increase in gross receipts tax	Increase in gross receipts tax	Increase in gross receipts tax plus impact fee increase by 50%	Increase in gross receipts tax
City/County Funding Responsibility	City and County responsible for all local expenditures	State and federal governments pay for roads under their jurisdiction	City and County responsible for all local expenditures	City and County responsible for all local expenditures
Private Transportation Costs				Higher vehicle miles traveled result in households shifting expenditures to transportation

Balanced A Scenario has all of the infrastructure construction financed through higher gross receipts tax. The incidence of the tax (who pays it) is on the households and the result is a crowding out of local consumption. This reduces final demand in the local economy. Under Balanced A, the City and County residents pay for road rehabilitation, deficiencies, and expansion including roads under federal and state jurisdiction. Although the senior government levels "write the checks," this scenario assumes that the taxes to pay for these infrastructure investments are collected locally (income and excise taxes). The household consumption impacts due to the taxation are assigned to those sectors whose output is most directly affected by the level of household demand. These sectors are: Wholesale and Retail Trade; Personal Services; Business Services; Transportation, Communications, and Utilities; and Recreation Services.

Under Balanced B Scenario, the infrastructure is financed through the gross receipts tax but the financing for the state and federal road construction is assumed to be outside the region. In effect, this funding is treated as a transfer to the region. I do not think this is a totally realistic scenario. New Mexico residents pay a relatively larger share of the federal excise taxes on gasoline (due to distances and a relatively high proportion of larger vehicles). Bernalillo County has higher per capita incomes than all but Santa Fe and Los Alamos Counties so our share of state income tax payments is above the state average. Thus, it is unlikely that the region will be able to transfer the costs of infrastructure investments to senior governments.

Balanced C Scenario funds the infrastructure investment through a 50% increase in the current impact fees on new residential construction with the remainder being made up through higher gross receipts tax revenues. This raises the question of the incidence of impact fees. The literature supports the position that property taxes are capitalized into the price of the property. That is, purchasers reduce or discount their bid price for property because they recognize the tax liability that accompanies the property. Thus, the incidence of such taxes is on the owners of the property at the time the tax is imposed or increased. Impact fees work much the same way with an important extension. Since they apply only to new properties and there are substitutes (existing properties), the incidence of impact fees will be on the property developers. That is, the developers will not be able to easily pass these fees on to purchasers. Thus, the effect of the fees is to lower the return on property development, and this would dampen the growth in the supply of housing. It is an empirical issue as to how large this effect may be. For this analysis, I have assumed the effect on the stock of housing is negligible. Under the Balanced C Scenario, the increases in the gross receipts tax are lower than under the Balanced A Scenario. The total Scenario revenues generated through increased impact fees are based on the projected additions to dwelling units only, based on the population growth assumptions.

Trend copies the fiscal elements of the Balanced A Scenario but imposes the diffuse spatial distribution with the resulting higher vehicle miles traveled and transportation expenses for households. Based on the MRGCOG transportation analysis, the additional vehicle miles traveled required by the Trend Scenario impose additional *direct* costs of $124,830–$241,190 per day depending on the vehicle operating costs estimate.[9] Based on the Parsons Brinckerhoff assumptions of travel days per year, this translates into a saving of approximately $37.5–$66.3 million

per year if the Balanced Scenario plan is adopted versus the Trend Scenario. Since households will be spending these additional amounts on transportation, the moneys will not be available for other purchases. While some of these expenditures will flow onto the local economy (e.g., gasoline, repairs, and commission on insurance premiums) much of it will not (e.g., tires, insurance premiums, and automobile production). For the present analysis, it is assumed that one-half of the costs are leakage from the local economy. Taking the midpoint between the high and low vehicle cost numbers and then taking one half of this yields a cost saving of $25.45 million per year under the Balanced Scenario. This estimate omits many public and private costs that may be attributed to commuting travel. Additional garage space at home, parking spaces at place of work, and so on may be attributable to a more spatially diffuse development pattern. However, these expenditures would represent considerable changes in behavior and may not be attributable solely to changes in travel patterns. For example, a two-car garage is typically bundled with houses of a certain square footage. For builders to change this formula would take considerable time and likely not occur to any significant extent during the time period of this study. Thus, only the direct costs associated with commuting are included in this analysis.

All growth scenarios incorporate the assumption that the deficiencies, rehabilitation, and growth related expenses are to be paid out of the City and County operating budgets. Hence these expenses are attributed to the gross receipts tax, impact fees, and transfer payments depending on the specific scenario.

Section 1 enumerated the extent of the infrastructure deficiencies and rehabilitation in the region. One cause of this has been the method of financing such investments. To reflect the consequences of the growth projections, the costs of remediation and new infrastructure are assumed to be met from revenues generated in the City and County. To reflect this issue in the growth projections, I assumed that in the future such deficiencies would not arise and that the present deficiencies would be fully remedied over the next 20 years.[10] This is the basis for the taxation assumptions embodied in the Balanced and Trend Scenarios.

6.6 Results

The aggregate results are presented in Tables 92, 93 and 94. Table 92 reports the results for employment projections. The growth scenarios all result in considerably higher employment over the time period. Balanced A Scenario results in a projected employment level of 451,373 by 2020 while Balance B and C yield 452,150 and 453,178, respectively. The Trend Scenario, with its increased transportation costs yields a lower level of employment (450,684) than the other growth scenarios.

Table 92 Employment Projections (Jobs)

	Scenario				
Year	Slow Growth	Balanced A	Balanced B	Balanced C	Trend
2000	340,444	345,051	345,645	346,431	344,588
2005	343,168	379,433	380,087	380,950	378,925
2010	345,913	401,702	402,387	403,309	401,125
2015	348,681	426,411	427,158	428,116	425,790
2020	351,470	451,373	452,150	453,178	450,684

Table 93 Aggregate Output and Earnings Projections (Million 1999$)

Year	Scenario				
	Slow Growth	Balanced A	Balanced B	Balanced C	Trend
Output					
2000	$20,899.79	$21,161.84	$21,198.89	$21,245.64	$21,132.95
2005	$21,067.09	$23,254.44	$23,295.19	$23,347.02	$23,222.74
2010	$21,235.67	$24,604.31	$24,646.44	$24,702.12	$24,568.36
2015	$21,405.20	$26,104.29	$26,151.50	$26,208.42	$26,065.55
2020	$21,576.44	$27,620.40	$27,668.87	$27,730.48	$27,577.44
Earnings					
2000	$8,433.50	$8,560.48	$8,571.66	$8,594.24	$8,551.76
2005	$8,500.95	$9,409.46	$9,421.75	$9,446.65	$9,399.90
2010	$8,568.98	$9,958.04	$9,971.11	$9,997.87	$9,947.53
2015	$8,637.51	$10,567.26	$10,581.33	$10,609.27	$10,555.56
2020	$8,706.62	$11,182.81	$11,197.42	$11,226.72	$11,169.85

Table 93 reports the aggregate results for output and labor earnings. At this aggregate level, there is little difference across the three versions of the growth projections. Under the Slow Growth Scenario, output increases from $20.899 billion in 2000 to only $21.576 by 2020. Under Balanced A the County output grows to $27.620 billion annually by 2020. Under Balanced B and C the output levels reach $27.669 billion and $27.730 billion annually, respectively. The Trend Scenario projection is for output to equal $27.577 annually by 2020. Earnings growth parallels the output growth projections.

