Road and Park Impact Fee Study

Conway, Arkansas

prepared by duncan associates

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INTRODUCTION

An impact fee is a one-time charge on development, typically collected at time of building permit issuance. Impact fees are designed to ensure that new development contributes a fair share of the cost of the capital improvements needed to serve growth.

This study calculates the maximum impact fees that could be adopted by the City of Conway to help fund growth-related infrastructure improvements to:

- ☐ the major roadway system, and
- ☐ park and recreation facilities.

The proposed road impact fees do not include land costs. The road impact fee excludes right-of-way costs, which would need to be paid for with other funds or dedicated by developers as a condition of development approval.

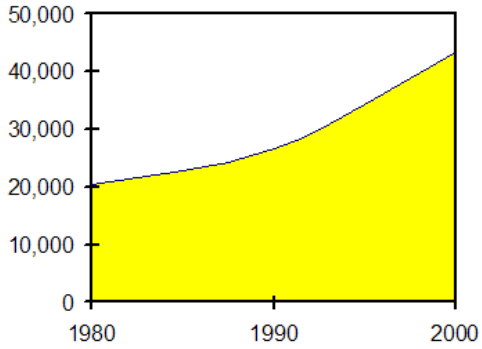
This study was prompted by the need to find alternative sources of revenue to fund capital improvements necessitated by the community's rapid growth. The City has traditionally funded major roadway and park capital improvements primarily on a pay-as-you-go basis, largely with Sales and Use Tax Capital Improvements Bonds, but due to the City's rapid growth this primary source of funding has become inadequate.

Background

Conway is located in central Arkansas, approximately thirty miles northwest of Little Rock. It is the county seat of Faulkner County. Conway is at the intersection of Interstate 40 and U.S. Highways 64 and 65, and is located alongside the Arkansas River.

Impact fees are most appropriate for communities experiencing rapid growth. Over the last two decades, Conway's population growth has accelerated, from 2.7 percent a year in the 1980s to 5.0 percent annually in the 1990s. Since 1990, the City's population has been growing considerably faster than the 1.3 percent annual growth rate experienced by the state as a whole. In fact, of cities that were at least 10,000 population in 1990, Conway was the second fastest growing city in Arkansas during the 1990s (Bentonville was the only city of any size to grow faster). The 2000 census recorded the City's population as 43,167.

Figure 1
POPULATION, 1980-2000



Potential Fees

The potential road and park impact fees by generalized land use categories are presented in Table 1 below. If adopted at the maximum level, a typical single-family unit in the City of Conway would be assessed a fee of $1,634.

Table 1
POTENTIAL FEES

Land Use	Unit	Road	Park	Total
Single-Family (avg.)	Dwelling	$995	$639	$1,634
Multi-Family	Dwelling	$771	$447	$1,218
Mobile Home Park	Pad	$558	$556	$1,114
Retail	1,000 Sq. Ft.	$1,915	na	$1,915
Office	1,000 Sq. Ft.	$1,280	na	$1,280
Industrial	1,000 Sq. Ft.	$808	na	$808

Source: Road fees from Table 19; park fees from Table 33.

These potential fees are somewhat lower than the average road and park impact fees assessed by local governments nationwide (see Figure 2). According to a recent survey by Dr. James C. Nicholas of the University of Florida, the average road and park impact fees charged by local governments in 2002 add up to $2,983.[1] The proposed impact fees for Conway combined are only 56 percent of the national average for the two fees. Part of this is due to the fact that the proposed road fee does not include right-of-way costs.

Figure 2
COMPARATIVE SINGLE-FAMILY FEES

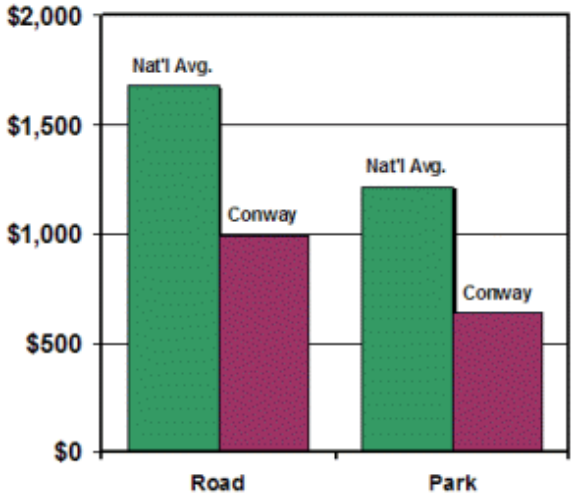
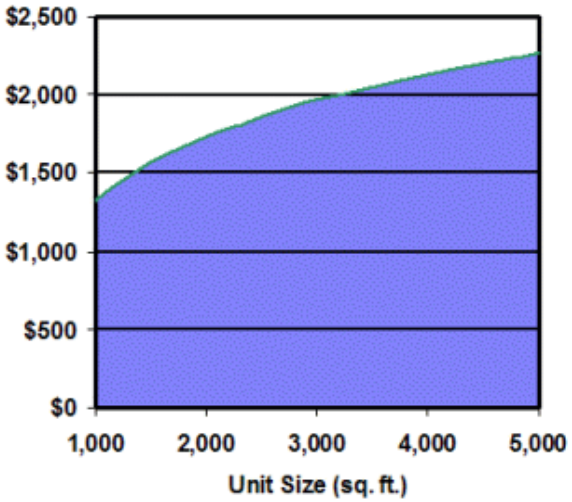


Figure 3
VARIABLE SINGLE-FAMILY FEES



An alternative calculated in this report is to charge single-family units based on the size of the dwelling unit. The combined impact fees by unit size are illustrated in Figure 3. If adopted at the maximum level, a 4,000 square foot single-family unit would be assessed $2,096, whereas a 1,200 square foot single-family unit would pay a lower fee of only $1,398, as shown in Table 2. Note that while the fees increase with unit size, they do not increase proportionately to size. That is because demands for most facilities increase with size but then taper off for larger units.

[1] Dr. James C. Nicholas, University of Florida at Gainesville, Presentation at American Planning Association National Conference, Chicago, IL, April 14, 2002, based on survey of over 200 jurisdictions throughout the United States.

Table 2
POTENTIAL SINGLE-FAMILY FEES BY UNIT SIZE

Dwelling Size	Road Impact Fee	Park Impact Fee	Total
up to 1,000	$785	$469	$1,254
1,001 - 1,250	$867	$531	$1,398
1,251 - 1,500	$933	$582	$1,515
1,501 - 1,750	$988	$623	$1,611
1,751 - 2,000	$1,035	$659	$1,694
2,001 - 2,250	$1,077	$690	$1,767
2,251 - 2,500	$1,113	$718	$1,831
2,501 - 3,000	$1,161	$755	$1,916
3,001 - 3,500	$1,216	$797	$2,013
3,501 - 4,000	$1,264	$832	$2,096
4,001 - 4,500	$1,305	$864	$2,169
4,501 - 5,000	$1,341	$891	$2,232
more than 5,000	$1,374	$916	$2,290

Source: Road impact fees from Table 20; park impact fees from Table 34.

Potential Revenue

It is important to note that the impact fees calculated in this report could be adopted at less than 100 percent of the levels shown, provided that the reduction is applied uniformly across all land use categories in order to retain the proportionality of the fees. If the road and park impact fees are adopted at the maximum levels, they could generate about $2.7 million annually, as shown in Table 3.

Table 3
POTENTIAL ANNUAL IMPACT FEE REVENUE

Fee Type	Revenue
Road Impact Fee	$2,321,000
Park Impact Fee	$389,700
Total	$2,710,700

Source: Table 21 and Table 35.

Service Area

In an impact fee system, a "service area" is an area where a set of a capital facilities benefits the development located in the area, and all new development in the area is subject to a single fee schedule. A similar concept is that of a "benefit area," which is an area in which the fees collected are earmarked for expenditure. A service area may be divided into multiple benefit areas in order to show a greater link between the fees paid and benefit received, even though the larger service area is appropriate for determining average costs to serve new development.

A single city-wide service area and benefit district that coincides with the City limits will be used for both the road and parks impact fees. Since the roadway system is designed to move traffic from one part of the community to the other, road impact fees are generally calculated at the jurisdictional level, and a single fee schedule applies city-wide. Similarly, Conway's park system is essentially a city-wide resource. The

majority of the City's parks are community parks that are equally accessible to all City residents. It is therefore appropriate to assess the park fees on a city-wide basis.

Average Household Size

When calculating an impact fee, data on average household size for various types of housing units is a critical component. The most recent and reliable data on average household size in the City of Conway is the 2000 U.S. Census. As shown in Table 4 below, average household size varies significantly by housing type, ranging from 1.89 persons per multi-family unit to 2.71 persons per single-family detached unit.

Table 4
AVERAGE HOUSEHOLD SIZE BY HOUSING TYPE

Housing Type	Household Population	Occupied Units	Avg. HH Size
Single-Family Detached	27,317	10,097	2.71
Multi-Family	9,065	4,798	1.89
Mobile home	2,754	1,162	2.37
All Housing Types	39,136	16,057	2.44

Source: 2000 U.S. Census for the City of Conway.

For single-family units, the City may desire to vary the fees by the size of the dwelling unit. Census data clearly reveals that household size varies dramatically by one characteristic that is related to dwelling size, and that is the number of bedrooms. The most recent and reliable data on average household size by number of bedrooms is the five percent sample data from 1990 U.S. Census. The five percent sample data is only available for geographic areas with minimum size of 100,000 people. This means the sample data for the City of Conway is combined with the sample data for the rest of Faulkner County, as well as three other counties (Lonoke County, Monroe County and Prairie County).

Despite the fact that the City of Conway accounts for only 22 percent of the combined population of the four counties from which the sample is taken, and despite the fact that the data is over ten years old, the average household size for all single-family units from the 1990 sample data for the four counties is almost the same as the 2000 figure for the City of Conway (2.76 versus 2.71), indicating that the results should be reasonable to use for the City of Conway today. As can be seen in Figure 4, average household size is strongly related to the number of bedrooms in the dwelling unit. For example, a single-family detached unit with less than two bedrooms has an average of only 2.14 persons, while a unit with more than five bedrooms averages 3.54 residents (see Table 5 below).

Figure 4
HOUSEHOLD SIZE BY BEDROOMS

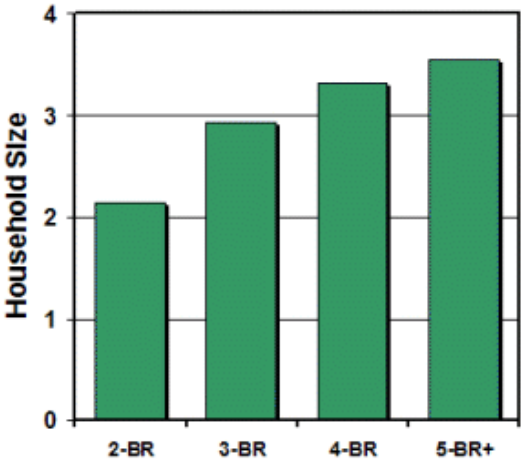


Table 5
AVERAGE HOUSEHOLD SIZE BY BEDROOMS

Housing Type	Sample Size	Weighted Population	Weighted Households	Avg. HH Size
Single-Family, 2 Bedrooms or Fewer	478	17,707	8,284	2.14
Single-Family, 3 Bedrooms	1,028	51,278	17,549	2.92
Single-Family, 4 Bedrooms	167	10,693	3,224	3.32
Single-Family, 5 Bedrooms or More	30	1,857	525	3.54
All Single-Family Detached Units	1,703	81,535	29,582	2.76

Source: U.S. Census Bureau, 1990 Public Use Microdata Sample (PUMS), 5 percent weighted sample data for Faulkner County, Lonoke County, Monroe County and Prairie County combined.

If the calculated fees are based on dwelling unit size, it is recommended that the fees be based on square footage rather than number of bedrooms. It can sometimes be an administrative challenge to determine the number of bedrooms when there is a financial incentive to disguise bedrooms as something else (a den or storage room, for example). This cost per square foot approach will not only avoid any type of confusion that might arise when trying to establish how many bedrooms a new unit might have, it also avoids sharp jumps in the fee that will occur at thresholds between the different size categories.

To determine a relationship between the average square footage of single-family detached units and number of bedrooms, the consultant analyzed all single-family homes listed for sale in Conway from the National Association of Realtors website (www.realtor.com). The on-line listings give square footage and the number of bedrooms for each home offered for sale. The results are displayed in Table 6 and are illustrated in Figure 5.

