

**FINAL 8/31/04**

**CITY OF ALBUQUERQUE**

**2004 ROADWAY FACILITIES IMPACT COST STUDY**

**SUMMARY REPORT**

**Prepared for:  
City of Albuquerque**

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CITY OF ALBUQUERQUE  
2004 ROADWAY FACILITIES IMPACT COST STUDY

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CITY OF ALBUQUERQUE  
2004 ROADWAY FACILITIES IMPACT COST UPDATE STUDY

1.0 INTRODUCTION

The City of Albuquerque's Planned Growth Strategy adopted by ordinance and resolution in 2002, calls for the creation of a development impact fee program to fund the cost of growth. Tindale-Oliver & Associates, Inc., has been retained to conduct a roadway facilities impact cost study for the City of Albuquerque.

This report summarizes the 2004 Impact Cost Study that has been completed for the City of Albuquerque and will act as a technical support document to the Ordinance. This study is based on a standards-driven impact cost methodology. In the case of a standards-driven impact cost analysis, it is assumed that new development consumes some roadway capacity on all roads, both existing and required new ones, regardless of whether the roads are among those that are planned for improvements. The cost component of a standards-driven impact cost is developed based on a review of historical project costs and typical capacity expansion projects that are programmed in cost affordable long-range and short-range roadway facilities (or capital) improvement programs.<sup>1</sup>

Included in this document is a net impact cost schedule, as well as the necessary support material utilized in its calculation. The general equation used to compute the roadway facilities net impact cost for a given land use is:

$$(\text{Unit Demand} \times \text{Unit Cost}) - \text{Offsets} = \text{Net Impact Cost}$$

The *demand* for travel placed on the roadway facility system is usually expressed in vehicle-miles or lane-miles of roadway capacity consumed. The *cost* of building capacity is typically expressed in dollars per vehicle-mile or lane-mile of roadway capacity. The *offsets* represent an estimate of the annual revenues generated by the development that are allocated to roadway construction or facilities expansion. Thus, the total net impact cost represents an "up front" payment for a portion of the cost to replace the roadway facilities consumed by a development.

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<sup>1</sup> In the case of this study, the typical set of improvements needed to support future growth in the city of Albuquerque was developed based principally on the 2025 Metropolitan Transportation Plan (MTP).

The three general topics identified below are used to develop the roadway facilities impact cost schedule.

- Trip characteristic data;
- Roadway improvement cost estimates (for design and engineering/inspection; right of way; and construction); and
- Development-generated tax offset distributions and allocations.

These items are all discussed in subsequent sections of this document. In addition, as noted previously, a proposed impact cost schedule is provided.

### 1.1 Level of Service Standard

Standards-driven impact cost analyses must be based on a specific Level of Service (LOS) or capacity provided by roadways. To this end, the impact cost analysis detailed herein has assumed the MTP model's capacity for the development of the incremental capacity added by planned roadway improvements.

As noted previously, the primary source for project information for this study is the 2025 MTP. To generate existing and future capacity conditions on the roadways indicated in the provided projects and, thereby, calculate the added capacity being generated for each project, the capacity figures indicated in the MTP model have been utilized.

## **2.0 IMPACT COST VARIABLES**

The input components presented and utilized herein have been developed to reflect the current demand, cost, and revenue data obtained for this Impact Cost Study. A review of the input components is presented in the following sections.

### 2.1 Individual Land Use Trip Characteristics

The amount of road system consumed by a land development activity is calculated using the following units of measure:

- Number of trips generated (Trip Rate);
- Length of those trips (Trip Length); and
- Proportion of travel that is new travel (% New Trips), rather than travel that might have already been on the road system.

It is useful to recognize that these trip characteristics can be reflective of average *daily* values or average *peak hour* values. The relationship between these two measures can differ significantly depending on land use, geography, and time of day of the peak hour, among other factors. The Mid-Region Council of Governments (MRCOG), a regional government agency that conducts urban and rural planning for Central New Mexico, utilizes the PM peak hour for its roadway planning purposes, based on the following criteria:

- The heaviest demand of service typically occurs during this hour;
- Roadways are sized during the planning process to serve the demand that occurs during the PM peak hour; and
- Roadway capacity can be more precisely defined on an hourly basis.

In order for the methodology included in the City of Albuquerque's impact cost study to be consistent with the MRCOG planning methodology, the PM peak hour time period is used in this report to assess the City's roadway facilities impact costs by land use.

For the purpose of this study, the trip generation rate data have been obtained from the Institute of Transportation Engineers' (ITE) *Trip Generation* reference report (7<sup>th</sup> edition), as available. Unfortunately, this resource does not document similarly typical trip length or % new trips data for the various land uses. Therefore, other sources of information were utilized to obtain these specific characteristics by land use type.

One particular resource that has been utilized for this study is a database of results from more than 220 trip characteristics studies that have been conducted previously throughout the State of Florida. These studies provide a fertile resource from which to draw trip length and % new trip characteristics by land use. However, one potential concern in using this "Florida Database" is the applicability

of primarily Florida-specific trip lengths to the City of Albuquerque. To eliminate this concern, an analysis has been completed in an effort to establish the comparative relationship between Florida- and New Mexico-based trip lengths and develop a relational factor that can be used to adapt the database's trip lengths to the typical travel behavior exhibited throughout New Mexico and, in particular, in the City of Albuquerque.

The method used to examine the trip length relationship between Florida and New Mexico involves an analysis of travel data from the 2001 National Household Travel Survey (NHTS). The NHTS is a U.S. Department of Transportation national survey effort sponsored by the Bureau of Transportation Statistics and the Federal Highway Administration to collect data on both long-distance and local travel by the American public. The survey is designed to collect trip-related data such as mode of transportation, duration, distance, and purpose of trip, as well as demographic, geographic, and economic data, for analysis purposes. An analysis of average household vehicle trip length data by pertinent geographic area was conducted utilizing this database. Table 2-1 presents the results of this analysis. MSAs (Metropolitan Statistical Areas) in the Mountain Region of the U.S. had to be utilized as a proxy for New Mexico since there were not enough surveys collected in that state to be able to report its specific results individually and still meet privacy requirements.

**Table 2-1  
Summary of National Household Travel Survey (NHTS) Analysis of Average  
Florida and New Mexico Trip Lengths**

Household Location (State)	Household Trip Length by Population of MSA		
	In an MSA of less than 250,000	In and MSA of 250,000 to 499,999	In an MSA of 500,000 to 999,999
Florida	10.71	9.87	7.80
Mountain, MSA less than 1 million	7.10	8.59	7.78

Given the 2000 Census population of the Albuquerque MSA (712,738), the most logical category with which to compare average trip lengths is the 500,000-999,999-persons category. As shown in Table 2-1, the review found that the average trip lengths for Florida and the Mountain region for MSAs in this particular population range are nearly identical. Comparatively, then, the average household trip length expected in Albuquerque (7.78 miles) is about

0.02 miles shorter than that expected in similarly-sized MSAs in Florida (7.80 miles), which results in a difference of less than 0.3 percent between the two average trip lengths.

As a result of these findings, this impact cost study has utilized this trip length ratio to adjust the average trip lengths for all uses in the Florida Database. This adjustment will result in the development of trip lengths for all land uses contained in the proposed impact cost schedule that will reflect the slightly shorter overall trip lengths evident in the current travel behavior of the City of Albuquerque.

In the case of the % new trips variable, which represents the proportion of travel on a road (or system of roads) that is new travel, as opposed to travel that may have already been taking place there, the source utilized in this study is the Florida Database. Because these factors are primarily related to land use type (as opposed to state-specific travel behavior), there is no need for adjustment factors to adapt the percentages determined from mostly Florida studies for use in Albuquerque. The Florida Database has been included in this document as Appendix A.

The individual land use trip characteristics that are recommended for use in the calculation of the demand component of the impact cost for the City of Albuquerque are detailed in Appendix B. The schedule indicates the trip generation rate, the trip length, and the % new trips variables that have been utilized for each of the proposed land uses. These factors are combined in the following fashion to calculate vehicle miles of travel (VMT) for each land use category: trip rate x trip length x % new trips.

## 2.2 Service Areas

This section describes the subdivision of the City of Albuquerque into specific service areas for the purpose of calculating roadway facilities impact costs. The reason for the subdivision of the City into service areas is that not all the areas of the City are expected to have the same amount of growth in development (and, therefore, in roadway facilities demand and capacity needs) over the next 20+ years. Therefore, based on expected growth rates for the 2002-2025 period and existing City traffic sheds, the City of Albuquerque was subdivided into seven service areas:

- Downtown
- NE Heights
- Near North Valley
- Far NE Heights
- I-25 Corridor
- NW Mesa
- SW Mesa

Figure 2-1 illustrates these seven service areas on a map of the City of Albuquerque.

### 2.3 Cost of Roadway Facilities Capacity

The cost of providing roadway facilities capacity has increased in recent years. Information from the 2025 MTP for the City of Albuquerque, Bernalillo County, and from the City of Albuquerque, regarding road construction costs has been used to develop a unit cost for all aspects involved in the addition of a one lane mile of roadway capacity. The following sections detail the analyses that were undertaken to review and reconcile the varying costs associated with the construction of city, county, and state roads in the City of Albuquerque. Appendix C provides the data and other support information utilized in these analyses to develop appropriate cost data for use in the calculated impact costs based on roadway capacity improvements in the City of Albuquerque.

#### *2.3.1 City of Albuquerque & Private Costs*

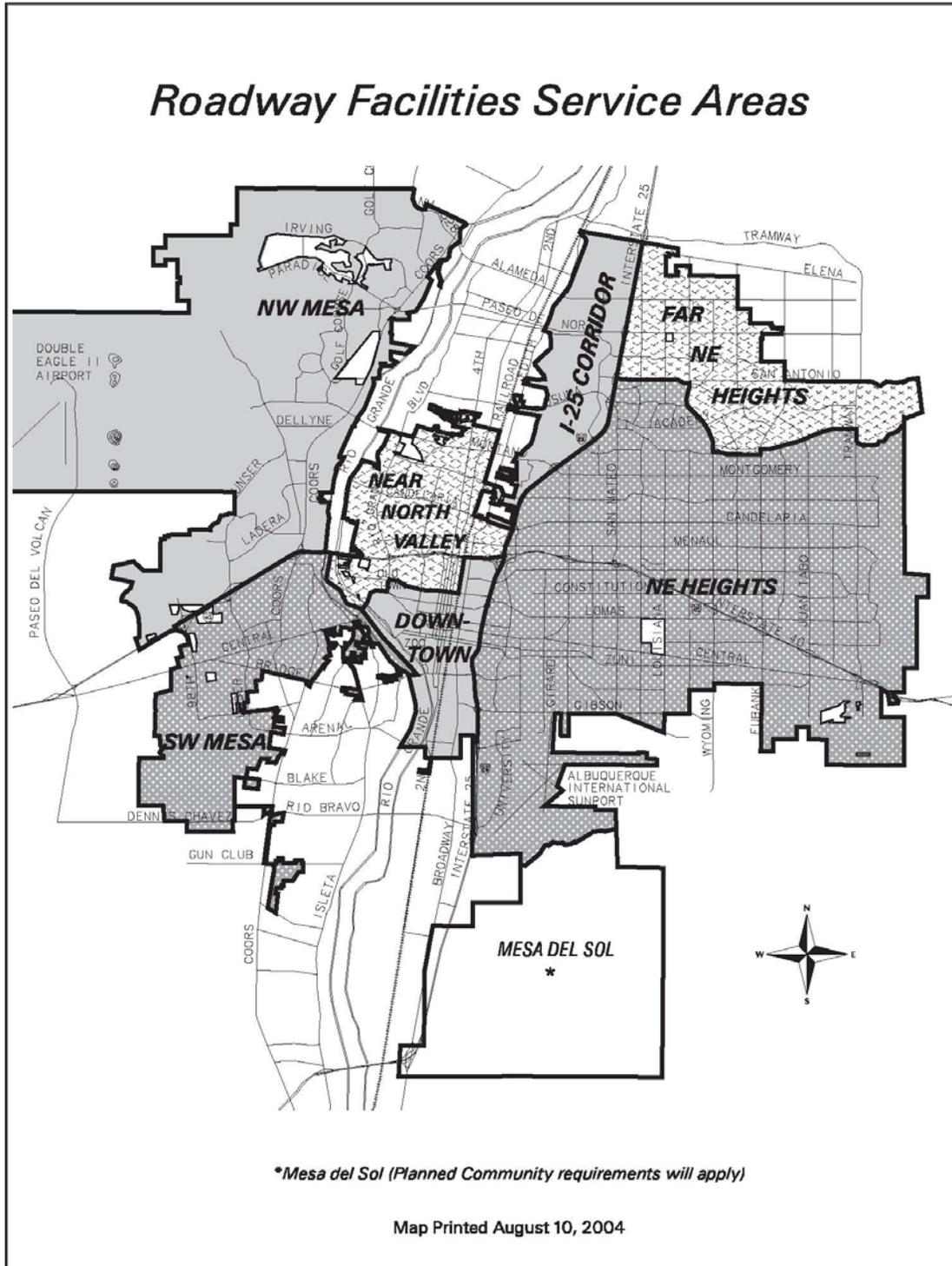
This section examines the construction costs associated with roads with respect to roadway facilities capacity improvements within the City of Albuquerque. The City of Albuquerque provided information related to “typical” capacity expansion projects costs. This information was used to determine an average unit cost for an additional lane mile of capacity for 2025 MTP projects in each of the analyzed service areas. Since the City provided cost data for only the planning/design and construction phases, it was necessary to utilize the right-of-way (ROW) cost figure adopted by the 2025 MTP (i.e., \$660,000 per lane mile).

Costs were reviewed for any roadway capacity projects planned to be constructed in the City of Albuquerque between the years 2002 and 2025, as available. As a result, the projects that were utilized in the calculation of the construction cost component varied by

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implementing jurisdiction(s). The following bullets highlight the jurisdictional projects that were considered in the analysis.

Figure 2-1



- City – Construction costs associated with city roads being implemented by the City of Albuquerque to improve roadway facilities capacity.
- Private – Construction costs associated with capacity-adding projects in the City of Albuquerque funded by private companies or corporations.

According to the 2025 MTP, during the period from 2002 to 2025, a total of 69 capacity-adding projects are going to be constructed within the City of Albuquerque. It should be noted that, as mentioned previously, the total cost per line mile for capacity improvement projects includes the cost of planning/design, right-of-way acquisition, and construction.

### 2.3.2 Cost by Service Area

For development of the roadway facilities impact costs, the City of Albuquerque was divided into seven service areas (this Service Area concept is discussed in greater detail in Section 2.2). Initially, the cost to add one lane mile of capacity was determined for each of the analyzed service areas without considering the different jurisdictions involved in the construction of the corresponding projects. A summary of the number of projects, lane-miles added, total cost, and the resulting average lane-mile cost is shown for each service area in Table 2-2. The detailed Service Area cost analysis, including the projects used within each of the service areas, is presented in Appendix C.

**Table 2-2  
Estimated Cost per Lane Mile by Service Area  
Within the City of Albuquerque, 2002-2025**

#	Service Area	# of Projects	Total Cost	Lane Miles Added	Avg. Lane Mile Cost
1	DOWNTOWN	N/A	N/A	N/A	N/A
2	NE HEIGHTS	4	\$32,449,228	19.88	\$1,632,255
3	NEAR NORTH VALLEY	1	\$7,690,710	4.54	\$1,693,989
4	FAR NE HEIGHTS	3	\$12,393,267	6.18	\$2,005,383
5	I-25 CORRIDOR	2	\$8,571,585	5.06	\$1,693,989
6	NW MESA	36	\$173,059,625	85.20	\$2,031,216
7	SW MESA	23	\$90,139,480	45.50	\$1,981,087
<b>Total</b>		<b>69</b>	<b>\$324,303,894</b>	<b>166.36</b>	<b>\$1,949,410</b>

Since the unit cost used for the average lane mile cost determination is a “generic” cost for the City of Albuquerque, and the ROW cost was assumed to be constant for all projects, the calculated average lane mile costs do not truly reflect construction cost variations among the analyzed service areas. Instead, they reflect only the particular combination of project types (e.g., new 2-lane road, 2- to 4-lane expansion, etc.) that are planned for each of the service areas. Therefore, a “global” unit cost per lane mile, based on the average per-lane-mile cost for all of the service areas combined, was utilized for the City of Albuquerque.

2.3.3 *Summary of Costs*

Table 2-3 summarizes the calculation of the estimated average cost per lane mile for the City of Albuquerque. This figure, which has a value of \$1,949,410 per lane mile, will be utilized in the impact cost schedule. It represents the cost to add one lane mile for city and private projects. As noted previously, the project information used in this calculation is included in Appendix C.

**Table 2-3**  
**Estimated Cost per Lane Mile**  
**City, County, NMSHTD, and Private Roadway Capital Projects**  
**Within the City of Albuquerque, 2002-2025**

Total Cost	\$324,303,894
Lane Miles Added	166.36
<b>Average Cost per Lane Mile</b>	<b>\$1,949,410</b>

2.4 Offset Component

For purposes of calculating roadway facilities impact costs for the City of Albuquerque, the offset component of the calculation is going to be based on two different aspects: (1) the new revenue that a given development generates (i.e., the gas tax proxy offset) and (2) the comparative ability of existing and future development to generate revenues for capital improvement (i.e., offset based on the existing/new development revenue ratio). This second aspect is based on the rate of growth occurring within the community.

#### *2.4.1 Gasoline Tax Proxy Offset*

The cost side of the impact cost equation is based on the fact that new development will generate additional travel on the local roadway network. This travel will have a physical impact on the roads (in terms of the roadway condition), as well as a traffic demand-based impact that exacerbates congestion and helps create the need for additional roadway facilities. Therefore, it is logical to impose an impact fee with the purpose of generating funds to expand capacity to help meet the needs of the new development.

However, it also is the case that the vehicle trips generated by new development also create additional gasoline sales, which in turn generate gas tax revenues for the State, Bernalillo County, and the City of Albuquerque. Regardless of where these gas tax revenues ultimately are spent (i.e., on roadway capital projects or otherwise), the fact is that the new development is generating additional gas tax revenues. Since the gas tax revenues can be used for capital facility expansion of roads, an offset or reduction in the impact cost must be calculated in order to ensure that new development does not pay more than its proportional share of new roadway construction costs.

Therefore, the present value of the gasoline tax revenues generated by a new development over a 25-year period is used to offset the cost of the roadway system consumed by travel associated with the development. This offset is based on the estimation of the number of pennies of motor fuel taxes that could be expected to be utilized for roadway capacity-adding improvements in the City of Albuquerque for each gallon of gasoline sold in the City. This estimation of total pennies of gas tax is known as the “equivalent pennies” for purposes of the offset because not all revenues used for roadway capital projects in the City come from the gas tax source. For example, other revenue sources for these projects include G.O. bonds, the ¼-cent sales tax, and the State. The gas tax source is simply used as the surrogate (or “proxy”) for all of these other sources combined since it has the most direct relationship to the new travel that occurs on the roadway network because of new development. The rest of the

information presented in this section provides further details on the estimation of the gas tax proxy offset.

The Gasoline Tax Act, Section 7-13-1 through 7-13-18 New Mexico State Statutes applies a State tax of \$0.17 per gallon of gasoline. From July 1, 1993, the State Tax was \$0.20 per gallon until July 1, 1995, when the gasoline tax rate was lowered to \$0.17 per gallon. The gas tax rate was subsequently lowered on July 1 2003 to \$0.16 per gallon. However, information for the period 1996-2002 was used to develop the gas tax penny equivalency. Therefore, the lowered tax rate effective July 1, 2003, is not included in the following analysis due to the recently produced change and the resultant lack of information about the generated revenues. Appendix D presents a detailed calculation of the penny equivalency. Historical gas tax receipt data was used in this report, as available, to help determine the level of gas tax offset that should be applied to new development.

The equivalent number of pennies allocated to fund projects was determined using information provided by the City for the period 2004-2012. The City of Albuquerque has not historically spent much gas tax revenues on capital roadway improvement projects. However, as mentioned previously, other funding sources, such as G.O. bonds, the ¼-cent sales tax, and the State, have been used for these types of projects. Therefore, the gas tax proxy offset is based on the conversion of the amounts of these funding sources that have been applied to roadway capacity projects during the analysis period into the equivalent value of a penny of gas tax.

Information from the sources identified previously was used to develop a list of capacity-adding roadway project expenditures. The review (which is detailed in Appendix D) indicates that the State revenues (i.e., motor fuel tax receipts) generate an equivalency of 0.7 pennies of gas tax proxy revenue, the G.O. bonds generate an equivalency of 2.3 pennies of gas tax proxy revenue, and the ¼-cent sales tax generates an equivalency of 0.7 pennies. Table 2-4 summarizes the results of this analysis.

**Table 2-4**  
**Equivalent Pennies of Gas Tax Proxy Revenue**

<b>Gas Tax Proxy Revenues</b>	<b>Equivalent Pennies (Distribution)</b>
State	\$0.007
G.O. Bonds	\$0.023
1/4¢ Sales Tax	\$0.007
<b>Total</b>	<b>\$0.037</b>

Appendix D provides a detailed discussion of the calculation of the equivalent pennies of gas tax proxy created by the State, G.O. bonds, and 1/4-cent sales tax.

*2.4.2 Offset Based on Revenues Generated by Existing/New Development*

The objective of this section is to analyze and determine the revenue offsets that should be applied to each service area due to the comparative revenues generated by existing and new development. To do this, two different adjustments have been considered.