It is clear from Tables 92 and 93 that there is substantial growth for the local economy under all of the growth scenarios. The difference between the Slow Growth projections and those of the Balanced Scenarios and the Trend Scenario provide a measure of the financial benefits of growth. Thus, the gain in output by 2020 under Balanced A is projected to be $6.04 billion. Absent the investment in infrastructure. such growth is unlikely to be possible. Over the forecast period, the cumulative gain in output under the

Table 94 Projected Tax Revenues to Bernalillo County, Balanced Scenario A

(Million 1999$)

Year	GRT Revenues Total	GRT Revenue County	All Tax Revenues
2000	$1,051.14	158.73	$407.34
2001	$1,072.15	161.67	$419.38
2002	$1,091.69	164.43	$429.71
2003	$1,110.11	167.06	$438.77
2004	$1,127.66	169.58	$446.92
2005	$1,156.79	173.43	$467.50
2006	$1,169.83	$175.47	$471.02
2007	$1,183.76	$177.57	$475.05
2008	$1,197.91	$179.68	$479.49
2009	$1,212.28	$181.81	$484.24
2010	$1,224.35	$183.65	$485.09
2011	$1,239.44	$185.91	$491.19
2012	$1,254.57	$188.14	$497.23
2013	$1,269.72	$190.33	$503.25
2014	$1,284.90	$192.49	$509.21
2015	$1,299.83	$194.97	$515.56
2016	$1,315.09	$197.04	$521.42
2017	$1,330.35	$199.09	$527.27
2018	$1,345.61	$201.15	$533.12
2019	$1,360.87	$203.20	$538.96
2020	$1,376.14	$205.26	$544.81
Total Revenue	**$25,674.18**	**$3,850.65**	**$10,186.54**

Note: All Tax Revenues are estimated from the I-O model results using factors in the FISCALS Model of the City of Albuquerque. All three of the growth scenarios yield similar results for Albuquerque, and the values in the table are for the Balanced A Scenario. Values reported in millions of $1990. The GRT Revenues Total column reports the entire gross receipts tax revenue generated from economic activity within Bernalillo County. The GRT Revenue County column reports the estimated gross receipts tax revenues accruing to the City and County governments. The All Tax Revenues column reports the total revenues estimated from IO model results using factors in the FISCALS Model of the City of Albuquerque.

Balanced A Scenario is more than $60 billion. Thus, the cost of foregoing this investment is a substantial loss of output, earnings, and employment.

Tax revenues for the period are reported in Table 94 (pg.329). These data were derived from the I-O model's projections of employment and earnings by sector and applying the coefficients imputed from the City of Albuquerque's FISCALS model. (The results are likely an underestimate since the County data are only approximated. Further, the results need to be compared with those produced by the more disaggregate FISCALS model.) The stream of *net* revenues that would arise from the year 2000 through 2020 totals $1.654 billion in 1999 dollars (Balanced A). It is important to realize that these revenues are net of those that are required to fund the infrastructure requirements of Section 1. However, they do not incorporate the growth related expenditures in areas of social infrastructure, such as police and fire protection. The growth related impacts are summarized in Figures 44 and 45.

Figure 44 Output Effects of the Planned Growth Strategy (Balanced Scenario A)

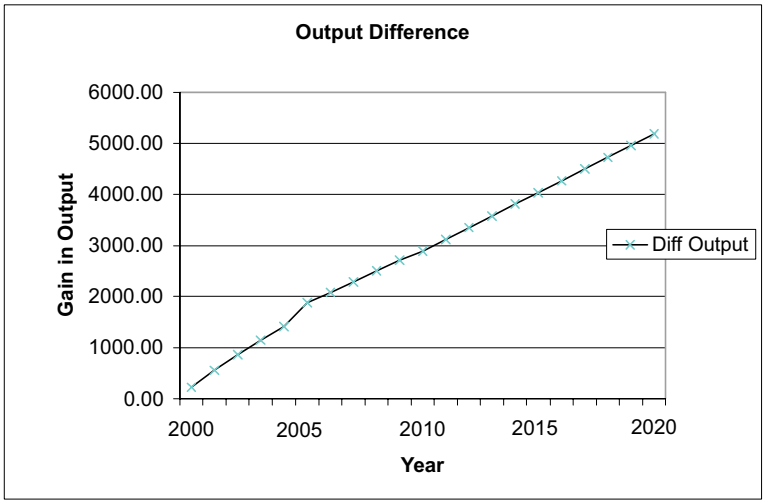
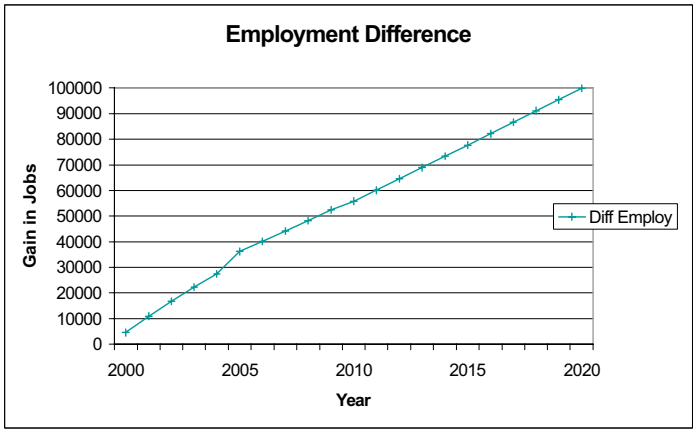


Figure 45 Employment Effects of the Planned Growth Strategy (Balanced Scenario A)



The net tax revenue return to growth is projected to be approximately $1.654 billion over the entire period. It is important to understand the assumptions that generate this positive net revenue flow. The FISCALS model analysis performed by the City

and County is reported in Table 95. The rehabilitation expenditures are estimated at $1.8 billion in 1999 dollars, and the deficiency and growth capital expenditures are $.46 billion and $1.16 billion, respectively. Taken together, these total $3.42 billion over the forecast period. These costs were allocated as increases in gross receipts tax revenues to the sectors directly affected by household consumption.[11] For the analysis, I assume that City and County operating costs are covered by the existing revenue structure (that is, require no additional revenues) including those that are due to growth. These growth-related *operating* costs sum to $1.53 billion over the forecast period. However, the existing tax structure is assumed to cover this expenditure.

Table 95 Public Sector Cost Estimate – FISCALS Model

		Balanced Scenario (A) (000$)
City Operating (GF-Transit)	Subtotal Growth	$965,911
	Base	$5,824,917
	Total	$6,790,828
City Operating (Transit)	Total	$615,225
City Operating (Water and WW)	Subtotal Growth	$406,496
	Base	$1,233,918
	Total	$1,640,414
City Capital (Non-infrastructure)	Subtotal Growth	$161,460
	Base	$2,035,296
	Total	$2,196,756
City/County Capital (PGS) (Infrastructure)	Rehabilitation	$1,800,000
	Deficiency	$464,600
	Growth	$1,000,200
	Total	$3,264,800
County Operating	Total	$3,686,700
County Capital	Total	$325,780

Note: These costs are in 1999 dollars and represent cumulative costs over the period 2000–2020.

A property of I-O models is that they are based on linear expansion functions. That is, they assume constant returns to scale. What *could* differentiate the alternate growth scenarios (Downtown, Balanced, and Trend) is that each would be characterized by a different employment mix. The Downtown Scenario would have more employment growth in the Business Services sector while the Trend Scenario would have more employment growth in the Wholesale and Retail Trade sector. However, the employment growth scenario utilized in the MRGCOG projections does not account for this. Thus, the major measures of economic activity such as output per capita and earning per capita will be the same across the alternate growth scenarios. This point as well as the non-pecuniary aspects of growth will be discussed in the next section.

As the results reported in Tables 92 (pg.328) and 93 (pg.329) demonstrate, the financial returns to the infrastructure investment are positive. This investment would pass a benefit-cost criterion. The analysis also provides some information to the debate of the "best" growth path for the region. The Trend Scenario imposes higher costs on the local economy through transportation costs. However, we cannot make comparisons of individual levels of satisfaction. While commuting is costly, the evidence from much larger cities is that people are willing to incur these costs to enjoy more space or other amenities associated with living in a more rural setting. Among the Balanced Scenarios, Balanced C yields the highest levels of output, employment, and earnings. By imposing higher impact fees, the costs of the infrastructure investment are concentrated in a single sector, so there is a smaller overall impact on household consumption and on local economic activity.

6.7 Discussion Points

In the previous section, only the financial impacts were presented as benefits. Other categories of benefits are relevant and should be included in the analysis of whether the infrastructure costs to support growth are justified.

The study conducted by Parsons Brinckerhoff omits, as per the terms of the contract, several categories of infrastructure that require capital expenditures. For example, school construction, and police and fire facilities are both omitted. The costs associated with these types of infrastructure will be sensitive to the spatial distribution of the growth. Inclusion of these costs would likely make the Trend Scenario perform more poorly and further demonstrate the benefits to a more compact development pattern.

The spatial distribution of the growth (Balanced vs. Downtown vs. Trend) will have a substantial effect on the pattern of employment growth. As discussed earlier, it is likely that the spatial distribution of employment and the sector pattern of growth will be related. While the overall impacts on the economic growth of the spatial distribution is small, the issue raises concerns for the planned growth scenario. It is not possible to separate the spatial and sector distribution of the growth of the regional economy. A planned growth strategy should take account of the job mix implied by the spatial pattern of growth.