Figure 5
UNIT SIZE BY BEDROOMS

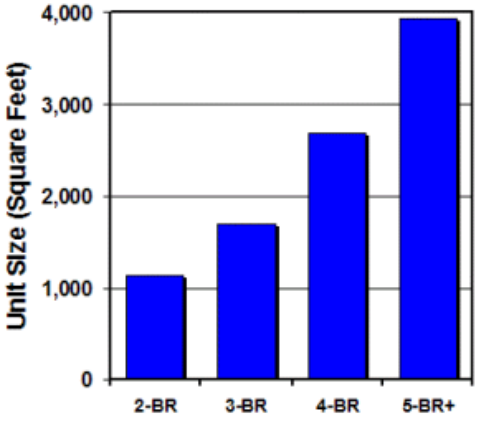


Table 6
DWELLING UNIT SIZE BY BEDROOMS

Housing Type	Sample Size	Avg. Unit Size (sq. ft.)
Single-Family, 2 Bedrooms or Fewer	27	1,129
Single-Family, 3 Bedrooms	232	1,688
Single-Family, 4 Bedrooms	94	2,684
Single-Family, 5 Bedrooms or more	17	3,923
All Single-Family Detached Units	370	

Source: Single-family detached data derived from all for-sale listings of single-family detached units in Conway from www.realtor.com on November 25, 2002.

These data on average household size by number of bedrooms and dwelling unit size by number of bedrooms are used in this study to develop impact fees for roads and parks that vary by the square footage of the single-family unit.

ROADS

This section of the report calculates the maximum road impact fee that could be assessed by the City. The road impact fees collected by the City could be spent only on capacity-expanding improvements on the City's major roadway system, as identified in this report.

Major Roadway System

A road impact fee system should include a clear definition of the major roadway system that is to be funded with the impact fees. The major roadway system to be funded with the proposed impact fees is comprised of arterials and collectors within the City's incorporated area, including state roads but excluding Interstate 40. These roadways are identified on the City's Master Street Plan, which was most recently amended on April 25, 2002 (see Figure 6). It classifies the major roadway system into a number of functional types, including major arterials, minor arterials and collector streets. The Master Street Plan also shows the location of future roads and allows the City to preserve corridors for roadways expected to need widening or extension.

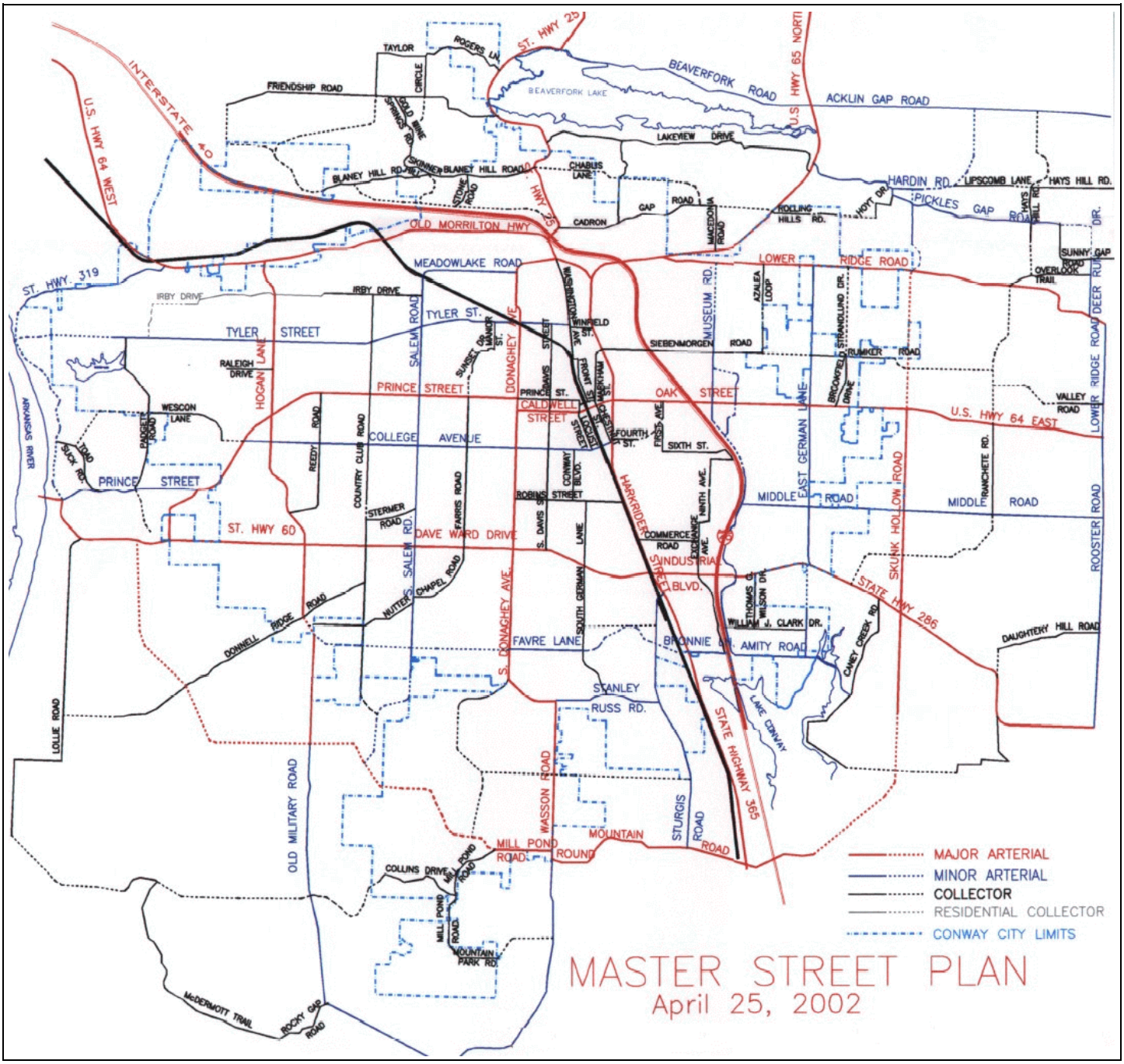
An inventory of the existing major roadway system was compiled in order to identify existing capacity deficiencies and to determine the average length of a trip on the major roadway system (see Table 34 in the Appendix). The roadway segment descriptions include the street name, segment description (from-to), segment length, number of lanes, recent travel volume and existing capacity. Estimated average daily traffic volumes for 2001 were available for most segments from the City of Conway Planning Department.

Road impact fees will only be allowed to be spent to make improvements to the major roadway system. By the same token, no credit should be given unless the developer is required to improve the major roadway system being funded by the fee.

Service Unit

In impact fee analysis, capital costs, revenue credits and net costs are calculated on the basis of a "service unit," which is a common unit of measurement of facility demand and capacity. An appropriate service unit for road impact fees is vehicle-miles of travel (VMT). Vehicle-miles is a combination of the number of vehicles traveling during a given time period and the distance (in miles) that these vehicles travel. The two time periods most often used in traffic analysis are the 24-hour day (average daily trips or ADT) and the single hour of the day with the highest traffic volume (peak hour trips or PHT). Since available traffic count data is in the form of daily volumes, the impact fees will be based on ADT.

Figure 6
MAJOR ROADWAY SYSTEM



Roadway Capacity

For the purpose of this study, a roadway's capacity is the maximum traffic volume that can be accommodated at desired levels of service. Capacity is defined differently for different roadway types. A four-lane divided roadway has a higher average daily capacity than an undivided four-lane roadway with no turn lanes. The Florida Department of Transportation (FDOT) has done more to develop generalized planning capacity estimates than any other state or federal transportation agency, and the capacities used in this analysis are based on FDOT's 2002 *Quality/Level of Service Handbook* for Level of Service "D" (LOS D). Daily traffic thresholds are based on average annual daily volumes for urbanized areas for non-state roadways with two or four lanes. Table 7 shows volume thresholds that were used in this report to establish existing capacities for the different types of two-lane and four-lane roadways.

Table 7
DAILY CAPACITIES OF MAJOR ROADWAYS

Roadway	Avg. Daily Capacity
Four-Lane divided	31,100
Four-Lane with turn lanes	29,500
Four-Lane with no turn lanes	23,300
Two-Lane with turn lanes	15,300
Two-Lane with no turn lanes	11,700
Two-Lane with narrow lanes	9,800

Source: Florida Department of Transportation, *Quality/Level of Service Handbook, 2002*, Table 4.1: Generalized Annual Average Daily Volumes for Florida's Urbanized Areas; capacity of two-lane road with narrow lanes based on adjustment factor from Table 8-5 of the *Highway Capacity Manual* published by the Transportation Research Board, Washington, D.C., 1994.

Methodology

The major alternative methodologies for calculating road impact fees are the "improvements-driven" and "consumption-based" approaches. The "improvements-driven" approach essentially divides the cost of growth-related improvements required over a fixed planning horizon by the number new service units (e.g., VMT) projected to be generated by growth over the same planning horizon in order to determine a cost per service unit. The improvements-driven approach depends on accurate planning and forecasting. For example, the fees will be accurate only if the forecasted increase in traffic actually necessitates all of the improvements identified in the transportation master plan. If many of the planned improvements will provide excess capacity over the planning horizon that will be available to serve additional development beyond the planning horizon on which the fees are based, the fees may be too high.

The alternative "consumption-based" approach does not depend on knowing in advance what improvements will be made or what type or density of development will occur. The consumption-based model simply charges a new development the cost of replacing the capacity that it will consume on the major road system. That is, for every service unit of traffic generated by the development, the road impact fee charges the net cost to construct an additional service unit of capacity. Compiling a list of planned improvements needed to accommodate projected growth is not necessary for the development of consumption-based road impact fees, which can be calculated based on any representative list of road improvements, including an historical list or a list of projects needed at build-out. In a consumption-based system, the list of road improvements is used to determine the cost per unit of capacity. Thus, doubling the total cost of the list of road improvements will not double the fee and in fact may very well not increase the

fee at all. Only if the improvements added to the list were more expensive, per unit of capacity created, would their addition have the effect of increasing the impact fee.

Since travel is never evenly distributed throughout a roadway system, actual roadway systems require more than one unit of capacity for every unit of demand in order for the system to function at an acceptable level of service. Suppose, for example, that the community completes a major arterial widening project. The completed arterial is likely to have a significant amount of excess capacity for some period of time. If the entire system has just enough capacity to accommodate all of the vehicle-miles of travel, then the excess capacity on this segment must be balanced by another segment being over-capacity. Clearly, roadway systems in the real world need more total aggregate capacity than the total aggregate demand, because the traffic does not always precisely match the available capacity. Consequently, the standard consumption-based model generally underestimates the full cost of growth.

A modified consumption-based road impact fee model that more accurately identifies the full growth-related cost of maintaining desired service levels uses the system-wide ratio of capacity to demand. Essentially, this approach requires that new development pay for the cost to construct more capacity than it directly consumes in order to maintain the system-wide ratio of capacity to demand. In this system, the cost per vehicle-mile of capacity (VMC) is multiplied by the system-wide ratio of VMC/VMT to determine the cost per VMT. This modified version of the consumption-based road impact fee methodology has been used by a number of local governments, including Atlanta, Georgia, Rio Rancho, New Mexico and Larimer County, Colorado.

In most rapidly growing communities, some roadways will be experiencing an unacceptable level of congestion at any given point in time. One of the principles of impact fees is that new development should not be charged, through impact fees, for a higher level of service than is provided to existing development. In the context of road impact fees, this has sometimes been interpreted to mean that impact fees should not be spent on roadways that are already over-capacity. A variant of this approach is that impact fees should only be used to fund a percentage of the project that can be attributed to providing additional capacity beyond what is needed to remedy any existing deficiency.

These approaches for dealing with existing deficiencies create several types of problems. A major one is that impact fees are restricted from being spent on roadways that are most in need of improvement. The approach that allows a percent of the cost to be funded complicates impact fee administration by requiring that the portion of the cost of each improvement that is attributable to remedying deficiencies be funded from a different revenue source. Finally, these approaches ignore the interconnectedness of the major roadway system. For example, road impact fees could not be spent directly to improve a deficient segment, but could be spent to improve or construct a parallel roadway that would also relieve the congestion.

The most important objection, however, is that it is not necessary to address existing deficiencies in a consumption-based system, which, unlike an improvements-driven system, is not really designed to recover the full costs to maintain the desired LOS on all roadway segments. Instead, it is only designed to maintain a minimum one-to-one overall ratio between system demand and system capacity. Virtually all major roadway systems have more capacity (VMC) than demand (VMT) on a system-wide basis. Consequently, under a consumption-based system, the level of service standard is really a systemwide VMC/VMT ratio of one. If the major road system currently has a VMC/VMT ratio higher than one, there are no existing deficiencies on a system-wide basis.

The modified consumption-based methodology is recommended for use in the City of Conway road impact fee system. This methodology adjusts the cost per VMT by the VMC/VMT ratio, and evaluates existing deficiencies on a system-wide basis.