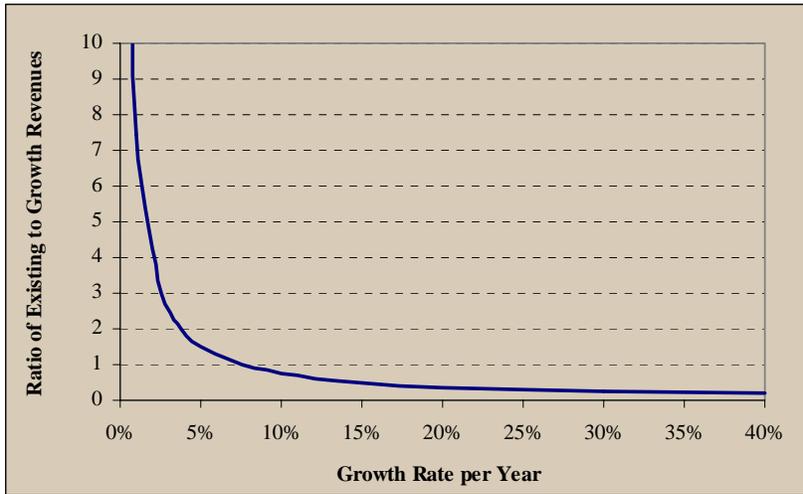
- The overall offset component of the impact cost equation needs to be expanded to account for the annual receipt of revenues from existing development.
- The additional offset applied to new development needs to reflect the ability of existing development to absorb growth.

The ability to absorb growth is directly related to how fast a geographic area is growing. In areas where the growth rate is slow, existing development can help absorb the growth. However, in areas where little existing development exists and growth is occurring rapidly, revenues from existing development cannot assist at any significant level in absorbing the cost of growth.

This concept is shown in Figure 2-2, which depicts the general relationship of revenues for capital generated by existing development to growth revenues over the period from 2004 to 2025. (This graph illustrates a concept. It does not apply in a particular way to Albuquerque.) The graph shows the annual percentage growth on the X-axis and the ratio of revenues generated by existing uses versus that generated by new growth on the Y-axis.

**Figure 2-2**

**Ratio of Existing to Growth Revenues - Period 2004-2025**



For example, for a one-percent annual growth rate, the revenues generated by existing development make up about 88 percent of the total revenues generated by all development (existing plus new) during the 21-year period. In fact, existing revenues are 7.45 times the revenues generated by the new growth. This indicates that revenues for capital from growth are just a small percentage of the revenue generated by existing development during the 21-year time period. However, if the growth rate is 7.5 percent, the revenues generated by growth represent a significant portion of the total revenues (50%). This indicates that, at this growth rate, the revenues generated by growth play an equal role in determining the ability of existing development to absorb growth.

Table 2-5 shows the seven different service areas discussed previously, their growth rates, and the corresponding factors that have been developed to reflect the ratios between the revenues generated by existing development and the revenues that will be generated by future development.

**Table 2-5  
Growth Rates and Revenue Generation Factors by Service Area - Period  
2004-2025**

Service Area	Annual Percent Growth*	Existing Development Revenue Generation Factor
DOWNTOWN	0.38%	27.37
NE HEIGHTS	0.27%	38.91
NEAR NORTH VALLEY	0.55%	19.11
FAR NE HEIGHTS	1.05%	9.95
I-25 CORRIDOR	1.91%	5.46
NW MESA	3.21%	3.26
SW MESA	3.56%	2.93

\* The annual percent growth is calculated based on existing development, so it is not assumed to be compounded annually.

Evident in the table, for example, is that the anticipated growth in the Far NE Heights service area results in a revenue generation factor of 9.95. This factor indicates that, during the period from 2004 to 2025, the existing development in the service area is going to produce 9.95 times more revenue than the new development that will occur in the service area during this same time. The remainder of this section presents more detailed information on the calculation of this factor.

Factor Calculation Example – For purposes of clarification, it may be useful to walk through the calculation of the offset factor due to Existing Development Revenue Generation. In the following example, the factor is calculated for the Far NE Heights area using the equation below:

$$\text{Factor} = \text{Revenues to be Generated by Existing Development} / \text{Revenues to be Generated by Future Development}$$

- Revenues to be Generated by Existing Development – The revenues to be generated by existing development was assumed to be equal to “1” per year and, since it is existing development, it remains constant for the analyzed period. The total revenue to be generated during the period 2004-2025 was calculated using a discount rate of five percent (5%). Table 2-6 shows the “revenues” generated by the existing development.

**Table 2-6  
Revenues to be Generated by Existing Development**

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<b>Year</b>	<b>Revenues Generated by Existing Development</b>	<b>Revenues Generated by Existing Development Discounted at 5%</b>
2004	1.00	1.0000
2005	1.00	0.9524
2006	1.00	0.9070
2007	1.00	0.8638
2008	1.00	0.8227
2009	1.00	0.7835
2010	1.00	0.7462
2011	1.00	0.7107
2012	1.00	0.6768
2013	1.00	0.6446
2014	1.00	0.6139
2015	1.00	0.5847
2016	1.00	0.5568
2017	1.00	0.5303
2018	1.00	0.5051
2019	1.00	0.4810
2020	1.00	0.4581
2021	1.00	0.4363
2022	1.00	0.4155
2023	1.00	0.3957
2024	1.00	0.3769
2025	1.00	0.3589
<b>Total</b>		<b>13.8212</b>

- Revenues to be Generated by Future Development – For the future revenue per year, it was assumed that it is going to grow at the same rate as population and employment. Therefore, the revenues are based on the growth in population and employment for each service area for the 2004-2025 period. Therefore, a “combined growth rate” was calculated for each service area using 60 percent of the population growth plus 40 percent of the employment growth. The growth rate calculated for the Far NE Heights area is shown in Table 2-7.

**Table 2-7  
Growth per Year as a Percentage of Existing Development**

<b>Year</b>	<b>Population</b>	<b>Employment</b>	<b>0.60 Population</b>	<b>0.40 Employment</b>	<b>Total</b>
2000	46,044	13,347	27,626	5,339	<b>32,965</b>
2025	56,200	19,742	33,720	7,897	<b>41,617</b>
<b>Growth per Year (Units)</b>					<b>346</b>
<b>Growth per Year (as a percentage of existing development)</b>					<b>1.05%</b>

Once the growth per year as a percentage of existing development was calculated, the revenue to be generated for the future development was

determined. Table 2-8 presents the revenue to be generated by future development.

**Table 2-8  
Revenues to be Generated by Future Development**

Year	Revenues Generated per Year by Future Development (1 × 1.05% × # of yrs)	Cumulative Revenues*	Revenues Generated by Future Development Discounted at 5%
2004	0.0105	0.0105	0.0105
2005	0.0105	0.0210	0.0200
2006	0.0105	0.0315	0.0286
2007	0.0105	0.0420	0.0363
2008	0.0105	0.0525	0.0432
2009	0.0105	0.0630	0.0494
2010	0.0105	0.0735	0.0548
2011	0.0105	0.0840	0.0597
2012	0.0105	0.0945	0.0639
2013	0.0105	0.1050	0.0677
2014	0.0105	0.1155	0.0709
2015	0.0105	0.1260	0.0737
2016	0.0105	0.1365	0.0760
2017	0.0105	0.1470	0.0779
2018	0.0105	0.1575	0.0795
2019	0.0105	0.1680	0.0808
2020	0.0105	0.1785	0.0818
2021	0.0105	0.1890	0.0824
2022	0.0105	0.1995	0.0829
2023	0.0105	0.2100	0.0831
2024	0.0105	0.2204	0.0831
2025	0.0105	0.2309	0.0829
<b>Total</b>			1.3889

\* The amount of revenues that will accumulate in a given year due to the revenues generated by that year's new development and the new development of previous years.

Therefore, the final factor for the Far NE Heights service area can be calculated as follows:

$$\text{Factor (Far NE Heights)} = 13.8212 / 1.3889 = 9.95$$

### 2.4.3 Summary of Offset

An offset is going to be developed and applied to each of the service areas not only for the new revenues they generate, but also in response to the ability of existing development to generate revenues for capital improvements. This revenue offset is based on the rate of growth occurring within the community.

The equation that is going to be used for the Net Impact Cost calculations is as follows:

$$\text{Net Impact Cost} = \text{Cost of Development} - (\text{Offset for New Development Revenues} + \text{Offset for Existing Development Revenues})$$

To incorporate the offset for existing development revenues into the overall impact cost calculation, the relationship of existing revenues to growth revenues presented in Table 2-5 is going to be used. Therefore, the final impact cost formula that is going to be used is as follows:

$$\text{Net Impact Cost} = \text{Cost of Development} - (\text{Offset for New Development Revenues} + \text{Factor} \times \text{Offset for New Development Revenues})$$

In order to complete the impact cost calculation by service area, the following assumptions were made.

- Downtown – Since no capacity-adding projects are going to be constructed in this area during the 2004-2025 period, no roadway facilities impact cost will be charged in this area.

In addition, the following result from the impact cost calculations by service area:

- NE Heights – The revenues that are going to be collected from existing development in this area greatly exceed the capacity-adding project costs that are going to be built in this area during the 2004-2025 period, so the offset component is significantly large enough to reduce the net impact costs for this service area to zero for all but one of the land uses.
- Near North Valley – The revenues that are going to be collected from existing development in this area exceed the capacity-adding project costs that are going to be built in this area during the 2004-2025 period, so the offset component is large enough to reduce the net impact costs for this service area to zero for all but eight of the land uses.

Table 2-9 shows the VMC, VMT, Population, and Employment growth for the 2000-2025 period.

**Table 2-9  
VMC, VMT, and Population Change by Service Area – 2000-2025**

Service Area	2000-2025 Change - Percent			
	VMC	VMT	Population	Employment
DOWNTOWN	0.01%	25.47%	1.78%	17.34%
NE HEIGHTS	3.41%	16.05%	3.08%	14.41%
NEAR NORTH VALLEY	5.99%	34.43%	11.19%	19.91%
FAR NE HEIGHTS	3.81%	26.81%	22.06%	47.91%
I-25 CORRIDOR	9.01%	24.48%	144.15%	37.79%
NW MESA	20.58%	61.31%	74.65%	116.15%
SW MESA	12.01%	80.15%	81.23%	154.03%

2.5 Facility Life

The facility life relates to the time period over which gasoline tax proxy revenues might be bonded to pay for an improvement. The facility life value recommended for use in this impact cost assessment is 25 years, which is typical of impact fee analyses in many other communities.

2.6 Interest Rate

This is the discount rate at which gasoline tax proxy revenues might be bonded. It is used to compute the present value of the gasoline taxes generated by new development. A rate of 5.0 percent is used in the proposed impact cost, which is typical of the average interest rate at which bonds may be issued over the next several years or until the impact cost study is subsequently updated.

2.7 Fuel Efficiency

The fuel efficiency (i.e., the average miles traveled per gallon of fuel consumed) of the fleet of motor vehicles using the road system over the next 25 years is used to estimate the quantity of gasoline consumed by travel associated with a particular land use.

Appendix D documents the calculation of the fuel efficiency value that is utilized in the proposed impact cost schedule (Table D-6), based on the following equation,

where “VMT” is vehicle miles of travel and “MPG” is fuel efficiency in terms of miles per gallon.

$$Fuel\ Efficiency = \sum VMT_{Roadway\ Type} \div \sum \left( \frac{VMT_{Vehicle\ Type}}{MPG_{Vehicle\ Type}} \right)_{Roadway\ Type}$$

Basically, because of the particular data that were available, the methodology utilizes non-interstate VMT and average fuel efficiency data for passenger vehicles (i.e., passenger cars and other 2-axle, 4-tire vehicles, such as vans, pickups, and SUVs) and large trucks (i.e., single-unit, 2-axle, 6-tire or more trucks and combination trucks) to calculate the total gallons of fuel utilized by each of these vehicle types. The combined total VMT for the vehicle types is then divided by the combined total gallons of fuel consumed to calculate, in effect, a “weighted” fuel efficiency value that appropriately accounts for the existing fleet mix of traffic on non-interstate roadways. The VMT and average fuel efficiency data were obtained from the Federal Highway Administration’s *Highway Statistics 2002*.<sup>2</sup> Based on the calculation completed in Table D-6 of Appendix D, the new fuel efficiency rate to be used in the proposed impact cost equation is 17.62 miles per gallon.

### 2.8 Effective Days per Year

An effective 365 days per year of operation was assumed for all land uses in the proposed impact cost. It should be noted, however, that this is not typically the case for all land uses since some uses operate only on weekdays (e.g., office buildings) and/or only seasonally (e.g., schools). The use of 365 days per year, therefore, provides a "conservative" element, ensuring that gasoline taxes are adequately applied as an offset against the impact cost.

### 2.9 Capacity per Lane

An additional component of the impact cost equation is the average daily capacity added per lane mile of roadway constructed. Appendix C provides the listing of projects and methodology used to calculate the daily capacity added per lane mile for roadways

<sup>2</sup> The data used in Table D-6 in Appendix D were compiled from Table VM-1 (Section V) of the document, *Highway Statistics 2002*, Office of Highway Policy Information, Federal Highway Administration, Washington, D.C. The document can be accessed on-line at <http://www.fhwa.dot.gov/policy/ohim/hs02/>.

constructed in the City of Albuquerque. Based on the analysis of City, County, and private projects, a weighted average of 773 vehicle miles of PM peak capacity added was calculated. In addition, the cost to add one vehicle mile of capacity was calculated to be \$2,523. Table 2-10 provides a summary of this analysis.

**Table 2-10  
Estimated Capacity Added per Lane Mile & Cost per Vehicle Mile of Capacity Added  
City, County & Private Roadway Capital Projects in the City of Albuquerque  
by Service Area, 2002-2025**

#	Service Area	Lane Miles Added	Added VMC	Total Cost
1	DOWNTOWN	N/A	N/A	N/A
2	NE HEIGHTS	19.88	11,536	\$32,449,228
3	NEAR NORTH VALLEY	4.54	2,951	\$7,690,710
4	FAR NE HEIGHTS	6.18	4,017	\$12,393,267
5	I-25 CORRIDOR	5.06	3,289	\$8,571,585
6	NW MESA	85.20	71,665	\$173,059,625
7	SW MESA	45.50	35,094	\$90,139,480
Total		166.36	128,552	\$324,303,894
Weighted Average Capacity Added and Cost per VMC			773	\$2,523

### 2.10 Interstate Facility Adjustment Factor

This variable is used to recognize that Interstate highway improvements are funded by the State using earmarked State and Federal funds. Typically, impact fees are not used to pay for these improvements and the portion of the travel occurring on the Interstate System is usually eliminated from the total travel for each land use. On that basis, travel on the Interstate system should not be assessed. However, as local trips are made on the Interstate highway, gasoline taxes funding local road construction are being generated, which should be taken into account.

Currently, the City of Albuquerque has two major interstates within its boundaries: I-25 and I-40. Therefore, based on the analysis of volume data from the MTP for 2002 and 2010, an Interstate facility adjustment factor of 32.9 percent has been estimated and incorporated into the impact cost calculations. This factor is used to reduce vehicle miles of travel for each land use.

### 2.11 Across-the-Board Adjustment

This factor allows the net impact cost rates to be adjusted on an “across-the-board” basis. Some cities do not wish to assess the full impact cost, and opt to discount all land uses by a uniform percentage (this reduction must be applied uniformly across all land use categories to maintain the proportionality of impact costs). These types of decisions are made by the City Council. Since Albuquerque’s City Council has not yet considered whether such an adjustment will be made, the proposed impact cost schedule presented in Appendix F has the across-the-board factor set to zero (0) percent.

### **3.0 NET IMPACT COST SCHEDULE**

#### 3.1 Net Impact Cost Schedule

The detailed impact cost calculations are included in Appendix F as part of the net impact cost schedule. This appendix includes the major land use categories and the impact costs for the individual land uses contained within each of the major categories. For each land use, this appendix illustrates the impact cost demand component variables (trip rate, trip length, and % new trips), the total impact cost, the annual gas tax offset and present value of the gas tax offset, and the net impact cost by service area. It should be noted that the net impact cost by service area illustrated in this appendix represents the maximum impact cost per unit of land use that could be charged in the City of Albuquerque in that specific service area. Table 3-1 illustrates the net impact costs by service area by land use category.

Table 3-1  
City of Albuquerque – Net Impact Cost Schedule

ITE LUC	Land Use	Unit	Service Area							
			Downtown	NE Heights	Near North Valley	Far NE Heights	I-25 Corridor	NW Mesa	SW Mesa	
<b>RESIDENTIAL:</b>										
210	Single Family Detached / Mobile Home Indv Lot									
	Less than 1,500 sf	du	\$0	\$0	\$0	\$1,069	\$2,113	\$2,626	\$2,702	
	1,500 sf to 2,499 sf	du	\$0	\$0	\$0	\$1,585	\$3,160	\$3,933	\$4,046	
	2,500 sf or Larger	du	\$0	\$0	\$0	\$1,754	\$3,521	\$4,388	\$4,516	
220	Multi-Family	du	\$0	\$0	\$0	\$512	\$1,276	\$1,651	\$1,706	
230	Condominium/ Townhouse	du	\$0	\$0	\$0	\$218	\$885	\$1,212	\$1,260	
240	Mobile Home Park	du	\$0	\$0	\$0	\$765	\$1,344	\$1,629	\$1,671	
251	Retirement Home	du	\$0	\$0	\$0	\$74	\$335	\$462	\$481	
253	Congregate Care Facility (Attached)	du	\$0	\$0	\$0	\$67	\$193	\$255	\$264	
<b>LODGING:</b>										
310	Hotel	room	\$0	\$0	\$0	\$0	\$869	\$1,306	\$1,371	
320	Motel	room	\$0	\$0	\$0	\$336	\$837	\$1,082	\$1,119	
416	RV Park	RV Space	\$0	\$0	\$0	\$441	\$1,025	\$1,312	\$1,354	
<b>RECREATION:</b>										
430	Golf Course	Hole	\$0	\$0	\$0	\$3,513	\$8,206	\$10,510	\$10,848	
411	General Recreation (City Park)	Acres	\$0	\$0	\$0	\$162	\$374	\$478	\$493	
444	Movie Theaters w/Matinee	screen	\$0	\$0	\$0	\$4,644	\$9,422	\$11,768	\$12,112	
492	Racquet Club/Health Club/Spa/Dance Studio	1,000 sf	\$0	\$0	\$0	\$6,231	\$10,440	\$12,507	\$12,810	
495	Community Center	1,000 sf	\$0	\$0	\$0	\$2,769	\$5,818	\$7,316	\$7,535	
<b>INSTITUTIONAL:</b>										
610	Hospital	1,000 sf	\$0	\$0	\$0	\$954	\$2,902	\$3,858	\$3,998	
620	Nursing Home	bed	\$0	\$0	\$0	\$200	\$358	\$436	\$447	
520	Elementary School	student	\$0	\$0	\$265	\$502	\$618	\$675	\$683	
522	Middle School	student	\$0	\$0	\$252	\$630	\$814	\$905	\$919	
530	High School	student	\$0	\$0	\$141	\$551	\$752	\$850	\$865	
540	Junior/Community College	student	\$0	\$0	\$0	\$146	\$329	\$419	\$432	
550	University	student	\$0	\$0	\$0	\$299	\$661	\$839	\$865	
560	Church	1,000 sf	\$0	\$0	\$318	\$2,208	\$3,134	\$3,589	\$3,656	
566	Cemetery	Acres	\$0	\$0	\$521	\$2,324	\$3,208	\$3,642	\$3,706	
<b>OFFICE:</b>										
710	Under 50,000 sf	1,000 sf	\$0	\$0	\$0	\$2,076	\$4,412	\$5,559	\$5,727	
710	50,000-100,000 sf	1,000 sf	\$0	\$0	\$0	\$1,612	\$3,427	\$4,318	\$4,449	
710	100,001-200,000 sf	1,000 sf	\$0	\$0	\$0	\$1,375	\$2,922	\$3,681	\$3,793	
710	200,001-400,000 sf	1,000 sf	\$0	\$0	\$0	\$1,172	\$2,491	\$3,139	\$3,234	
710	Greater than 400,000 sf	1,000 sf	\$0	\$0	\$0	\$999	\$2,124	\$2,676	\$2,757	
770	Business Park	1,000 sf	\$0	\$0	\$0	\$1,277	\$2,895	\$3,689	\$3,806	
<b>RETAIL:</b>										
820	Under 100,000 GSF	1,000 sf	\$0	\$0	\$0	\$200	\$2,760	\$4,016	\$4,201	
820	100,000 to 400,000 GSF	1,000 sf	\$0	\$0	\$0	\$662	\$2,894	\$3,990	\$4,151	
820	400,001 to 800,000 GSF	1,000 sf	\$0	\$0	\$0	\$792	\$2,920	\$3,965	\$4,118	
820	Greater than 800,000 GSF	1,000 sf	\$0	\$0	\$0	\$875	\$2,932	\$3,942	\$4,090	
931	Quality Restaurant	1,000 sf	\$1	\$0	\$0	\$3,448	\$9,458	\$12,409	\$12,843	
934	Fast Food Rest w/ Drive-Thru	1,000 sf	\$2	\$0	\$0	\$5,594	\$25,755	\$35,654	\$37,107	
942	Auto Repair or Body Shop	1,000 sf	\$0	\$0	\$0	\$2,224	\$4,920	\$6,244	\$6,438	
841	New/Used Auto Sales	1,000 sf	\$0	\$0	\$0	\$444	\$3,758	\$5,385	\$5,624	
850	Supermarket	1,000 sf	\$0	\$0	\$0	\$2,135	\$4,580	\$5,781	\$5,957	
853	Convenience Store with Gas Pumps	1,000 sf	\$1	\$0	\$0	\$0	\$6,461	\$12,476	\$13,359	
862	Home Improvement Superstore	1,000 sf	\$0	\$0	\$0	\$2,170	\$5,031	\$6,436	\$6,642	
881	Pharmacy/Drug Store w/ Drive-Thru	1,000 sf	\$0	\$0	\$0	\$1,082	\$2,885	\$3,771	\$3,901	
890	Furniture Store	1,000 sf	\$0	\$0	\$0	\$411	\$849	\$1,064	\$1,096	
<b>INDUSTRY:</b>										
110	General Light Industrial/Utilities	1,000 sf	\$0	\$0	\$395	\$2,187	\$3,065	\$3,496	\$3,559	
120	General Heavy Industrial	1,000 sf	\$0	\$1,045	\$1,879	\$2,264	\$2,453	\$2,546	\$2,560	
130	Industrial Park	1,000 sf	\$0	\$0	\$0	\$1,308	\$2,185	\$2,616	\$2,679	
140	Manufacturing	1,000 sf	\$0	\$0	\$850	\$1,832	\$2,313	\$2,550	\$2,584	
150	Warehouse	1,000 sf	\$0	\$0	\$0	\$921	\$1,546	\$1,852	\$1,897	
151	Mini-Warehouse	1,000 sf	\$0	\$0	\$0	\$394	\$709	\$864	\$886	