The reliance on gross receipts tax implies that the central city is not depleted financially by the suburban flight, as urban areas more dependent on the property tax for revenues and with a less aggressive annexation history have been. Thus, the Albuquerque revenue projections do not vary significantly across the growth scenarios. However, the outlying areas of the County will be required to incur expenditures to maintain and expand infrastructure (roads, water, etc) to support growth.

There are several non-pecuniary costs and benefits associated with growth that have not been addressed in this study. Benefits, such as job availability and the retention of qualified workers, are not included, and neither are the values individuals place on the amenities associated with larger urban areas (arts, recreation, etc). On the other hand, there are costs associated with growth that have not been explicitly incorporated as yet. Environmental issues, such as water and air quality, and the level of congestion, need to be considered before a growth plan is adopted.

6.8 Conclusions

An efficient housing and land development market is essential for the economic growth of a region. In many parts of the country growth has been constrained by the inadequate response of the housing market to the changing employment conditions. Consequently housing prices rise rapidly and employers find it difficult to hire new workers since housing costs are a significant determinant of household location decisions.

The municipal government may encourage the development of an efficient housing market through the construction of appropriate infrastructure, such as water delivery systems, waste water systems, and public transportation. This study has presented estimates of measures of the pecuniary benefits of economic growth associated with the rehabilitation and construction of local infrastructure in the Albuquerque/ Bernalillo County area. The pecuniary net benefits of such construction are estimated to be positive.

Further work towards a planned growth strategy should address the issues associated with sprawl and the linkage between the spatial distribution of growth of employment centers and the nature of the employment associated with such growth. To the extent the local governments can affect the spatial distribution, they will also be able to affect the mix of employment in the region. This may have the greatest long-term effects on the economic vitality of the region.

Table 96 Bernalillo County Multipliers by Sector

Sector	Type I Output	Type II Output	Type I Employment	Type II Employment	Type I Income	Type II Income
Agriculture	1.26	1.42	1.25	1.42	1.40	1.67
Mining	1.09	1.16	1.42	1.83	1.27	1.52
Construction	1.28	1.47	1.42	1.70	1.43	1.70
Food Processing	1.27	1.38	1.85	2.25	1.76	2.10
Textiles	1.23	1.43	1.23	1.45	1.29	1.53
Wood Processing	1.30	1.48	1.48	1.81	1.46	1.73
Print and Publishing	1.23	1.44	1.31	1.58	1.33	1.58
Chemical and Drugs	1.25	1.38	1.68	2.09	1.57	1.86
Miscellaneous Mfg.	1.19	1.51	1.17	1.40	1.17	1.40
Build Materials	1.17	1.33	1.26	1.60	1.22	1.46
Heavy Mfg.	1.24	1.44	1.41	1.83	1.28	1.53
Technical Mfg.	1.30	1.52	1.51	1.98	1.34	1.60
Light Mfg.	1.18	1.41	1.20	1.43	1.22	1.45
Transportation, Communications, and Utilities	1.25	1.44	1.48	1.89	1.31	1.56
Personal Services	1.29	1.47	1.25	1.40	1.51	1.79
Wholesale and Retail Trade	1.11	1.43	1.07	1.26	1.07	1.27
Recreation Services	1.27	1.52	1.13	1.25	1.25	1.49
Finance, Insurance, and Real Estate	1.22	1.34	1.37	1.60	1.42	1.69
Business Services	1.24	1.56	1.21	1.47	1.20	1.43
Medical, Legal, and Educational Services	1.28	1.60	1.21	1.50	1.19	1.41
State and Local Govt.	1.08	1.58	1.03	1.27	1.03	1.22
Federal Govt.	1.01	1.55	1.01	1.45	1.00	1.19

Appendix B

The Input - Output Method

Input-output models are a device for organizing the basic accounting relations that describe the production sector of the economy. The input-output method starts with a very simple idea. All the sectors of the economy are tied together by virtue of economic relations called "linkages," and the production of a good or service can be described by a "recipe." The ingredients of this recipe are the outputs of the other sectors of the economy as well as the primary inputs such as labor, capital, and other raw resources. A simple example will serve to demonstrate. Consider a commodity such as steel. A particular economy with a given technology will allocate the steel it produces in a unique way. Some of the steel will be used to make equipment for making more steel (e.g., rolling mill equipment), some will be exported (or some will be imported), and some will be used in the manufacture of cars, buildings, bridges, etc. Obviously, all of the steel that is allocated or used up must add up to all of the steel made. If the total amount of steel made is 1,000,000 tons an allocation might be as follows:

Steel used to make steel	100,000 tons
Steel used to make cars	500,000 tons
Steel used to make bridges	100,000 tons
Steel used to make buildings	290,000 tons
Steel sold to households	10,000 tons
TOTAL steel production/allocation	1,000,000 tons

The steel used to produce other commodities in the economy reflects the "linkages" mentioned above. The extent to which the economy is an integrated whole depends on the strength of these linkages. Linkages that tie steel to the output of more finished products are known as forward linkages while those (not shown in this example) that relate steel to basic raw materials and labor are known as backward linkages. A similar table could be constructed for every commodity in the economy and, taken together, these would describe the entire economy. A common unit of measurement is necessary if the sectors are to be linked into a single model of the economy. Thus, all inputs and outputs are measured in dollar units rather than physical units. To make use of all of these tables for the various commodities in the economy requires an analytical device that relates all of the backward and forward linkages in the economy in a manner that permits investigation of "what if" scenarios. This analytical device is the input-output table.

A schematic representation of an input-output model is represented in Table B.1. This figure shows the economy organized into several key blocks for presentation.

The shaded area is the production sector of the economy. The Final Demand for the products is broken down into Consumption, Investment, Government, and Export. Total Output is the sum of the Intermediate Production (what is sold by Sector A to Sector A and to Sector B) and the Final Demand. A simple numerical example is represented in Table B.2. The row sums of the matrix denote the intermediate demands for the outputs of each sector-thus, the row sum for sector 1 denotes the output of this sector that is required as inputs to sector 1 and the other sectors. The column sums denote the payments for intermediate goods used in the production of the output of sector 1. In addition to the intermediate demand, there are several categories of final demand illustrated in the figure. Household consumption, investment, and government expenditures are all final demands in that they use the output of a sector directly and not as an input to another product. In addition to the payments for intermediate inputs, there are several categories of primary inputs such as payments for labor and other value added components. Finally, exports (E_i) and imports (M_i) appear in the model. Total gross output is the sum of intermediate demand, final demand, and exports. Total gross outlay is the sum of payments for intermediate inputs, labor, other value added components, and imports.

Table B.1 A Stylized Input-Output Model of a Regional Economy

	Sector A	Sector B	Consumption	Investment	Gov't	Exports	Total Output
Sector A							
Sector B							
Wages							
Return to Capital							
Indirect Taxes							
Imports							
Total Payments							

Table B.2 A Simple Numerical Example*

	Sector A	Sector B	Consumption	Other Final Demand	Total Output
Sector A	150	500	50	300	1000
Sector B	200	100	400	1300	2000
Wages	300	500	50	150	1000
Other Value Added	350	900	500	400	2150
Total Payments	1,000	2,000	1,000	2,150	6,150

* All values are in millions of dollars.

As noted, input-output models are a description of the interindustry flows in the economy. A table is created (see Tables B.1 and B.2) that is based on the fundamental accounting relationships linking intermediate and final demands to gross outputs. These yield the following system of equations:

$$X_1 - a_{11}X_1 - a_{12}X_2 - \ldots - a_{1n}X_n = Y_1$$

$$X_2 - a_{21}X_1 - a_{22}X2 - \ldots - a_{2n}X_n = Y_2$$

.
.
.

$$X_n - a_{n1}X_1 - a_{n2}X_2 - \ldots - a_{nn}X_n = Y_n$$

which may be rearranged to yield:

$$(1-a_{11})X_1 - a_{12}X_2 - \ldots - a_{1n}X_n = Y_1$$

$$- a_{21}X_2 + (1-a_{22})X_2 - \ldots - a_{2n}X_n = Y_2$$

.
.
.

$$- a_{n1}X_1 - \ldots + (1-a_{nn})X_n = Y_n$$

where:

X_i denotes output of sector i
Y_i denotes final demand for output of sector i

and a_{ij} denotes the amount of i used in the production of one dollar's worth of j.