The existing system-wide VMC/VMT ratio in the City limits is considerably higher than one, as shown in Table 8. However, to be conservative, a one-to-one ratio will be used in the road impact fee calculations.

Table 8
SYSTEM-WIDE RATIO OF CAPACITY TO DEMAND

Daily Vehicle-Miles of Capacity (VMC)	1,487,199
Daily Vehicle-Miles of Travel	729,276
System-wide Capacity to Demand Ratio	2.04

Source: VMC and VMT from Table 36 of the Appendix.

The formula for calculating the consumption based road impact fee recommended in this report is summarized in Figure 7 below. The maximum fee calculated under this methodology is simply the number of service units (VMT) that will be generated by a development project times the net cost per service unit. The inputs into the formula are described in more detail below.

Figure 7
RECOMMENDED ROAD IMPACT FEE FORMULA

FEE	=	PROJECT VMT x NET COST/VMT
Where:		
PROJECT VMT	=	TRIPS x % NEW x LENGTH ÷ 2
TRIPS	=	Daily trip ends generated by the development during the work week
% NEW	=	Percent of trips that are primary trips, as opposed to passby or diverted-link trips
LENGTH	=	Average length of a trip on major road system
÷ 2	=	Avoids double-counting trips for origin and destination
NET COST/VMT	=	COST/VMT - CREDIT/VMT
COST/VMT	=	COST/VMC x VMC/VMT
COST/VMC	=	Average cost to create a new VMC based on historical or planned improvements
VMC/VMT	=	The system-wide ratio of capacity to demand in the major roadway system
CREDIT/VMT	=	Credit per VMT, based on revenues to be generated by new development

Cost per Service Unit

Expanding the capacity of the City's major roadway system is accomplished by widening existing roadway cross-sections to accommodate turn lanes or additional through lanes and by building new roads. The cost to add additional capacity to the existing major roadway system can be calculated using cost estimates for future roadway improvements that were developed by the City. Table 9 below summarizes the City's planned capacity-expanding improvements to its major roadway system, including the estimated cost and the vehicle-miles of capacity (VMC) added by each improvement.

The road impact fee is designed to cover the cost of adding capacity to the roadway system. All of the normal components of a roadway expansion project are eligible for impact fee funding, including construction of new lanes, reconstruction of existing lanes and relocation of utilities where necessary as part of a widening project, and installation of sidewalks, street lighting, and landscaping along new roads. However, road impact fees should not be used for ancillary components of an expansion project when not part of a capacity-expanding improvement. For example, installing sidewalks along an existing road, landscaping an existing median or reconstructing an existing road would not be eligible improvements.

It should be noted that the cost estimates on which the fees are based do not include right-of-way (ROW) costs. It is assumed that developers will continue to dedicate ROW as required by the Master Street Plan. No credit will be provided against the road impact fees for ROW dedications.

Table 9
PLANNED ROADWAY IMPROVEMENTS

Road Segment	Miles	Improvement	Ex. VMC	New VMC	Added VMC	Cost
Country Club Rd, Prince-College	0.49	Narrow 2-2 w/turn lane	4,802	7,497	2,695	$500,000
Favre Lane, German-Donaghey	0.76	Narrow 2-2 w/turn lane	7,448	11,628	4,180	$800,000
Lower Ridge Rd, Museum-E. German	1.33	Narrow 2-2 w/turn lane	13,034	20,349	7,315	$1,400,000
Middle Rd, Amity-E. German	0.72	Narrow 2-2 w/turn lane	7,056	11,016	3,960	$760,000
Middle Rd, E. German-Skunk Hollow	0.76	Narrow 2-2 w/turn lane	7,448	11,628	4,180	$1,000,000
Tyler St, Eve-Padgett	0.95	Narrow 2-2 w/turn lane	9,310	14,535	5,225	$1,000,000
Padgett Rd, Wescon-Tyler	0.85	Narrow 2-2 w/turn lane	8,330	13,005	4,675	$900,000
Wescon Lane, College Extension-Padgett	0.80	Narrow 2-2 w/turn lane	7,840	12,240	4,400	$840,000
Reedy Rd, Prince-College	0.53	Narrow 2-2 w/turn lane	5,194	8,109	2,915	$560,000
Wasson Rd, Stanley Russ-Mill Pond	1.61	Narrow 2-2 lane	15,778	18,837	3,059	$425,000
College Ave, Harkrider-Locust	0.27	Widen 2-2 w/turn lane	3,159	4,131	972	$1,900,000
Stermer Rd, Salem-Country Club	0.53	Widen 2-2 w/turn lane	6,201	8,109	1,908	$500,000
E. German Lane, Willis-Lower Ridge	0.49	Widen 2-2 w/turn lane	5,733	7,497	1,764	$500,000
College Ave, Donaghey-Salem	1.14	Widen 2-4 w/turn lane	13,338	33,630	20,292	$1,050,000
Donaghey Ave, Meadowlake-U.S. 64	0.47	Widen 2-4 w/turn lane	7,191	13,865	6,674	$350,000
Prince St, Western-Salem	1.42	Widen 2-4 w/turn lane	16,614	41,890	25,276	$2,400,000
Museum Rd, Curtis Walker Pk-Lower Ridge	0.55	New 2-lane w/turn lane	0	8,415	8,415	$520,000
T. Jones School, Museum-Freyaldenhoven	0.23	New 2-lane w/turn lane	0	3,519	3,519	$180,000
Favre Lane Extension, New School-Salem	0.85	New 2-lane w/turn lane	0	13,005	13,005	$900,000
College Ave, Extension, Prince-Wescon	0.38	New 2-lane w/turn lane	0	5,814	5,814	$400,000
Favre Lane Extension, S. German-Bronnie	1.25	New 2-lane w/turn lane	0	19,125	19,125	$1,600,000
Favre Lane Extension, Old Military	1.08	New 2-lane w/turn lane	0	16,524	16,524	$1,140,000
Salem Rd Extension, Eggman-Mill Pond	2.46	New 2-lane	0	28,782	28,782	$650,000
Total			138,476	333,150	194,674	$20,275,000

Source: Road segments, miles, improvements and costs from the City of Conway, "Unprioritized List of Possible Major Street Improvement Projects," May 2001; existing VMC and new VMC derived from the daily capacity of the segment from Table 7 times the length of the segment.

The average cost per unit of capacity added by the planned improvements can be determined by dividing the total cost by the total added capacity. This cost per VMC must then be multiplied by the system-wide ratio of capacity to demand to derive the cost per service unit of additional demand. As noted earlier, the City's major roadway system currently provides 2.04 VMC for every VMT. However, to be conservative, the assumption of a one-to-one replacement of capacity consumed used in the standard consumption-based methodology will be used for the purpose of this study. As shown in Table 10, the road cost per service unit is $104 per VMT.

Table 10
ROAD COST PER SERVICE UNIT

Total Cost of Planned Improvements	$20,275,000
Total Vehicle-Miles of Capacity (VMC) Added	194,674
Cost per Vehicle-Mile of Capacity (VMC)	$104.15
System-Wide VMC/VMT Ratio (assumed)	1.00
Average Cost per Vehicle-Mile of Travel (VMT)	$104.15

Source: Cost per vehicle-mile of capacity from Table 9; conservative system-wide VMC/VMT ratio of 1.00 assumed (lower than actual average from Table 8).

Net Cost per Service Unit

In the calculation of the impact of new development on infrastructure costs, credit should be given for non-local funding that will be generated by new development and used to pay for capacity-related capital improvements. Credit should also be provided for taxes that will be paid by new development and used to retire outstanding debt for past major roadway improvements.

Based on review of the 2003-2005 Transportation Improvement Program, it is anticipated that $2.4 million in state and federal funding will be available to help pay for capacity-expanding improvements to Conway's major roadway system over the next three years. Dividing the anticipated annual state and federal funding by existing travel on the major roadway system yields the annual state and federal capacity funding per VMT. Multiplying that figure by the appropriate net present value provides the equivalent current value of the future stream of funding over the next 20 years, a period that roughly corresponds to the life of roadway improvements. The result is a federal/state funding credit of $14 per VMT, as shown in Table 11.

Table 11
FEDERAL /STATE ROAD FUNDING CREDIT PER SERVICE UNIT

Federal Funding, Donaghey Ave & Tyler Intersection	$100,000
Federal Funding, Museum Rd., Sierenmorgen to Curtis Walker	$297,000
Federal Funding, Hwy 64B, Hwy 266 to Fleming St.	$2,041,000
Federal and State Funding for Capacity, 2003-2005	$2,438,000
Years in Transportation Improvement Program	3
Annual Federal/State Capacity Funding	$812,667
Daily VMT on Major Roadway System	729,276
Annual Federal/State Capacity Funding per VMT	$1.11
Present Value Factor (20 years at 4.7%)	12.79
Federal/State Funding Credit per VMT	$14.20

Source: Federal/state capacity funding from Central Arkansas Regional Transportation Study, *Transportation Improvement Program FY 2003-2005*, prepared by METROPLAN August 2002; existing VMT from Table 36 of the Appendix; discount rate for net present value factor is average interest rate on 20-year municipal bonds as of April 14, 2003 according to bloomberg.com, fmbonds.com and bondsonline.com.

The road impact fee must also take into consideration that new development will be generating future revenues that will used to retire outstanding debt for past roadway improvements. The City of Conway currently has approximately $7,572,250 of outstanding debt that can be attributed to capacity-expanding roadway improvements. This amounts to a debt service credit of $10 per road service unit in the City of Conway, as shown in Table 12.

Table 12
ROAD DEBT CREDIT

Total Outstanding Debt Principal	$21,635,000
Percent Attributable to Roads	35%
Total Outstanding Road Debt Principal	$7,572,250
Daily VMT on the Major Roadway System	729,276
Debt Service Credit per VMT	$10.38

Source: Total outstanding debt as of December 2002, from the City of Conway Finance Department, December 10, 2002 memorandum; percent attributable to roads derived from 1997 bond issue of $25,655,000, of which $9,0606,675 was allocated for capacity-expanding road improvements, from the City of Conway, December 5, 2002 memorandum; existing VMT from Table 36 of the Appendix.

Reducing the cost per service unit by the road debt credit and the anticipated annual federal/state funding per service unit leaves a road net cost of about $80 per VMT to maintain the existing level of service, as summarized in Table 13. As noted earlier, these costs do not include ROW.

Table 13
ROAD NET COST PER SERVICE UNIT

Cost per Vehicle-Mile of Travel (VMT)	$104.15
Federal/State Funding Credit per VMT	$14.20
Debt Service Credit per VMT	$10.38
Net Cost per VMT	$79.57

Source: Cost per VMT from Table 10; federal/state funding credit from Table 11; debt service credit from Table 12.

Travel Demand

The travel demand generated by specific land use types is a product of three factors: 1) trip generation, 2) percent new trips and 3) trip length. The first two factors are well documented in the professional literature, and the average trip generation characteristics identified in studies of communities around the nation should be reasonably representative of trip generation characteristics in Conway. In contrast, trip lengths are much more likely to vary between communities, depending on the geographic size and shape of the community and its arterial street system.

Trip Generation

Trip generation rates are generally based on information published in the most recent edition of the Institute of Transportation Engineers' (ITE) Trip Generation manual. Trip generation rates represent trip ends, or driveway crossings at the site of a land use. Thus, a single one-way trip from home to work counts as one trip end for the residence and one trip end for the work place, for a total of two trip ends. To avoid over-counting, all trip rates have been divided by two. This splits the burden of travel equally between the origin and destination of the trip and eliminates double-charging for any particular trip.

Most road impact fees for single-family detached homes are based on the national average trip generation rate published in the ITE manual (e.g., 9.57 trip ends per day on a weekday). However, it is intuitive and documented that trip generation for single-family units will vary depending on the number of persons residing in the unit. It is also a fact that the average household size of single-family units increases with the size of the dwelling, whether measured in terms of number of bedrooms or square footage. In this study, these data are used to develop trip generation rates for single-family units that vary by the size of the unit.

The fact that trip generation rates for residential uses vary by the size of the household is actually well documented in the transportation planning literature. As shown in Table 14 below and the accompanying Figure 8, the average number of vehicle trips generated per day is almost directly proportional to the number of people living in the dwelling unit.

