

Road Impact Fee Analysis

prepared for

La Plata County, Colorado



prepared by

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This analysis for La Plata County is based on the *La Plata County Road Impact Fee Study* prepared in August 2007 for the County and the City of Durango. That study was an outgrowth of the *2030 Transportation Integrated Plan (2030TRIP)* prepared for the La Plata County and the City of Durango in 2006. The transportation plan identifies a number of improvements that will need to be made in order to maintain adequate levels of service on the major road system in La Plata County. This study uses the improvements, cost information, demand characteristics and other information developed in the transportation plan and in the 2007 study to develop road impact fees that could be imposed on new development by La Plata County in order to help fund the improvements that will be needed to accommodate growth-related traffic.

This analysis incorporates both the unincorporated area's share of the "regional" road improvements identified in the *2030TRIP* deemed to be of benefit to all development in the county as well as "county" road improvements identified in the *2030TRIP* that provide special benefit to new development in the unincorporated area.

The City of Durango requires developers in unincorporated areas seeking City utility service to agree to pay the City's road impact fee. If the County is also charging a road impact fee in the unincorporated area that is charging for the same regional improvements, developers could be double-charged. The County will need to coordinate with the City to ensure that this does not occur.

The County intends to repeal its current road impact fees for the La Posta Road area if these proposed road impact fees for the entire unincorporated area are adopted. These fees would also replace the requirements in several negotiated developer agreements that call for the payment of road mitigation fees.

The fees calculated in this report are based on the analysis contained in the 2007 study. However, several modifications will be made to adapt the fee calculations to more closely conform with the road impact fees recently adopted by the City of Durango, which are also based on the 2007 study. The major difference is that the City's fees are based only on the City's share of the regional road improvements, and exclude the cost of county road improvements that primarily benefit unincorporated area residents.

The major change from the 2007 study will be to base the fees on the cost per PM peak hour trip, rather than the cost per daily vehicle-mile of travel (VMT). In addition, several changes to the land use categories will be made to be more consistent with the City's fee schedule.

Rather than replicating the data and calculations from the 2007 study that are used in this analysis, only changes from that study will be shown here. The rest of the 2007 study is incorporated by reference.

The service unit multipliers for the proposed La Plata County fees are shown in Table 1. These multipliers are based on national travel data.

**Table 1
SERVICE UNIT MULTIPLIERS**

| Land Use Type | ITE Code | Unit | Trip Rate | New Trips | Pk Hr Trips |
|--------------------------|----------|--------------|-----------|-----------|-------------|
| Single-Family Detached | 210 | Dwelling | 0.505 | 100% | 0.505 |
| Multi-Family | 220 | Dwelling | 0.310 | 100% | 0.310 |
| Dormitory | 620 | Bed | 0.110 | 100% | 0.110 |
| Hotel/Motel | 310/320 | Room | 0.265 | 59% | 0.156 |
| Shopping Center/Retail | 820 | 1000 sq. ft. | 1.875 | 43% | 0.806 |
| Restaurant | 931 | 1000 sq. ft. | 3.745 | 38% | 1.423 |
| Office/Institutional | 710 | 1000 sq. ft. | 0.745 | 100% | 0.745 |
| Nursing Home | 620 | 1000 sq. ft. | 0.210 | 100% | 0.210 |
| Place of Worship | 560 | 1000 sq. ft. | 0.330 | 100% | 0.330 |
| School | 520/530 | 1000 sq. ft. | 1.025 | 24% | 0.246 |
| General Light Industrial | 110 | 1000 sq. ft. | 0.490 | 100% | 0.490 |
| Warehouse/Storage | 150 | 1000 sq. ft. | 0.235 | 100% | 0.235 |
| Mini-Warehouse | 151 | 1000 sq. ft. | 0.130 | 100% | 0.130 |

Source: "Trip Rate" is one-half PM peak hour trip ends during weekday from Institute of Transportation Engineers (ITE), *Trip Generation*, 7th ed., 2003; "New Trips" is primary trip percentages for shopping center and restaurant from ITE, *Trip Generation Handbook*, March 2001; percentage for hotel/motel from *ITE Journal*, May 1991; percentage for school based on Preston Hitchens, "Trip Generation of Day Care Centers," 1990 *ITE Compendium*.

Typical impact fees charge a flat rate per dwelling unit, regardless of size. A wide range of housing sizes are being produced in today's housing market. Because smaller units tend to cost less and house families with lower incomes, the one-size-fits-all approach taken by most impact fee systems imposes a much larger burden, proportionately, on smaller units, which incidentally tend to house residents less likely to be able to afford it. In order to reduce the burden on smaller, more affordable units, this impact fee update gives the County the option of charging single-family fees based on the size of the dwelling unit.