The crucial assumptions for these equations to hold is that the money value of goods and services delivered by an industry i to other producing sectors is a linear and homogenous function of the output level of the purchasing sectors. The specific assumptions are: (1) the linear output function means constant returns to scale and no substitution between inputs; (2) additivity, the total effect of production is the sum of the separate effects (this rules out any external economies or diseconomies); and (3) the system is in equilibrium at given prices.[12]

In matrix notation the above system of equations can be represented as:

$$\mathbf{(I-A)X = Y}$$

and the outputs necessary to satisfy intermediate and final demand may be solved for as:

$$\mathbf{X = (I-A)^{-1}Y}$$

where $\mathbf{(I-A)^{-1}}$ is known as the Leontief inverse.

To conduct economic impact analyses, this relation can be used to solve for the changes in gross outputs that must be generated to satisfy changes in final demands due to exogenous shocks to a local economy. Input-output models constructed in this manner are known as "demand side" models because all impacts are applied through changes in the final demand from the baseline data.

It is useful to be able to distinguish **A** and **(I-A)** conveniently in the discussions to follow and so the elements of the **A** matrix are denoted by a_{ij} and those of the Leontief inverse as α_{ij}.

The **A** matrix is derived from the interindustry flow matrix **z** in the following manner:

$$A = z * \hat{q}^{-1}$$

Through its multiplier impact analysis, the input-output model is capable of generating estimates of the changes in output of given commodities, changes in employment, and changes in income so long as one is willing to accept the technical assumptions noted above. How critical are these assumptions to the task; estimation of the economic impacts due to critical habitat designation? To the extent the initial impacts on productive activities are small, the input-output model works quite well in providing estimates of the impacts.

In addition to the interindustry effects captured in the Leontief inverse, special input coefficients can be generated for items of interest such as labor, water, and electric power. The general methodology is as follows, with employment (labor) serving as an example. Construct a vector of the inputs per unit of gross output:

$$E = [e_1, e_2, \ldots, e_n]$$

where ei denotes the employment (labor input) in persons per unit of dollar output for sector i. From this, construct a vector of total employment:

$$\mathcal{E} = \hat{E}\,X \text{ where } \hat{E} = \begin{bmatrix} e_1 & 0 \\ 0 & e_2 \end{bmatrix}. \text{ Thus } \mathcal{E} = \begin{bmatrix} e_1 & X_1 \\ e_2 & X_2 \end{bmatrix}$$

and this final vector is the level of employment in each sector associated with the output levels X1 and X2. A change in these output levels, due to a change in final demand, results in a change in the level of employment based on the coefficients e1 and e2.13

B.1 Multipliers

Multipliers describe the effects of exogenous shocks on the regional economy. In general multipliers capture the indirect effects that arise as well as the direct impacts generated by the exogenous shock. There are several types of multipliers that may be computed depending on the economic measure sought (output, income, or employment) and whether the consequential effects are viewed as important to the analysis. Economic impacts are generated by direct shocks to the economy, and these result in indirect effects through the economic linkages in the economy. There is a further set of economic effects that is generated through household income changes that occur as a result of the initial impact and that lead to changes in consumption and thus to further changes in final demand. These are known as the induced effects of the original impact. There is not much debate concerning the validity of estimating the direct and indirect effects. However, there are

differences of opinion concerning what types of effects can be captured under the induced label.

The computational steps to derive the basic multipliers are described below.

B.1.1 Output Multiplier

For a given sector, the output multiplier is defined as the total value of production in all sectors of the economy that is necessary to satisfy one dollar's worth of final demand for the given sector's output. Simple output multipliers capture the direct and indirect effects of the exogenous shock and are computed by taking the column sum of the respective rows of the Leontief inverse matrix. In matrix notation, the simple output multiplier is the row vector O = [O1, . . . ,On] where:

$$\mathbf{O = i'(I-A)^{-1}}$$

and where i' denotes the unity row.

These are the output multipliers that are reported for the various regions below.

B.1.2 Income Multipliers

These translate the impacts of final demand spending changes into changes in income received by households. These multipliers translate an initial dollar of output for a sector into a direct plus indirect estimate of the value of resulting employment and, in turn, household income. Income multipliers can be computed as "simple income multipliers" or as the Type I and II multipliers often reported in impact studies.

Simple income multipliers are represented by the vector $\mathbf{H} = [H_1, \ldots, H_n]$ and are calculated as:

$$\mathbf{H = H_R(I - A)^{-1}}$$

Where $\mathbf{H_R}$ denotes the household row coefficients that represent the wages and salaries paid to the labor input to the production in each sector.

Income multipliers may be computed as either Type I or Type II. The former capture the direct and indirect effects on the incomes of households while the latter add the induced effects that arise from the employment consequences of the output changes. These employment effects generate household income effects augmented by the direct and indirect effects.

Type I multipliers are computed as:

$$\mathbf{M = H_R(I - A)^{-1}(H_R)^{-1}}$$

The usual Type II multipliers capture the direct and indirect effects of the Type I multipliers as well as the induced effects attributable to consumption effects on

final demand. These consumption effects work through the total final demand to increase the level of gross output required to meet the sum of intermediate and final demand. Bradley and Gander (1969) prove that the ratio of Type II to Type I multipliers is a constant for each sector of the economy. This constant is defined as:

$1/b$, where $b = [(1-h)-\mathbf{H}_R(\mathbf{I}-\mathbf{A})^{-1}\mathbf{HC}]$

where h denotes intersection of the household row and column as shown in Table B.1 above; $\mathbf{H}_R$ is the household row and $\mathbf{H}_C$ is the household (consumption) column in the input-output table in the **A** matrix. Thus, the Type II income multiplier for a given sector i is computed as the Type I multiplier divided by b.

Appendix C

Aggregation Sectors

The Aggregation Scheme—each of the 22 sectors will be briefly described here.

Agriculture: This sector consists of the 2x sectors in the IMPLAN database and covers all cropping, livestock, and agricultural services.

Mining: This sector consists of the sectors in the IMPLAN database related to mining and covers all metallic mining, sand a gravel operations, oil and gas, and non-metallic minerals. Of these sectors, those that are prominent in the Bernalillo County economy are sand and gravel operations.

Construction: All construction activities are included in this sector. These include new building, roads, as well as maintenance of existing structures.

Food Processing: All food production including both human and animal food products. Includes dairy, cereal, and vegetable production.

Textiles: All textiles including clothing, weaving, upholstery, and carpet manufacture.

Wood Processing: All processing of wood products including furniture manufacturing.

Printing and Publishing: Includes all printing production (newspapers, fliers, etc) as well as magazine and book publishing.

Chemical and Drugs: This sector includes chemical processing, drug manufacture, and other primarily chemical oriented manufacturing.

Miscellaneous Manufacturing: This captures all manufacturing not elsewhere noted.

Building Materials: The production of materials used in construction including cement, insulation, and stone products. Excludes wood products.

Heavy Manufacturing: Iron and steel products, metal hardware, sheet metal work, plating and polishing, and so on.

Technical Manufacturing: The “hi-tech” sectors including semiconductor chip manufacture, optical and ceramic materials, lab equipment, and computer manufacture or assembly.

Light Manufacturing: Non-technical manufacturing that is not considered under Heavy Manufacturing. Includes electrical components other than listed under Technical Manufacturing, jewelry, musical instruments, games, etc.

Transportation, Communications, and Utilities: This sector consists of all transportation providers (except those that arrange travel), all television and radio, telephone, electrical and other utilities.
Personal Services: This sector consists of those services that are primarily provided to individuals rather than businesses. Included in this sector are hairdressers, laundry, cleaning and shoe repair, and repair facilities.

Wholesale and Retail Trade: All retail establishments and wholesale trade.

Recreation Services: Lodging, restaurants, movies, bowling alleys, golf, racing, and membership sports and clubs.

Finance, Insurance, and Real Estate: This sector includes banking, financial services, insurance carriers, and real estate brokers.

Business Services: R&D, consulting, accounting, advertising, personnel services, and protective services.

Medical, Legal, and Educational Services: Hospitals, nursing homes, legal services, doctors and dentists, and educational services not state provided.

State and Local Government: All state and local government services.

Federal Government: All federal government services including military and the labs.