Figure 8
TRIPS BY HOUSEHOLD SIZE

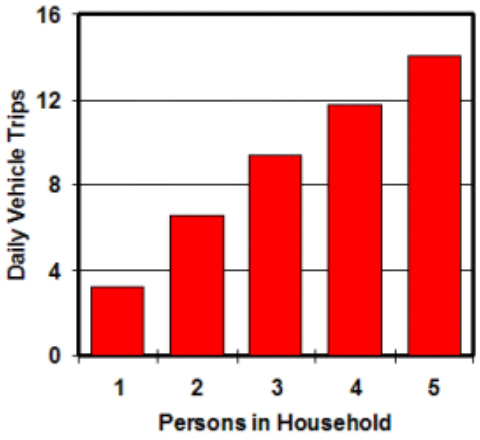


Table 14
DAILY TRIPS BY HOUSEHOLD SIZE

Household Size	Daily Trips
One Person	3.2
Two Persons	6.5
Three Persons	9.4
Four Persons	11.8
Five Persons or More	14.0
Weighted Avg.	8.1

Source: Transportation Research Board, NCHRP Report 365, "Travel Estimation Techniques for Urban Planning," Washington, D.C.: National Academy Press, 1998 (for urban areas with populations of 50,000 to 200,000).

Census data and realtor listings were analyzed to determine the average square footage and household size of two-bedroom, three-bedroom, four-bedroom and five-or-more-bedroom single-family units (see Average Household Size heading in Introduction section). This information was combined with the national data described above to derive differential trip generation rates for these four size categories, as shown in Table 15.

Table 15
SINGLE-FAMILY TRIP GENERATION RATES

Number of Bedrooms	Avg. Unit Size (sq. ft.)	Avg. House-hold Size	Average Trip Rate
2 Bedrooms or fewer	1,129	2.14	7.05
3 Bedrooms	1,688	2.92	9.17
4 Bedrooms	2,684	3.32	10.17
5 Bedrooms or more	3,923	3.54	10.70
All Single-Family Units		2.71	8.56

Source: Average unit size from Table 6; average household sizes by bedrooms from Table 5; average household size for all single-family units from Table 4; average daily trip rates based on household size and national trip generation data by persons from Table 14.

New Trip Factor

Trip rates also need to be adjusted by a "new trip factor" to exclude pass-by and diverted-link trips. This adjustment is intended to reduce the possibility of over-counting by only including primary trips generated by the development. Pass-by trips are those trips that are already on a particular route for a different purpose and simply stop at a development on that route. For example, a stop at a convenience store on the way home from the office is a pass-by trip for the convenience store. A pass-by trip does not create an additional burden on the street system and therefore should not be counted in the assessment of road impacts. A diverted-link trip is similar to a pass-by trip, but a diversion is made from the regular route to make an interim stop. The reductions for pass-by and diverted-link trips were drawn from information published by the Institute of Transportation Engineers.

Average Trip Length

The average trip length is the most difficult travel demand factor to determine. In the context of a road impact fee based on a consumption-based methodology, the critical datum of interest is the average length of a trip on the major roadway system in the City of Conway. This can be approximated by dividing the total travel demand (VMT) on the major roadway system by the total number of trips generated by existing development in the service area. Since no existing nonresidential land use data is available for the City of Conway, the consultant analyzed county-wide employment data to estimate the number of nonresidential daily trips in the service area. Employment figures were reduced by 25 percent to estimate the number of employees in the City of Conway. As shown in Table 16, the average trip length on Conway's major roadway system is estimated to be 2.67 miles.

Table 16
AVERAGE TRIP LENGTH

Land Use	Unit	Existing Units	Trip Rate	Daily Trips
Single-Family Detached	Dwelling	11,888	4.28	50,881
Multi-Family	Dwelling	6,007	3.32	19,943
Mobile Home	Dwelling	1,317	2.41	3,174
Retail	Employee	16,044	10.95	175,682
Office	Employee	6,153	1.66	10,214
Industrial	Employee	5,819	1.67	9,718
Warehouse	Employee	1,712	1.95	3,338
Total Daily Trips				272,950
Total Daily VMT on Major Roadway System				729,276
Average Trip Length, Miles				2.67

Source: Existing dwelling units from Table 22; employment by place of work by industry from the Bureau of Economic Analysis website for Faulkner County (reduced by 25% to approximate Conway employment); trip rates are one-half of average daily trip ends on a weekday reported in Institute of Transportation Engineers (ITE), *Trip Generation*, Sixth Edition, 1997 for ITE land use codes 210 (Single-Family Detached), 220 (Apartment), 240 (Mobile Home Park), 710 (General Office Building), 130 (Industrial Park) and 150 (Warehousing); retail trip rate derived from 1.96 employees per 1,000 sq. ft. from the National Association of Office and Industrial Parks, *America's Future Office Needs*, 1990 p. 22 times the primary trip rate for Shopping Center/General Retail from Table 18; total daily VMT on the major roadway system from Table 36 of the Appendix.

The ratio of the average trip length on Conway's major roadway system to the national average trip length identified in the U.S. Department of Transportation's 2001 *National Household Travel Survey* is computed in Table 17. Conway's average trip length on the major roadway system is considerably lower than the national average because Conway is a relatively small city and because, for this analysis, the major roadway system includes only travel on the arterial and collector streets, excluding travel on local streets and Interstate 40. Using this ratio, reasonable trip lengths were derived for specific trip purposes, including home-to-work, doctor/dentist, school/church, shopping, and other personal trips. In addition, an average

residential trip length was determined, using a weighting of 40 percent work trips and 60 percent average trips.

Table 17
AVERAGE TRIP LENGTH BY TRIP PURPOSE

Trip Purpose	National Data	Local Data	Ratio	Est. Local Trip Lengths
To or from work	12.19	na	0.27	3.29
Residential	na	na	na	2.92
Doctor/Dentist	9.89	na	0.27	2.67
Average	9.82	2.67	0.27	2.67
School/Church	7.50	na	0.27	2.03
Family/Personal	7.43	na	0.27	2.01
Shopping	6.61	na	0.27	1.78

Source: Average trip lengths in miles; national data from US. Department of Transportation, *National Household Travel Survey*, 2001; local data from Table 16; ratio is average local divided by average national trip length; estimated local trip lengths are products of national data by ratio, estimated local residential trip length is weighted 40% local work trip length and 60% local average trip length.

Average daily travel demand must be estimated for a broad variety of land uses in order to develop the fee schedule. The result of combining trip generation rates, new trip factors and average trip lengths is a travel demand schedule that establishes the vehicle-miles of travel (VMT) during the average weekday generated by various land use types per unit of development. The recommended travel demand schedule is presented in Table 18.

Table 18
ROAD TRAVEL DEMAND SCHEDULE

Land Use Type	ITE Code	Unit	Trip Ends	1-Way Trips	New Trips	Length (miles)	Daily VMT
Single-Family (average)	210	Dwelling	8.56	4.28	100%	2.92	12.50
Single-Family, 2 BR (1,129 sq. ft.)	210	Dwelling	7.05	3.53	100%	2.92	10.31
Single-Family, 3 BR (1,608 sq. ft.)	210	Dwelling	9.17	4.59	100%	2.92	13.40
Single-Family, 4 BR (2,684 sq. ft.)	210	Dwelling	10.17	5.09	100%	2.92	14.86
Single-Family, 5 BR (3,923 sq. ft.)	210	Dwelling	10.70	5.35	100%	2.92	15.62
Multi-Family	220	Dwelling	6.63	3.32	100%	2.92	9.69
Mobile home/RV Park	240	Pad	4.81	2.40	100%	2.92	7.01
Hotel/Motel	310/320	Room	9.02	4.51	100%	2.92	13.17
Retail/Commercial							
Shopping Center/General Retail	820	1000 sq. ft.	42.92	21.46	63%	1.78	24.07
Auto Sales/Service	841	1000 sq. ft.	37.50	18.75	67%	1.78	22.36
Bank	911	1000 sq. ft.	156.48	78.24	27%	0.89	18.80
Convenience Store w/Gas Sales	851	1000 sq. ft.	737.99	369.00	16%	0.89	52.55
Golf Course	430	Hole	35.74	17.87	90%	1.78	28.63
Health Club	493	1000 sq. ft.	45.27	22.64	50%	1.78	20.15
Movie Theater	443	1000 sq. ft.	78.06	39.03	90%	1.78	62.53
Restaurant, Sit-Down	831	1000 sq. ft.	89.95	44.98	38%	1.78	30.42
Restaurant, Fast Food	834	1000 sq. ft.	496.12	248.06	30%	0.89	66.23
Office/Institutional							
Office, General	710	1000 sq. ft.	11.01	5.51	100%	2.92	16.09
Office, Medical	720	1000 sq. ft.	36.13	18.07	100%	2.67	48.25
Hospital	610	1000 sq. ft.	16.78	8.39	100%	2.67	22.40
Nursing Home	620	1000 sq. ft.	4.70	2.35	100%	2.67	6.27
Church	560	1000 sq. ft.	9.11	4.56	100%	2.03	9.26
Day Care Center	565	1000 sq. ft.	79.26	39.63	24%	2.03	19.31
Elementary/Sec. School	520/522/530	1000 sq. ft.	12.41	6.21	24%	2.03	3.03
Industrial							
Industrial Park	130	1000 sq. ft.	6.96	3.48	100%	2.92	10.16
Warehouse	150	1000 sq. ft.	4.96	2.48	100%	2.92	7.24
Mini-Warehouse	151	1000 sq. ft.	2.50	1.25	100%	2.01	2.51

Source: "Trip Ends" is average daily trips (ADT) during weekday from Institute of Transportation Engineers (ITE), *Trip Generation*, 6th ed., 1997; single-family trip rates from Table 15; "1-Way Trips" = ½ Trip Ends; "ITE Code" is land use code from ITE manual used for land use category (where more than one code shown, rates were averaged); nursing home ADT derived from peak hour trip (PHT) rate and ADT and PHT rates per bed; health club ADT derived from PHT and ratio of ADT/PHT trip rates for racquet club; new trip percentages for most uses from ITE, *Trip Generation Handbook*, October 1998; new trip percentage for day care center from paper by Hitchens, 1990 ITE Compendium; new trip percentage for elementary/secondary school assumed same as for day care; new trip percentages for movie theater, golf course and health club assumed; average trip lengths from Table 17; average trip length reduced by 50% for banks, convenience stores and fast food restaurants; residential trip length used for general office and industrial/warehousing uses.

Potential Impact Fees

The maximum road impact fees that could be charged by the City within the City limits based on the data, methodology and assumptions utilized in this report, are presented in Table 19. Developers who believe their projects will have less impact on the major roadway system than indicated by the fee schedule will have the option of conducting an individual fee assessment. In addition, some developers will receive credit against the fees for required improvements to the major roadway system. However, since the fees do not include land costs, no credit will be provided for dedication of ROW in accordance with the City's subdivision regulations.

Table 19
ROAD NET COST SCHEDULE

Land Use Type	ITE Code	Unit	Daily VMT	Net Cost/ VMT	Cost/ Unit
Single-Family (average)	210	Dwelling	12.50	$79.57	$995
Single-Family, 2-BR (1,129 sq. ft. avg.)	210	Dwelling	10.31	$79.57	$820
Single-Family, 3-BR (1,608 sq. ft. avg.)	210	Dwelling	13.40	$79.57	$1,066
Single-Family, 4-BR (2,684 sq. ft. avg.)	210	Dwelling	14.86	$79.57	$1,182
Single-Family, 5-BR+ (3,923 sq. ft. avg.)	210	Dwelling	15.62	$79.57	$1,243
Multi-Family	220	Dwelling	9.69	$79.57	$771
Mobile Home/RV Park	240	Pad	7.01	$79.57	$558
Hotel/Motel	310/320	Room	13.17	$79.57	$1,048
Retail/Commercial					
Shopping Center/General Retail	820	1000 sq. ft.	24.07	$79.57	$1,915
Auto Sales/Service	841	1000 sq. ft.	22.36	$79.57	$1,779
Bank	911	1000 sq. ft.	18.80	$79.57	$1,496
Convenience Store w/Gas Sales	851	1000 sq. ft.	52.55	$79.57	$4,181
Golf Course	430	Hole	28.63	$79.57	$2,278
Health Club	493	1000 sq. ft.	20.15	$79.57	$1,603
Movie Theater	443	1000 sq. ft.	62.53	$79.57	$4,976
Restaurant, Sit-Down	831	1000 sq. ft.	30.42	$79.57	$2,421
Restaurant, Fast Food	834	1000 sq. ft.	66.23	$79.57	$5,270
Office/Institutional					
Office, General	710	1000 sq. ft.	16.09	$79.57	$1,280
Office, Medical	720	1000 sq. ft.	48.25	$79.57	$3,839
Hospital	610	1000 sq. ft.	22.40	$79.57	$1,782
Nursing Home	620	1000 sq. ft.	6.27	$79.57	$499
Church	560	1000 sq. ft.	9.26	$79.57	$737
Day Care Center	565	1000 sq. ft.	19.31	$79.57	$1,536
Elementary/Sec. School	520/522/530	1000 sq. ft.	3.03	$79.57	$241
Industrial					
Industrial Park	130	1000 sq. ft.	10.16	$79.57	$808
Warehouse	150	1000 sq. ft.	7.24	$79.57	$576
Mini-Warehouse	151	1000 sq. ft.	2.51	$79.57	$200

Source: Daily VMT per unit from Table 18; net cost per VMT from Table 13.