The size of the dwelling unit is related to the number of residents, and the average number of vehicle trips generated is strongly related to the number of people living in the dwelling unit. The regional average household size data are combined with trip rate data by household size to derive daily trip rates by the size of the unit, represented by bedrooms, as shown in Table 2.

Table 2
SINGLE-FAMILY TRIPS BY NUMBER OF BEDROOMS

| Housing Type/Bedrooms | Daily Trips | Pk Hr Trips |
|----------------------------|-------------|-------------|
| Single-Family/0-2 Bedrooms | 7.70 | 0.812 |
| Single-Family/3 Bedrooms | 9.84 | 1.038 |
| Single-Family/4 Bedrooms | 11.21 | 1.183 |
| Single-Family/5 Bedrooms+ | 12.90 | 1.361 |
| Single-Family/All Sizes | 9.57 | 1.010 |

Source: Daily trips from Table 9 in Duncan Associates, *La Plata County Road Impact Fee Study*, August 2007; peak hour trips are 10.55% of daily trips, based on the ratio of peak hour to daily trip rates from Institute of Transportation Engineers, *Trip Generation*, 7th edition, 2003.

To determine a relationship between dwelling unit square footage, bedrooms and trip generation, the consultant compiled data on 688 single-family detached houses listed for sale in La Plata County from the National Association of Realtors web site (www.realtor.com) on May 18, 2007. These on-line listings give square footage and the number of bedrooms for each unit offered for sale. A variable for peak hour trips was added, consisting of the data presented in Table 2 above. Regression analysis was then performed to determine the relationship between unit size in square feet and persons residing in the unit. Both linear and logarithmic regressions were performed, and the semi-logarithmic equation was determined to provide the best explanation of the data.¹

Using the regression equation, peak hour trip rates were derived for seven square footage size categories. The trip rates are then used to derive the service unit multipliers for each of the different single-family size categories. The results are shown in Table 3.

Table 3
SINGLE-FAMILY TRAVEL DEMAND BY UNIT SIZE

| Dwelling Size Category | Approx. Midpoint | Trip Rate | 1-Way Trips | New Trips | Pk Hr Trips |
|-------------------------|------------------|-----------|-------------|-----------|-------------|
| Less than 1,000 sq. ft. | 750 | 0.887 | 0.444 | 100% | 0.444 |
| 1,000 - 1,499 sq. ft. | 1,250 | 0.973 | 0.487 | 100% | 0.487 |
| 1,500 - 2,499 sq. ft. | 2,000 | 1.053 | 0.527 | 100% | 0.527 |
| 2,500 sq. ft. or more | 3,500 | 1.148 | 0.574 | 100% | 0.574 |

Source: Trip rate derived using the regression equation formula and the midpoints of the size categories; 1-way trips are ½ trip ends; new trips factor from Table 1.

To determine the improvement cost per trip using an improvements-driven methodology, the total cost of planned improvements attributable to growth are divided by the projected growth in peak hour trips over the planning horizon. The cost of regional road improvements is divided by total projected growth in county-wide trips, and the cost of county road improvements are divided by projected growth in trips in the unincorporated area (although technically the projected growth in trips was for the rest of the

¹ The equation for peak hour trips is $y = 0.16922 * \ln(x) - 0.2333$, where y is average daily trips and x is the floor area of the unit in square feet; the R² is 0.396 and the t-statistics are 21.2 for the slope and -3.8 for the y-intercept.

county outside the City of Durango and the IGA, this is a reasonable approximation of the growth in trips in the unincorporated area). As shown in Table 4, the cost to accommodate the traffic impacts of growth in the unincorporated area including the impact on both regional and county roads, is \$17,414 per peak hour trip.

**Table 4
ROAD COST PER PEAK HOUR TRIP**

| | Regional Improvements | County Improvements | Total Improvements |
|--------------------------------|--------------------------|------------------------|-----------------------|
| Adjusted Growth-Related Cost | \$120,660,169 | \$70,640,222 | \$191,300,391 |
| New Peak Hour Trips, 2004-2030 | 13,552 | 8,300 | n/a |
| Cost per New Peak Hour Trip | \$8,903 | \$8,511 | \$17,414 |

Source: Adjusted growth-related cost from Table 17 in Duncan Associates, *La Plata County Road Impact Fee Study*, August 2007; new peak hour trips is 12% of one-half new daily trip ends from Table 7 in *La Plata County Road Impact Fee Study* (12% of daily trips in PM peak hour from City of Durango Public Works Director, June 27, 2008 conversation).