Appendix D

Steps in the Analysis

1. Choose a study region—Bernalillo County to correspond to Section 1.

2. Construct a baseline I-O data set for 1993 using the IMPLAN database.

3. Aggregate the 300 sectors present in the County economy to 22 sectors. Purpose of aggregation is to reduce the dimensionality to allow us to look at the results and to make some sense of them. and

4. Adjust the data in the IMPLAN database to reflect local economic conditions. This is especially important for the tax structure since IMPLAN utilizes national averages and the Bernalillo County economy (as does New Mexico) has a unique tax structure (little property tax and substantial reliance on the gross receipts tax). For some previous work I had done on the New Mexico Computable General Equilibrium project I had worked up tax rates across sectors that reflect the New Mexico tax structure. I applied those rates to the sectors in the Bernalillo County model to compute tax payments. The total tax revenue on the IMPLAN data set is fairly close to the true levels so this was used to balance the tax levels.

An additional local data issue has to do with employment. The IMPLAN database defines employment as "total wage and salary employees and self-employed jobs in a region. It includes both full-time and part-time workers and is measured in total jobs." Based on the 1995 IMPLAN values and the data provided in Section 1, Table 38, the IMPLAN levels are approximately 20% higher. This is consistent with part-time employment. However, the distribution of part-time employment is not uniform across sectors, and there is no data consistent with Parsons Brinckerhoff at the level of detail used in the I-O model. Therefore, the analysis is conducted using the IMPLAN database definition of employment. The largest differences are likely in the Retail Trade, Personal Services, and Recreation Services sectors.

Maintained Assumption: The employment growth in Section 1 (the scenarios) incorporates the feedback (induced) effects that may arise from the employment associated with the expansion of the infrastructure.

5. An I-O model programmed in GAUSS was used with the (adjusted) IMPLAN database to construct scenarios for the growth in the County through 2020.

Notes

1. Section 1 demonstrates that much of the required capital expenditure over the next forecast period is needed to correct deficiencies and rehabilitate existing infrastructure. This will have important consequences for the financing of the infrastructure, and this point will be discussed later.

2. In economic terms, we would describe such urban areas as having housing markets with inelastic supply of housing. That is, the housing market is slow to increase the supply of housing in response to an increase in demand.

3. I will refer to the analysis of the costs associated with growth and rehabilitation related infrastructure as Section 1. In fact, Parsons Brinckerhoff assembled some of their data from other sources and the responsibility for these data should not be assigned to Parsons Brinckerhoff. The infrastructure figures came from the engineering sub-consultants including the following: CH2M-Hill supplied the water costs, Camp Dresser McKee the wastewater costs, Wilson & Co. the hydrology costs, while Parsons Brinckerhoff themselves supplied the costs for streets and transit. The street costs were based on MRGCOG's Metropolitan Transportation Program as refined by County of Bernalillo staff. Furthermore, the *non*-Public Works-type infrastructure costs were obtained from City FISCALS and from the County of Bernalillo.

4. Based on the MRGCOG projections, the Planned Growth Strategy study maintained the assumption that the distribution of employment growth would be independent of the spatial distribution of the new jobs. A later analysis varied this assumption by what is known of the location choices of firms in different sectors. Employment growth concentrated in the Downtown and Uptown areas would be more concentrated among Business Services and Legal Services while growth in the Atrisco Park area would be more concentrated in Light Manufacturing and storage or transportation sectors. Thus, the sector distribution of each of the growth scenarios would be expected to be different. For the present study, this enhancement is not included. However, this will be considered in the Planned Growth Strategy, Part 2 – Preferred Alternative.

5. The FISCALS model of the City of Albuquerque was constructed by Paul Tischler and Associates, Bethesda, Maryland. The FISCALS analysis reported here was conducted by Chris Hyer, City of Albuquerque.
6. The actual construction of this infrastructure is not incorporated as a direct impact to the economy since it is assumed to be a component of the growth projection itself.

7. Such aggregation is required to preserve confidentiality among the firms in a region. That is, the firm data are reported by firm category known as Standard Industrial Classification. Each Standard Industrial Classification category must contain enough firms that one would be unable to discern the activities of a particular firm.

8. Although IMPLAN provides software for the purpose of conducting impact analysis it is relatively cumbersome to use in practice. Thus, the analysis reported here is conducted with a model programmed in GAUSS. This software was developed by the author and has been used in several other studies (see, e.g., Berrens et al. 1999).

9. The direct cost does not include the value of time used in travel. This is a real resource cost and should be included in a benefit-cost analysis of transportation projects. The I-O accounts on which the model is based do not account for such costs, however. Thus, for the purposes of the current analysis only the direct costs will be included.

10. It is probably desirable to remedy some deficiencies more quickly that this. While the required taxation would reduce some economic activities in the region temporarily, it is probable that future economic activity would make up for the loss.

11. These are: Wholesale and Retail Trade; Personal Services; Business Services; Recreational Services; and Transportation, Communications, and Utilities.

12. Under some moderately restrictive assumptions, it is possible to express the structure of the economy through the interindustry flows that relate the amount of the output of a sector that is used to produce the output of another sector. The key assumptions have to do with the nature of the production functions and the way that industries producing multiple products are modeled. Input-output models assume that production can be characterized by what is known as a Leontief production function. If the only inputs are labor and capital, the Leontief production function is written as:

$$X = \min\{K/a, L/b\}$$

where X denotes the output of the industry, K is capital, L is labor, and the coefficients a and b denote the exact production relation.
This production function rules out substitutions among the inputs if relative prices of these inputs change. Price changes of inputs occur when there are changes in supply that are not offset by changes in demand and vice versa. If the price changes are small, this aspect of the Leontief production function will not lead to significant biases in the estimation of the overall impacts. However, if the price changes are large, the input-output analysis will tend to overestimate the economic impacts of exogenous shocks to the economy.

13. IMPLAN employs a similar computation to generate some of the induced effects on the economy that arise through changes in employment and thus regional consumption levels. These induced effects are added to those changes in final demand that arise from the direct and indirect effects of the impact to produce total effects. For several reasons, this technique is flawed (see Borgen and Cooke 1991). We report the results that include these additional induced effects to illustrate an "upper bound" on the impacts of critical habitat, but we caution the reader that these measures are controversial.

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Section 3

Other Consequences of Growth

7.0 The Social and Economic Consequences of Urban Growth

The main purpose of the technical chapters of the Planned Growth Strategy, Part 1 – Findings Report is to document the financial costs and benefits associated with alternative development patterns in the Albuquerque metropolitan area. As citizens review and evaluate the merits of implementing the Planned Growth Strategy proposals, it is important to take into consideration other topics and issues that relate to the area's future that cannot be measured in dollars. They relate to quality of life, aesthetics, personal safety, sense of community, and the natural environment, to name a few.

In this chapter of the report, we offer a list of these issues and conditions (Table 97). We describe in a general way the impacts of these topics or issues, making clear how they may affect citizens here and elsewhere today. Next, we briefly describe the extent to which these conditions apply or exist in Albuquerque and Bernalillo County. Lastly, we discuss the ways in which the Planned Growth Strategy may mitigate some of the adverse conditions and reinforce and sustain favorable ones.

Table 97 Summary of Other Asserted Social and Economic Benefits and Costs

Benefit	Cost
Range of housing choices	Loss of agriculture lands and reduced farm productivity
Personal open space	Adverse impact on unique/fragile lands and public open space
Low-density living	Negative visual impact
Lower crime rates	Increased water consumption
Positive visual impact	Reduced access to recreational facilities
Lower housing prices	Weakened sense of community
Better school quality	Exclusion or exclusivity
Consumer choice among government services	Segregation of jobs and housing
	Higher energy consumption and increased air pollution.
	Inner city deterioration
	"Leap-frog" development

This last factor is important because the general statements of benefits and problems associated with urban growth may not be directly related to Planned Growth Strategy recommendations. This approach does involve, however, introducing at this point some of the findings and recommendations of the Planned Growth Strategy, Part 2 – Preferred Alternative report. These findings and recommendations are presented in a very summary way below. The reader is referred to Section 1 Preferred Alternative and Section 2 Implementation of the Part 2 report for a complete discussion.

The City/County Comprehensive Plan policies that address the subject are also included. In some instances, the Comprehensive Plan does not contain a policy related directly to the topic.

The general conditions reported here have been identified in a major national study, *The Costs of Sprawl Revisited*, published in 1999 by the National Academy Press. Parsons Brinckerhoff staff made a significant contribution to this national report.