The net cost schedule would allow several alternative ways of charging single-family detached units: (1) all single-family units could be charged the same fee, using the single-family average shown in the fee schedule; (2) the fees could vary by the size of the dwelling unit. This last alternative is described more fully below.

New development could be assessed on the basis of unit size in several ways. One way would be to create size categories that correspond to the number of bedrooms using the midpoints between the averages. A problem with this approach is that as you cross the size threshold between a two-bedroom and a three-bedroom unit, for example, the fee would go up by almost $300 for adding one additional square foot (see Figure 9).

Figure 9
ROAD FEES BY BEDROOM CATEGORIES

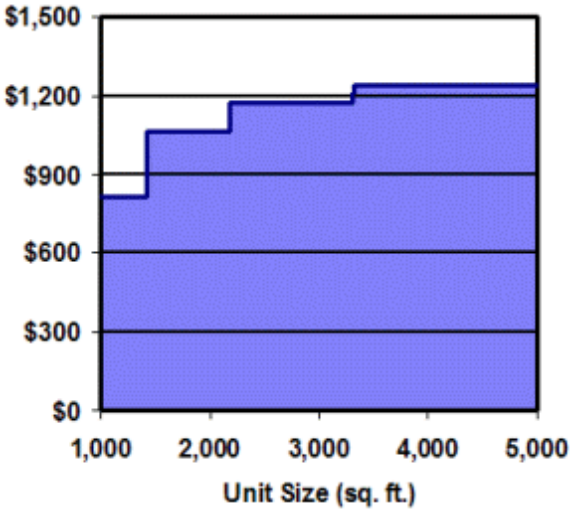
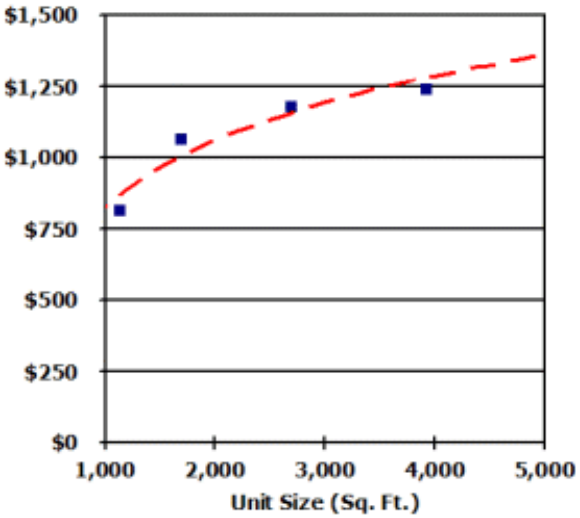
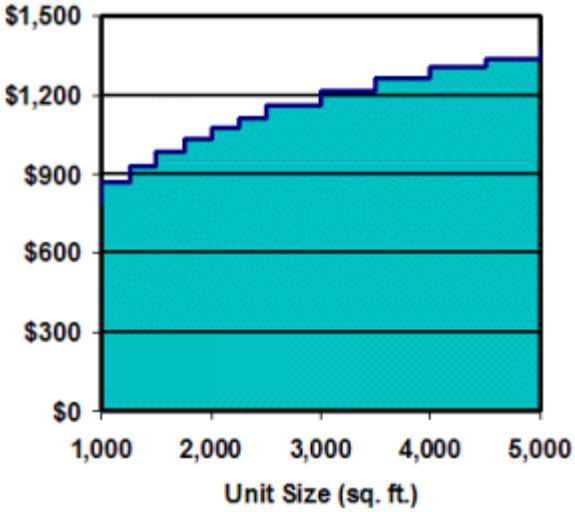


Figure 10
ROAD FEES BY UNIT SIZE



To avoid these kinds of threshold effects, use of a sliding scale is recommended. Regression analysis was used to determine the curve that best fits the four data points (corresponding to the average two-bedroom, three-bedroom, four-bedroom and five-or-more-bedroom house, which are shown as squares in Figure 10). The resulting semi-logarithmic equation (shown as the dashed line in Figure 10) explains 92 percent of the variance.[2] The graphed relationship corresponds with common sense, which suggests that trip generation per square foot will begin to taper off with very large units.

Figure 11
ROAD FEES BY UNIT SIZE CATEGORIES



While permit clerks cannot be expected to calculate fees at the counter using a logarithmic equation, it is a simple matter to develop a fee schedule using 100 square foot or other intervals. An example of such a schedule using 250 and 500 square foot intervals is shown below. As illustrated in Figure 11, this fee schedule avoids the sharp threshold effects associated with the size categories directly based on bedroom categories.

[2] The equation is y = 329 * Ln(x) - 1,444, where y is the maximum impact fee for the dwelling unit and x is the floor area of the unit in square feet; the R2 is 0.917, the adjusted R2 is 0.875 and the T-statistics are -2.7 for the intercept and 4.7 for the coefficient.

Table 20
SAMPLE VARIABLE FEE ROAD SCHEDULE

Dwelling Sq. Ft.	Fee
750 - 1,000	$785
1,001 - 1,250	$867
1,251 - 1,500	$933
1,501 - 1,750	$988
1,751 - 2,000	$1,035
2,001 - 2,250	$1,077
2,251 - 2,500	$1,113
2,501 - 3,000	$1,161
3,001 - 3,500	$1,216
3,501 - 4,000	$1,264
4,001 - 4,500	$1,305
4,501 - 5,000	$1,341
5,001 - 5,500	$1,374

Source: Fees based on midpoint of categories and formula on preceding page.

Potential Revenue

If the road impact fee is adopted at 100 percent of maximum levels, and the pace of growth slows to a more modest pace based on recent trends, potential annual revenue could total about $2.3 million, as shown in Table 21. It should be kept in mind that actual revenues are likely to be lower, since some developers will receive credit for in-kind contributions (although no credit will be given for ROW dedication).

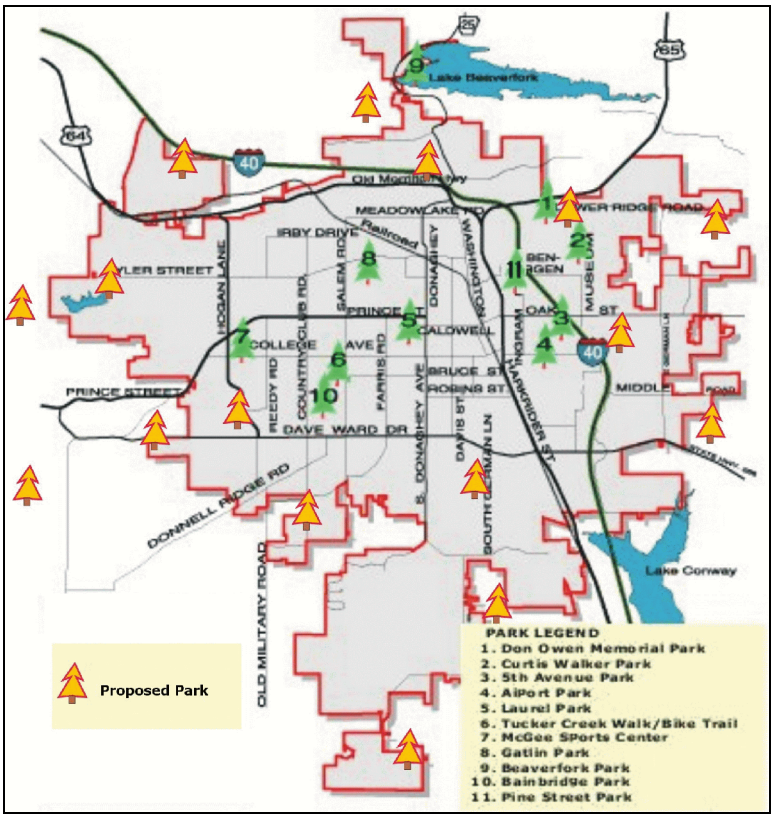
Table 21
POTENTIAL ANNUAL ROAD IMPACT FEE REVENUE

Daily VMT on the Major Roadway System	729,276
Annual Growth Rate (2000-2002)	4.0%
Projected Annual New VMT	29,171
Net Cost per VMT	$79.57
Estimated Annual Revenue	$2,321,000

Source: Daily VMT from Table 36; annual growth rate based on last two years of residential building permits issued from Table 23; net cost per VMT from Table 13.

PARKS

Figure 12
EXISTING AND PROPOSED PARKS



Conway's rapidly growing population creates additional demands for new park facilities. The City does not currently impose any type of developer exaction for parks. This section of the report will calculate a park impact fee that will assessed at time of building permit or certificate of occupancy. The funds collected by the City will be used for the acquisition of future park land and development of existing and future parks.

Service Unit

Different types of development must be translated into a common unit of measurement that reflects the impact of new development on the demand for park land and facilities. This unit of measurement is called a "service unit." The most common service unit used in park impact fee analysis is population. Population estimates are based on three factors: the number of dwelling units, average household sizes for various types of units and occupancy rates. The number of dwelling units can be estimated with some degree of precision, and average household size has been declining somewhat predictably but has been stabilizing in recent years. Occupancy rates, on the other hand, tend to vary significantly over time, and not in predictable directions. Consequently, this report recommends the use of a service unit that avoids the need to make assumptions about occupancy rates. This service unit is the "equivalent dwelling unit" or EDU, which represents the impact of a typical single-family dwelling. By definition, a typical single-family unit represents, on average, one EDU. Other types of units each represent a fraction of an EDU, based on their relative average household sizes.

Under the proposed methodology, the park exactions will not be determined by the magnitude of the average household size, but rather on the ratio of household sizes between various types of housing units. An EDU is a unit that has an average household size equivalent to a typical single-family unit in Conway. The EDUs associated with each housing type and unit size category are shown in Table 22.

Table 22
EQUIVALENT DWELLING UNIT MULTIPLIERS

Housing Type	Avg. HH Size	EDUs/ Unit
Single-Family Detached	2.71	1.00
Multi-Family	1.89	0.70
Mobile Home	2.37	0.87
Single-Family, 2-Bedroom, 1,129 sq. ft. avg.	2.14	0.78
Single-Family, 3-Bedroom, 1,688 sq. ft. avg.	2.92	1.06
Single-Family, 4-Bedroom, 2,684 sq. ft. avg.	3.32	1.20
Single-Family, 5-Bedroom, 3,923 sq. ft. avg.	3.54	1.28
All Single-Family Detached Units	2.76	1.00

Source: Average household size for single-family detached, multi-family and mobile home units from Table 4; average household size by bedroom categories for single-family units from Table 5 and correspondence between bedroom and square feet from Table 6.

In order to determine the existing level of service, it is necessary to estimate the total number of EDUs in the City of Conway. The first step is to compile an estimate of existing 2003 dwelling units, which is summarized in Table 23 below.

Table 23
ESTIMATED DWELLING UNITS, 2003

Housing Type	2000 Units	New Units 2000	2001	2002	Estimated 2003 Units
Single-Family Detached	10,670	364	409	445	11,888
Multi-Family	5,299	66	307	335	6,007
Mobile Home*	1,317	na	na	na	1,317
All Housing Types	17,286				19,212

*no permit data available
Source: Existing 2000 units from 2000 U.S. Census; 2000 and 2001 new units based on the number of building permits issued from the Conway Planning Department, "2001 Economic Report and 2002 Forecast;" 2002 new units based on number of building permits issued for 2002 from Conway Planning Department, February 18, 2003 memorandum.

The final step in determining total service units is to multiply the number of existing residential units by the EDUs per unit calculated earlier based on relative average household sizes. To determine total existing city-wide EDUs for the purpose of the park impact fees, the estimated number of existing dwelling units of each housing type is multiplied by the appropriate EDUs per unit and the results for all housing types are summed. As shown in Table 24, there are an estimated 17,239 park service units (EDUs) in Conway.

Table 24
EXISTING PARK SERVICE UNITS

Housing Type	2003 Units	EDUs/ Unit	Total EDUs
Single-Family Detached	11,888	1.00	11,888
Multi-Family	6,007	0.70	4,205
Mobile Home	1,317	0.87	1,146
Total Park Service Units			17,239

Source: 2003 units from Table 23; EDUs per unit from Table 22.

Cost per Service Unit

Since the City has not purchased any park land in recent years, the City contacted a local property appraiser, who estimated that the City's existing park land is currently worth approximately $39,000 per acre, as shown in Table 25. To be conservative, the City has decided to use a cost of $20,000 per acre in developing the impact fee.