Impact fees should not require new development to pay twice for the same level of service, once through impact fees and again through other fees or taxes. To comply with that requirement, impact fees should be reduced to reflect future payments that will be made by new development to retire outstanding debt on existing facilities or to remedy existing deficiencies. Neither the City of Durango nor La Plata County has any outstanding debt related to road improvements on the existing system. Consequently, a credit for existing deficiencies is all that is required. The only existing deficiencies that were identified in the 2007 study were related to county road, rather than regional road, improvements. In order to calculate the deficiency credit, the cost to correct the deficiency is divided by the total number of peak hour trips generated by existing development in the rest of the county. The deficiency credit is subtracted from the cost per peak hour trip to determine the net cost per peak hour trip, as shown in Table 5.

**Table 5
ROAD NET COST PER SERVICE UNIT**

| | |
|--------------------------------------|--------------|
| Adjusted Existing Deficiency Costs | \$32,741,886 |
| Existing Peak Hour Trips | 12,235 |
| Deficiency Credit per Peak Hour Trip | \$2,676 |
| Cost per Peak Hour Trip | \$17,414 |
| Net Cost per Peak Hour Trip | \$14,738 |

Source: Existing deficiency costs and existing peak hour trips (12% of one-half of daily trip ends) from Tables 16 and 7, respectively, *La Plata County Road Impact Fee Study*, August 2007; growth-related cost per trip from Table 4.

The maximum potential road impact fees that can be assessed on new development in the unincorporated area of La Plata County based on the data, assumptions and analysis contained in this study are shown in Table 6. The net costs per unit of development by land use are the product of the peak hour trips generated by each land use and the net cost of planned improvements to accommodate each new peak hour trip. The County may choose to charge the fees at less than 100 percent of the

maximum, and may also choose to phase in the fees over some period of time. The fee revenue may be used to fund either regional or county road improvements.

**Table 6
ROAD IMPACT FEE SCHEDULE, UNINCORPORATED AREA**

| Land Use Type | Unit | Trips/ Unit | Net Cost/ Trip | Net Cost/ Unit |
|---------------------------------------------|--------------|------------------------|---------------------------|---------------------------|
| Single-Family/Duplex (Variable Rate Option) | | | | |
| Less than 1,000 sq. ft. | Dwelling | 0.444 | \$14,738 | \$6,544 |
| 1,000 - 1,499 sq. ft. | Dwelling | 0.487 | \$14,738 | \$7,177 |
| 1,500 - 2,499 sq. ft. | Dwelling | 0.527 | \$14,738 | \$7,767 |
| 2,500 sq. ft. or more | Dwelling | 0.574 | \$14,738 | \$8,460 |
| Single-Family Det./Duplex (Flat Rate) | Dwelling | 0.505 | \$14,738 | \$7,443 |
| Multi-Family | Dwelling | 0.310 | \$14,738 | \$4,569 |
| Dormitory | Bed | 0.110 | \$14,738 | \$1,621 |
| Hotel/Motel | Room | 0.156 | \$14,738 | \$2,304 |
| Shopping Center/Retail | 1000 sq. ft. | 0.806 | \$14,738 | \$11,883 |
| Restaurant | 1000 sq. ft. | 1.423 | \$14,738 | \$20,974 |
| Office/Institutional | 1000 sq. ft. | 0.745 | \$14,738 | \$10,980 |
| Nursing Home | 1000 sq. ft. | 0.210 | \$14,738 | \$3,095 |
| Place of Worship | 1000 sq. ft. | 0.330 | \$14,738 | \$4,864 |
| Elementary/Sec. School | 1000 sq. ft. | 0.246 | \$14,738 | \$3,626 |
| General Light Industrial | 1000 sq. ft. | 0.490 | \$14,738 | \$7,222 |
| Warehouse/Storage | 1000 sq. ft. | 0.235 | \$14,738 | \$3,463 |
| Mini-Warehouse | 1000 sq. ft. | 0.130 | \$14,738 | \$1,916 |

Source: Trips per unit from Table 1; variable rate option single-family trips per unit from Table 3; net cost per trip from Table 5.