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For purposes of clarification, it may be useful to walk through the calculation of an impact cost for one of the land use categories. In the following example, the net impact cost is calculated for the Single-Family Detached Residential (from 1,500 sf to 2,499 sf) land use category (ITE LUC 210) located in the Far NE Heights service area, using information from the proposed impact cost schedule included in Appendix E. For each land use category, the following equations are utilized to calculate the net impact cost:

$$\text{Net Impact Cost} = \text{Total Impact Cost} - ((1 + \text{Factor}) \text{ Gas Tax Offset})$$

Where:

$$\text{Total Impact Cost} = ((\text{Daily Trip Rate} \times \text{Assessable Trip Length} \times \% \text{ New Trips}) / 2) \times (1 - \text{Interstate Facility Adj. Factor}) \times (\text{Cost per Lane Mile} / \text{Avg. Capacity Added per Lane Mile})$$

**Factor** = As discussed previously, the purpose of this factor is to include in the impact cost calculation consideration of an offset for the relationship between existing/future development revenues.

$$\text{Gas Tax Offset} = \text{Present Value (Annual Gas Tax), given 5\% interest rate \& 25-year facility life}$$

$$\text{Annual Gas Tax} = (((\text{PM Peak Trip Rate} \times \text{Total Trip Length} \times \% \text{ New Trips}) / 2) \times \text{Effective Days per Year} \times \$/\text{Gallon to Capital}) / \text{Fuel Efficiency}$$

Each of the inputs have been discussed previously in this document; however, for purposes of this example, brief definitions for each are provided below, along with the actual inputs for the Single-Family Detached Residential category.

- *Daily Trip Rate* = the average daily trip generation rate, in vehicle-trips/day (9.57)
- *PM Peak Trip Rate* = the average pm peak trip generation rate, in vehicle-trips/day (1.02)
- *Assessable Trip Length* = the average trip length for the category, in vehicle-miles (6.28)
- *Total Trip Length* = average trip lengths represent travel on the functionally-classified road system, but gas taxes are collected for travel on all roads including local roads; therefore, an adjustment factor of 0.5 miles was added to the assessable trip length of each land use category to account for this (6.28 + 0.50 = 6.78)
- *% New Trips* = adjustment factor to account for trips that are already on the roadway (100%)
- The total daily miles of travel generated by a particular category (i.e., rate x length x % new trips) is divided by two to prevent the double-counting of travel generated among land use codes since every trip has an origin and a destination.
- *Interstate Facility Adjustment Factor* = adjustment factor to account for the travel demand occurring on Interstates (32.9%)

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- *Cost per Lane Mile* = unit cost to construct one lane mile of roadway, in \$/lane-mile (\$1,949,410)
- *Average Capacity Added per Lane Mile* = represents the average PM peak traffic on one travel lane at capacity for one lane mile of roadway, in vehicles/lane-mile/hour (773)
- *Present Value* = calculation of the present value of a uniform series of cash flows, gas tax payments in this case, given an interest rate, "i," and a number of periods, "n," for 5% interest and a 25-year facility life, the uniform series present worth factor is 14.0939.
- *Effective Days per Year* = 365 days
- *\$/Gallon to Capital* = the amount of gas tax revenue per gallon of fuel that is used for capital improvements, in \$/gallon (\$0.037)
- *Fuel Efficiency* = average fuel efficiency of vehicles, in vehicle-miles/gallon (17.62)
- *Factor for Far NE Heights service area* =13.63.

Using these inputs, a net impact cost can be calculated for the Single-Family Detached Residential land use category as follows (please note that figures may not calculate exactly due to rounding).

Total Impact Cost =  $((1.02 \times 6.28 \times 1.0) / 2) \times (1 - 0.329) \times (\$1,949,410 / 773) = \$5,425$

Annual Gas Tax =  $((9.57 \times 6.78 \times 1.0) / 2) \times 365 \times \$0.037 / 17.62 = \$16.5$

Gas Tax Offset =  $\$16.5 \times 14.0939 = \$351$

Total Offset =  $\$351 \times (1 + 7.09) = \$2,838$

Net Impact Cost =  $\$5,425 - \$2,838 = \$2,587$

### 4.0 IMPACT COST REVENUE PROJECTIONS

The total revenues generated by the net impact costs during the period from 2004 to 2012 were estimated based on three specific land uses for which unit growth and/or permit data were available from the City of Albuquerque for each service area, as follows:

- Single Family;
- Multi Family; and
- Commercial.

This information was used as a proxy for permit data in light of the fact that historical permit data were not available for the City by service area. The planning data that were utilized came from a table showing the total dwelling

units that each service area had in the year 2000, as well as the 2010 and 2025 projected numbers of dwelling units. Based on this table, a linear trend was assumed for this period and dwelling unit information was interpolated between 2000 and 2010 for 2004 and extrapolated from these same years for 2012, since this is the timeframe for which future impact fee revenues were being estimated. Therefore, the number of dwelling units used to generate the impact fee revenue estimates was calculated as the difference in total units between 2012 and 2004 for each service area.

### *Residential*

The distribution in dwelling units between single family and multi-family homes was estimated using future projections for single family and multi-family units by service area. This information was supplied by the MRCOG for 2005 and 2010. Based on this information, during this time period, the unit growth distribution between single family and multi-family units was calculated for each service area. These distributions were applied to the total new dwelling units estimated to be built during the period from 2004 to 2012 for each service area.

The service-area-specific impact fee rates for the single family and multi-family uses were then applied to the corresponding resulting estimates for the number of dwelling units for these uses for the 2004-2012 period. This calculation resulted in the estimation of the single family and multi-family impact fee revenue that would be generated by each service area during the 2004-2012 period.

### *Commercial*

The service-area-specific revenues generated by the commercial uses were calculated using the ratio between the total commercial and residential permits that have been issued in the City over the last 20 years (using the historical permit data from the City). During this period, commercial permits represent approximately five percent of the total single family permits. This five percent figure was applied to the total single family dwelling units for the 2004-2012 period for each service area to estimate the anticipated number of commercial units that would occur in each during this time.

Since commercial revenues are based on 1,000 SF, it was necessary to determine the average size (in square footage) of the commercial uses that are being built in the City. More specific, recent information on commercial permits from the City was used to determine that the average size commercial building being built in the last 16 months is about 20,000 SF. This, then, is the average size that was used to calculate the commercial revenues expected to be generated in each of the service areas (i.e., # of commercial units for the period multiplied by the average size per unit, then multiplied by the impact fee rate for the 20,000 SF retail use).

The estimated revenues for the three uses were then summed for all the service areas to generate a total revenue projection of \$74.0 million for the 2004-2012 period, as shown in Table 4-1. Additional information is presented in Appendix G.

**Table 4-1  
Revenue Projections – 2004-2012**

<b>Land Use</b>	<b>Total</b>
Single Family	\$63,029,072
Multi Family	\$7,815,849
Commercial	\$3,176,023
<b>Total Estimated Revenues</b>	<b>\$74,020,944</b>

## 5.0 STATUTORY REQUIREMENTS

The New Mexico Statutes (annotated 1978) include several requirements related to the subject area of land development fees. Two of these requirements are addressed herein, specifically, related to Chapter 5, Municipalities and Counties, Article 8, Land Development Fees and Rights, Section 5-8-6, Capital Improvements Plan. The first requirement that is addressed involves the development of a Capital Improvements Plan (CIP) related to the calculation of the impact fee. City of Albuquerque staff has developed a CIP based on the impact fee revenue estimation of \$74.0 million for the 2004-2012 period that was discussed in the previous section. This 2004-2012 CIP is included in Appendix H, and it presents the capital improvement projects by service area. The second requirement is the completion of an analysis that compares existing capacity and demand to future demand and planned future capacity to ensure that planned impact fee projects are

not constructing more capacity than is needed for estimated future demand. The purpose of such an analysis is to justify the levels that have been proposed for the impact fee rates and prove that they are fair to new development in that they do not require new development to pay for more than its share of total capacity needs. The tables that detail this particular analysis are presented and discussed in Appendix I.

# Appendix A

## Trip Characteristics Studies

Trip Characteristics Studies

Industrial Park (ITE LUC 130)

General Development	Size (1000 Ft <sup>2</sup> /units)	Location	Date	Total No. Interviews	# Trip Length Interviews	Trip Gen. Rate	Time Period	Trip Length	Percent New Trips	VMT per ksf	Source
Industrial Park	165.0	Sarasota Co, FL	Jan-00	58	58	16.95	-	8.0	-	135.6	Sarasota County
Industrial Park	367.0	Sarasota Co, FL	Jan-00	86	86	9.32	-	10.1	-	94.1	Sarasota County
Industrial Park	100.0	Sarasota Co, FL	Jan-00	26	26	6.06	-	6.6	-	40.0	Sarasota County
Total Size 632.0											
<b>Average Trip Length: 8.2</b>											
<b>Weighted Average Trip Length: 9.0</b>											
Weighted Percent New Trip Average: -											

Weighted Average Trip Generation Rate: 10.80  
 ITE Average Trip Generation Rate: 6.97

Single-Family Detached Housing (ITE LUC 210)

General Development	Size units	Location	Date	Total No. Interviews	# Trip Length Interviews	Trip Gen. Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Single Family	-	Gwinnett Co., GA	12/13-18/92	-	-	5.8	-	5.4	N/A	31.3	Street Smarts
Single Family	-	Gwinnett Co., GA	12/13-18/92	-	-	5.4	-	6.1	N/A	32.9	Street Smarts
Single Family	76	Hernando Co., FL	5/24/96	148	148	10.0	9a-6p	4.9	N/A	48.5	Tindale-Oliver & Associates
Single Family	301	Hernando Co., FL	5/24/96	264	264	8.9	9a-6p	3.3	N/A	29.3	Tindale-Oliver & Associates
Single Family	232	Hernando Co., FL	5/24/96	182	182	7.2	9a-6p	5.0	N/A	36.5	Tindale-Oliver & Associates
Single Family	128	Hernando Co., FL	5/24/96	205	205	8.2	9a-6p	6.0	N/A	49.3	Tindale-Oliver & Associates
Single Family	76	Sarasota Co, FL	Jun-93	70	70	10.0	-	6.0	N/A	60.2	Sarasota County
Single Family	79	Sarasota Co, FL	Jun-93	86	86	9.8	-	4.4	N/A	43.0	Sarasota County
Single Family	282	Sarasota Co, FL	Jun-93	146	146	6.6	-	8.4	N/A	55.5	Sarasota County
Single Family	393	Sarasota Co, FL	Jun-93	207	207	7.8	-	5.4	N/A	41.9	Sarasota County
Single Family	97	Sarasota Co, FL	Jun-93	33	33	13.2	-	3.0	N/A	39.6	Sarasota County
Single Family	193	Sarasota Co, FL	Jun-93	123	123	6.9	-	4.6	N/A	31.5	Sarasota County
Single Family	135	Sarasota Co, FL	Jun-93	75	75	8.1	-	5.9	N/A	47.5	Sarasota County
Single Family	152	Sarasota Co, FL	Jun-93	63	63	8.6	-	7.3	N/A	62.4	Sarasota County
Single Family		Volusia Co, FL							N/A		
Single Family		Volusia Co, FL							N/A		
Single Family		Volusia Co, FL							N/A		
Single Family	215	Charlotte Co, FL	Oct-97	158		7.6	9a-5p	4.6	N/A	35.0	Tindale-Oliver & Associates
Single Family	142	Charlotte Co, FL	Oct-97	245		5.2	9a-5p	4.1	N/A	21.3	Tindale-Oliver & Associates
Single Family	383	Charlotte Co, FL	Oct-97	516		8.4	9a-5p	5.0	N/A	42.0	Tindale-Oliver & Associates
Single Family	257	Charlotte Co, FL	Oct-97	225		7.6	9a-5p	7.4	N/A	56.2	Tindale-Oliver & Associates
Single Family	345	Charlotte Co, FL	Oct-97	161		7.0	9a-5p	6.6	N/A	46.2	Tindale-Oliver & Associates
Single Family	1169	Charlotte Co, FL	Oct-97	348		6.1	9a-5p	8.0	N/A	48.8	Tindale-Oliver & Associates
Single Family	441	Charlotte Co, FL	Oct-97	195		8.2	9a-5p	4.7	N/A	38.5	Tindale-Oliver & Associates
Single Family	150	Charlotte Co, FL	Oct-97	160		5.0	9a-5p	10.8	N/A	54.0	Tindale-Oliver & Associates
Single Family	135	Charlotte Co, FL	Oct-97	230		5.3	9a-5p	7.9	N/A	41.9	Tindale-Oliver & Associates
Single Family	368	Charlotte Co, FL	Oct-97	152		6.6	9a-5p	5.7	N/A	37.6	Tindale-Oliver & Associates
Single Family	52	Lake Co, FL	Apr-02	212		10.0	7a-6p	7.6	N/A	76.0	Tindale-Oliver & Associates
Single Family	49	Lake Co, FL	Apr-02	170		6.7	7a-6p	10.2	N/A	68.3	Tindale-Oliver & Associates
Single Family	126	Lake Co, FL	Apr-02	217		8.5	7a-6p	8.3	N/A	70.6	Tindale-Oliver & Associates
Single Family	770	Collier Co, FL	Dec-99	175		4.3	8a-6p	5.0	N/A	21.4	Tindale-Oliver & Associates
Single Family	400	Collier Co, FL	Dec-99	389		7.8	8a-6p	6.4	N/A	49.9	Tindale-Oliver & Associates
Single Family	90	Collier Co, FL	Dec-99	91		12.8	8a-6p	11.4	N/A	145.9	Tindale-Oliver & Associates
Single Family	189	Pasco Co, FL	Apr-02	261		7.5	8a-6p	9.0	N/A	67.1	Tindale-Oliver & Associates
Single Family	74	Pasco Co, FL	Apr-02	188		8.2	8a-6p	6.0	N/A	48.7	Tindale-Oliver & Associates
Single Family	55	Pasco Co, FL	Apr-02	133		6.8	8a-6p	8.1	N/A	55.2	Tindale-Oliver & Associates
Single Family	60	Pasco Co, FL	Apr-02	106		7.7	8a-6p	8.8	N/A	67.6	Tindale-Oliver & Associates
Single Family	70	Pasco Co, FL	Apr-02	188		7.8	8a-6p	6.0	N/A	47.0	Tindale-Oliver & Associates
Single Family	364	Citrus Co, FL	Oct-03	345		7.2	7a-6p	9.1	N/A	65.8	Tindale-Oliver & Associates
Single Family	374	Citrus Co, FL	Oct-03	248		12.3	7a-6p	6.9	N/A	84.6	Tindale-Oliver & Associates
Single Family	306	Citrus Co, FL	Oct-03	146		8.4	7a-6p	3.9	N/A	33.1	Tindale-Oliver & Associates
Single Family	111	Citrus Co, FL	Oct-03	273		8.7	7a-6p	7.7	N/A	66.7	Tindale-Oliver & Associates
Single Family	231	Citrus Co, FL	Oct-03	155		5.7	7a-6p	4.8	N/A	27.5	Tindale-Oliver & Associates
Total Size 9,070.0											
<b>Average Trip Length: 6.5</b>											
<b>Weighted Average Trip Length: 6.3</b>											

Weighted Average Trip Generation Rate: 7.41  
 ITE Average Trip Generation Rate: 9.57

Apartment (ITE LUC 220)

General Development	Size units	Location	Date	Total No. Interviews	# Trip Length Interviews	Trip Gen. Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Apartment	243.0	Sarasota Co, FL	Jun-93	36	36	5.8	-	11.5	-	67.2	Sarasota County
Apartment	212.0	Sarasota Co, FL	Jun-93	42	42	5.8	-	5.2	-	30.1	Sarasota County
Total Size 455.0											
<b>Average Trip Length: 8.4</b>											
<b>Weighted Average Trip Length: 8.6</b>											

Weighted Average Trip Generation Rate: 5.81  
 ITE Average Trip Generation Rate: 6.47

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## Residential Condominium/Townhouse (ITE LUC 230)

General Development	Size units	Location	Date	Total No. Interviews	# Trip Length Interviews	Trip Gen. Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Condominium	128.0	Hernando Co., FL	May-96	198	198	6.5	9a-6p	5.2	N/A	33.5	Tindale-Oliver & Associates
Condominium	31.0	Hernando Co., FL	May-96	31	31	6.1	9a-6p	5.0	N/A	30.5	Tindale-Oliver & Associates
Condominium	248.0	Pasco Co, FL	Apr-02	353	353	4.2	9a-6p	3.5	N/A	15.0	Tindale-Oliver & Associates
Condominium	229	Pasco Co, FL	Apr-02	198	198	4.8	9a-6p	12.1	N/A	57.7	Tindale-Oliver & Associates

Total Size 636.0

<b>Average Trip Length:</b>	<b>6.4</b>
<b>Weighted Average Trip Length:</b>	<b>7.0</b>

Weighted Average Trip Generation Rate: 4.97  
ITE Average Trip Generation Rate: 5.86

## Mobile Home Park (ITE LUC 240)

General Development	Size units	Location	Date	Total No. Interviews	# Trip Length Interviews	Trip Gen. Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Mobile Home Park	1892.0	Hernando Co., FL	May-96	425	425	4.1	9a-6p	4.1	N/A	17.1	Tindale-Oliver & Associates
Mobile Home Park	82.0	Marion County, FL	Jul-91	58	58	10.8	24hr.	3.7	N/A	40.2	Tindale-Oliver & Associates
Mobile Home Park	67.0	Marion County, FL	Jul-91	22	22	5.4	48hrs.	2.3	N/A	12.4	Tindale-Oliver & Associates
Mobile Home Park	137.0	Marion County, FL	Jul-91	22	22	3.1	24hr.	4.9	N/A	15.1	Tindale-Oliver & Associates
Mobile Home Park	235	Sarasota Co, FL	Jun-93	100	100	3.5	-	5.1	N/A	17.9	Sarasota County
Mobile Home Park	996	Sarasota Co, FL	Jun-93	181	181	4.2	-	4.4	N/A	18.4	Sarasota County

Total Size 3409.0

<b>Average Trip Length:</b>	<b>4.1</b>
<b>Weighted Average Trip Length:</b>	<b>4.3</b>

Weighted Average Trip Generation Rate: 4.25  
ITE Average Trip Generation Rate: 4.80

## Retirement Community (ITE LUC 250)

General Development	Size units	Location	Date	Total No. Interviews	# Trip Length Interviews	Trip Gen. Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Retirement Community	67	Lakeland, FL	3/28-4/2/90	26	24	3.5	9a-4p	2.4	92.0	7.9	Tindale-Oliver & Associates

Total Size 67

<b>Average Trip Length:</b>	<b>2.4</b>
<b>Weighted Average Trip Length:</b>	<b>2.4</b>

Weighted Percent New Trip Average: 92.0

Weighted Average Trip Generation Rate: 3.50  
ITE Average Trip Generation Rate: -

## Congregate Care Facility ( ITE LUC 252)

General Development	Size units	Location	Date	Total No. Interviews	# Trip Length Interviews	Trip Gen. Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Retirement Community	200.0	Palm Harbor, FL	Oct-89	58	40	-	9am-5pm	3.4	69.0	-	Tindale-Oliver & Associates
Retirement Community	72.0	Pinellas Park, FL	Aug-89	25	19	3.5	9am-5pm	2.2	79.0	6.1	Tindale-Oliver & Associates

Total Size 272.0

<b>Average Trip Length:</b>	<b>2.8</b>
<b>Weighted Average Trip Length:</b>	<b>3.1</b>

Weighted Percent New Trip Average: 71.6

Weighted Average Trip Generation Rate: 3.5  
ITE Average Trip Generation Rate: 2.2