Table 25
PARK LAND COST PER ACRE

Facility	Acres	Estimated Value	Cost/ Acre
Airport Park	6.0	$240,000	$40,000
Beaverfork Park	50.0	$2,500,000	$50,000
Bainbridge Park	6.0	$150,000	$25,000
Curtis Walker Park	15.0	$675,000	$45,000
Don Owen Park	125.0	$5,000,000	$40,000
5th Avenue Park	10.0	$500,000	$50,000
Gatlin Park	13.0	$325,000	$25,000
Laurel Park	19.0	$950,000	$50,000
McGee Sports Center	14.0	$700,000	$50,000
Pine Street Park	1.5	$59,000	$39,000
Tucker Creek Trail	30.0	$270,000	$9,000
Total	289.5	$11,369,000	$39,000
Assumed Land Cost per Acre			$20,000

Source: Estimated park land value from appraiser Wayne Coates, January 10, 2003; park land value for Pine Street Park estimated by consultant using the average cost per acre for the sum of all park land.

An initial step in determining the existing level of service is to identify the replacement value for all existing park facilities. To determine this cost, the consultant first determined the replacement cost for the two sports centers: the Don Owen Sports Center and the McGee Sports Center (including a skateboard park constructed in 2002). In order to calculate the current replacement cost of these facilities, historic construction costs were adjusted to 2003 dollars, as shown in Table 26.

Table 26
SPORTS CENTER COST

Facility	Year Built	Original Cost	Cost Factor	Current Cost
Don Owen Sports Center	1994	$1,938,295	1.228	$2,380,226
McGee Sports Center	2000	$3,500,000	1.067	$3,734,500
Skateboard Park	2002	$75,000	1.016	$76,200
Total, Sports Centers				$6,190,926

Source: Original costs and year built from Conway Parks and Recreation Department, December 03, 2002 memorandum; cost factor based on *Engineering News-Record* Construction Cost Index for February 2003 from www.enr.com.

The inventory of existing park improvements, other than the sports centers, is presented in the Appendix. Multiplying the number of facilities by the current unit cost of each facility and summing yields the estimated replacement cost for the City's existing park facilities, as summarized in Table 27. The replacement cost of existing park land based on the conservative cost assumption of $20,000 per acre is also included in Table 27.

Table 27
PARK REPLACEMENT COST

Park System Component	Units	Cost/Unit	Total Cost
Park Land (acres)	289.5	$20,000	$5,790,000
Sports Centers	na	na	$6,190,926
Baseball Backstop	2	$10,000	$20,000
Baseball Field, Lighted	1	$132,500	$132,500
Basketball Goal	15	$1,200	$18,000
Basketball Goal, Lighted	2	$42,000	$84,000
Bench	39	$275	$10,725
Bleachers, 25 People	18	$1,304	$23,472
Bleachers, 50 People	3	$2,300	$6,900
Boat Dock	2	$2,000	$4,000
Boat Ramp	2	$2,000	$4,000
Caretakers House	1	$60,000	$60,000
Crawl Tunnel	2	$700	$1,400
Dumpster, Three Yard	8	$435	$3,480
Dumpster, Six Yard	4	$640	$2,560
Fishing Pier	1	$99,093	$99,093
Grill	19	$200	$3,800
Merry-Go-Round	1	$1,200	$1,200
Monkey Bars	3	$1,000	$3,000
Parking, Car	1,064	$460	$489,440
Parking, Boat & Trailer	65	$460	$29,900
Pavilion, Small	2	$14,000	$28,000
Pavilion, Large	6	$22,000	$132,000
Picnic Table	74	$475	$35,150
Play Center, Medium	2	$13,000	$26,000
Play Center, Large	2	$18,500	$37,000
Pump House	3	$2,500	$7,500
Restroom	7	$30,000	$210,000
Rocking Animal	5	$450	$2,250
Sea-Saw	3	$460	$1,380
Slide, Small	6	$1,200	$7,200
Slide, Large	1	$2,000	$2,000
Softball Field	1	$46,000	$46,000
Softball Field, Lighted	5	$106,000	$530,000
Storage Building, Concrete	1	$2,000	$2,000
Storage, 5 Bay	1	$6,000	$6,000
Swing Set, Three Seat	1	$3,500	$3,500
Swing Set, Four Seat	9	$4,000	$36,000
Swing Set, Six Seat	3	$6,000	$18,000
T-Ball Field	6	$1,200	$7,200
Tennis Court, Lighted	8	$47,000	$376,000
Trash Can, 55 Gallon	127	$10	$1,270
Volleyball Court, Sand	2	$1,500	$3,000
Volleyball Net	1	$300	$300
Walking Trail (miles)	3.8	$189,475	$720,005
Water Fountain	1	$800	$800
Total Replacement Cost			$15,216,951

Source: Park facilities from Table 37 of the Appendix; sports center cost from Table 26; park facility costs from Conway Parks and Recreation Department, December, 2002.

Dividing the total replacement cost of existing park land and facilities by the number of existing EDUs yields the cost per service unit to maintain the existing level of service, as shown in Table 28.

Table 28
PARK COST PER SERVICE UNIT

Total Replacement Cost	$15,216,951
Park Equivalent Dwelling Units, 2003	17,239
Park Cost per EDU	$883

Source: Total replacement cost from Table 27; park EDUs from Table 24.

Net Cost per Service Unit

Some of the cost to provide new residents with park facilities will be paid by the new residents themselves through future payments that will be used to retire outstanding debt. In addition, some of the capital costs to serve growth will be paid by outside funding sources. Consequently, the cost per service unit should be reduced to take account of these factors, and the result is referred to as the net cost.

Historically, the City's primary funding source for park capital improvements has been Sales and Use Tax Capital Improvement Bonds. An analysis of past bond issues indicates that currently the City's outstanding debt is $21,635,000, of which $2,596,200 is attributable to park development. This amounts to $151 of outstanding park debt for every park service unit in Conway, as shown in Table 29 below.

Table 29
PARK DEBT CREDIT

Total Outstanding Debt Principal	$21,635,000
Percent Attributable to Parks	12%
Total Outstanding Park Debt Principal	$2,596,200
Existing Park EDUs, 2003	17,239
Park Debt Credit per EDU	$151

Source: Total outstanding debt as of December 2002 and percent attributable to parks from the City of Conway Finance Department, December 10, 2002 memorandum; percent attributable to parks derived from 1997 bond issue of $25,665,000, of which $3,080,000 was allocated for parks; 2003 park EDUs from Table 24.

Another factor that should be considered is potential outside funding that could be used to cover a portion of growth-related costs. The cost per service unit should be reduced to account for the likelihood that some growth-related park costs can be paid for with Federal and State grants. Over the last five years, the City has received an average of $126,000 annually in grants for park improvements, as summarized in Table 30.

Table 30
PARK GRANT FUNDING, 1998-2002

Grant	Date	Description	Amount
Arkansas Dept. of Parks and Tourism	1998	Fishing Pier at Beaverfork Park	$50,000
Federal Highway Enhancement Fund	1998	Bike Trail at Tucker Creek Park	$200,000
A&P Commission	2000	Don Owen Sports Center	$155,727
A&P Commission	2002	New Bike Trail at Tucker Creel Park	$22,000
Federal Highway Enhancement Fund	2002	New Bike Trail at Tucker Creek Park	$200,000
Total Grant Funding 1998-2002			$627,727
Average Annual Grant Funding			$126,000

Source: Conway Parks and Recreation Department, December 2002.

It is reasonable to assume that the grant funding received per park service unit in the past will continue in the future. Dividing the average annual grant funding by existing service units yields annual funding per service unit. Multiplying that by the present value factor results in the current lump sum amount that is the equivalent of the future stream of outside funding the City will receive over the next 20 years to help fund park improvements. Based on these assumptions, the appropriate credit for potential grant funding for parks is $93 for each new single-family home, or park service unit equivalent, as shown in Table 31.

Table 31
PARK GRANT FUNDING CREDIT

Average Annual Grant Funding	$126,000
Existing Park EDUs, 2003	17,239
Annual Funding per EDU	$7.31
Present Value Factor (20 years @ 4.7%)	12.79
Grant Funding Credit per EDU	$93

Source: Average annual grant funding from Table 30; existing park EDUs from Table 24; discount rate for present value factor from Table 11.

Reducing the cost per service unit by the debt credit and the anticipated grant funding per service unit leaves a net cost of $639 per EDU to maintain the existing level of service.

Table 32
PARK NET COST PER SERVICE UNIT

Cost per EDU	$883
Debt Credit per EDU	$151
Grant Funding Credit per EDU	$93
Net Cost per EDU	$639

Source: Cost per EDU from Table 28; debt credit per EDU from Table 29; grant funding credit per EDU from Table 31.

Potential Impact Fees

The maximum park impact fees that could be charged within the City limits, based on the data, methodology and assumptions utilized in this report, are presented in Table 33. Two alternative methods of assessing park impact fees for single-family detached housing units are presented in the table: a flat fee per unit or a variable fee by number of bedrooms. A third alternative is for the fees to be charged based on a cost per square foot. This last alternative is recommended if a variable fee approach is used, as it avoids sharp jumps in the fee at thresholds between the size categories, and it is described more fully below.

Table 33
PARK NET COST PER DWELLING UNIT

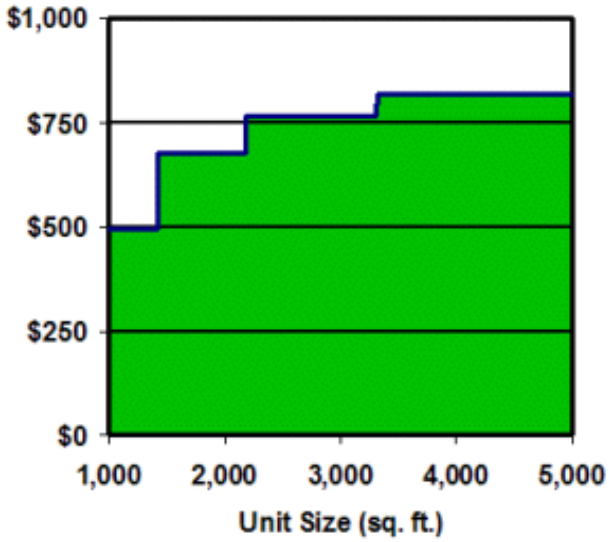
Housing Type	EDUs/ Unit	Net Cost/ EDU	Net Cost/ Unit
Single-Family, 2-Bedroom, 1,129 sq. ft. avg.	0.78	$639	$498
Single-Family, 3-Bedroom, 1,688 sq. ft. avg.	1.06	$639	$677
Single-Family, 4-Bedroom, 2,684 sq. ft. avg.	1.20	$639	$767
Single-Family, 5-Bedroom, 3,923 sq. ft. avg	1.28	$639	$818
All Single-Family Detached Units	1.00	$639	$639
Multi-Family	0.70	$639	$447
Mobile Home	0.87	$639	$556

Source: EDUs per unit from Table 22; net cost per EDU from Table 32.

As with the road impact fees, the park net cost schedule would allow several alternative ways of charging single-family detached units: (1) all single-family units could be charged the same fee, using the single-family average shown in the fee schedule; (2) the fees could vary by the size of the dwelling unit. This last alternative is described more fully below.

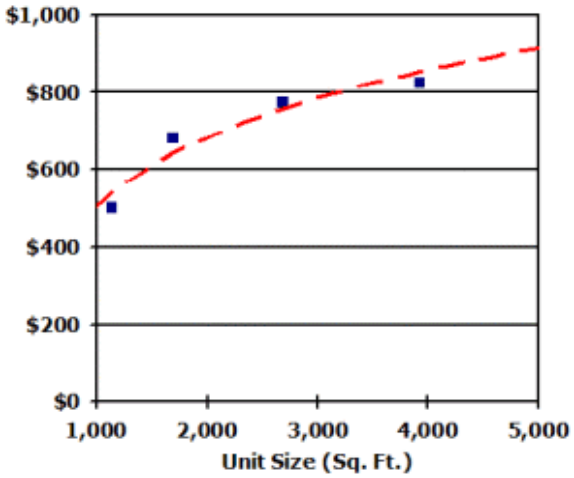
New development could be assessed on the basis of unit size in several ways. One way would be to create size categories that correspond to the number of bedrooms using the midpoints between the averages. A problem with this approach is that as you cross the size threshold between a two-bedroom and a three-bedroom unit, for example, the fee would go up by almost $200 for adding one additional square foot (see Figure 13).