The discussion that follows rounds out the fiscal emphasis elsewhere in the Planned Growth Strategy, Part 1 – Findings Report. The discussion acknowledges that urban development patterns clearly have benefits as well as costs. One person's asset is another's liability. In all, this chapter documents a number of issues important to consider when developing a growth strategy, including the role that public policy can play in maintaining and enhancing the many aspects of quality of life valued by Albuquerque and Bernalillo County residents.

7.1 Assertions About Benefits

7.1.1 Range of Housing Choices, Personal Open Space, and Low-Density Living

General Description and Impacts

Many consumer preference surveys reveal that a key part of the "American Dream" is ownership of a detached, single-family home with attached private open space. That concept, put into practice on a large scale, leads to relatively low residential density throughout a metropolitan region. Consumers obviously value the choice to live in low-density areas, and most housing developers consistently build low-density subdivisions because they are easy to market.

Prevalence in Albuquerque

Albuquerque's housing development is predominantly low-density single family houses with attached private open space, although much of the recent entry-level housing has been built on lots smaller than allowed in the R-1 zone. The increasingly common R-LT zone allows a standard minimum lot size of 40 feet by 100 feet for a detached home as compared to the 50 feet by 100 feet minimum lot size required in the R-1 zone. The zone of RD for seven dwelling units per acre (which is common in the southwest quadrant of the city) allows an increase of two dwelling units over the standard R-1 density of five dwelling units per acre.

How Affected by Planned Growth Strategy

While the Planned Growth Strategy recognizes that there are efficiencies to be gained through somewhat higher density development, it does not mandate higher density development. Rather, the Planned Growth Strategy suggests that development bear costs that reflect the actual costs for public infrastructure and other services. This differs from current practice in which tax and rate payers pay a significant part of the cost of all new development and lower-cost developments contribute to the public expense of higher cost developments. Density increases suggested in the Planned Growth Strategy area modest and reflect average densities in the 1960 City Limits. The Planned Growth Strategy supports livable older neighborhoods with urban quality of life, low crime rates, and good schools. Implementing the Planned Growth Strategy would create more areas of living choice, notably within the 1960 City Limits and in activity centers and transit-focused corridors.

Comprehensive Plan

Established & Developing Urban Areas. Policy e "New growth shall be accommodated through development in areas where vacant land is contiguous to existing or programmed urban facilities and services and where the integrity of existing neighborhoods can be ensured," and Policy o "Redevelopment and rehabilitation of older neighborhoods in the Established Urban Area shall be continued and strengthened."

7.1.2 Lower Crime Rates

General Description and Impacts

Most homeowners and businesses consider a low crime rate to be very important in their locational decisions and perceptions about their quality of life. A substantial amount of statistical evidence associates lower crime rates with lower density residential areas. Other research that looks closely at the causes of crime, however, finds that crime is overwhelmingly explained by demographic factors, such as income level, educational attainment, family status, and other social factors, and not by development patterns. Though there is an association between density and crime, there is no demonstrated causality between low-density development and low crime rates. Suburban residents perceive themselves to be safer than urban residents do, an important consideration.

Prevalence in Albuquerque

Albuquerque's crime rates do not appear to be based on density but rather on social and economic conditions. Since social and economic conditions that are related to the incidence of crime tend to characterize low-income neighborhoods, the incidence of crime is higher in these areas.

How Affected by Planned Growth Strategy

The Planned Growth Strategy vision can help to increase public safety by creating environments with "more eyes on the street" for more hours each day. Importantly, safety is related to perception as well as actual conditions. When public spaces (e.g., sidewalks, plazas) are not utilized, residents and visitors increasingly retreat into private indoor places, reinforcing negative perceptions of security and detracting from the community's attractiveness. Positive redevelopment of mixed-use activity centers and corridors would increase security and the perception of it in several ways:

- A diverse mix of local land uses activates the public realm for more hours each day than single use districts, as local and regional residents are able to conveniently access jobs, shops, restaurants, entertainment (e.g., cinemas), and services (e.g., daycare). In short, activities and amenities that attract people create busier, safer places.
- The Planned Growth Strategy vision would make this rich mixture of land uses more accessible to pedestrians, bicyclists, and transit users through careful attention to urban design. While local and regional auto traffic are also welcome, a higher percentage of local residents are likely to walk or bike, and more regional residents can access jobs and other routine needs by transit, putting relatively more human activity in the pedestrian realm.

- Integrating residential development with other land uses and increasing the density of households within walking distance of transit means relatively more people are able to walk about the area during more hours of the day.

While good urban design is an important aspect of safe environments, other benefits of the Planned Growth Strategy Preferred Alternative—such as economic growth through better quality of life, access to regional jobs through expanded transit, and community renewal—can also contribute to mitigating some of the causes of crime. One might attempt to avoid crime by housing location choice, but crime rates in the community may remain high. Planned Growth Strategy is concerned with fostering the physical, community, and economic conditions that result in a lower crime rate. The Planned Growth Strategy encourages positive engagement in correcting local problems, such as crime, rather than the relocation from such problems.

Comprehensive Plan

Economic Development. Policy a "New employment opportunities which will accommodate a wide range of occupational skills and salary levels shall be encouraged and new jobs located convenient to areas of most need."

7.1.3 Positive Visual Impact

General Description and Impacts

Low-density, higher-income communities often have more personal open space and attractive landscaping than higher density residential areas, and these features are considered by many people as more visually appealing than higher density areas.

How Affected by Planned Growth Strategy

See comments above from "Range of Housing Choices..."

Comprehensive Plan

Developed Landscape. Policy section, particularly Policy a "The natural and visual environment, particularly features unique to Albuquerque, shall be respected as a significant determinant in development decisions."

7.1.4 Lower Housing Prices

General Description and Impacts

Some research shows evidence that growth control measures restrict the supply of land and drive up land prices, thereby increasing the cost of housing to consumers.

Prevalence in Albuquerque

Some Albuquerque developers opt to build in areas remote from the urban center in order to capitalize on lower land costs. One consequence of this pattern is that most families must have a car for each worker, negating some of the savings realized on a less expensive, albeit remotely located, home. The current system of providing infrastructure for new growth may be constraining land supply at present. Developed lot costs are higher in Albuquerque than in comparable surrounding metropolitan areas.

How Affected by Planned Growth Strategy

The Planned Growth Strategy Preferred Alternative is based on official population and employment forecasts. The Planned Growth Strategy does not attempt to reduce growth but to better provide for it and achieve outcomes that reflect public policies and preferences. The Growth Strategy recommends levels of expenditures for growth-related infrastructure that are consistent with these forecasts and, in some instances, are higher than current spending. In addition, more efficiently supporting urban growth through a management strategy results in less private and public spending to support the same amount of growth. The Planned Growth Strategy would start to create additional viable options, so families could choose to live in a denser urban environment, closer to the urban core, easily accessed by bus and walking as opposed to making every trip by automobile, thereby reducing private travel costs.

Comprehensive Plan

Housing. Policy a "The supply of affordable housing shall be preserved and increased and the opportunity to obtain standard housing for a reasonable proportion of income assured."

7.1.5 Better School Quality

General Description and Impacts

Many households perceive that school quality in suburban locations is higher for an equivalent or lower public tax burden, and numerous studies confirm that households are willing to pay higher housing costs to access "good" schools. Like the incidence of crime, most studies find student performance highly correlated with income level, family status, and other sociodemographic variables. Thus, suburban schools may not be better per se, but rather, serve a different (higher income) student population than more centrally located schools.

Prevalence in Albuquerque

The Planned Growth Strategy study areas are served by one public schools system, the Albuquerque Public Schools. Costs do not vary by location. Student performance at outlying schools in Albuquerque does appear to exceed that of many inner-city schools. There are some notable exceptions at both the elementary and mid-school levels. School performance is strongly linked to the student's motivation, instructor skills, and parent's involvement in a child's education, which factors can result in high achievement in any location.

How Affected by Planned Growth Strategy

The Planned Growth Strategy supports livable, older neighborhoods with good quality of life, low crime rates, and well-performing schools. As with crime, one might move to an area with schools where the average achievement level is higher, but educational achievement in the community may be unchanged. The Planned Growth Strategy is concerned with fostering the community and economic conditions that result in a higher educational achievement in all parts of the Albuquerque area. Rather than escape, the Planned Growth Strategy encourages positive engagement in correcting local problems, such as lower academic performance, rather than relocation from such problems.