## Elderly Housing -Attached (ITE LUC 253)

General Development	Size (1000 Ft <sup>2</sup> /units)	Location	Date	Total No. Interviews	# Trip Length Interviews	Trip Gen. Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Retirement Community	208	Sun City Center, FL	Oct-91	726	726	2.5	24hr	3.3	-	8.1	Tindale-Oliver & Associates

Total Size 208.0

<b>Average Trip Length:</b>	<b>3.3</b>
<b>Weighted Average Trip Length:</b>	<b>3.3</b>

Percent New Trip Average: -

Weighted Average Trip Generation Rate: 2.5  
ITE Average Trip Generation Rate: -

## Elderly Housing -Detached (ITE LUC - )

General Development	Size (1000 Ft <sup>2</sup> /units)	Location	Date	Total No. Interviews	# Trip Length Interviews	Trip Gen. Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Retirement Community	2686	Sun City Center, FL	Oct-91	1145	1145	6.1	24hr	3.2	-	19.7	Tindale-Oliver & Associates

Total Size 2686.0

<b>Average Trip Length:</b>	<b>3.2</b>
<b>Weighted Average Trip Length:</b>	<b>3.2</b>

Percent New Trip Average: -

Weighted Average Trip Generation Rate: 6.1  
ITE Average Trip Generation Rate: -

## Active Adult Community (ITE LUC - )

General Development	Occupied dus	Location	Date	Total No. Interviews	# Trip Length Interviews	Trip Gen. Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Residential Community	450	Leesburg	Oct-99			4.5	24hr	11.4	-	51.3	Tindale-Oliver & Associates
Residential Community	540	Leesburg	Oct-99			3.8	24hr	8.3	-	31.2	Tindale-Oliver & Associates
Residential Community	810	Clermont	Oct-99			3.5	24hr	3.5	-	12.0	Tindale-Oliver & Associates

Total Size 1800.0

<b>Average Trip Length:</b>	<b>7.7</b>
<b>Weighted Average Trip Length:</b>	<b>6.9</b>

Weighted Percent New Trip Average: -

Weighted Average Trip Generation Rate: 3.8  
ITE Average Trip Generation Rate: -

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## Hotel (ITE LUC 310)

General Development	Size rooms	Location	Date	Total No. Interviews	# Trip Length Interviews	Trip Gen. Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Hotel	174.0	Pinellas Co.,FL	Aug-89	134	106	12.5	7-11a/3-7p	6.3	79.0	62.2	Tindale-Oliver & Associates
Hotel	114.0	Pinellas Co.,FL	Oct-89	30	14	7.3	12-7:30p	6.2	47.0	21.3	Tindale-Oliver & Associates

Total Size 288.0

**Average Trip Length: 6.3**

**Weighted Average Trip Length: 6.3**

Weighted Percent New Trip Average: 66.3

Weighted Average Trip Generation Rate: 10.4

ITE Average Trip Generation Rate: 8.7

## Motel (ITE LUC 320)

General Development	Size rooms	Location	Date	Total No. Interviews	# Trip Length Interviews	Trip Gen. Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Motel	54	Pinellas Co.,FL	Oct-89	32	22	-	12p-7p	3.8	69.0	-	Tindale-Oliver & Associates
Motel	48	Pinellas Co.,FL	Oct-89	46	24	-	10a-2:20p	2.8	65.0	-	Tindale-Oliver & Associates
Motel	120	Pinellas Co.,FL	Oct-89	26	22	-	2p-7p	5.2	84.6	-	Tindale-Oliver & Associates

Total Size 222.0

**Average Trip Length: 3.9**

**Weighted Average Trip Length: 4.3**

Weighted Percent New Trip Average: 76.6

Weighted Average Trip Generation Rate: -

ITE Average Trip Generation Rate: 10.2

## Resort Hotel (ITE LUC 330)

General Development	Size rooms	Location	Date	Total No. Interviews	# Trip Length Interviews	Trip Gen. Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Business Hotel	207	Pinellas Co.,FL	Sep-89	118	110	18.6	9a-7p	2.7	93.3	46.9	Tindale-Oliver & Associates
Business Hotel	390	Pinellas Co.,FL	Sep-89	116	90	-	10a-7p	7.9	78.0	-	Tindale-Oliver & Associates

Total Size 597.0

**Average Trip Length: 5.3**

**Weighted Average Trip Length: 6.1**

Weighted Percent New Trip Average: 83.3

Weighted Average Trip Generation Rate: 18.6

ITE Average Trip Generation Rate: -

## Movie Theater with Matinee (ITE LUC 444)

General Development	Size screens	Location	Date	Total No. Interviews	# Trip Length Interviews	Trip Gen. Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Movie Theater	8.0	Pinellas Co.,FL	Oct-89	151	116	113.1	2p-8p	2.7	77.0	235.1	Tindale-Oliver & Associates
Movie Theater	12.0	Pinellas Co.,FL	Sep-89	122	116	63.4	2p-8p	1.9	95.0	114.4	Tindale-Oliver & Associates

Total Size 20.0

**Average Trip Length: 2.3**

**Weighted Average Trip Length: 2.2**

Weighted Percent New Trip Average: 87.8

Weighted Average Trip Generation Rate: 83.3

ITE Average Trip Generation Rate: 153.3

## Health Club (ITE LUC 493)

General Development	Size (1000 Ft*2/units)	Location	Date	Total No. Interviews	# Trip Length Interviews	Trip Gen. Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Health Spa	-	Tampa, FL	Mar-86	33	31	-	-	7.9	94.0	-	Kimley-Horn & Associates

Average Size:

**Average Trip Length: 7.9**

Percent New Trip Average: 94.0

Average Trip Generation Rate: -

ITE Average Trip Generation Rate: -

## Day Care Center (ITE LUC 565)

General Development	Size (1000 Ft*2/units)	Location	Date	Total No. Interviews	# Trip Length Interviews	Trip Gen. Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Day Care Center	5.6	Pinellas Co.	Aug-89	94	66	67.0	7a-6p	1.9	70.0	89.1	Tindale-Oliver & Associates
Day Care Center	10.0	Pinellas Co.	Sep-89	179	134	67.0	7a-6p	2.1	75.0	105.5	Tindale-Oliver & Associates
Day Care Center	-	Tampa, FL	Mar-86	28	25	-	-	2.6	89.0	-	Kimley-Horn & Associates

Total Size 15.6

**Average Trip Length: 2.2**

**Weighted Average Trip Length: 2.0**

Weighted Percent New Trip Average: 73.2

Weighted Average Trip Generation Rate: 67.0

ITE Average Trip Generation Rate: -

## Nursing Home (ITE LUC 620)

General Development	Size beds	Location	Date	Total No. Interviews	# Trip Length Interviews	Trip Gen. Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Nursing Home	120	Lakeland, FL	Mar-90	74	66	2.9	11a-4p	2.6	89.0	6.6	Tindale-Oliver & Associates

Total Size 120

**Average Trip Length: 2.6**

**Weighted Average Trip Length: 2.6**

Weighted Percent New Trip Average: 89.0

Weighted Average Trip Generation Rate: 2.9

ITE Average Trip Generation Rate: 2.6

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## Clinic (ITE LUC 630)

General Development	Size (1000 Ft <sup>2</sup> /units)	Location	Date	Total No. Interviews	# Trip Length Interviews	Trip Gen. Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Medical Clinic	103.9	Largo, FL	Aug-89	614	572	37.0	7a-430p	5.1	93.0	175.6	Tindale-Oliver & Associates
Medical Clinic	-	St. Petersburg, FL	Oct-89	280	252	-	9a-5p	4.1	90.0	-	Tindale-Oliver & Associates

Total Size 103.9

<b>Average Trip Length:</b>	<b>4.6</b>
<b>Weighted Average Trip Length:</b>	<b>5.1</b>

Weighted Percent New Trip Average: 93.0

Weighted Average Trip Generation Rate: 37.0  
ITE Average Trip Generation Rate: 23.8

## General Office Building (ITE LUC 710)

General Development	Size (1000 Ft <sup>2</sup> /units)	Location	Date	Total No. Interviews	# Trip Length Interviews	Trip Gen. Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
General Office	98.0	Gwinnett Co., GA	12/13-18/92	-	-	4.3	-	5.4	-	-	Street Smarts
General Office	180.0	Gwinnett Co., GA	12/13-18/92	-	-	3.6	-	5.9	-	-	Street Smarts
General Office	262.8	St. Petersburg, FL	Sep-89	291	274	-	7a-5p	3.4	94.0	-	Tindale-Oliver & Associates
General Office	187.0	Pinellas Co.	Oct-89	431	388	18.5	7a-5p	6.3	90.0	104.8	Tindale-Oliver & Associates
General Office	14.3	Sarasota Co, FL	Jun-93	14	14	46.9	-	11.3	-	529.4	Sarasota County

Total Size 742.1

<b>Average Trip Length:</b>	<b>6.5</b>
<b>Weighted Average Trip Length:</b>	<b>5.2</b>

Weighted Percent New Trip Average: 92.3

Weighted Average Trip Generation Rate: 10.8  
ITE Average Trip Generation Rate: 11.0

## Single Tenant Office Building (ITE LUC 715)

General Development	Size (1000 Ft <sup>2</sup> /units)	Location	Date	Total No. Interviews	# Trip Length Interviews	Trip Gen. Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Single Tenant Office	82.0	Sarasota Co, FL	Jun-93	142	142	17.6	-	6.6	-	116.1	Sarasota County
Single Tenant Office	84.0	Sarasota Co, FL	Jun-93	79	79	11.5	-	7.2	-	83.1	Sarasota County

Total Size 166.0

<b>Average Trip Length:</b>	<b>6.9</b>
<b>Weighted Average Trip Length:</b>	<b>6.9</b>

Weighted Percent New Trip Average: -

Weighted Average Trip Generation Rate: 14.5  
ITE Average Trip Generation Rate: 11.5

## Medical-Dental Office Building (ITE LUC 720)

General Development	Size (1000 Ft <sup>2</sup> /units)	Location	Date	Total No. Interviews	# Trip Length Interviews	Trip Gen. Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Medical Office	28.0	Hernando Co., FL	May-96	202	189	49.8	9a-6p	6.1	93.8	282.6	Tindale-Oliver & Associates
Medical Office	58.4	Hernando Co., FL	May-96	390	349	28.5	9a-6p	6.5	89.5	165.1	Tindale-Oliver & Associates
Medical Office	-	St. Petersburg, FL	Nov-89	34	30	57.2	9a-4p	1.2	88.0	-	Tindale-Oliver & Associates
Medical Office	14.6	Palm Harbor, FL	Oct-89	104	76	34.0	9a-5p	6.3	73.0	156.3	Tindale-Oliver & Associates
Medical Office	-	Tampa, FL	Mar-86	33	26	-	-	6.0	79.0	-	Kimley-Horn & Associates
Medical Office	30.4	Charlotte Co, FL	Oct-97	-	324	39.8	9a-5p	3.3	83.5	109.7	Tindale-Oliver & Associates
Medical Office	28.0	Charlotte Co, FL	Oct-97	-	186	31.0	9a-5p	3.6	81.6	91.0	Tindale-Oliver & Associates
Medical Office	11.0	Charlotte Co, FL	Oct-97	-	186	49.5	9a-5p	4.6	92.1	209.7	Tindale-Oliver & Associates
Medical Office	38.9	Citrus Co, FL	Oct-03	-	168	32.3	8-6p	6.8	97.1	213.0	Tindale-Oliver & Associates
Medical Office	10.0	Citrus Co, FL	Nov-03	-	340	40.6	8-630p	6.2	92.4	232.3	Tindale-Oliver & Associates
Medical Office	5.3	Citrus Co, FL	Dec-03	-	20	29.4	8-5p	5.3	95.2	146.8	Tindale-Oliver & Associates

Total Size 224.5

<b>Average Trip Length:</b>	<b>5.1</b>
<b>Weighted Average Trip Length:</b>	<b>5.5</b>

Weighted Percent New Trip Average: 88.9

Average Trip Generation Rate: 35.6  
ITE Average Trip Generation Rate: 36.1

## Office Park (ITE LUC 750)

General Development	Size (1000 Ft <sup>2</sup> /units)	Location	Date	Total No. Interviews	# Trip Length Interviews	Trip Gen. Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Office Park	30.0	Sarasota Co, FL	Jun-93	10	10	9.1	-	9.0	-	81.9	Sarasota County
Office Park	36.0	Sarasota Co, FL	Jun-93	17	17	20.5	-	8.3	-	170.2	Sarasota County
Office Park	45.0	Sarasota Co, FL	Jun-93	42	42	37.0	-	4.9	-	181.3	Sarasota County

Total Size 111.0

<b>Average Trip Length:</b>	<b>7.4</b>
<b>Weighted Average Trip Length:</b>	<b>7.1</b>

Weighted Percent New Trip Average: -

Weighted Average Trip Generation Rate: 24.1  
ITE Average Trip Generation Rate: 11.4

## Business Park (ITE LUC 770)

General Development	Size (1000 Ft <sup>2</sup> /units)	Location	Date	Total No. Interviews	# Trip Length Interviews	Trip Gen. Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Business Park	211.1	Collier Co, FL			284	17.91	8a-6p	5.4	93.0	89.9	Tindale-Oliver & Associates
Business Park	66.0	Collier Co, FL			43	11.53	8a-6p	5.7	79.0	51.9	Tindale-Oliver & Associates
Business Park	14.1	Collier Co, FL			55	33.48	8a-6p	3.6	72.7	87.6	Tindale-Oliver & Associates

291.2

<b>Average Trip Length:</b>	<b>4.9</b>
<b>Weighted Average Trip Length:</b>	<b>5.4</b>

Weighted Percent New Trip Average: 88.8

Weighted Average Trip Generation Rate: 17.2  
ITE Average Trip Generation Rate: 12.8

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## Building Materials and Lumber Store (ITE LUC 812)

General Development	Size (1000 Ft <sup>2</sup> /units)	Location	Date	Total No. Interviews	# Trip Length Interviews	Trip Gen. Rate	Time Period	Trip Length	Percent New Trips	VTM	Source
Plumbing	86.9	Tampa, FL	Jun-93	40	-	-	7a-430p	6.6	73.0	-	Tindale-Oliver & Associates
Plumbing	98.5	Tampa, FL	Jun-93	40	-	-	7a-430p	6.0	-	-	Tindale-Oliver & Associates
Plumbing	-	Tampa, FL	Jun-93	40	-	-	7a-430p	5.9	75.7	-	Tindale-Oliver & Associates

Total Size 185.4

Average Trip Length: 6.2

Weighted Average Trip Length: 6.3

Weighted Percent New Trip Average: 74.4

Weighted Average Trip Generation Rate: -  
ITE Average Trip Generation Rate: 30.6

## Free-Standing Discount Superstore (ITE LUC 813)

General Development	Size (1000 Ft <sup>2</sup> /units)	Location	Date	Total No. Interviews	# Trip Length Interviews	Trip Gen. Rate	Time Period	Trip Length	Percent New Trips	VTM	Source
Discount Superstore	203.6	Citrus Co, FL	Nov-03		236	55.0	8a-6p	5.9	91.8	298.5	Tindale-Oliver & Associates

Total Size 203.6

Average Trip Length: 5.9

Weighted Average Trip Length: 5.9

Weighted Percent New Trip Average: 91.8

Weighted Average Trip Generation Rate: 55.0  
ITE Average Trip Generation Rate: 47.0

## Specialty Retail Center (ITE LUC 814)

General Development	Size (1000 Ft <sup>2</sup> /units)	Location	Date	Total No. Interviews	# Trip Length Interviews	Trip Gen. Rate	Time Period	Trip Length	Percent New Trips	VTM	Source
Retail Center	56.5	Orlando, FL	Jan-96	-	602		varied	3.5	87.9	-	LCE, Inc. *
Electronics Retail	12.0	Collier Co., FL	May-99		13	19.7	8a-6p	3.7	75.0	54.7	Tindale-Oliver & Associates
Hardware Store	12.0	Collier Co., FL	May-99		146	127.5	8a-6p	2.2	84.3	240.8	Tindale-Oliver & Associates

Total Size 80.5

Average Trip Length: 3.2

Weighted Average Trip Length: 3.4

Weighted Percent New Trip Average: 85.4

Weighted Average Trip Generation Rate: 73.6  
ITE Average Trip Generation Rate: 40.7

## Shopping Center (ITE LUC 820)

General Development	Size (1000 Ft <sup>2</sup> /units)	Location	Date	Total No. Interviews	# Trip Length Interviews	Trip Gen. Rate	Time Period	Trip Length	Percent New Trips	VTM	Source
Mall	1192.0	St. Petersburg, FL	Aug-89	384	298	-	11a-7p	3.6	78.0	-	Tindale-Oliver & Associates
Mall	425.0	Seminole, FL	Oct-89	674	586	-	-	-	87.0	-	Tindale-Oliver & Associates
Mall	696.0	Pinellas Park, FL	Sep-89	485	388	-	9a-6p	3.2	80.0	-	Tindale-Oliver & Associates
Shopping Center	107.8	Hernando Co., FL	May-96	608	331	77.6	9a-6p	4.7	54.5	197.9	Tindale-Oliver & Associates
Shopping Center	-	Collier County, FL	Aug-91	68	64	-	-	3.3	94.1	0.0	Tindale-Oliver & Associates
Shopping Center	-	Collier County, FL	Aug-91	208	154	-	-	2.6	74.0	0.0	Tindale-Oliver & Associates
Shopping Center	-	Tampa, FL	Mar-86	527	348	-	-	-	66.0	-	Kimley-Horn & Associates
Shopping Center	-	Tampa, FL	Mar-86	170	-	-	-	1.7	-	-	Kimley-Horn & Associates
Shopping Center	-	Tampa, FL	Mar-86	354	269	-	-	-	76.0	-	Kimley-Horn & Associates
Shopping Center	-	Tampa, FL	Mar-86	144	-	-	-	2.5	-	-	Kimley-Horn & Associates
Shopping Center	132.3	St.Petersburgh,FL	9/25-26/89	400	368	77.0	10a-7p	1.8	92.0	127.5	Tindale-Oliver & Associates
Mall	425.0	Largo, FL	Aug-89	160	120	26.7	10a-6p	2.3	75.0	46.1	Tindale-Oliver & Associates
Shopping Center	80.5	Dunedin, FL	Sep-89	276	210	81.5	9a-530p	1.4	76.0	86.7	Tindale-Oliver & Associates
Shopping Center	99.1	Gwinnett Co., GA	12/13-18/92	-	-	46.0	-	3.2	70.0	103.0	Street Smarts
Shopping Center	314.7	Gwinnett Co., GA	12/13-18/92	-	-	27.0	-	8.5	84.0	192.8	Street Smarts
Shopping Center	133.4	Ocala, FL	9/18-22/92	300	192	-	12am-6pm	-	64.0	-	ing Engineering Associates, In
Shopping Center	109.0	Sarasota/Bradenton, Fl	9/15-9/18/92	300	185	-	12am-6pm	-	61.6	-	ing Engineering Associates, In
Shopping Center	67.8	Lake Co, FL	Apr-01	246	177	102.6	-	3.4	71.2	248.4	Tindale-Oliver & Associates
Shopping Center	72.3	Lake Co, FL	Apr-01	444	376	65.3	-	4.5	59.0	173.4	Tindale-Oliver & Associates
Shopping Center	110.0	Sarasota Co, FL	Jun-93	58	58	122.1	-	3.2	-	-	Sarasota County
Shopping Center	146.1	Sarasota Co, FL	Jun-93	65	65	51.5	-	2.8	-	-	Sarasota County
Shopping Center	157.5	Sarasota Co, FL	Jun-93	57	57	79.8	-	3.4	-	-	Sarasota County
Shopping Center	191.0	Sarasota Co, FL	Jun-93	62	62	66.8	-	5.9	-	-	Sarasota County
Shopping Center	88.0	Charlotte Co, FL	Oct-97			73.5	9a-5p	1.8	57.1	75.6	Tindale-Oliver & Associates
Shopping Center	51.3	Charlotte Co, FL	Oct-97			43.0	9a-5p	2.7	51.8	60.1	Tindale-Oliver & Associates
Shopping Center	191.9	Charlotte Co, FL	Oct-97			72.0	9a-5p	2.4	50.9	88.0	Tindale-Oliver & Associates
Shopping Center	75.8	Pasco Co, FL	Apr-02	134		38.2	9a-5p	2.4	58.2	52.5	Tindale-Oliver & Associates
Shopping Center	65.6	Pasco Co, FL	Apr-02	222		145.6	9a-5p	1.5	46.9	99.6	Tindale-Oliver & Associates
Shopping Center	185.0	Citrus Co, FL	Oct-03		784	55.8	830a-630p	2.4	88.1	118.1	Tindale-Oliver & Associates
Shopping Center	91.295	Citrus Co, FL	Nov-03		390	54.5	8a-630p	1.6	88.0	76.8	Tindale-Oliver & Associates

Total Size 5208.3

Average Trip Length: 3.07

Weighted Average Trip Length: 3.39

Weighted Percent New Trip Average: 73.76

Weighted Average Trip Generation Rate: 55.06  
ITE Average Trip Generation Rate: 55.98

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## Quality Restaurant (ITE LUC 831)