Figure 13
PARK FEES BY BEDROOM CATEGORIES



To avoid these kinds of threshold effects, park impact fees for single-family units could be assessed using a sliding scale . Regression analysis was used to determine the curve that best fits the four data points (shown as squares in Figure 14). The resulting semi-logarithmic equation (shown as the dashed line in Figure 14) explains 93 percent of the variance.[3] The graphed relationship corresponds with common sense, which suggests that the number of residents per square foot will begin to taper off with very large units.

Figure 14
PARK FEES BY UNIT SIZE



While permit clerks cannot be expected to calculate fees at the counter using a logarithmic equation, it is a simple matter to develop a fee schedule using 100 square foot or other intervals. An example of such a schedule using 250 and 500 square foot intervals is shown in Table 34 below.

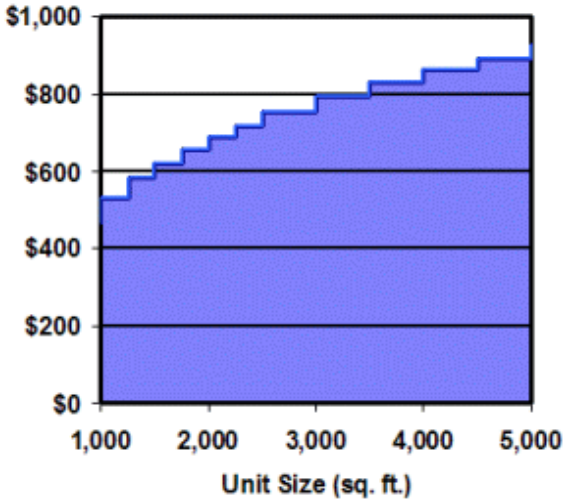
Table 34
SAMPLE VARIABLE PARK FEE SCHEDULE

Dwelling Sq. Ft.	Fee
750 - 1,000	$469
1,001 - 1,250	$531
1,251 - 1,500	$582
1,501 - 1,750	$623
1,751 - 2,000	$659
2,001 - 2,250	$690
2,251 - 2,500	$718
2,501 - 3,000	$755
3,001 - 3,500	$797
3,501 - 4,000	$832
4,001 - 4,500	$864
4,501 - 5,000	$891
5,001 - 5,500	$916

Source: Fees based on midpoints of categories and formula on preceding page.

[3]The equation is y = 250 * Ln(x) - 1,225, where y is the maximum impact fee for the dwelling unit and x is the floor area of the unit in square feet; the R^2 is 0.930, the adjusted R^2 is 0.896 and the T-statistics are -3.3 for the intercept and 5.2 for the coefficient.

Figure 15
PARK FEES BY UNIT SIZE CATEGORIES



Potential Revenues

If the proposed park impact fees are adopted, potential annual revenue could total close to $400,000, as shown Table 35. Actual fee collections are likely to be lower, however, since in some cases developers may get credit for park land dedicated to the City.

Table 35
POTENTIAL ANNUAL PARK FEE REVENUE

Housing Type	New Units	Fee/ Unit	Total Revenue
Single-Family Detached	400	$639	$255,600
Multi-Family	300	$447	$134,100
Total	700		$389,700

Source: New unit estimates based on historical trends from Table 23; fees per unit from Table 33.

APPENDIX

Table 36
EXISTING MAJOR ROAD INVENTORY

Road	From	To	Class	Thru Lanes	Miles	Volume	Capacity	VMT	VMC
Azalea Loop	Lower Ridge	Azalea Loop	Collector	2	0.38	*2,163*	9,800	822	3,724
Bill Bell Ln	S German Ln	Stanley Russ	Collector	2	0.45	3,894	15,300	1,752	6,885
Blaney Hill Rd	City Limits	State Hwy 25	Collector	2	1.40	*2,163*	9,800	3,028	13,720
Brookfield Dr	State Hwy 64	Strandlund Dr	Collector	2	0.40	*2,163*	11,700	865	4,680
Cadron Gap Dr	State Hwy 25	City Limits	Collector	2	1.17	*2,163*	9,800	2,531	11,466
Chablis Ln	Vineyard Dr	Marlsgate Dr	Collector	2	0.15	*2,163*	9,800	324	1,470
Chestnut St	Vanronkle St	College Av	Collector	2	0.47	*2,163*	11,700	1,017	5,499
Collins Dr	Majestic Circle	Mill Pond Rd	Collector	2	0.81	*2,163*	9,800	1,752	7,938
Commerce Rd	Harkrider St	Exchange Av	Collector	2	0.61	3,461	11,700	2,111	7,137
Conway Blvd	College Av	Robins St	Collector	2	0.49	*2,163*	11,700	1,060	5,733
Country Club	Irby Dr	Tyler St	Collector	2	0.47	*2,163*	11,700	1,017	5,499
Country Club	Tyler St	Prince St	Collector	2	0.51	3,569	11,700	1,820	5,967
Country Club	Prince St	College Av	Collector	2	0.51	2,488	9,800	1,269	4,998
Country Club	College Av	Kensington Dr	Collector	2	0.51	2,488	11,700	1,269	5,967
Country Club	Stermer Rd	Dave Ward Dr	Collector	2	0.27	*2,163*	11,700	584	3,159
Davis St	Tyler St	Prince St	Collector	2	0.76	909	11,700	691	8,892
Davis St	Prince St	College Av	Collector	2	0.49	1,406	11,700	689	5,733
Davis St	College Av	Bruce St	Collector	2	0.25	1,406	11,700	352	2,925
Davis St	Bruce St	Robins St	Collector	2	0.25	*2,163*	9,800	541	2,450
Davis St	Robins St	Dave Ward Dr	Collector	2	0.49	*2,163*	11,700	1,060	5,733
Donnell Ridge	Mattison Rd	McNutt Rd	Collector	2	0.72	*2,163*	11,700	1,557	8,424
Donnell Ridge	McNutt Rd	Sherwood Ln	Collector	2	0.30	*2,163*	9,800	649	2,940
Exchange Av	Runway Dr	Commerce Rd	Collector	2	0.57	*2,163*	11,700	1,233	6,669
Exchange Av	Commerce Rd	Industrial Blvd	Collector	2	0.34	4,759	11,700	1,618	3,978
Exchange Av	Industrial Blvd	Bronnie Ln	Collector	2	0.89	2,163	11,700	1,925	10,413
Farris Dr	College Av	Bruce St	Collector	2	0.25	6,490	11,700	1,623	2,925
Farris Dr	Bruce St	Dave Ward Dr	Collector	2	0.76	6,490	11,700	4,932	8,892
Farris Dr	Prince St	College Av	Collector	2	0.49	8,112	11,700	3,975	5,733
First Av	Sixth St	Oak St	Collector	2	0.49	1,731	11,700	848	5,733
Forth St	Harkrider St	Ingram St	Collector	2	0.27	2,163	11,700	584	3,159
Front St	Independence	North St	Collector	2	0.45	2,163	11,700	973	5,265
Irby Dr	Buffalo Ln	Country Club	Collector	2	0.49	2,163	15,300	1,060	7,497
Irby Dr	Country Club	Salem Rd	Collector	2	0.49	2,163	15,300	1,060	7,497
Lakeview Acres	Cadron Gap	Bluebird Ln	Collector	2	0.45	2,163	9,800	973	4,410
Locust St	Prince St	College Av	Collector	2	0.44	2,163	11,700	952	5,148
Manor St	Tyler St	Independence	Collector	2	0.28	2,163	11,700	606	3,276
Markham St	Harkrider St	Vanronkle St	Collector	2	0.53	2,163	11,700	1,146	6,201
Mattison Rd	Dave Ward	Donell Ridge	Collector	2	0.36	2,163	11,700	779	4,212
Mattison Rd	Donell Ridge	Nutter Dr	Collector	2	0.44	2,163	9,800	952	4,312
Mill Pond Rd	Earnhart St	Mountain Park	Collector	2	1.21	2,163	9,800	2,617	11,858
Mountain Park	Mill Pond Rd	City Limits	Collector	2	0.57	2,163	9,800	1,233	5,586
Ninth Av	Plane Rd	Jeanette Dr	Collector	2	0.15	2,163	11,700	324	1,755
Ninth Av	Jeanette Dr	Runway Dr	Collector	2	0.17	2,163	9,800	368	1,666

Road	From	To	Class	Thru Lanes	Miles	Volume	Capacity	VMT	VMC
North St	Locust St	Vanronkle St	Collector	2	0.13	6,165	11,700	801	1,521
Nutter Chapel	Salem Rd	Mattison Rd	Collector	2	0.57	2,163	15,300	1,233	8,721
Nutter Chapel	Dave Ward	Nahlen Dr	Collector	2	0.42	3,461	15,300	1,454	6,426
Nutter Chapel	Nahlen Dr	Salem Rd	Collector	2	0.40	3,461	11,700	1,384	4,680
Nutter Chapel	Mattison Rd	Deerbrook Dr	Collector	2	0.70	2,163	9,800	1,514	6,860
Padget Rd	Tyler St	Wescon Ln	Collector	2	0.87	2,163	9,800	1,882	8,526
Plane Rd	Sixth St	Ninth Av	Collector	2	0.23	2,163	11,700	497	2,691
Prince St	Locust St	Davis St	Collector	2	0.32	4,110	11,700	1,315	3,744
Prince St	Davis St	Donaghey	Collector	2	0.32	4,110	11,700	1,315	3,744
Raleigh Dr	Montana Dr	Hogan Ln	Collector	2	0.47	2,163	11,700	1,017	5,499
Reedy Rd	Prince St	College Av	Collector	2	0.55	2,163	9,800	1,190	5,390
Reedy Rd	College Av	Hogan Ln	Collector	2	0.95	2,163	11,700	2,055	11,115
Robins St	Donaghey	Harkrider St	Collector	2	1.10	6,490	11,700	7,139	12,870
Rolling Hill Rd	Skyline Dr	Thousand Oaks	Collector	2	0.36	2,163	9,800	779	3,528
Rumker Rd	E German Ln	Brookfield Dr	Collector	2	0.51	2,163	9,800	1,103	4,998
S German Ln	Dave Ward	Favre Ln	Collector	2	0.81	3,894	15,300	3,154	12,393
S German Ln	Favre Ln	Bill Bell Ln	Collector	2	0.17	3,894	15,300	662	2,601
S German Ln	Robins St	Dave Ward Dr	Collector	2	0.64	4,218	15,300	2,700	9,792
Siebenmorgen	Museum Rd	Trison Ln	Collector	2	0.66	3,245	11,700	2,142	7,722
Siebenmorgen	Harkrider St	I40	Collector	2	0.47	8,328	11,700	3,914	5,499
Siebenmorgen	I40	Museum Rd	Collector	2	0.64	7,788	11,700	4,984	7,488
Sixth St	First Av	Plane Rd	Collector	2	0.78	2,163	11,700	1,687	9,126
Stermer Rd	Country Club	Salem Rd	Collector	2	0.53	2,163	11,700	1,146	6,201
Stone Rd	Blaney Hill	I40	Collector	2	0.38	2,163	9,800	822	3,724
Strandlund Dr	Brookfield Dr	Rumker Rd	Collector	2	0.11	2,163	9,800	238	1,078
Sunset Dr	Independence	Meadow Dr	Collector	2	0.38	2,163	11,700	822	4,446
Thos G. Wilson	Wm J Clark Dr	Industrial Blvd	Collector	2	0.55	2,163	11,700	1,190	6,435
Vanronkle St	North St	Oak St	Collector	2	0.19	6,165	11,700	1,171	2,223
Washington Av	Meadowlake Rd	Tyler St	Collector	2	0.53	8,545	11,700	4,529	6,201
Washington Av	Tyler St	Independence	Collector	2	0.34	8,545	11,700	2,905	3,978
Washington Av	Old Morrilton	Meadowlake	Collector	2	0.17	8,545	11,700	1,453	1,989
Wescon Ln	Padget Rd	Park Place Dr	Collector	2	0.89	2,163	9,800	1,925	8,722
Wm J Clark Dr	Amity Rd	Mayor Ln	Collector	2	0.81	2,163	11,700	1,752	9,477
Winfield St	Washington Av	Harkrider St	Collector	2	0.23	2,920	11,700	672	2,691
Amity Rd	Industrial Blvd	Bronnie Ln	Minor Art.	2	0.97	3,245	11,700	3,148	11,349
Amity Rd	Bronnie Ln	Mayor Ln	Minor Art.	2	0.74	3,245	9,800	2,401	7,252
Amity Rd	Lachowsky	Bridgestone Dr	Minor Art.	2	0.90	3,245	11,700	2,921	10,530
Amity Rd	Bridgestone Dr	Middle Rd	Minor Art.	2	0.32	3,245	11,700	1,038	3,744
Amity Rd	Middle Rd	Industrial Blvd	Minor Art.	2	0.85	3,245	11,700	2,758	9,945
Bronnie Ln	Harkrider St	Amity Rd	Minor Art.	2	0.45	3,245	11,700	1,460	5,265
College Av	Harkrider St	Locust St	Minor Art.	2	0.23	8,328	11,700	1,915	2,691
College Av	Locust St	Donaghey Av	Minor Art.	2	0.76	10,816	11,700	8,220	8,892
College Av	Donaghey Av	Farris Rd	Minor Art.	2	0.47	12,979	11,700	6,100	5,499
College Av	Farris Rd	Salem Rd	Minor Art.	2	0.51	16,657	11,700	8,495	5,967
College Av	Salem Rd	Country Club	Minor Art.	2	0.49	8,112	11,700	3,975	5,733
College Av	Country Club	Hogan Ln	Minor Art.	2	1.08	4,651	15,300	5,023	16,524
College Av	Hogan Ln	Prince St	Minor Art.	2	0.28	1,190	11,700	333	3,276
E. German Ln	Middle Rd	Oak St	Minor Art.	2	1.00	7,030	11,700	7,030	11,700