7.1.6 Consumer Choice among Government Services

General Description and Impacts

Regionally dispersed development is associated with the proliferation and fragmentation of local governments, providing residents with more opportunities to match bundles of taxes and services to their personal preferences. By giving people stronger influence over conditions in their own localities, development dispersed to other outlying jurisdictions fosters self-government, democratic participation, and citizen control over local affairs. Both large centralized and fragmented governments offer opportunities to achieve economies of scale. Local governments may be able to economize by targeting services to a more homogenous group of residents; whereas, larger government can spread overhead and administrative costs over a larger constituency.

Prevalence in Albuquerque

Within the Planned Growth Strategy study area, fragmentation of local government into many jurisdictions is not a predominant characteristic. This area does include Los Ranchos de Albuquerque, Paradise Hills, the City of Albuquerque, and the unincorporated portion of Bernalillo County. Though we do not have the same situation as metro Phoenix with multiple jurisdictions, we do have several "bundles" of services from which to choose.

How Affected by Planned Growth Strategy

The Planned Growth Strategy Preferred Alternative does not assume that there should be one standard of urban services or one tax structure or one vision for the future within the metropolitan area. The Planned Growth Strategy, Part 2 – Preferred Alternative report makes general recommendations that should be finalized through planning efforts within neighborhoods, Community Planning Areas, corridors, centers, and so on. These planning efforts will involve neighbors, developers, and other stakeholders. The Planned Growth Strategy implementation recommendations will result in more effective planning that will better reflect preferences within different parts of the metropolitan area. As such, a *variety* of well-functioning subareas is expected to result.

7.2 Assertions About Costs

7.2.1 Loss of Agricultural Lands and Reduced Farm Productivity

General Description and Impacts

Low intensity development removes land from productive farming uses. Both residential and commercial uses built at low densities require more land for the placement of structures. Widely dispersed development far from the edges of already developed areas renders intermediate and adjacent parcels less efficient for agricultural use, increasing development pressure. This encroaching development pressure and generally rising land values create incentives for agricultural landowners to sell to speculators and incentives for speculators to assemble and

sell large parcels of land.

Prevalence in Albuquerque

This trend is evident in the Albuquerque/Bernalillo County area, most notably in the North and South Valleys.

How Affected by Planned Growth Strategy

The Planned Growth Strategy emphasizes more efficient and compact development and redevelopment, likely reducing near-term pressure to urbanize agricultural land. The Planned Growth Strategy also recommends keeping growth rates in the County North Valley and South Valley at current levels and supports more intense development in areas that are more environmentally suitable for urban growth.

Comprehensive Plan

Rural. Policy section, particularly Policy d "Land which is suitable for agriculture shall be maintained to the extent feasible in agricultural production and discouraged from non-agricultural development."

7.2.2 Adverse Impact on Unique/Fragile Lands and Public Open Space

General Description and Impacts

More environmentally fragile lands are harmed by traditional suburban development patterns than by more compact settlement patterns. Low-density, auto-oriented development inherently consumes more land, with a greater probability that fragile environmental lands will be converted to residential and other uses. At the same time, local governments sometimes misjudge the cumulative regional consequences of environmental degradation because they are not well connected in their development decision-making. Each can make incremental decisions for short-term local economic gain without realizing effects on other nearby jurisdictions or on the natural environment areawide.

Prevalence in Albuquerque

Archeologically valuable areas are prevalent in Albuquerque and Bernalillo County, as are environmentally fragile, high-desert lands. Both archaeologically and environmentally significant lands have been protected to a degree through the Open Space acquisition program. The Planned Growth Strategy, Part 1 – Findings Report indicates that the urban growth consumes approximately 1.5 square miles of land per year.

How Affected by Planned Growth Strategy

The Planned Growth Strategy Preferred Alternative would reduce the pace and extent of outward edge development that likely is detrimental to archaeological and environmental resources. The Planned Growth Strategy encourages the adoption of environmental standards within new developments that incorporate the natural landscape. The Planned Growth Strategy supports controlling development in "obsolete" and "premature" subdivisions where scattered growth has the potential to seriously degrade the landscape. Planned Growth Strategy advocates a proactive

approach to correcting sites with contamination problems so that they can become better-functioning assets to the community.

Comprehensive Plan

Developed Landscape. Policy section, particularly Policy a "The natural and visual environment, particularly features unique to Albuquerque, shall be respected as a significant determinant in development decisions."

Open Space Network. Policy section, particularly Policy a "Open space lands and waters shall be acquired or regulated as appropriate to serve one or more of the following purposes: conservation of natural resources, provision of opportunities for outdoor education and recreation, shaping of urban form, conservation of archaeological resources, provision of trail corridors, and protection of the public from natural hazards," and Policy f "A multi-purpose network of open areas and trail corridors along arroyos and appropriate ditches shall be created . . . [and] managed to protect natural features, views, drainage and other functions."

7.2.3 Negative Visual Impact

General Description and Impacts

Usual development practices frequently bring housing and commercial development within the view shed of scenic resources, and the loss of open space and deterioration of dramatic landscapes may over time harm a region's competitive ability to retain and attract workers. Many people prefer the visual qualities of compact urban development or the uniqueness of older neighborhoods to what they see as homogenous subdivision and strip mall architecture. A lack of civic spaces, landmark buildings, and pedestrian-scaled amenities detract from the quality of life.

Prevalence in Albuquerque

The mountains to the east, volcanoes and escarpment to the west, and panoramic views are important to Albuquerqueans; this preference is consistent with lower profile development that preserves outward views to geographic features.

How Affected by Planned Growth Strategy

The Planned Growth Strategy emphasizes a more visually pleasing urban environment. Building a more aesthetically enjoyable community as selected locations are redeveloped with higher intensity land uses is important. A more visually pleasing cityscape could reduce resistance to higher intensity development and encourage areas of economic vitality. The Planned Growth Strategy supports the policy recommendations in the West Side Strategic Plan and many other plans that encourage preservation of view corridors. More effective planning, resulting from Planned Growth Strategy implementation, will help protect view corridors.

Comprehensive Plan

Established & Developing Urban Areas. Policy m "Urban and site design which maintains and enhances unique vistas and improves the quality of the visual environment shall be encouraged.

Also *Developed Landscape*. Policy section, particularly Policy a "The natural and visual environment, particularly features unique to Albuquerque, shall be respected as a significant determinant in development decisions."

7.2.4 Increased Water Consumption

General Description and Impacts

Low-density growth patterns cause increases in demand for water by urban users. This is especially significant in the Southwest where water resources are scarce, sustained water shortages sometimes exist, and dry heat drives up evaporation.

Prevalence in Albuquerque

Low-density single family detached development uses more water than higher density types of development, though Albuquerque has made significant reductions in water use through its conservation program. The water conservation ordinance limits to 20% the proportion of a new residential lot that can be in high-water landscaping.

How Affected by Planned Growth Strategy

Compact development envisioned by the Planned Growth Strategy Preferred Alternative would improve water efficiency. The Planned Growth Strategy suggests that water impact fees might reflect the water consumption attributes of different housing types. This would provide a financial incentive for lower water use. Planned Growth Strategy supports use of xeriscape landscaping in design standards.

Comprehensive Plan

Established & Developing Urban Areas. Policy d "The location, density and design of new development shall respect . . . [environmental] carrying capacities, etc."

7.2.5 Reduced Access to Recreational Facilities

General Description and Impacts

The provision of parks for public use by residents may be deficient in low-density areas near the fringe of the urban area.

Prevalence in Albuquerque

Albuquerque's low-density development has spread the population, and reaching developed park standards is a problem. Current financial limitations result in a backlog of park development in new growth areas. The conditions in some older neighborhoods contribute to declining populations in these areas. In turn, this makes inefficient use of existing parks.

How Affected by Planned Growth Strategy

Achieving the Planned Growth Strategy Preferred Alternative would enable local government to make more efficient use of existing neighborhood parks by more families living closer to the parks, forestalling additional demand for parks at the urban edge. The Planned Growth Strategy recommends linking park improvements with development permitting, insuring that parks are available in a timely way to serve growth. The Planned Growth Strategy prioritizes providing adequate funding for park maintenance and rehabilitation.

Comprehensive Plan

Open Space. Policy h "Developing areas shall have neighborhood parks and open areas located to serve the population of the area."