General Development	Size (1000 Ft <sup>2</sup> /units)	Location	Date	Total No. Interviews	# Trip Length Interviews	Trip Gen. Rate	Time Period	Trip Length	Percent New Trips	VTM	Source
Quality Restaurant	7.5	St. Petersburg, FL	Oct-89	177	154	-	1130-230/430-830	3.5	87.0	-	Tindale-Oliver & Associates
Quality Restaurant	8.0	Clearwater, FL	Oct-89	60	40	110.6	10-230/5-830	2.8	67.0	207.5	Tindale-Oliver & Associates
Quality Restaurant	-	Tampa, FL	Mar-86	76	62	-	-	2.1	82.0	-	Kimley-Horn & Associates

Total Size 15.5

Average Trip Length: 2.8

Weighted Average Trip Length: 3.1

Weighted Percent New Trip Average: 76.7

Weighted Average Trip Generation Rate: 110.6

ITE Average Trip Generation Rate: 96.5

## High-Turnover Restaurant (ITE LUC 832)

General Development	Size (1000 Ft <sup>2</sup> /units)	Location	Date	Total No. Interviews	# Trip Length Interviews	Trip Gen. Rate	Time Period	Trip Length	Percent New Trips	VTM	Source
Restaurant	5.0	St. Petersburg, FL	Oct-89	74	68	132.6	1130-7p	2.0	92.0	244.0	Tindale-Oliver & Associates
Restaurant	5.2	Kenneth City, FL	Oct-89	236	176	127.9	4p-730p	2.3	75.0	220.6	Tindale-Oliver & Associates
Restaurant	6.2	Hernando Co., FL	May-96	242	175	187.5	9a-6p	2.8	72.5	375.0	Tindale-Oliver & Associates
Restaurant	8.2	Hernando Co., FL	May-96	154	93	102.7	9a-6p	4.2	60.2	256.4	Tindale-Oliver & Associates
Restaurant	5.2	Pasco Co, FL	Apr-02	114	88	82.5	9a-6p	3.7	77.2	236.8	Tindale-Oliver & Associates
Restaurant	5.8	Pasco Co, FL	Apr-02	182	102	117.0	9a-6p	3.5	56.0	228.8	Tindale-Oliver & Associates

Total Size 35.6

Average Trip Length: 3.1

Weighted Average Trip Length: 3.2

Weighted Percent New Trip Average: 70.8

Weighted Average Trip Generation Rate: 124.7

ITE Average Trip Generation Rate: 205.4

## Fast Food Restaurant w/out Drive Thru (ITE LUC 833)

General Development	Size (1000 Ft <sup>2</sup> /units)	Location	Date	Total No. Interviews	# Trip Length Interviews	Trip Gen. Rate	Time Period	Trip Length	Percent New Trips	VTM	Source
Fast Food w/out DriveThru	1.3	Gwinnett Co., GA	12/13-18/92	-	-	487.7	-	3.2	30.0	468.2	Street Smarts
Fast Food w/out DriveThru	2.4	Gwinnett Co., GA	12/13-18/92	-	-	480.4	-	1.2	53.0	305.5	Street Smarts

Total Size 3.7

Average Trip Length: 2.2

Weighted Average Trip Length: 1.9

Weighted Percent New Trip Average: 44.9

Weighted Average Trip Generation Rate: 483.0

ITE Average Trip Generation Rate: 786.2

## Fast Food Restaurant w/Drive Thru (ITE LUC 834)

General Development	Size (1000 Ft <sup>2</sup> /units)	Location	Date	Total No. Interviews	# Trip Length Interviews	Trip Gen. Rate	Time Period	Trip Length	Percent New Trips	VTM	Source
Fast Food w/ Drive Thru	5.4	Hernando Co., FL	May-96	136	82	311.8	9a-6p	1.7	60.2	315.3	Tindale-Oliver & Associates
Fast Food w/ Drive Thru	3.1	Hernando Co., FL	May-96	168	82	547.3	9a-6p	1.6	48.8	425.0	Tindale-Oliver & Associates
Fast Food w/ Drive Thru	4.3	Pinellas Co.	Oct-89	456	260	660.4	1 day	2.3	57.0	865.8	Tindale-Oliver & Associates
Fast Food w/ Drive Thru	2.2	Pinellas Co.	Aug-89	81	48	502.8	11am-2pm	1.7	59.0	504.3	Tindale-Oliver & Associates
Fast Food w/ Drive Thru	-	Tarpon Springs, FL	Oct-89	233	114	-	7am-7pm	3.6	49.0	-	Tindale-Oliver & Associates
Fast Food w/ Drive Thru	4.0	Marion County, FL	Jun-91	75	46	625.0	48hrs.	1.5	61.3	590.0	Tindale-Oliver & Associates
Fast Food w/ Drive Thru	1.6	Marion County, FL	Jun-91	60	32	962.5	48hrs.	0.9	53.3	466.8	Tindale-Oliver & Associates
Fast Food w/ Drive Thru	-	Collier County, FL	Aug-91	66	44	-	-	1.9	66.7	-	Tindale-Oliver & Associates
Fast Food w/ Drive Thru	-	Collier County, FL	Aug-91	118	40	-	-	1.2	33.9	-	Tindale-Oliver & Associates
Fast Food w/ Drive Thru	-	Tampa, FL	Mar-86	61	-	-	-	2.7	-	-	Kimley-Horn & Associates
Fast Food w/ Drive Thru	-	Tampa, FL	Mar-86	306	-	-	-	-	65.0	-	Kimley-Horn & Associates
Fast Food w/ Drive Thru	2.2	Lake Co, FL	Apr-01	376	252	934.3	-	2.5	74.6	1742.5	Tindale-Oliver & Associates
Fast Food w/ Drive Thru	3.2	Lake Co, FL	Apr-01	171	182	654.9	-	4.1	47.8	1283.5	Tindale-Oliver & Associates
Fast Food w/ Drive Thru	3.8	Lake Co, FL	Apr-01	188	137	353.7	-	3.3	70.8	826.4	Tindale-Oliver & Associates
Fast Food w/ Drive Thru	3.0	Pasco Co, FL	Apr-02	486	164	515.32	9a-6p	2.7	33.7	472.9	Tindale-Oliver & Associates
Fast Food w/ Drive Thru	4.4	Pasco Co, FL	Apr-02	168	120	759.24	9a-6p	1.9	71.4	1025.0	Tindale-Oliver & Associates
Fast Food w/ Drive Thru	2.7	Pasco Co, FL	Apr-02	100	46	283.12	9a-6p	5.1	46.0	664.2	Tindale-Oliver & Associates

Total Size 39.9

Average Trip Length: 2.4

Weighted Average Trip Length: 2.4

Weighted Percent New Trip Average: 57.9

Weighted Average Trip Generation Rate: 564.5

ITE Average Trip Generation Rate: 632.1

## Automobile Repair Shop (ITE LUC 840)

General Development	Size (1000 Ft <sup>2</sup> /units)	Location	Date	Total No. Interviews	# Trip Length Interviews	Trip Gen. Rate	Time Period	Trip Length	Percent New Trips	VTM	Source
Auto Repair Shop	5.2	Lakeland, FL	Mar-90	24	14	-	9a-4p	1.4	59.0	-	Tindale-Oliver & Associates
Auto Repair Shop	-	Lakeland, FL	Mar-90	54	42	-	9a-4p	2.4	78.0	-	Tindale-Oliver & Associates
Auto Repair Shop	25.0	Orange Co, FL	Nov-92	41	39	-	2-6pm	4.6	-	-	LCE, Inc. *
Auto Repair Shop	2.3	Jacksonville, FL	2/3-4/90	124	94	-	9a-5p	3.1	76.0	-	Tindale-Oliver & Associates
Auto Repair Shop	2.3	Jacksonville, FL	2/3-4/90	110	74	-	9a-5p	3.0	67.0	-	Tindale-Oliver & Associates
Auto Repair Shop	2.4	Jacksonville, FL	2/3-4/90	132	87	-	9a-5p	2.3	66.0	-	Tindale-Oliver & Associates
Auto Repair Shop	5.5	Largo, FL	Sep-89	34	30	37.6	9a-5p	2.4	88.0	79.5	Tindale-Oliver & Associates

Total Size 42.6

Average Trip Length: 2.7

Weighted Average Trip Length: 3.6

Weighted Percent New Trip Average: 72.2

Weighted Average Trip Generation Rate: 37.6

ITE Average Trip Generation Rate: -

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## New Car Sales (ITE LUC 841)

General Development	Size (1000 Ft <sup>2</sup> /units)	Location	Date	Total No. Interviews	# Trip Length Interviews	Trip Gen. Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Car Dealership	43.0	St.Petersburg, FL	Oct-89	152	120	-	9am-5pm	4.7	79.0	-	Tindale-Oliver & Associates
Car Dealership	-	Clearwater, FL	Oct-89	136	106	29.4	9am-5pm	4.5	78.0	103.2	Tindale-Oliver & Associates
Total Size		43.0									
								<b>Average Trip Length:</b>	<b>4.6</b>		
								<b>Weighted Average Trip Length:</b>	<b>4.7</b>		
								Weighted Percent New Trip Average: 79.0			
								Weighted Average Trip Generation Rate: 29.4			
								ITE Average Trip Generation Rate: 47.9			

## Service Station (ITE LUC 844)

General Development	Size (1000 Ft <sup>2</sup> /units)	Location	Date	Total No. Interviews	# Trip Length Interviews	Trip Gen. Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Service Station	0.6	Largo	Nov-89	70	14	-	8am-5pm	1.9	23.0	-	Tindale-Oliver & Associates
Service Station	-	Collier County, FL	Aug-91	168	40	-	-	1.0	23.8	-	Tindale-Oliver & Associates
Total Size		0.6									
								<b>Average Trip Length:</b>	<b>1.5</b>		
								<b>Weighted Average Trip Length:</b>	<b>1.9</b>		
								Weighted Percent New Trip Average: 23.0			
								Average Trip Generation Rate: -			
								ITE Average Trip Generation Rate: -			

## Service Station w/Convenience Market (ITE LUC 853)

General Development	Size (1000 Ft <sup>2</sup> /units)	Location	Date	Total No. Interviews	# Trip Length Interviews	Trip Gen. Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Service Station w/ Store	4.4	Marion County, FL	Jun-91	85	25	486.7	48hrs.	1.1	29.4	151.7	Tindale-Oliver & Associates
Service Station w/ Store	1.1	Marion County, FL	Jun-91	77	20	544.8	24hr.	0.9	26.0	126.1	Tindale-Oliver & Associates
Service Station w/ Store	2.1	Marion County, FL	Jun-91	66	24	997.6	24hr.	1.7	36.4	606.4	Tindale-Oliver & Associates
Service Station w/ Store	-	Collier County, FL	Aug-91	96	38	-	-	1.2	39.6	-	Tindale-Oliver & Associates
Service Station w/ Store	-	Collier County, FL	Aug-91	78	16	-	-	1.1	20.5	-	Tindale-Oliver & Associates
Service Station w/ Store	3.3	Ellenton, FL	10/20-22/92	124	44	-	24hr.	1.0	35.3	-	Tindale-Oliver & Associates
Service Station w/ Store	2.3	Tampa, FL	10/13-15/92	239	74	-	24hr.	1.1	31.1	-	Tindale-Oliver & Associates
Service Station w/ Store	3.8	Tampa, FL	11/10-12/92	142	23	-	24hr.	3.1	16.4	-	Tindale-Oliver & Associates
Service Station w/ Store	-	Tampa, FL	Mar-86	72	-	-	-	2.0	-	-	Kimley-Horn & Associates
Total Size		17.1									
								<b>Average Trip Length:</b>	<b>1.4</b>		
								<b>Weighted Average Trip Length:</b>	<b>1.6</b>		
								Weighted Percent New Trip Average: 28.5			
								Weighted Average Trip Generation Rate: 636.3			
								ITE Average Trip Generation Rate: -			

## Car Wash (ITE LUC -)

General Development	Size (1000 Ft <sup>2</sup> /units)	Location	Date	Total No. Interviews	# Trip Length Interviews	Trip Gen. Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Car Wash	5.8	Largo, FL	Nov-89	111	84	-	8am-5pm	2.0	76.0	-	Tindale-Oliver & Associates
Car Wash	-	Clearwater, FL	Nov-89	177	108	-	10am-5pm	1.3	61.0	-	Tindale-Oliver & Associates
Total Size		5.8									
								<b>Average Trip Length:</b>	<b>1.7</b>		
								<b>Weighted Average Trip Length:</b>	<b>2.0</b>		
								Weighted Percent New Trip Average: 76.0			
								Weighted Average Trip Generation Rate: -			
								ITE Average Trip Generation Rate: -			

## Gasoline/Fast Food/Convenience Store (ITE LUC -)

General Development	Size (1000 Ft <sup>2</sup> /units)	Location	Date	Total No. Interviews	# Trip Length Interviews	Trip Gen. Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
		Volusia Co., FL				918.0		2.4	33.0	727	Tindale-Oliver & Associates
Mobil	3.0	Indian River Co., FL	Mar-98	107	84	563.1	8a-6p	2.0	39.3	443	Tindale-Oliver & Associates
Amoco	3.1	Indian River Co., FL	Mar-98	132	110	1396.0	8a-6p	1.8	41.7	1048	Tindale-Oliver & Associates
Mobil	2.5	Indian River Co., FL	Mar-98	132	52	748.3	8a-6p	3.7	19.7	545	Tindale-Oliver & Associates
Vineyards Mobil	2.4	Collier Co., FL	Nov-99		128	1399.6	8a-6p	4.1	13.3	763	Tindale-Oliver & Associates
Curt's Mobil	3.3	Collier Co., FL	Nov-99		144	862.6	8a-6p	2.2	39.6	751	Tindale-Oliver & Associates
Total Size		14.3									
								<b>Average Trip Length:</b>	<b>2.7</b>		
								<b>Weighted Average Trip Length:</b>	<b>2.6</b>		
								Weighted Percent New Trip Average: 32.1			
								Weighted Average Trip Generation Rate: 984.6			
								ITE Average Trip Generation Rate:			

## Supermarket (ITE LUC 850)

General Development	Size (1000 Ft <sup>2</sup> /units)	Location	Date	Total No. Interviews	# Trip Length Interviews	Trip Gen. Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Supermarket	62.0	Palm Harbor, FL	Aug-89	163	62	106.3	9am-4pm	2.1	38.0	84.0	Tindale-Oliver & Associates
Total Size		62.0									
								<b>Average Trip Length:</b>	<b>2.1</b>		
								<b>Weighted Average Trip Length:</b>	<b>2.1</b>		
								Weighted Percent New Trip Average: 38.0			
								Weighted Average Trip Generation Rate: 106.3			
								ITE Average Trip Generation Rate: 111.5			

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## Convenience Market-24hrs. (ITE LUC 851)

General Development	Size (1000 Ft <sup>2</sup> /units)	Location	Date	Total No. Interviews	# Trip Length Interviews	Trip Gen. Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Convenience Store	3.2	Gwinnett Co., GA	12/13-18/92	-	-	-	-	-	37.0	-	Street Smarts
Convenience Store	2.9	Gwinnett Co., GA	12/13-18/92	-	-	-	-	2.3	48.0	-	Street Smarts
Convenience Store	-	Collier County, FL	Aug-91	146	36	-	-	2.5	24.7	-	Tindale-Oliver & Associates
Convenience Store	2.5	Marion County, FL	Jun-91	94	43	787.2	48hrs.	1.5	46.2	552.8	Tindale-Oliver & Associates
Convenience Store	2.5	Marion County, FL	Jun-91	74	20	714.0	48hrs.	0.8	27.0	144.6	Tindale-Oliver & Associates
Convenience Store	-	Collier County, FL	Aug-91	148	38	-	-	1.1	25.7	-	Tindale-Oliver & Associates
Convenience Store	2.5	Largo, FL	8/15,25/89	171	116	634.8	-	1.2	68.0	518.0	Tindale-Oliver & Associates
Convenience Store	2.5	Clearwater, FL	Aug-89	237	64	690.8	-	1.6	27.0	298.4	Tindale-Oliver & Associates
Convenience Store	-	Tampa, FL	Mar-86	80	-	-	-	1.1	-	-	Kimley-Horn & Associates
Convenience Store	2.1	Clearwater	Nov-89	143	50	635.2	24hr.	1.6	35.0	355.7	Tindale-Oliver & Associates

Total Size 18.2

Average Trip Length: 1.5

Weighted Average Trip Length: 1.5

Weighted Percent New Trip Average: 41.3

Weighted Average Trip Generation Rate: 694.3  
ITE Average Trip Generation Rate: 738.0

## Convenience Market-15 to 16 hrs. (ITE LUC 852)

General Development	Size (1000 Ft <sup>2</sup> /units)	Location	Date	Total No. Interviews	# Trip Length Interviews	Trip Gen. Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Convenience Store	-	Collier County, FL	Aug-91	148	84	-	-	1.1	56.8	-	Tindale-Oliver & Associates

Total Size 0.0

Average Trip Length: 1.1

Weighted Average Trip Length: 1.1

Percent New Trip Average: 56.8

Average Trip Generation Rate: -  
ITE Average Trip Generation Rate: -

## Pharmacy/Drugstore with Drive-Through Window (ITE LUC 881)

General Development	Size (1000 Ft <sup>2</sup> /units)	Location	Date	Total No. Interviews	# Trip Length Interviews	Trip Gen. Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Drugstore	12.0	Pasco Co, FL	Apr-02	212	90	122.2	-	2.0	42.5	105.8	Tindale-Oliver & Associates
Drugstore	15.1	Pasco Co, FL	Apr-02	1192	54	98.0	-	2.1	28.1	58.7	Tindale-Oliver & Associates
Drugstore	11.1	Pasco Co, FL	Apr-02	138	38	89.0	-	2.1	27.5	50.2	Tindale-Oliver & Associates

Total Size 38.2

Average Trip Length: 2.1

Weighted Average Trip Length: 2.1

Weighted Percent New Trip Average: 32.5

Average Trip Generation Rate: 103.0  
ITE Average Trip Generation Rate: 88.2

## Furniture Store (ITE LUC 890)

General Development	Size (1000 Ft <sup>2</sup> /units)	Location	Date	Total No. Interviews	# Trip Length Interviews	Trip Gen. Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Furniture Store	16.9	Tampa, FL	Jul-92	68	39	-	-	7.4	55.7	-	Tindale-Oliver & Associates
Furniture Store	15.0	Largo, FL	7/28-30/92	64	34	-	-	4.6	52.5	-	Tindale-Oliver & Associates

Total Size 31.9

Average Trip Length: 6.0

Weighted Average Trip Length: 6.1

Weighted Percent New Trip Average: 54.2

Average Trip Generation Rate: -  
ITE Average Trip Generation Rate: 4.3

## Drive-In Bank (ITE LUC 912)

General Development	Size (1000 Ft <sup>2</sup> /units)	Location	Date	Total No. Interviews	# Trip Length Interviews	Trip Gen. Rate	Time Period	Trip Length	Percent New Trips	VMT	Source
Bank	7.3	Hernando Co., FL	May-96	136	67	143.5	9a-6p	2.8	48.9	199.4	Tindale-Oliver & Associates
Bank	5.4	Hernando Co., FL	May-96	164	41	364.7	9a-6p	2.8	24.7	249.5	Tindale-Oliver & Associates
Bank	-	Tampa, FL	Mar-86	77	-	-	-	2.4	-	-	Kimley-Horn & Associates
Bank	-	Tampa, FL	Mar-86	211	-	-	-	-	54.0	-	Kimley-Horn & Associates
Bank	6.8	Gwinnett Co., GA	12/13-18/92	-	-	78.9	-	2.3	41.0	74.4	Street Smarts
Bank	0.4	Clearwater, FL	Aug-89	113	52	-	9am-6pm	5.2	46.0	-	Tindale-Oliver & Associates
Bank	2.0	Largo, FL	Sep-89	129	94	192.5	-	1.6	73.0	224.8	Tindale-Oliver & Associates
Bank	4.5	Seminole, FL	10/89	-	-	201.8	-	-	-	-	Tindale-Oliver & Associates
Bank	2.3	Marion County, FL	Jun-91	69	29	680.0	24hr.	1.3	42.0	379.8	Tindale-Oliver & Associates
Bank	2.5	Marion County, FL	Jul-91	57	26	386.0	48hrs.	2.7	45.6	475.2	Tindale-Oliver & Associates
Bank	3.5	Clermont, FL	Apr-01	20	20	510.8	-	4.0	65.0	1334.7	Tindale-Oliver & Associates
Bank	4.7	Leesburg, FL	Apr-01	51	51	1026.2	-	2.5	55.0	1433.6	Tindale-Oliver & Associates
Bank	5.3	Lady Lake, FL	Apr-01	42	42	769.7	-	3.9	95.0	2859.1	Tindale-Oliver & Associates
Bank	5.0	Lady Lake, FL	Apr-01	92	32	769.7	-	1.0	87.0	676.3	Tindale-Oliver & Associates
Bank	-	Collier County, FL	Aug-91	162	96	-	24hr.	0.9	59.3	-	Tindale-Oliver & Associates
Bank	-	Collier County, FL	Aug-91	116	54	-	-	1.6	46.6	-	Tindale-Oliver & Associates
Bank	-	Collier County, FL	Aug-91	142	68	-	-	2.1	47.9	-	Tindale-Oliver & Associates
Bank	3.1	Marion County, FL	Jun-91	47	32	580.8	24hr.	1.8	68.1	692.2	Tindale-Oliver & Associates

Total Size 52.6

Average Trip Length: 2.4

Weighted Average Trip Length: 2.6

Weighted Percent New Trip Average: 57.6

Weighted Average Trip Generation Rate: 452.5  
ITE Average Trip Generation Rate: 265.2