Road	From	To	Class	Thru Lanes	Miles	Volume	Capacity	VMT	VMC
E. German Ln	Oak St	Siebenmorgen	Minor Art.	2	0.63	4,326	11,700	2,725	7,371
E. German Ln	Siebenmorgen	Lower Ridge Rd	Minor Art.	2	0.76	4,326	11,700	3,288	8,892
E. German Ln	Industrial Blvd	Middle Rd	Minor Art.	2	0.57	6,273	11,700	3,576	6,669
Favre Ln	Donaghey Av	S. German Ln	Minor Art.	2	0.74	3,245	9,800	2,401	7,252
Meadowlake Dr	Donaghey Av	Salem Rd	Minor Art.	2	0.98	8,545	15,300	8,374	14,994
Middle Rd	Amity Rd	E. German Ln	Minor Art.	2	0.70	3,245	9,800	2,272	6,860
Middle Rd	E. German Ln	Skunk Hollow	Minor Art.	2	0.95	3,245	9,800	3,083	9,310
Musem Rd	Curtis Walker	Siebenmorgen	Minor Art.	2	0.34	3,245	9,800	1,103	3,332
Musem Rd	Siebenmorgen	Oak St	Minor Art.	2	0.51	3,245	11,700	1,655	5,967
Musem Rd	Oak St	Halter Rd	Minor Art.	2	0.19	3,245	9,800	617	1,862
Salem Rd	Meadowlake Rd	Tyler St	Minor Art.	2	0.68	8,545	15,300	5,811	10,404
Salem Rd	Tyler St	Prince St	Minor Art.	2	0.49	8,220	11,700	4,028	5,733
Salem Rd	Prince St	College Av	Minor Art.	2	0.49	10,492	15,300	5,141	7,497
Salem Rd	College Av	Carl Stuart St	Minor Art.	2	0.51	9,194	11,700	4,689	5,967
Salem Rd	Carl Stuart St	Dave Ward Dr	Minor Art.	2	0.51	5,841	11,700	2,979	5,967
Salem Rd	Dave Ward Dr	York Ln	Minor Art.	2	1.08	1,082	11,700	1,169	12,636
Stanely Russ Rd	Wasson Rd	Bill Bell Ln	Minor Art.	2	0.55	3,245	9,800	1,785	5,390
Stanely Russ Rd	Bill Bell Ln	Sturgis Rd	Minor Art.	2	0.51	3,245	9,800	1,655	4,998
State Hwy 319	City Limits	US Hwy 64	Minor Art.	2	1.46	3,245	11,700	4,738	17,082
Sturgis Rd	Harkrider St	Stanley Russ	Minor Art.	2	1.14	4,110	11,700	4,685	13,338
Sturgis Rd	Stanely Russ	Happy Valley	Minor Art.	2	0.85	4,110	9,800	3,494	8,330
Tyler St	Washington Av	Donaghey Av	Minor Art.	2	0.49	4,759	11,700	2,332	5,733
Tyler St	Donaghey Av	Salem Rd	Minor Art.	2	0.98	7,247	11,700	7,102	11,466
Tyler St	Salem Rd	Country Club	Minor Art.	2	0.51	4,975	15,300	2,537	7,803
Tyler St	Country Club	Hogan Ln	Minor Art.	2	1.00	3,677	15,300	3,677	15,300
Tyler St	Hogan Ln	Eve Ln	Minor Art.	2	0.55	1,082	15,300	595	8,415
Tyler St	Eve Ln	Willow Creek	Minor Art.	2	0.85	1,082	9,800	920	8,330
Tyler St	Willow Creek	Padget Ln	Minor Art.	2	0.09	1,082	11,700	97	1,053
Caldwell St	Locust St	Donaghey Av	Major Art.	2	0.63	8,328	11,700	5,247	7,371
Dave Ward Dr	Harkrider St	S German Ln	Major Art.	4	0.68	20,550	29,500	13,974	20,060
Dave Ward Dr	S German Ln	Farris Rd	Major Art.	4	1.25	21,632	31,100	27,040	38,875
Dave Ward Dr	Farris Rd	Salem Rd	Major Art.	4	0.51	16,765	31,100	8,550	15,861
Dave Ward Dr	Salem Rd	Hogan Ln	Major Art.	4	1.14	11,032	31,100	12,576	35,454
Dave Ward Dr	Hogan Ln	Quail Run	Major Art.	4	0.93	5,408	31,100	5,029	28,923
Dave Ward Dr	Quail Run	Trey Ln	Major Art.	2	0.44	5,408	11,700	2,380	5,148
Donaghey Av	Old Morrilton	Meadowlake	Major Art.	2	0.45	15,142	15,300	6,814	6,885
Donaghey Av	Meadowlake	Dave Ward Dr	Major Art.	2	2.75	12,979	15,300	35,692	42,075
Donaghey Av	Dave Ward Dr	Stanley Russ	Major Art.	2	1.29	6,381	11,700	8,231	15,093
E US Hwy 65	City Limits	Brookfield Dr	Major Art.	4	0.47	18,387	29,500	8,642	13,865
Harkrider St	Old Morrilton	Fleming St	Major Art.	4	0.49	23,795	29,500	11,660	14,455
Harkrider St	Fleming St	Siebenmorgen	Major Art.	4	0.23	17,306	29,500	3,980	6,785
Harkrider St	Siebenmorgen	Robins St	Major Art.	4	1.61	17,306	23,300	27,863	37,513
Harkrider St	Robins St	Commerce Rd	Major Art.	4	0.40	18,387	29,500	7,355	11,800
Harkrider St	Commerce Rd	Industrial Blvd	Major Art.	4	0.36	12,979	29,500	4,672	10,620
Harkrider St	Industrial Blvd	City Limits	Major Art.	2	0.93	12,979	11,700	12,070	10,881
Hogan Ln	Old Morrilton	Tyler St	Major Art.	2	0.81	5,732	15,300	4,643	12,393
Hogan Ln	Tyler St	College Av	Major Art.	2	1.00	9,734	15,300	9,734	15,300
Hogan Ln	College Av	Reedy Rd	Major Art.	2	0.36	6,490	11,700	2,336	4,212

Road	From	To	Class	Thru Lanes	Miles	Volume	Capacity	VMT	VMC
Hogan Ln	Reedy Rd	Davee Ward	Major Art.	2	0.80	6,490	15,300	5,192	12,240
Industrial Blvd	City Limits	E German Ln	Major Art.	2	0.28	5,624	11,700	1,575	3,276
Industrial Blvd	E. German Ln	I-40	Major Art.	2	0.95	9,085	11,700	8,631	11,115
Industrial Blvd	I-40	Exchange	Major Art.	4	0.19	25,958	23,300	4,932	4,427
Industrial Blvd	Exchange Av	Equity Av	Major Art.	4	0.17	25,958	29,500	4,413	5,015
Industrial Blvd	Equity Av	Harkrider St	Major Art.	4	0.30	20,550	29,500	6,165	8,850
Lower Ridge Rd	City Limits	N US Hwy 65	Major Art.	2	2.37	3,461	9,800	8,203	23,226
McNutt Rd	Dave Ward Dr	Donell Ridge	Major Art.	2	0.72	1,622	11,700	1,168	8,424
Mill Pond Rd	Wasson Rd	Earnhart St	Major Art.	2	0.55	7,030	11,700	3,867	6,435
Oak St	Brookfield Dr	I40	Major Art.	4	1.46	30,285	29,500	44,216	43,070
Oak St	I40	Harkrider St	Major Art.	4	0.80	24,877	29,500	19,902	23,600
Oak St	Harkrider St	Chestnut St	Major Art.	2	0.19	16,224	11,700	3,083	2,223
Oak St	Chestnut St	Locust St	Major Art.	2	0.19	9,843	11,700	1,870	2,223
Old Morrilton Hwy	Harkrider St	Washington	Major Art.	4	0.42	21,632	29,500	9,085	12,390
Old Morrilton Hwy	Washington Av	State Hwy 25	Major Art.	2	0.25	12,979	11,700	3,245	2,925
Old Morrilton Hwy	State Hwy 25	City Limits	Major Art.	2	2.37	5,949	11,700	14,099	27,729
Prince St	Donaghey Av	Country Club	Major Art.	2	1.48	14,061	15,300	20,810	22,644
Prince St	Country Club	Hogan Ln	Major Art.	2	1.08	7,463	15,300	8,060	16,524
Prince St	Hogan Ln	City Limits	Major Art.	2	0.83	5,408	15,300	4,489	12,699
Skyline Dr	City Limits	Old Morrilton	Major Art.	4	2.16	24,877	29,500	53,734	63,720
Stanely Russ Rd	Donaghey Av	Wasson Rd	Major Art.	2	0.55	7,030	9,800	3,867	5,390
State Hwy 25	Old Morrilton	City Limits	Major Art.	2	1.06	6,760	11,700	7,166	12,402
Trey Ln	Lee Andrew Ln	Dave Ward	Major Art.	2	0.27	7,030	9,800	1,898	2,646
Wasson Rd	Stanely Russ	Mill Pond Rd	Major Art.	2	1.52	7,030	9,800	10,686	14,896
Total								729,276	1,487,199

Source: Road segments and classifications from City of Conway "Master Street Plan" map, April 25, 2002 (as amended by 0-00-68, 0-00-91 & R-02-16); number of lanes from "Street Inventory" map, November 2002; miles scaled from City of Conway Planning Department,"Boundary Map," November 20, 2002; volumes from "2001 Conway Traffic Counts" map; volumes in *italics* are assumed based on one-half the average volume of the respective road classification (collector, minor arterial, major arterial).

Table 37
EXISTING PARK FACILITY INVENTORY

	Airport Park	Beaver-fork Park	Bain-bridge Park	Curtis Walker Park	Don Owen Park	5th Ave Park	Gatlin Park	Laurel Park	Pine St Park	Tucker Creek Trail	Total
Baseball Backstop							1	1			2
Baseball Field, Lighted				1							1
Basketball Goal	1		3	4		2		3	2		15
Basketball Goal, Lighted							2				2
Bench		10		2	6	5	7	5	4		39
Bleachers, 25 People	3	3		4	8						18
Bleachers, 50 People						3					3
Boat Dock		2									2
Boat Ramp		2									2
Caretakers House		1									1
Crawl Tunnel									2		2
Dumpster, Three Yard	1			1		2	1	3			8
Dumpster, Six Yard		3			1						4
Fishing Pier		1									1
Grill	1	10		1		3	3	1			19
Merry-Go-Round		1									1
Monkey Bars					1			2			3
Parking, Car	105	195	16	120	280	180	60	78		30	1064
Parking, Boat & Trailer		65									65
Pavilion, Small		1							1		2
Pavilion, Large		1	1		1	1		1		1	6
Picnic Table	2	25	1	5	3	19	6	13			74
Play Center, Medium						1			1		2
Play Center, Large						1		1			2
Pump House		3									3
Restroom		3		1	1	1		1			7
Rocking Animal					3				2		5
Sea-Saw	2		1								3
Slide, Small		1			1		1	3			6
Slide, Large							1				1
Softball Field	1										1
Softball Field, Lighted		1			3	1					5
Storage Building, Concrete		1									1
Storage, 5 Bay		1									1
Swing Set, Three Seat			1								1
Swing Set, Four Seat	2	1				1	3	2			9
Swing Set, Six Seat		1		1			1				3
T-Ball Field					6						6
Tennis Court, Lighted						2	2	4			8
Trash Can, 55 Gallon	8	40	1	6	32	20	7	13			127
Volleyball Court, Sand		2									2
Volleyball Net						1					1
Walking Trail (miles)								0.7		3.1	3.8
Water Fountain								1			1

Source: City of Conway Parks and Recreation Department, December 2002.