7.2.6 Weakened Sense of Community

General Description and Impacts

Linkages with neighbors are diminished because low residential density, heavy emphasis on car travel rather than foot travel, and a lack of neighborhood retail stores and other meeting places reduce interpersonal contacts and a sense of place. Linkages with other residents throughout the metropolitan region are also diminished by the diffusion of households and jobs throughout the metro area.

Prevalence in Albuquerque

Albuquerque exhibits many of these characteristics.

How Affected by Planned Growth Strategy

Implementing the Preferred Alternative can, over a period of time, create more compact and interactive mixed-use areas and community and village centers conducive to sociable behavior and a sense of community. The Planned Growth Strategy calls for fostering neighborhoods that exhibit shared values of inclusion in interesting and stimulating community life rather than exclusion. The Planned Growth Strategy supports the widespread adoption of community-based education within the Albuquerque Public Schools. This entails school facilities serving as community centers, addressing the needs of all community residents, and engaging the community and parents in the education of our youth.

Comprehensive Plan

Established & Developing Urban Areas. Policy i "Employment and service uses shall be located to complement residential areas," and Policy j "Where new commercial development occurs, it should generally be located in existing commercially zoned areas as follows: In small neighborhood oriented centers provided with pedestrian and bicycle access within reasonable distance of residential areas for walking or bicycling."

Also *Education*. Policy e "Variety and flexibility in educational and recreational resources shall be encouraged through joint use of facilities."

7.2.7 Exclusion or Exclusivity

General Description and Impacts

Many low- and moderate-income households cannot afford low-density suburbs, and these households become disproportionately concentrated in central cities and older neighborhoods. Such neighborhoods often are characterized by housing that is older, smaller, less well-maintained, and functionally deficient. This concentration of lower income groups fosters conditions that give rise to social problems, such as crime, drug abuse, delinquency, unemployment, and mental illness.

Prevalence in Albuquerque

Segregation in Albuquerque is de facto and more by income than by race or ethnic origin. Albuquerque does have relatively low-cost housing developments built recently at the city's edge.

How Affected by Planned Growth Strategy

The Planned Growth Strategy supports working to counter this trend through increased infill, redevelopment, and mixing of housing types and densities in new and existing neighborhoods. The result of implementing this recommendation should be a variety of households in different parts of the urban area.

7.2.8 Segregation of Jobs and Housing

General Description and Impacts

The segregation of housing and employment sites (and other land uses) in many communities is an important factor contributing to increases in vehicle miles of travel. Most dispersed, low-density developments are designed such that residents are required to travel longer distances by automobile to access work. Unlimited expansion of urban areas on the fringe also permits many employers to move to locations that are far from inner-city neighborhoods. Consequently, unemployed workers living in those neighborhoods can neither readily learn about job opportunities in outward locations nor afford to commute to such jobs even if they learn about and qualify for them. This mismatch aggravates higher rates of unemployment in centrally located areas and suburban shortages of unskilled workers.

Prevalence in Albuquerque

In Albuquerque, less than 8% of residential construction is occurring within the 1960 City Limits, while nearly 36% of non-residential construction (i.e., job-generating uses) is taking place in that area. At the same time, about 56% of residential construction is occurring in the urban area's outer ring, especially on the west side. Less than 30% of the non-residential construction is in the outer ring area. This contributes to longer work commutes. The second general trend, i.e., jobs moving to suburban locations, does not appear to be occurring as yet in Albuquerque as it has in other larger metropolitan areas. Retail and service jobs in new growth areas are weakly linked by transit to low-income neighborhoods.

How Affected by Planned Growth Strategy

One of the main objectives of the Planned Growth Strategy Preferred Alternative is to increase housing starts in the 1960 City Limits and employment growth on the west side to better balance jobs and housing locations. The Planned Growth Strategy supports greatly expanded transit service and land use patterns that work well with transit. Implementing these recommendations will increase accessibility to employment locations.

Comprehensive Plan

Economic Development. Policy g "Concentrations of employment in activity centers should be promoted in an effort to balance jobs with housing and population in order to reduce the need to travel."

7.2.9 Higher Energy Consumption and Increased Air Pollution

General Description and Impacts

Dispersed, low-density development increases vehicle miles traveled and consumes more scarce energy, particularly imported oil, than more compact development. Low-density fringe development requires more travel overall, with most of this travel being by energy-inefficient autos rather than more efficient modes of mass transit. Tailpipe exhaust, gas vapors, air conditioning leakage, and dust and chemicals lifted from road surfaces all reduce air quality and affect public health.

Prevalence in Albuquerque

Vehicle miles traveled per day in Albuquerque have increased steadily from 12 mpd in 1970 to about 23 mpd presently, with a corresponding increase in fuel use and emissions.

How Affected by Planned Growth Strategy

The Planned Growth Strategy recommends centers and corridors, new mixed-use neighborhoods at the fringe and better jobs-housing balance that support transit and alternative transportation modes that will gradually convert many trips to transit, walking, and bicycling, reduce the number of vehicular trips and their lengths, and positively affect fuel use and emissions.

Comprehensive Plan

Energy Management. Policy c "Land use planning that will maximize potential for efficient use of alternative and renewable energy sources shall be undertaken," and Policy d "A transportation system that is more energy efficient shall be developed. In particular, promote: a variety of transportation modes including expansion of transit, paratransit and railway systems"

Also *Air Quality*. Policy b "Automobile travel's adverse effects on air quality shall be reduced through a balanced land use/transportation system that promotes the efficient placement of housing, employment and services."

Also *Economic Development*. Policy g "Concentrations of employment in activity centers should be promoted in an effort to balance jobs with housing and population in order to reduce the need to travel."

7.2.10 Inner-City Deterioration

General Description and Impacts

Deteriorating inner-city conditions motivate many economically viable families and businesses to move farther out, and the same conditions discourage viable households and firms from moving into central areas in general. As a result, the economic and social condition of neighborhoods and businesses remaining in central areas deteriorates.

Prevalence in Albuquerque

Job-producing development is more prevalent in the 1960 City Limits than at the fringe. Nonetheless, many older commercial, office, and industrial areas are deteriorating in quality and competitiveness, and personal wealth is moving out of older neighborhoods to fringe developments in this and other jurisdictions in the region.

How Affected by Planned Growth Strategy

The Planned Growth Strategy emphasizes reinvesting in older parts of the urban area and reversing residential and commercial decline in many low income neighborhoods. Better quality of life (e.g., lower crime, better schools, services) in older neighborhoods will encourage more middle and upper income households to reside in these places, stimulate reinvestment in homes and businesses, and increase local economic activity and value.

Comprehensive Plan

Economic Development. Policy a "New employment opportunities which will accommodate a wide range of occupational skills and salary levels shall be encouraged and new jobs located convenient to areas of most need," and *Established & Developing Urban Areas*. Policy o "Redevelopment and rehabilitation of older neighborhoods in the Established Urban Area shall be continued and strengthened."

Also *Housing*. Policy b "Quality of existing housing improved through concentrated renovation programs in deteriorating neighborhoods."

7.2.11 "Leap-Frog" Development

General Description and Impacts

"Leap-frog" development, which locates new urban growth at some distance from the existing urban fringe, does not capitalize on infrastructure capacity that may already be present in other areas. In addition, dispersed development increases costs for linearly related infrastructure (e.g., roads, water and sewer mains).

Prevalence in Albuquerque

Planned Communities in Comprehensive Plan Reserve and Rural areas, if development were to begin in less than 25 years, would constitute "leap-frog" growth. Existing no net cost policies, if adequately implemented, would off-set, to a degree, the financial consequences of such development. However, inadequate policies exist at present to control development between the Planned Communities and the urban edge. Such development, as presently regulated, would contribute to the problems identified.

How Affected by Planned Growth Strategy

The Planned Growth Strategy recommendations address this issue by defining "no net cost." In addition, policies are recommended to control scattered site development in "obsolete" and "premature" subdivisions that are located between a proposed Planned Community and the urban edge. Implementing Planned Growth Strategy recommendations would prove to be an attraction for more people and jobs within the areas already served with urban infrastructure, re-energizing the economic health of older areas and increasing their contribution to gross receipts taxes. The Planned Growth

Strategy recommends that urban growth occur in the most cost effective way, that it, by using existing infrastructure capacity first.

Comprehensive Plan

Service Provision. Policy c "The existing public service area should be the highest priority for service, capacity, use, maintenance and rehabilitation."