**Appendix B**  
**City of Albuquerque Trip**  
**Characteristics**

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## City of Albuquerque Trip Characteristics

ITE LUC	Land Use	Unit	Trip Rate (PM Peak)	Trip Rate (Daily)	Assessable Trip Length	Total Trip Length	Percent New Trips
<b>RESIDENTIAL:</b>							
210	Single Family Detached / Mobile Home Indv Lot						
	Less than 1,500 sf	du	0.68	6.35	6.28	6.78	100.0%
	1,500 sf to 2,499 sf	du	1.02	9.57	6.28	6.78	100.0%
	2,500 sf or Larger	du	1.14	10.74	6.28	6.78	100.0%
220	Multi-Family	du	0.67	6.72	4.19	4.69	100.0%
230	Condominium/ Townhouse	du	0.52	5.86	4.19	4.69	100.0%
240	Mobile Home Park	du	0.60	4.99	4.29	4.79	100.0%
251	Retirement Home	du	0.35	3.71	2.39	2.89	100.0%
253	Congregate Care Facility (Attached)	du	0.20	2.02	3.09	3.59	71.6%
<b>LODGING:</b>							
310	Hotel	room	0.61	8.17	6.28	6.78	66.3%
320	Motel	room	0.56	5.63	4.29	4.79	76.6%
416	RV Park	RV Space	0.41	4.10	5.38	5.88	100.0%
<b>RECREATION:</b>							
430	Golf Course	Hole	3.56	35.74	5.52	6.02	90.0%
411	General Recreation (City Park)	Acres	0.16	1.59	5.61	6.11	90.0%
444	Movie Theaters w/Matinee	screen	9.99	83.28	2.19	2.69	87.8%
492	Racquet Club/Health Club/Spa/Dance Studio	1,000 sf	4.06	32.93	5.11	5.61	94.0%
495	Community Center	1,000 sf	2.39	22.88	5.61	6.11	90.0%
<b>INSTITUTIONAL:</b>							
610	Hospital	1,000 sf	1.61	17.57	5.44	5.94	77.0%
620	Nursing Home	bed	0.30	2.37	2.59	3.09	89.0%
520	Elementary School	student	0.28	1.29	4.14	4.64	80.0%
522	Middle School	student	0.30	1.62	4.73	5.23	90.0%
530	High School	student	0.28	1.71	4.88	5.38	90.0%
540	Junior/Community College	student	0.12	1.20	6.47	6.97	90.0%
550	University	student	0.24	2.38	6.46	6.96	90.0%
560	Church	1,000 sf	1.41	9.11	4.16	4.66	90.0%
566	Cemetery	Acres	0.73	4.73	7.61	8.11	95.0%
<b>OFFICE:</b>							
710	Under 50,000 sf	1,000 sf	1.92	18.35	5.19	5.69	92.3%
710	50,000-100,000 sf	1,000 sf	1.49	14.25	5.19	5.69	92.3%
710	100,001-200,000 sf	1,000 sf	1.27	12.15	5.19	5.69	92.3%
710	200,001-400,000 sf	1,000 sf	1.08	10.36	5.19	5.69	92.3%
710	Greater than 400,000 sf	1,000 sf	0.92	8.83	5.19	5.69	92.3%
770	Business Park	1,000 sf	1.29	12.76	5.39	5.89	88.8%
<b>RETAIL:</b>							
820	Under 100,000 GSF	1,000 sf	7.92	86.56	1.86	2.36	51.7%
820	100,000 to 400,000 GSF	1,000 sf	4.31	46.23	2.64	3.14	63.4%
820	400,001 to 800,000 GSF	1,000 sf	3.40	36.27	3.03	3.53	68.5%
820	Greater than 800,000 GSF	1,000 sf	2.86	30.33	3.35	3.85	72.6%
931	Quality Restaurant	1,000 sf	9.02	89.95	3.09	3.59	76.7%
934	Fast Food Rest w/ Drive-Thru	1,000 sf	46.68	496.12	2.39	2.89	57.9%
942	Auto Repair or Body Shop	1,000 sf	4.01	37.64	3.59	4.09	72.2%
841	New/Used Auto Sales	1,000 sf	2.72	33.34	4.69	5.19	79.0%
850	Supermarket	1,000 sf	12.02	102.24	2.09	2.59	38.0%
853	Convenience Store with Gas Pumps	1,000 sf	62.57	845.60	1.60	2.10	28.5%
862	Home Improvement Superstore	1,000 sf	3.05	29.80	4.27	4.77	83.0%
881	Pharmacy/Drug Store w/ Drive-Thru	1,000 sf	9.51	88.16	2.09	2.59	32.5%
890	Furniture Store	1,000 sf	0.53	5.06	6.08	6.58	54.2%
<b>INDUSTRY:</b>							
110	General Light Industrial/Utilities	1,000 sf	1.08	6.97	5.15	5.65	92.0%
120	General Heavy Industrial	1,000 sf	0.68	1.50	5.15	5.65	92.0%
130	Industrial Park	1,000 sf	0.86	6.96	5.15	5.65	92.0%
140	Manufacturing	1,000 sf	0.75	3.82	5.15	5.65	92.0%
150	Warehouse	1,000 sf	0.61	4.96	5.15	5.65	92.0%
151	Mini-Warehouse	1,000 sf	0.29	2.50	5.15	5.65	92.0%

# **Appendix C**

## **Cost Component Calculations**

## **Total Cost per Lane Mile of Construction**

This appendix provides detailed information about City of Albuquerque “generic” construction cost for different type of projects. These costs were used to calculate the total cost per lane mile. The list of capital projects included in the estimation of the total cost per lane mile and the vehicle miles of capacity added were also included in this appendix. The calculations for both of these inputs to the impact fee equation are based on the same set of projects.

Of the tables included in this appendix, Table C-1 presents the City of Albuquerque “Typical” costs. Table C-2 presents the projects to be constructed during the period from 2002 to 2025 that are located in NE Heights Service Area, Table C-3 presents those in the Near North Valley Service Area, Table C-4 presents those in the Far NE Heights Service Area, Table C-5 presents those in the I-25 Corridor Service Area, Table C-6 presents those in the NW Mesa Service Area, and Table C-7 presents those in the SW Mesa Service Area.

**Table C-1**  
**City of Albuquerque Typical Construction Costs**

Roadway Items	Unit Costs		One Mile of Principal Arterial					Comments
	Costs	Units	Lane Addition (2 lane to 4 lane)	Lane Addition (4 lane to 6 lane)	Construction (0 lane to 2 lane)	Construction (0 lane to 4 lane)	Construction (0 lane to 6 lane)	
Asphalt Pavement	\$300,000	Lane, mile	\$600,000	\$600,000	\$600,000	\$1,200,000	\$1,200,000	Includes all earthwork, construction signage. For 2 to 4 lane expansions, assume the existing outside curb and gutter does not exist or must be rebuilt in a new location. For 4 to 6 lane expansions, assume outside curb and gutter to be correctly placed. Assumes the inside curb and gutter is constructed when the roadway expansion goes from 4 to 6 lanes. For 2 to 4 lane expansions, assume there are no existing sidewalks or that they must be rebuilt in a new location. Assume on-street bicycle lanes are constructed with the 2 to 4 lane expansion. For 2 to 4 lane expansions, assume existing streets do not already have outside landscaping or substantial modifications to the existing streetscape are necessary. Assumes the median landscaping is constructed when the additional 5th and 6th lanes are added in the median. For the 2 to 4 lane expansion, assume that existing street lighting does not exist or must be relocated to a new location. For a mile of urban arterial roadway, 3 signalized intersections are assumed. For 2 to 4 lane expansions, two signals are assumed. When the 4 to 6 lane expansion occurs, the third signal is added. Covers the cost of removing and disposing of existing improvements (e.g. removing non-standard arterial pavement, curb and gutter in the wrong location, broken sidewalk etc.) Assumes road related storm drain improvements are installed at the time the roadway is expanded from 2 to 4 lanes. When the 4 to 6 lane expansion occurs, work is limited to minor extensions to laterals and inlet adjustments.
Curb and Gutter, Outside	\$70,000	Side, mile	\$140,000	\$0	\$140,000	\$140,000	\$140,000	
Curb and Gutter, Inside	\$60,000	Side, mile	\$0	\$120,000	\$0	\$120,000	\$120,000	
Sidewalk (6 foot standard)	\$80,000	Side, mile	\$160,000	\$0	\$160,000	\$160,000	\$160,000	
On-Street Bicycle Lanes	\$75,000	Side, mile	\$150,000	\$0	\$0	\$150,000	\$150,000	
Landscaping, Outboard	\$150,000	Side, mile	\$300,000	\$0	\$300,000	\$300,000	\$300,000	
Landscaping, Median	\$400,000	Mile	\$0	\$400,000	\$0	\$400,000	\$400,000	
Street Lighting	\$185,000	Mile	\$185,000	\$0	\$185,000	\$185,000	\$185,000	
Traffic Signals	\$150,000	Intersection	\$300,000	\$150,000	\$0	\$300,000	\$450,000	
Removals	\$65,000	Mile	\$65,000	\$65,000	\$65,000	\$65,000	\$65,000	
Roadway Drainage, Structures	\$230,000	Mile	\$230,000	\$50,000	\$230,000	\$230,000	\$230,000	
<b>Construction Cost Per Mile</b>			\$2,130,000	\$1,385,000	\$1,680,000	\$3,250,000	\$3,400,000	
<b>Development Costs</b>								
Preliminary Engr. & Design	10%		\$213,000	\$138,500	\$168,000	\$325,000	\$340,000	
Contingencies	15%		\$319,500	\$207,750	\$252,000	\$487,500	\$510,000	
NMGRT	5.8125%		\$123,806	\$80,503	\$97,650	\$188,906	\$197,625	
Traffic Control	3%		\$63,900	\$41,550	\$50,400	\$97,500	\$102,000	
Mobilization	3.5%		\$74,550	\$48,475	\$58,800	\$113,750	\$119,000	
Testing and Survey	5%		\$106,500	\$69,250	\$84,000	\$162,500	\$170,000	
Construction Management	7%		\$149,100	\$96,950	\$117,600	\$227,500	\$238,000	
<b>Total % Factor</b>	49%		\$1,050,356	\$682,978	\$828,450	\$1,602,656	\$1,676,625	
<b>COST PER MILE</b>			<b>\$3,180,356</b>	<b>\$2,067,978</b>	<b>\$2,508,450</b>	<b>\$4,852,656</b>	<b>\$5,076,625</b>	
<b>COST PER LANE MILE</b>			<b>\$1,590,178</b>	<b>\$1,033,989</b>	<b>\$1,254,225</b>	<b>\$1,213,164</b>	<b>\$846,104</b>	
ROW COST			\$660,000	\$660,000	\$660,000	\$660,000	\$660,000	
<b>TOTAL COST PER LANE MILE</b>			<b>\$2,250,178</b>	<b>\$1,693,989</b>	<b>\$1,914,225</b>	<b>\$1,873,164</b>	<b>\$1,506,104</b>	

**Table C-2  
City of Albuquerque – NE Heights**

Period	Traffic Shed	Facility	From - To	Agency	Lanes			Project Length	Capacity			Added VMC	Project Cost
					2002	2025	Added		2002	2025	Added		
2002-2005	NE HEIGHTS	Uptown Loop	S.E. Quadrant	C of A	0	4	4	0.40	0	2,600	2,600	1,040	\$2,997,063
2002-2005	NE HEIGHTS	Gibson Extension	Eubank to Juan Tabo	C of A	2	4	2	0.98	1,300	2,600	1,300	1,274	\$4,410,349
2002-2005	NE HEIGHTS	Eubank	Central to KAFB	C of A	4	6	2	1.23	2,600	3,900	1,300	1,599	\$4,167,213
2015-2025	NE HEIGHTS	Gibson Ext.	Louisiana to Eubank	C of A	0	6	6	2.31	0	3,300	3,300	7,623	\$20,874,604
<b>Total</b>												<b>11,536</b>	<b>\$32,449,228</b>

**Table C-3  
City of Albuquerque – Near North Valley**

Period	Traffic Shed	Facility	From - To	Agency	Lanes			Project Length	Capacity			Added VMC	Project Cost
					2002	2025	Added		2002	2025	Added		
2015-2025	NEAR NORTH VALLEY	2nd Street	I-40 to Montano	C of A	4	6	2	2.27	2,600	3,900	1,300	2,951	\$7,690,710
<b>Total</b>												<b>2,951</b>	<b>\$7,690,710</b>

**Table C-4  
City of Albuquerque – Far NE Heights**

Period	Traffic Shed	Facility	From - To	Agency	Lanes			Project Length	Capacity			Added VMC	Project Cost
					2002	2025	Added		2002	2025	Added		
2002-2005	FAR NE HEIGHTS	Wyoming	Paseo Del Norte to Alameda	C of A	2	4	2	0.71	1,300	2,600	1,300	923	\$3,195,253
2002-2005	FAR NE HEIGHTS	Eubank	Montgomery to Juan Tabo	C of A	4	6	2	1.36	2,600	3,900	1,300	1,768	\$4,607,650
2011-2015	FAR NE HEIGHTS	Alameda	San Pedro to Wyoming	Private	2	4	2	1.02	1,300	2,600	1,300	1,326	\$4,590,363
<b>Total</b>												<b>4,017</b>	<b>\$12,393,267</b>

**Table C-5  
City of Albuquerque – I-25 Corridor**

Period	Traffic Shed	Facility	From - To	Agency	Lanes			Project Length	Capacity			Added VMC	Project Cost
					2002	2025	Added		2002	2025	Added		
2006-2010	I-25 CORRIDOR	Montano	2nd Street to I-25	C of A	4	6	2	1.51	2,600	3,900	1,300	1,963	\$5,115,847
2006-2010	I-25 CORRIDOR	Osuna	Vista Del Norte to Jefferson	C of A	4	6	2	1.02	2,600	3,900	1,300	1,326	\$3,455,738
<b>Total</b>												<b>3,289</b>	<b>\$8,571,585</b>

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Table C-6  
City of Albuquerque – NW Mesa

Period	Traffic Shed	Facility	From - To	Agency	Lanes			Project Length	Capacity			Added VMC	Project Cost
					2002	2025	Added		2002	2025	Added		
2002-2005	NW MESA	Universe	Ventana Way to Irving	Private	0	2	2	0.28	0	1,100	1,100	308	\$1,071,966
2002-2005	NW MESA	Universe	Irving to TVI	Private	0	2	2	0.42	0	800	800	336	\$1,607,949
2002-2005	NW MESA	Irving	Universe to Rainbow	Private	0	2	2	0.52	0	1,100	1,100	572	\$1,990,794
2002-2005	NW MESA	Golf Course	Westside to Irving (Irving/Westside)	C of A	2	4	2	2.29	1,100	2,200	1,100	2,519	\$10,305,816
2002-2005	NW MESA	McMahon	Golf Course to Unser	C of A	2	4	2	1.41	2,200	4,400	2,200	3,102	\$6,345,502
2002-2005	NW MESA	Unser	PDN to Paradise	Private	0	2	2	1.22	0	2,200	2,200	2,684	\$4,670,709
2002-2005	NW MESA	Unser	Montano to Atrisco	C of A	0	4	4	1.09	0	4,400	4,400	4,796	\$8,166,995
2002-2005	NW MESA	Paseo Del Norte	Universe to Unser	Private	0	2	2	0.80	0	2,200	2,200	1,760	\$3,062,760
2006-2010	NW MESA	Rainbow	Irving to McMahon	Private	0	2	2	0.63	0	2,200	2,200	1,386	\$2,411,924
2006-2010	NW MESA	Irving	Universe to Rainbow	Private	2	4	2	0.52	1,100	2,200	1,100	572	\$2,340,185
2006-2010	NW MESA	Irving	La Paz to Universe	Private	2	4	2	0.65	1,100	2,200	1,100	715	\$2,925,232
2006-2010	NW MESA	Universe	TVI to McMahon	Private	0	2	2	0.22	0	1,100	1,100	242	\$842,259
2006-2010	NW MESA	Universe	Paradise to Irving	Private	2	4	2	0.50	1,100	2,200	1,100	550	\$2,250,178
2006-2010	NW MESA	McMahon	Unser to Universe	C of A	0	4	4	0.83	0	4,400	4,400	3,652	\$6,218,905
2006-2010	NW MESA	McMahon	Universe to Rainbow	C of A	0	2	2	0.55	0	2,200	2,200	1,210	\$2,105,648
2006-2010	NW MESA	Unser	Atrisco to PDN	C of A	0	4	4	1.35	0	4,400	4,400	5,940	\$10,115,086
2006-2010	NW MESA	Unser	PDN to Paradise	C of A	2	4	2	1.22	2,200	4,400	2,200	2,684	\$5,490,435
2006-2010	NW MESA	Unser	Bandelier to Westside	C of A	2	4	2	0.65	2,200	4,400	2,200	1,430	\$2,925,232
2006-2010	NW MESA	Westside Blvd.	Golf Course to Unser	Private	0	2	2	1.63	0	1,100	1,100	1,793	\$6,240,374
2006-2010	NW MESA	Paseo Del Norte	Rainbow to Unser	Private	2	4	2	1.32	2,200	4,400	2,200	2,904	\$5,940,470
2006-2010	NW MESA	Paseo Del Norte	Golf Course to Unser	C of A	0	4	4	1.68	0	4,400	4,400	7,392	\$12,587,663
2006-2010	NW MESA	Ladera	90th to 98th	Private	0	2	2	0.91	0	1,100	1,100	1,001	\$3,483,890
2011-2015	NW MESA	Unser Blvd.	Paradise to Irving	Unified	2	4	2	0.45	2,200	4,400	2,200	990	\$2,025,160
2011-2015	NW MESA	Rainbow	PDN to Unser	Private	0	2	2	1.83	0	1,300	1,300	2,379	\$7,006,064
2011-2015	FAR WEST	Ladera	98th to Lower St.	Private	0	2	2	1.38	0	1,100	1,100	1,518	\$5,283,261
2011-2015	FAR WEST	Cross St.	98th to Ladera	Private	0	2	2	0.71	0	900	900	639	\$2,718,200
2011-2015	FAR WEST	Lower St.	Ladera to 98th	Private	0	2	2	0.97	0	900	900	873	\$3,713,597
2011-2015	FAR WEST	118th St.	Ladera to Lower St.	Private	0	2	2	0.63	0	900	900	567	\$2,411,924
2015-2025	NW MESA	Rainbow	Irving to McMahon	Private	2	4	2	0.63	2,200	4,400	2,200	1,386	\$2,835,224
2015-2025	NW MESA	Rainbow	PDN to Unser	Private	2	4	2	1.83	2,200	4,400	2,200	4,026	\$8,235,652
2015-2025	NW MESA	Universe	Irving to McMahon	Private	2	4	2	0.64	900	1,800	900	576	\$2,880,228
2015-2025	NW MESA	McMahon	Rainbow to Unser	Private	2	4	2	2.21	900	1,800	900	1,989	\$9,945,787
2015-2025	NW MESA	Irving	La Paz to Unser	Private	2	4	2	0.75	1,100	2,200	1,100	825	\$3,375,267
2015-2025	FAR WEST	PDN	Double Eagle West 1.3 Miles	Private	0	4	4	1.33	0	4,400	4,400	5,852	\$9,965,233
2015-2025	FAR WEST	Old 98th	BOP to Unser	Private	2	4	2	1.30	1,100	2,200	1,100	1,430	\$5,850,463
2015-2025	FAR WEST	Middle Street	Ladera to 98th	Private	0	2	2	0.97	0	1,100	1,100	1,067	\$3,713,597
<b>Total</b>												<b>71,665</b>	<b>\$173,059,625</b>

**Table C-7**  
**City of Albuquerque – SW Mesa**

Period	Traffic Shed	Facility	From - To	Agency	Lanes			Project Length	Capacity			Added VMC	Project Cost
					2002	2025	Added		2002	2025	Added		
2002-2005	SW MESA	Bluewater	90th – 98th	Private	0	4	4	0.71	0	1,800	1,800	1,278	\$5,319,786
2002-2005	SW MESA	Eucariz	106th-114th	Private	2	4	2	0.41	900	1,800	900	369	\$1,845,146
2002-2005	SW MESA	114th Street	Eucariz to Central	Private	2	4	2	0.41	900	1,800	900	369	\$1,845,146
2002-2005	SW MESA	Sage	Devargas to 118th	Private	2	4	2	0.37	1,100	2,200	1,100	407	\$1,665,132
2002-2005	SW MESA	106th Street	Eucariz to Central	Private	0	2	2	0.61	0	1,300	1,300	793	\$2,335,355
2002-2005	SW MESA	Unser	Central to Sage	Private	0	2	2	1.32	0	2,200	2,200	2,904	\$5,053,554
2002-2005	SW MESA	98th Street	Extension	Private	0	4	4	0.84	0	2,600	2,600	2,184	\$6,293,831
2002-2005	SW MESA	Old 98th Street	End of Road to 98th	Private	0	4	4	0.49	0	2,600	2,600	1,274	\$3,671,402
2006-2010	SW MESA	Gibson West	Unser to 118th	Private	0	2	2	1.53	0	1,300	1,300	1,989	\$5,857,529
2006-2010	SW MESA	98th	EOP to Blake	Private	0	2	2	0.71	0	1,300	1,300	923	\$2,718,200
2006-2010	SW MESA	Unser	Central to Sage	Private	2	4	2	1.32	2,200	4,400	2,200	2,904	\$5,940,470
2006-2010	SW MESA	Unser	End South to Blake	Private	0	2	2	0.71	0	1,300	1,300	923	\$2,718,200
2006-2010	SW MESA	Old 98th	Middle Section	Private	0	4	4	0.38	0	2,600	2,600	988	\$2,847,209
2011-2015	SW MESA	118th St.	Central to Gibson West	Private	0	2	2	1.91	0	1,300	1,300	2,483	\$7,312,340
2011-2015	SW MESA	Blake	Unser to 98th	Private	0	2	2	0.46	0	1,300	1,300	598	\$1,761,087
2011-2015	SW MESA	98th St.	Blake to Rio Bravo	Private	0	2	2	1.00	0	1,300	1,300	1,300	\$3,828,450
2011-2015	SW MESA	Unser	Blake to Rio Bravo	Private	0	2	2	0.96	0	2,200	2,200	2,112	\$3,675,312
2011-2015	SW MESA	Old 98th St.	98th to 118th	Private	0	2	2	0.81	0	1,300	1,300	1,053	\$3,101,045
2011-2015	SW MESA	98th St.	Cross St. to Lower St.	Private	0	4	4	0.33	0	2,600	2,600	858	\$2,472,577
2015-2025	SW MESA	Rio Bravo	98th to Coors	Private	2	4	2	1.45	2,200	4,400	2,200	3,190	\$6,525,517
2015-2025	SW MESA	118th Street	Gibson W. to Rio Bravo	Private	0	2	2	1.11	0	1,300	1,300	1,443	\$4,249,580
2015-2025	SW MESA	Unser	Rio Bravo to Gun Club	Private	0	2	2	0.92	0	2,200	2,200	2,024	\$3,522,174
2015-2025	SW MESA	Unser	Gibson W. to Rio Bravo	Private	2	4	2	1.24	2,200	4,400	2,200	2,728	\$5,580,442
<b>Total</b>												<b>35,094</b>	<b>\$90,139,480</b>

# **Appendix D**

## **Offset Component Calculations**

**The Value of a Penny in City of Albuquerque**

For the purpose of this calculation the Motor Fuel Tax revenues were used:

**1. Motor Fuel Excise Tax (17.0 ¢/gallon)**

- Tax applies to every net gallon of motor and diesel fuel sold within the State.