If the County desires to charge fees similar to those being charged by the City of Durango, and to phase them in on the same schedule as the City is doing, it could charge the fees at 27.93 percent of the maximum fees in 2009, increase them to 44.16 percent starting January 1, 2010, and increase them to 60.41 percent starting January 1, 2011. These potential fees would be slightly different from the City fees in 2009 and 2010 for some most uses (they would be same for the typical single-family home), but would be identical for all land uses in 2011. The differences are due to the way the City has phased in their fees. Rather than charge a percentage of the maximum fees in the first two phases, the City chose to phase in the increase gradually for each land use from the existing fee for each land use. While this may not be the ideal approach in terms of maintaining the proportionality of the fees to traffic impact as represented by the current study, the deviations are temporary and proportionality is achieved at the end of the phase-in period. Since the County does not currently charge road impact fees in most of the unincorporated area, there is no reason for the County to try to match the City's phase-in schedule exactly. The suggested County phase-in schedule approximates the City's fees reasonably closely during the phase-in period, as shown in Tables 7 and 8.

Table 7
SUGGESTED COUNTY ROAD IMPACT FEE PHASE-IN SCHEDULE

| Land Use Type | Unit | 2009 | 2010 | 2011 |
|--------------------------|-----------------|---------|---------|----------|
| Single-Family/Duplex | | | | |
| Less than 1,000 sq. ft. | Dwelling | \$1,828 | \$2,890 | \$3,954 |
| 1,000 - 1,499 sq. ft. | Dwelling | \$2,005 | \$3,169 | \$4,336 |
| 1,500 - 2,499 sq. ft. | Dwelling | \$2,169 | \$3,430 | \$4,692 |
| 2,500 sq. ft. or more | Dwelling | \$2,363 | \$3,736 | \$5,110 |
| Multi-Family | Dwelling | \$1,276 | \$2,018 | \$2,760 |
| Dormitory | Bed | \$453 | \$716 | \$980 |
| Day Care | Child Occupancy | \$100 | \$100 | \$100 |
| Hotel/Motel | Room | \$644 | \$1,017 | \$1,392 |
| Shopping Center/Retail | 1000 sq. ft. | \$3,319 | \$5,248 | \$7,178 |
| Restaurant | 1000 sq. ft. | \$5,858 | \$9,262 | \$12,672 |
| Office/Institutional | 1000 sq. ft. | \$3,067 | \$4,849 | \$6,634 |
| Nursing Home | 1000 sq. ft. | \$864 | \$1,367 | \$1,870 |
| Place of Worship | 1000 sq. ft. | \$1,359 | \$2,148 | \$2,938 |
| Elementary/Sec. School | 1000 sq. ft. | \$1,013 | \$1,601 | \$2,190 |
| General Light Industrial | 1000 sq. ft. | \$2,017 | \$3,189 | \$4,362 |
| Warehouse/Storage | 1000 sq. ft. | \$967 | \$1,529 | \$2,092 |
| Mini-Warehouse | 1000 sq. ft. | \$535 | \$846 | \$1,158 |

Table 8
CITY ROAD IMPACT FEE PHASE-IN SCHEDULE

| Land Use Type | Unit | 2009 | 2010 | 2011 |
|--------------------------|-----------------|---------|----------|----------|
| Single-Family/Duplex | | | | |
| Less than 1,000 sq. ft. | Dwelling | \$1,923 | \$2,938 | \$3,954 |
| 1,000 - 1,499 sq. ft. | Dwelling | \$2,050 | \$3,193 | \$4,336 |
| 1,500 - 2,499 sq. ft. | Dwelling | \$2,169 | \$3,430 | \$4,692 |
| 2,500 sq. ft. or more | Dwelling | \$2,308 | \$3,709 | \$5,110 |
| Multi-Family | Dwelling | \$1,298 | \$2,029 | \$2,760 |
| Dormitory | Bed | \$542 | \$761 | \$980 |
| Day Care | Child Occupancy | \$100 | \$100 | \$100 |
| Hotel/Motel | Room | \$686 | \$1,039 | \$1,392 |
| Shopping Center/Retail | 1000 sq. ft. | \$3,810 | \$5,494 | \$7,178 |
| Restaurant | 1000 sq. ft. | \$7,802 | \$10,237 | \$12,672 |
| Office/Institutional | 1000 sq. ft. | \$3,823 | \$5,228 | \$6,634 |
| Nursing Home | 1000 sq. ft. | \$816 | \$1,343 | \$1,870 |
| Place of Worship | 1000 sq. ft. | \$1,281 | \$2,110 | \$2,938 |
| Elementary/Sec. School | 1000 sq. ft. | \$955 | \$1,573 | \$2,190 |
| General Light Industrial | 1000 sq. ft. | \$1,963 | \$3,162 | \$4,362 |
| Warehouse/Storage | 1000 sq. ft. | \$1,206 | \$1,650 | \$2,092 |
| Mini-Warehouse | 1000 sq. ft. | \$895 | \$1,026 | \$1,158 |