Table D-1 presents the City receipts from Motor Fuel Taxes for the period 1996-2002.

**Table D-1  
City of Albuquerque – Motor Fuel Taxes Receipts**

Fiscal Year	City of Albuquerque Gasoline Tax Receipts	Dollars per Gallon	Amount of Tax Distributed to the Municipalities	Portion Effectively Paid to the Municipalities	Equivalent Pennies
1993	\$3,944,954	\$0.20	10.38%	90.00%	\$2,111,408
1994	\$3,871,140	\$0.20	10.38%	90.00%	\$2,071,901
1995	\$4,258,909	\$0.20	10.38%	90.00%	\$2,279,442
1996	\$4,612,407	\$0.17	10.38%	90.00%	\$2,904,282
1997	\$4,516,251	\$0.17	10.38%	90.00%	\$2,843,736
1998	\$4,748,965	\$0.17	10.38%	90.00%	\$2,990,268
1999	\$4,514,428	\$0.17	10.38%	90.00%	\$2,842,588
2000	\$4,604,981	\$0.17	10.38%	90.00%	\$2,899,606
2001	\$4,661,581	\$0.17	10.38%	90.00%	\$2,935,246
2002	\$4,431,007	\$0.17	10.38%	90.00%	\$2,790,061
<b>Period 1996-2002</b>	<b>\$32,089,620</b>	<b>\$0.17</b>	<b>10.38%</b>	<b>90.00%</b>	<b>\$2,886,541</b>

*Source: City of Albuquerque – Annual Information Statement – January 23, 2003.*

As indicated, over the seven-year period, the City receipts totaled more than \$32 million. The next step in the derivation process is to calculate the penny equivalency. Since the amount of the gasoline tax distributed to the municipalities is 10.38 percent of the revenues, and 90 percent of the 10.38 percent is effectively distributed between them, the penny equivalency is \$2,886,541 (i.e., \$32,089,620 / 7 years / (17 pennies × 10.38% × 90%)).

**Gas Tax Offset**

**General Obligation Bonds**

The City presently has outstanding nine series of general purpose obligation bonds and it is using some of these bonds to finance the construction of capacity-adding projects. As a result, over the 2004-2012 timeframe, the City plans to spend a total of \$58,750,000 in capacity-adding projects. Table D-2 presents the summary of the equivalent penny calculations for the G.O. Bonds portion of the gas tax credit.

**Table D-2  
Equivalent Penny Calculation for G.O. Bonds**

<b>Funding Source</b>	<b>Revenue Applied to Capital Program</b>	<b>Number of Years</b>	<b>Revenue from 1 Penny</b>	<b>Equivalent Pennies</b>
G.O. Bond	\$58,750,000	9	\$2,886,541	\$0.023

**¼-Cent Sales Tax**

An additional funding source for capacity-adding projects is the ¼-cent sales tax. During the period from 2004 to 2012, the City is going to spend \$17,550,000 on these types of projects. The detailed calculation is showed in Table D-3.

**Table D-3  
Equivalent Penny Calculation for ¼-Cent Sales Tax**

<b>Funding Source</b>	<b>Revenue Applied to Capital Program</b>	<b>Number of Years</b>	<b>Revenue from 1 Penny</b>	<b>Equivalent Pennies</b>
1/4 ¢ Sales Tax	\$17,550,000	9	\$2,886,541	\$0.007

**State Revenues**

The calculation of the equivalent pennies for the State revenues used by the City of Albuquerque for roadway capacity projects is described in this section. Based on information provided by the City, the State plans to spend \$18,515,000 in capacity projects over the period from 2004 to 2012 (9 years). This results in an equivalency of 0.7 pennies. Table D-4 documents this calculation.

**Table D-4**  
**Equivalent Penny Calculation for State Portion**

Funding Source	Revenue Applied to Capital Program	Number of Years	Revenue from 1 Penny	Equivalent Pennies
State	\$18,515,000	9	\$2,886,541	\$0.007

The lists of projects considered for the gas tax credit component are shown in Table D-5.

**Table D-5**  
**2004-2012 Projects by Funding Source**

Project			Funding Source			
On Street	From Street	To Street	G.O. Bond	1/4 ¢ Sales Tax	State	Total
Alameda	San Pedro	Wyoming	\$3,000,000			\$3,000,000
Gibson Boulevard	Louisiana	Juan Tabo/Central	\$1,200,000	\$4,950,000	\$1,936,000	\$8,086,000
I-40/Louisiana Interchange	n/a	n/a			\$2,858,000	\$2,858,000
Mc Mahon	Unser	Coors By-Pass	\$2,250,000		\$5,733,000	\$7,983,000
Mc Mahon	Unser	Rainbow	\$1,000,000		\$2,676,000	\$3,676,000
Montano	Second Street	I-25		\$1,600,000		\$1,600,000
Osuna	I-25	Edith Boulevard		\$1,500,000		\$1,500,000
Jefferson	Second Street	Jefferson	\$1,500,000			\$1,500,000
Paradise	La Paz	Eagle Ranch		\$3,000,000		\$3,000,000
Unser	Golf Course	Unser	\$6,000,000			\$6,000,000
Second & Menaul Intersection	n/a	n/a			\$2,858,000	\$2,858,000
Second & Montano Intersection	n/a	n/a	\$50,000		\$2,454,000	\$2,504,000
Second Street Corridor	I-40	City Limits	\$7,000,000			\$7,000,000
Unser Boulevard	Montano	County Line	\$36,750,000			\$36,750,000
Unser Boulevard	Central	Sage		\$4,000,000		\$4,000,000
SR 528	Golf Course	SR 528		\$1,000,000		\$1,000,000
Wyoming	Burlinson	Paseo del Norte		\$1,500,000		\$1,500,000
<b>Total</b>			<b>\$58,750,000</b>	<b>\$17,550,000</b>	<b>\$18,515,000</b>	<b>\$94,815,000</b>

### Fuel Efficiency

Another input to the credit component is the average fuel efficiency of motor vehicles. The data used in this calculation were obtained from the Federal Highway Administration's *Highway Statistics 2002*. Based on the calculations completed in Table D-6, the fuel efficiency rate to be used in the impact fee equation is 17.62 miles per gallon.

**Table D-6  
Average Motor Vehicle Fuel Efficiency – Excluding Interstate Travel**

Travel					
	Vehicle Miles of Travel (VMT)			Percent VMT	
	@ 20.2 mpg	@ 5.8 mpg		@ 20.2 mpg	@ 5.8 mpg
Other Arterial Rural	388,654,000,000	42,424,000,000	431,078,000,000	90%	10%
Other Rural	381,823,000,000	29,053,000,000	410,876,000,000	93%	7%
Other Urban	1,257,758,000,000	55,682,000,000	1,313,440,000,000	96%	4%
<b>Total Non-Interstate</b>	<b>2,028,235,000,000</b>	<b>127,159,000,000</b>	<b>2,155,394,000,000</b>	<b>94%</b>	<b>6%</b>

Fuel Consumed					
	Gallons				
	@ 20.2 mpg	@ 5.8 mpg			
Other Arterial Rural	19,240,297,030	7,314,482,759	26,554,779,788		
Other Rural	18,902,128,713	5,009,137,931	23,911,266,644	<b>2,155,394</b>	<b>miles (millions)</b>
Other Urban	62,265,247,525	9,600,344,828	71,865,592,352	<b>122,332</b>	<b>gallons (millions)</b>
<b>Total Non-Interstate</b>	<b>100,407,673,267</b>	<b>20,715,593,220</b>	<b>122,331,638,785</b>	<b>17.62</b>	<b>mpg</b>

Source: U.S. Department of Transportation, Federal Highway Administration, Highway Statistics 2002, Section V, Table VM-1 - Annual Vehicle Distance Traveled in Miles and Related Data – 2002 by Highway Category and Vehicle Type

**Table D-7  
2000-2025 Demand by Service Area**

Service Area	2000				2025			
	VMC	VMT	Population	Employment	VMC	VMT	Population	Employment
DOWNTOWN	172,437	98,526	21,157	31,580	172,461	123,619	21,533	37,057
NE HEIGHTS	831,660	486,004	244,091	172,830	860,048	564,006	251,601	197,737
NEAR NORTH VALLEY	192,837	106,828	28,180	16,756	204,390	143,612	31,333	20,092
FAR NE HEIGHTS	160,770	69,817	46,044	13,347	166,899	88,533	56,200	19,742
I-25 CORRIDOR	218,013	135,319	2,385	34,353	237,653	168,451	5,823	47,336
NW MESA	273,501	147,573	61,319	14,203	329,787	238,049	107,095	30,700
SW MESA	211,848	84,252	40,375	7,293	237,298	151,782	73,171	18,527

**Table D-8  
2000-2025 Demand Growth by Service Area**

Service Area	Growth			
	VMC	VMT	Population	Employment
DOWNTOWN	24	25,093	376	5,477
NE HEIGHTS	28,388	78,002	7,510	24,907
NEAR NORTH VALLEY	11,554	36,785	3,153	3,336
FAR NE HEIGHTS	6,129	18,716	10,156	6,395
I-25 CORRIDOR	19,641	33,132	3,438	12,983
NW MESA	56,286	90,476	45,776	16,497
SW MESA	25,451	67,529	32,796	11,234

**Appendix E**  
**Single Family Detached Tiering**  
**Analysis**

**Fee Tiering for Residential Single Family (Detached) Use**

The City of Albuquerque has expressed an interest in having an option for the tiering of the assessed impact fee for the residential Single Family (Detached) land use. To accommodate this, an analysis was completed on the comparative relationship between housing unit size and household travel behavior. This analysis utilized national data from the 2001 National Household Travel Survey (NHTS) and the 2001 American Housing Survey (AHS) to examine this relationship through the linkage of annual household income.

Table E-1 presents the trip characteristics for the residential Single Family (Detached) land use category that are being utilized in the proposed impact fee schedule. To address the City's desire for a tiered fee option for this particular use, the 2001 AHS database was consulted first to examine the distribution of housing units in the United States by size in terms of square footage. This review helped develop three potential tiers for the Single Family (Detached) category based on ranges of housing unit size: less than 1,500 sf, 1,500 to 2,499 sf, and 2,500 sf or more. The AHS database then was used to estimate median annual household incomes for the three tiers using a comparison of median annual family/household incomes with housing unit size. The results of this analysis are presented in Table E-2.

**Table E-1  
Trip Characteristic Data**

<b>Proposed Values Excluding Tiering</b>	<b>Daily Trip Rate</b>	<b>Peak Hour Trip Rate</b>	<b>Total Trip Length</b>	<b>Peak Hour VMT</b>	<b>Ratio to Mean</b>
Single Family (Detached)	9.57	1.02	6.78	6.92	1.00

**Table E-2  
Median Annual Household Income for the Tiers**

<b>2001 AHS Median Income Data by Housing Unit Size (US)</b>	<b>Annual Income</b>
Less than 1,500 sf	\$31,695
1,500 to 2,499 sf	\$54,581
2,500 or more	\$74,249
Total Average	\$45,473

The next step involved the use of the NHTS database to assess average annual household vehicle miles of travel (VMT) for the annual household income levels that were

identified for the three tiers using the AHS data. For example, as shown in Table E-2, households in the less-than-1,500-sf tier have a median annual household income of approximately \$31,695. Therefore, the NHTS data were used to estimate the annual VMT per household for those households with a median annual income of \$31,695. This analysis resulted in an annual VMT per household of 18,604 miles, which translates to a daily VMT of 50.97 miles. The NHTS-specific analysis is documented in Table E-3 for all three tiers.

**Table E-3  
VMT per Household**

2001 NHTS Travel Data by Annual HH Income	Annual VMT/HH	Days	Daily VMT	Peak Hour VMT	Ratio to Mean	Normalized to 1.271
Median of \$30,000	18,604	365	50.970	5.433	0.843	0.664
Mean ---> Total	22,063	365	60.447	6.443	1.000	
Median of \$55,000	28,039	365	76.819	8.188	1.271	1.000
Median of \$75,000	31,463	365	86.200	9.187	1.426	1.122

The final step in the tier development process is to calculate corresponding trip rates for the three new Single Family (Detached) tiers for use in the fee schedule. This is accomplished through the use of comparative ratios. As shown in Table E-3, the average daily household VMT for the \$31,695 median income level is 50.970 miles (Daily) and 5.433 miles (Peak Hour). The comparison of this figure to the overall average daily VMT in the U.S. (60.447 miles or 6.443 miles) results in a ratio of 0.843. Since the currently proposed Single Family (Detached) category is considered to represent the 1,500-to-2,499-sf range of the three housing-unit size-based tiers, this calculated ratio for the \$31,695 median income level must be normalized to the ratio for the \$54,581 median income level (i.e., 1.271). This results in a normalized ratio of 0.664.

This ratio is then applied to the daily and peak hour VMTs for the currently proposed Single Family (Detached) category (again, which represents the mean, or middle range, of the three housing-unit-size-based tiers) to generate a daily VMT of 43.08 (Daily) or 4.61 (Peak Hour) for the new less-than-1,500-sf category, as shown in Table E-4. This daily VMT figure is then divided by the assessable trip length of 6.78 miles to obtain a typical trip rate of 6.35 trips per day<sup>3</sup> and 0.68 trips during the peak hour.

<sup>3</sup> Assessable trip length is assumed to remain constant at 6.78 miles since the NHTS data show that average trip length characteristics are relatively uniform across the annual household income levels; only average daily trip rates are significantly different.

**Table E-4  
Trip Rate and VMT – Daily and Peak Hour**

<b>Alternative Values Including Tiering</b>	<b>Daily Trip Rate</b>	<b>Peak Hour Trip Rate</b>	<b>Total Trip Length</b>	<b>Daily VMT</b>	<b>Peak Hour VMT</b>	<b>Ratio to Mean</b>
Single Family (Detached)						
Mean ---> Less than 1,500 sf	6.35	0.68	6.78	43.08	4.61	0.667
1,500 to 2,499 sf	9.57	1.02	6.78	64.92	6.92	1.000
2,500 sf or larger	10.74	1.14	6.78	72.86	7.73	1.118

Table E-5 illustrates the impact that the incorporation of these new tiers for the Single Family (Detached) land use has on the City’s proposed updated impact cost schedule. As shown in the table, the net impact cost for a housing unit of less than 1,500 sf is \$3,384. From this tier, the net impact fee increases as housing unit size goes up, with the 2,500-sf-or-larger housing units having a proposed net impact fee of \$5,670.

**Table E-5  
Single Family Detached Impact Cost**

<b>Impact of Tiering on Fee Schedule</b>	<b>Daily Trip Rate</b>	<b>Peak Hour Trip Rate</b>	<b>Total Trip Length</b>	<b>Daily VMT</b>	<b>Peak Hour VMT</b>	<b>Net Impact Cost</b>
Single Family (Detached)						
Mean ---> Less than 1,500 sf	6.35	0.68	6.78	43.08	4.61	\$3,384
1,500 to 2,499 sf	9.57	1.02	6.78	64.92	6.92	\$5,075
2,500 sf or larger	10.74	1.14	6.78	72.86	7.73	\$5,670

**Appendix F**  
**Net Impact Cost Schedule**

FINAL 8/31/04

City of Albuquerque Roadway Facilities Impact Cost Schedule

Cost Schedule Assumptions:

<b>Gasoline Tax Proxy:</b>	\$ per gallon to capital: \$0.037	G.O. Bond: \$0.023	Per Lane Mile Cost: \$1,949,410	Interstate Facility Adjustment Factor: 0.329
	Facility life (years): 25	1/4 cent: \$0.007	Average Added Capacity Per Lane Mile: 773	Across-the-Board Adjustment: 0.000
	Interest rate: 5.0%	State: \$0.007	Fuel Efficiency: 17.62 mpg	
			Effective Days per Year: 365	

ITE LUC	Land Use	Unit	Trip Rate (PM Peak)	Trip Rate (Daily)	Assessable Trip Length	Total Trip Length	Percent New Trips	Total Impact Cost	Annual Gas Tax Proxy	Gas Tax Offset	Net Impact Cost	Downtown	NE Heights	Near North Valley	Far NE Heights	I-25 Corridor	NW Mesa	SW Mesa	Bernalillo County Fee
<b>RESIDENTIAL:</b>																			
210	Single Family Detached / Mobile Home Indv Lot																		
	Less than 1,500 sf	du	0.68	6.35	6.28	6.78	100.0%	\$3,617	\$17	\$233	\$3,384	\$0	\$0	\$0	\$1,069	\$2,113	\$2,626	\$2,702	N/D
	1,500 sf to 2,499 sf	du	1.02	9.57	6.28	6.78	100.0%	\$5,425	\$25	\$351	\$5,075	\$0	\$0	\$0	\$1,585	\$3,160	\$3,933	\$4,046	\$3,068
	2,500 sf or Larger	du	1.14	10.74	6.28	6.78	100.0%	\$6,063	\$28	\$394	\$5,670	\$0	\$0	\$0	\$1,754	\$3,521	\$4,388	\$4,516	N/D
220	Multi-Family	du	0.67	6.72	4.19	4.69	100.0%	\$2,376	\$12	\$170	\$2,206	\$0	\$0	\$0	\$512	\$1,276	\$1,651	\$1,706	\$1,902
230	Condominium/ Townhouse	du	0.52	5.86	4.19	4.69	100.0%	\$1,844	\$11	\$148	\$1,695	\$0	\$0	\$0	\$218	\$885	\$1,212	\$1,260	\$1,657
240	Mobile Home Park	du	0.60	4.99	4.29	4.79	100.0%	\$2,178	\$9	\$129	\$2,049	\$0	\$0	\$0	\$765	\$1,344	\$1,629	\$1,671	\$1,687
251	Retirement Home	du	0.35	3.71	2.39	2.79	100.0%	\$709	\$4	\$58	\$651	\$0	\$0	\$0	\$74	\$335	\$462	\$481	\$828
253	Congregate Care Facility (Attached)	du	0.20	2.02	3.09	3.59	71.6%	\$375	\$2	\$28	\$347	\$0	\$0	\$0	\$67	\$193	\$255	\$264	N/D
<b>LODGING:</b>																			
310	Hotel	room	0.61	8.17	6.28	6.78	66.3%	\$2,151	\$14	\$198	\$1,953	\$0	\$0	\$0	\$0	\$869	\$1,306	\$1,371	\$1,902
320	Motel	room	0.56	5.63	4.29	4.79	76.6%	\$1,557	\$8	\$112	\$1,446	\$0	\$0	\$0	\$336	\$837	\$1,082	\$1,119	\$1,534
416	RV Park	RV Space	0.41	4.10	5.38	5.88	100.0%	\$1,866	\$9	\$130	\$1,736	\$0	\$0	\$0	\$441	\$1,025	\$1,312	\$1,354	N/D
<b>RECREATION:</b>																			
430	Golf Course	Hole	3.56	35.74	5.52	6.02	90.0%	\$14,959	\$74	\$1,045	\$13,913	\$0	\$0	\$0	\$3,513	\$8,206	\$10,510	\$10,848	N/D
411	General Recreation (City Park)	Acres	0.16	1.59	5.61	6.11	90.0%	\$679	\$3	\$47	\$632	\$0	\$0	\$0	\$162	\$374	\$478	\$493	N/D
444	Movie Theaters w/Matinee	screen	9.99	83.28	2.19	2.69	87.8%	\$16,297	\$76	\$1,064	\$15,233	\$0	\$0	\$0	\$4,644	\$9,422	\$11,768	\$12,112	N/D
492	Racquet Club/Health Club/Spa/Dance Studio	1,000 sf	4.06	32.93	5.11	5.61	94.0%	\$16,497	\$67	\$937	\$15,559	\$0	\$0	\$0	\$6,231	\$10,440	\$12,507	\$12,810	N/D
495	Community Center	1,000 sf	2.39	22.88	5.61	6.11	90.0%	\$10,206	\$48	\$679	\$9,527	\$0	\$0	\$0	\$2,769	\$5,818	\$7,316	\$7,535	N/D
<b>INSTITUTIONAL:</b>																			
610	Hospital	1,000 sf	1.61	17.57	5.44	5.94	77.0%	\$5,704	\$31	\$434	\$5,270	\$0	\$0	\$0	\$954	\$2,902	\$3,858	\$3,998	\$2,593
620	Nursing Home	bed	0.30	2.37	2.59	3.09	89.0%	\$586	\$3	\$35	\$551	\$0	\$0	\$0	\$200	\$358	\$436	\$447	\$525
520	Elementary School	student	0.28	1.29	4.14	4.64	80.0%	\$785	\$2	\$26	\$759	\$0	\$0	\$265	\$502	\$618	\$675	\$683	\$17
522	Middle School	student	0.30	1.62	4.73	5.23	90.0%	\$1,080	\$3	\$41	\$1,039	\$0	\$0	\$252	\$630	\$814	\$905	\$919	\$17
530	High School	student	0.28	1.71	4.88	5.38	90.0%	\$1,040	\$3	\$45	\$996	\$0	\$0	\$141	\$551	\$752	\$850	\$865	\$125
540	Junior/Community College	student	0.12	1.20	6.47	6.97	90.0%	\$592	\$3	\$41	\$551	\$0	\$0	\$0	\$146	\$329	\$419	\$432	\$416
550	University	student	0.24	2.38	6.46	6.96	90.0%	\$1,182	\$6	\$81	\$1,101	\$0	\$0	\$0	\$299	\$661	\$839	\$865	N/D
560	Church	1,000 sf	1.41	9.11	4.16	4.66	90.0%	\$4,468	\$15	\$206	\$4,261	\$0	\$0	\$318	\$2,208	\$3,134	\$3,589	\$3,656	\$667
566	Cemetery	Acres	0.73	4.73	7.61	8.11	95.0%	\$4,480	\$14	\$197	\$4,283	\$0	\$0	\$521	\$2,324	\$3,208	\$3,642	\$3,706	N/D
<b>OFFICE:</b>																			
710	Under 50,000 sf	1,000 sf	1.92	18.35	5.19	5.69	92.3%	\$7,773	\$37	\$520	\$7,253	\$0	\$0	\$0	\$2,076	\$4,412	\$5,559	\$5,727	\$3,001
710	50,000-100,000 sf	1,000 sf	1.49	14.25	5.19	5.69	92.3%	\$6,038	\$29	\$404	\$5,634	\$0	\$0	\$0	\$1,612	\$3,427	\$4,318	\$4,449	\$3,001
710	100,001-200,000 sf	1,000 sf	1.27	12.15	5.19	5.69	92.3%	\$5,148	\$24	\$345	\$4,803	\$0	\$0	\$0	\$1,375	\$2,922	\$3,681	\$3,793	\$3,001
710	200,001-400,000 sf	1,000 sf	1.08	10.36	5.19	5.69	92.3%	\$4,389	\$21	\$294	\$4,095	\$0	\$0	\$0	\$1,172	\$2,491	\$3,139	\$3,234	\$3,001
710	Greater than 400,000 sf	1,000 sf	0.92	8.83	5.19	5.69	92.3%	\$3,742	\$18	\$250	\$3,492	\$0	\$0	\$0	\$999	\$2,124	\$2,676	\$2,757	\$3,001
770	Business Park	1,000 sf	1.29	12.76	5.39	5.89	88.8%	\$5,222	\$26	\$360	\$4,862	\$0	\$0	\$0	\$1,277	\$2,895	\$3,689	\$3,806	\$3,469
<b>RETAIL:</b>																			
820	Under 100,000 GSF	1,000 sf	7.92	86.56	1.86	2.36	51.7%	\$6,443	\$40	\$570	\$5,873	\$0	\$0	\$0	\$200	\$2,760	\$4,016	\$4,201	\$2,792
820	100,000 to 400,000 GSF	1,000 sf	4.31	46.23	2.64	3.14	63.4%	\$6,107	\$35	\$497	\$5,609	\$0	\$0	\$0	\$662	\$2,894	\$3,990	\$4,151	\$2,792
820	400,001 to 800,000 GSF	1,000 sf	3.40	36.27	3.03	3.53	68.5%	\$5,981	\$34	\$474	\$5,508	\$0	\$0	\$0	\$792	\$2,920	\$3,965	\$4,118	\$2,792
820	Greater than 800,000 GSF	1,000 sf	2.86	30.33	3.35	3.85	72.6%	\$5,891	\$32	\$458	\$5,433	\$0	\$0	\$0	\$875	\$2,932	\$3,942	\$4,090	\$2,792
931	Quality Restaurant	1,000 sf	9.02	89.95	3.09	3.59	76.7%	\$18,107	\$95	\$1,339	\$16,768	\$1	\$0	\$0	\$3,448	\$9,458	\$12,409	\$12,843	\$2,945
934	Fast Food Rest w/ Drive-Thru	1,000 sf	46.68	496.12	2.39	2.89	57.9%	\$54,764	\$319	\$4,490	\$50,274	\$2	\$0	\$0	\$5,594	\$25,755	\$35,654	\$37,107	\$8,713
942	Auto Repair or Body Shop	1,000 sf	4.01	37.64	3.59	4.09	72.2%	\$8,800	\$43	\$600	\$8,199	\$0	\$0	\$0	\$2,224	\$4,920	\$6,244	\$6,438	N/D
841	New/Used Auto Sales	1,000 sf	2.72	33.34	4.69	5.19	79.0%	\$8,526	\$52	\$738	\$7,788	\$0	\$0	\$0	\$444	\$3,758	\$5,385	\$5,624	N/D
850	Supermarket	1,000 sf	12.02	102.24	2.09	2.59	38.0%	\$8,098	\$39	\$544	\$7,554	\$0	\$0	\$0	\$2,135	\$4,580	\$5,781	\$5,957	N/D
853	Convenience Store with Gas Pumps	1,000 sf	62.57	845.60	1.60	2.10	28.5%	\$24,088	\$194	\$2,728	\$21,360	\$1	\$0	\$0	\$0	\$6,461	\$12,476	\$13,359	\$10,005
862	Home Improvement Superstore	1,000 sf	3.05	29.80	4.27	4.77	83.0%	\$9,147	\$45	\$637	\$8,510	\$0	\$0	\$0	\$2,170	\$5,031	\$6,436	\$6,642	N/D
881	Pharmacy/Drug Store w/ Drive-Thru	1,000 sf	9.51	88.16	2.09	2.59	32.5%	\$5,480	\$28	\$402	\$5,078	\$0	\$0	\$0	\$1,082	\$2,885	\$3,771	\$3,901	N/D
890	Furniture Store	1,000 sf	0.53	5.06	6.08	6.58	54.2%	\$1,479	\$7	\$98	\$1,382	\$0	\$0	\$0	\$411	\$849	\$1,064	\$1,096	N/D
<b>INDUSTRY:</b>																			
110	General Light Industrial/Utilities	1,000 sf	1.08	6.97	5.15	5.65	92.0%	\$4,328	\$14	\$196	\$4,133	\$0	\$0	\$395	\$2,187	\$3,065	\$3,496	\$3,559	\$1,742
120	General Heavy Industrial	1,000 sf	0.68	1.50	5.15	5.65	92.0%	\$2,725	\$3	\$42	\$2,683	\$0	\$1,045	\$1,879	\$2,264	\$2,453	\$2,546	\$2,560	N/D
130	Industrial Park	1,000 sf	0.86	6.96	5.15	5.65	92.0%	\$3,447	\$14	\$195	\$3,251	\$0	\$0	\$0	\$1,308	\$2,185	\$2,616	\$2,679	\$2,043
140	Manufacturing	1,000 sf	0.75	3.82	5.15	5.65	92.0%	\$3,006	\$8	\$107	\$2,899	\$0	\$0	\$850	\$1,832	\$2,313	\$2,550	\$2,584	\$2,270
150	Warehouse	1,000 sf	0.61	4.96	5.15	5.65	92.0%	\$2,445	\$10	\$139	\$2,306	\$0	\$0	\$0	\$921	\$1,546	\$1,852	\$1,897	\$1,227
151	Mini-Warehouse	1,000 sf	0.29	2.50	5.15	5.65	92.0%	\$1,162	\$5	\$70	\$1,092	\$0	\$0	\$0	\$394	\$709	\$864	\$886	\$325

# **Appendix G**

## **Revenue Projections**

**Table G-1  
Single Family Land Use Revenue Projections**

Service Area	# of Units	Single Family Impact Cost	Revenues
DOWNTOWN	329	\$0	\$0
NE HEIGHTS	1,638	\$0	\$0
NEAR NORTH VALLEY	330	\$0	\$0
FAR NE HEIGHTS	1,603	\$1,585	\$2,541,369
I-25 CORRIDOR	52	\$3,160	\$163,422
NW MESA	9,470	\$3,933	\$37,244,212
SW MESA	5,704	\$4,046	\$23,080,069
MESA DEL SOL	0	\$0	\$0
<b>TOTAL</b>			<b>\$63,029,072</b>

**Table G-2  
Multi Family Land Use Revenue Projections**

Service Area	# of Units	Multi Family Impact Cost	Revenues
DOWNTOWN	212	\$0	\$0
NE HEIGHTS	2,339	\$0	\$0
NEAR NORTH VALLEY	231	\$0	\$0
FAR NE HEIGHTS	475	\$512	\$243,112
I-25 CORRIDOR	0	\$1,276	\$557
NW MESA	3,217	\$1,651	\$5,311,999
SW MESA	1,325	\$1,706	\$2,260,182
MESA DEL SOL	0	\$0	\$0
<b>TOTAL</b>			<b>\$7,815,849</b>

**Table G-3  
Commercial Land Use Revenue Projections**

Service Area	# of Permits	SF (in 1,000)	Retail Impact Cost	Revenues
DOWNTOWN	17	334	\$0	\$0
NE HEIGHTS	83	1,666	\$0	\$0
NEAR NORTH VALLEY	17	336	\$0	\$0
FAR NE HEIGHTS	82	1,630	\$200	\$16,341
I-25 CORRIDOR	3	53	\$2,760	\$7,258
NW MESA	482	9,630	\$4,016	\$1,934,029
SW MESA	290	5,801	\$4,201	\$1,218,396
MESA DEL SOL	0	0	\$0	\$0
<b>TOTAL</b>				<b>\$3,176,023</b>

**FINAL 8/31/04**

**Appendix H**  
**Impact Fee Capital Improvements Plan**  
**2004-2012**

Roadway Facilities Impact Fee Capital Implementation Program, 2004-2012

Service Area	Segment	From	To	Lanes	Distance	Cost
<b>Southwest Mesa</b>	98th Street	Sage	Gibson West	4	0.8 mile	\$6,238,112
	Unser	Gibson West	Dennis Chavez	2	1.0 mile	\$3,898,820
	98th Street	Gibson West	Dennis Chavez	4	0.9 miles	\$7,017,876
	Unser	Central	I-40	2	1.0 mile*	\$2,578,820
	Unser	Sage	Gibson West	2	1.0 mile	\$3,898,820
	Intersection Improvement					\$2,926,198
	<i>Total</i>					<b>\$26,558,646</b>
<b>I-25 Corridor</b>	Intersection Improvement					<b>\$171,237</b>
<b>Far Northeast</b>	Wyoming	Burlison	Paseo del Norte	2	**miles	\$2,000,000
	Intersection Improvement					\$800,822
	<i>Total</i>					<b>\$2,800,822</b>
<b>Northwest Mesa</b>	Unser	Atrisco	Paradise	4	2.3 miles	\$17,934,572
	Paseo del Norte	Universe	Unser	4	1.25 miles	\$9,707,450
	Unser	I-40	98th	2	1.1 miles*	\$2,836,702
	Paseo del Norte	Unser	Kimmick	4	0.7 miles	\$5,458,348
	Unser	Paradise	County Line	4	1.3 miles*	\$6,704,932
	Intersection Improvement					\$1,848,235
	<i>Total</i>					<b>\$44,490,239</b>

Notes: \* ROW removed. \*\* The cost of the needed widening improvements exceeds the available funding for this 1.75 mile segment of Wyoming. Improvements to be phased commensurate with the available funding.

**Appendix I**  
**Current & Future Capacity/Demand**  
**Analysis**

**Analysis of Current & Future Capacity/Demand by Service Area**

To meet New Mexico statutory requirements, it is necessary to examine current and future capacity and demand in each of the established roadway impact fee service areas for the City of Albuquerque to ensure that the established fee rates are reasonable and appropriate so that new development is not made to pay for more than its share of the City's total future capacity needs. The analysis that is completed to meet this requirement examines current and future capacity (in terms of vehicle miles of capacity, or VMC) and demand (in terms of vehicle miles of travel, or VMT) for the City of Albuquerque for an eight-year period. In this case, the period that is examined is that from 2002 to 2010. Although this time period does not correspond exactly to that completed for the impact fee revenue estimation or the impact fee CIP (i.e., 2004 to 2012), it will serve as a proxy to represent the change in capacity and demand during a similar length period. It is necessary to utilize the 2002-2010 period because this is the period for which VMC and VMT data are available.

Basically, the analysis examines the change in roadway capacity (VMC) and travel demand (VMT) for each of the service areas over the eight-year period. The growth rate for each of the variables is calculated and comparisons are made to draw conclusions about the relationships between capacity and demand. In addition, the growth in population and employment for the City also are reviewed to provide additional context for the growth in travel demand. Because of the data available for population and employment, this portion of the analysis had to be completed for a 10-year period (from 2000 to 2010). The computations completed for this analysis are shown in Table I-1, on the following page.

**Table I-1  
Current & Future Capacity/Demand Analysis**

Service Area	2002		2000		2010			
	VMC	VMT	Population	Employment	VMC	VMT	Population	Employment
DOWNTOWN	172,437	98,526	21,157	31,580	172,437	107,254	20,931	34,720
NE HEIGHTS	831,660	486,004	244,091	172,830	831,660	513,136	248,484	185,833
NEAR NORTH VALLEY	192,837	106,828	28,180	16,756	192,837	119,622	29,024	18,156
FAR NE HEIGHTS	160,770	69,817	46,044	13,347	163,362	76,327	50,919	16,173
I-25 CORRIDOR	218,013	135,319	2,385	34,353	218,081	146,843	2,574	40,918
NW MESA	273,501	147,573	61,319	14,203	299,534	179,043	92,083	24,923
SW MESA	211,848	84,252	40,375	7,293	224,028	107,741	58,242	10,931
TOTAL	2,061,066	1,128,319	443,551	290,362	2,101,939	1,249,965	502,257	331,654

Service Area	2002-2010 Growth		2000-2010 Growth	
	VMC	VMT	Population	Employment
DOWNTOWN	0	8,728	-226	3,140
NE HEIGHTS	0	27,131	4,393	13,003
NEAR NORTH VALLEY	0	12,795	844	1,400
FAR NE HEIGHTS	2,592	6,510	4,875	2,826
I-25 CORRIDOR	68	11,524	189	6,565
NW MESA	26,033	31,470	30,764	10,720
SW MESA	12,180	23,488	17,867	3,638
TOTAL	40,873	121,646	58,706	41,292

Service Area	2002-2010 % Change		2000-2010 % Change	
	VMC	VMT	Population	Employment
DOWNTOWN	0.00%	8.86%	-1.07%	9.94%
NE HEIGHTS	0.00%	5.58%	1.80%	7.52%
NEAR NORTH VALLEY	0.00%	11.98%	3.00%	8.36%
FAR NE HEIGHTS	1.61%	9.32%	10.59%	21.17%
I-25 CORRIDOR	0.03%	8.52%	7.92%	19.11%
NW MESA	9.52%	21.33%	50.17%	75.48%
SW MESA	5.75%	27.88%	44.25%	49.88%
TOTAL	1.98%	10.78%	13.24%	14.22%

Average Annual Growth Rates	
VMC	0.25%
VMT	1.35%
Population	1.32%
Employment	1.42%

Notes:

- (1) Current year (i.e., 2002) VMC and VMT data are derived from roadway project information from the 2025 MTP and other related supplementary information provided by Mid-Region Council of Governments (MRCOG) staff.
- (2) Future year VMC data is derived from the projects included in the 2004-2012 Impact Fee CIP developed by City of Albuquerque staff. The additional VMC for roadway segment improvements in a given service area was computed by calculating the vehicle miles of capacity added per lane mile for each of the roadway projects in the service area and summing the results. The results for each service area were then added to their base year totals to derive the future year VMC figures. The additional VMC for intersection improvements noted in the CIP were estimated by dividing the project cost for each by the average cost per VMC (\$2,523) that was derived previously in this report (Table 2-10, p. 19).
- (3) Future year VMT is derived using roadway project information from the 2025 MTP and other related supplementary information provided by MRCOG staff. The MTP database includes information for 2002 and 2025. Therefore, it was necessary to use these data to interpolate values for each service area for 2010.
- (4) The current and future year population and employment data are derived from City traffic shed data provided by Dr. Chris Nelson.
- (5) The Downtown, NE Heights, and Near North Valley service areas show no capacity being added because, for the most part, these service areas have impact fee rates equal to \$0; hence, no capacity improvement projects will be built in these areas using impact fee revenues
- (6) The average annual growth rates have been calculated for each of the variables to put them all in the same time period context.

As shown in Table I-1, the overall growth in VMC (1.98%) for the City that will result from the completion of the CIP roadway projects that are programmed to be funded by impact fee revenues is significantly lower than the estimated growth in overall travel demand (10.78%). This relationship holds true for each of the service areas, as well. This indicates that the impact fee-funded capacity projects will not exceed the identified future need for additional capacity indicated by the higher increase in travel demand. In fact, the growth rates suggest that impact fee revenues would need to increase more than five-fold to be able to accommodate the projected increase in VMT.

A review of the average annual growth rates for the four variables indicates that the anticipated growth rate for the City's total VMT corresponds well with the projected growth rates for population and employment – all fall within the 1.32 to 1.42 percent per year range. This comparison further highlights the fact that the planned impact fee-funded capacity improvements will provide only a portion of the total capacity that will be needed in the future as population and employment growth continues to occur in the City and within each of the service areas.

Table I-2, presented on the following page, summarizes how the additional VMC figures were determined for each of the capital roadway projects included in the CIP.

**Table I-2  
Calculation of VMC Added by Service Area Based on the  
Roadway Facilities Impact Fee Capital Implementation Program, 2004-2012**

Service Area	Segment	From	To	Lanes Added	Segment Length	Cost	Capacity Added	VMC Added
<b>Southwest Mesa</b>	98th Street	Sage	Gibson West	4	0.8	\$6,238,112	2,600	2,080
	Unser	Gibson West	Dennis Chavez	2	1.0	\$3,898,820	2,200	2,200
	98th Street	Gibson West	Dennis Chavez	4	0.9	\$7,017,876	2,600	2,340
	Unser	Central	I-40	2	1.0	\$2,578,820*	2,200	2,200
	Unser	Sage	Gibson West	2	1.0	\$3,898,820	2,200	2,200
	Intersection Improvement**					\$2,926,198		1,160
<i>Service Area Total</i>						<b>\$26,558,646</b>		12,180
<b>I-25 Corridor</b>	Intersection Improvement**					\$171,237		68
<i>Service Area Total</i>						<b>\$171,237</b>		68
<b>Far Northeast</b>	Wyoming	Burlison	Paseo del Norte	2	1.75***	\$2,000,000	1,300	2,275
	Intersection Improvement**					\$800,822		317
<i>Service Area Total</i>						<b>\$2,800,822</b>		2,592
<b>Northwest Mesa</b>	Unser	Atrisco	Paradise	4	2.3	\$17,934,572	4,400	10,120
	Paseo del Norte	Universe	Unser	4	1.25	\$9,707,450	4,400	5,500
	Unser	I-40	98th	2	1.1	\$2,836,702	2,200	2,420
	Paseo del Norte	Unser	Kimmick	2	0.7	\$5,458,348	2,200	1,540
	Unser	Paradise	County Line	4	1.3	\$6,704,932	4,400	5,720
Intersection Improvement**						\$1,848,235		733
<i>Service Area Total</i>						<b>\$44,490,239</b>		26,033
<b>Total</b>						<b>\$74,020,944</b>		40,873

**NOTES:**

\* ROW removed.

\*\* Additional VMC for intersection improvements are estimated by dividing the project cost for each by the average cost per VMC (\$2,523) that was derived in the Roadway Facilities Impact Fee Study report (Table 2-10, p. 19).

\*\*\* The cost of the needed widening improvements exceeds the available funding for this 1.75 mile segment of Wyoming. Improvements to be phased commensurate with the available funding. For purposes of this analysis, however, the total segment length is used to estimate added VMC.