WELD COUNTY
IMPACT FEE STUDY

ROADS, DRAINAGE AND COUNTY FACILITIES

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in association with
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EXECUTIVE SUMMARY

Duncan Associates was retained by Weld County, Colorado to assist in updating the County's impact fees for roads, drainage and County facilities. This study calculates maximum impact fees that Weld County can charge based on the existing levels of service. The road impact fee was last updated in 2002, and the drainage and County facilities fees are based on a study conducted in 2005.

The major changes in methodology and data inputs from the previous impact fee studies are summarized as follows:

Land Use Categories

- Simplify and standardize land use categories in the road and County facility fee schedules to provide greater ease of administration and eliminate change of use issues.

Roads

- Expand the road impact fee from the strategic roads to all County arterials and collectors to provide greater flexibility to spend the funds on a wider variety of improvements.

Drainage

- Update the drainage impact fee based on the existing level of service and propose assessing the drainage fee exclusively at building permit to be consistent with the other impact fees.

County Facilities

- Change the name of the "capital expansion" fee to "County facilities" and base the updated fee on the existing level of service for all County facilities other than roads, drainage or EMS.

Potential Impact Fee Summary

The maximum potential fees calculated in this report for the three facilities for typical land use types are presented in the following table and compared with the existing fee schedules. The updated road and County facilities impact fees are considerably higher than existing fees for most land uses, while the updated drainage fee is the same as the current fee. The updated road and County facilities fees could be adopted at some percentage less than the full net cost, or the increases could be phased in over a period of time. Even if the fees are adopted at full cost, road fees would go down for some specialized categories that are proposed to be consolidated into broader categories, including banks, convenience stores, fast food restaurants, medical offices, hospitals and day care centers (see Table 17).

It should be noted that the potential increase in the road fees is not due to any change in methodology, but rather to the significant increases in the cost of road construction during the eight years since the fees were last calculated in 2002. The Colorado Department of Transportation's composite Construction Cost Index, which is based on bid prices and includes roadways and bridge

structures, almost doubled between 2002 and the first quarter of 2010, increasing by 98.7% (see discussion on page 21).

Table 1. Current and Potential Impact Fee Summary

Land Use Type	Unit	Roads	County Facilities	Drainage
Potential Fee				
Single-Family Detached	Dwelling	$3,354	$985	$0.10 per sq. ft.*
Multi-Family	Dwelling	$2,196	$731	$0.10 per sq. ft.*
Mobile Home Park	Dwelling	$2,057	$995	$0.10 per sq. ft.*
Hotel/Motel	Room	$1,938	$449	$0.10 per sq. ft.*
Shopping Ctr/Commercial	1,000 sq. ft.	$4,650	$941	$0.10 per sq. ft.*
Office	1,000 sq. ft.	$3,067	$468	$0.10 per sq. ft.*
Institutional/Quasi-Public	1,000 sq. ft.	$1,588	$291	$0.10 per sq. ft.*
Manufacturing/Industrial	1,000 sq. ft.	$3,020	$236	$0.10 per sq. ft.*
Warehouse	1,000 sq. ft.	$1,539	$105	$0.10 per sq. ft.*
Mini-Warehouse	1,000 sq. ft.	$642	$84	$0.10 per sq. ft.*
Agricultural Commercial	1,000 sq. ft.	$981	$199	$0.10 per sq. ft.*
Current Fee				
Single-Family Detached	Dwelling	$1,987	$575	$0.10 per sq. ft.*
Multi-Family	Dwelling	$1,377	$575	$0.10 per sq. ft.*
Mobile Home Park	Dwelling	$996	$575	$0.10 per sq. ft.*
Hotel/Motel	Room	$1,497	$48	$0.10 per sq. ft.*
Shopping Ctr/Commercial	1,000 sq. ft.	$3,059	$95	$0.10 per sq. ft.*
Office	1,000 sq. ft.	$2,430	$95	$0.10 per sq. ft.*
Institutional/Quasi-Public	1,000 sq. ft.	$666	$95	$0.10 per sq. ft.*
Manufacturing/Industrial	1,000 sq. ft.	$1,618	$95	$0.10 per sq. ft.*
Warehouse	1,000 sq. ft.	$1,149	$95	$0.10 per sq. ft.*
Mini-Warehouse	1,000 sq. ft.	$333	$95	$0.10 per sq. ft.*
Agricultural Commercial	1,000 sq. ft.	$509	$95	$0.10 per sq. ft.*
Change				
Single-Family Detached	Dwelling	$1,367	$410	-- per sq. ft.*
Multi-Family	Dwelling	$819	$156	-- per sq. ft.*
Mobile Home Park	Dwelling	$1,061	$420	-- per sq. ft.*
Hotel/Motel	Room	$441	$402	-- per sq. ft.*
Shopping Ctr/Commercial	1,000 sq. ft.	$1,591	$846	-- per sq. ft.*
Office	1,000 sq. ft.	$637	$373	-- per sq. ft.*
Institutional/Quasi-Public	1,000 sq. ft.	$922	$196	-- per sq. ft.*
Manufacturing/Industrial	1,000 sq. ft.	$1,402	$141	-- per sq. ft.*
Warehouse	1,000 sq. ft.	$390	$10	-- per sq. ft.*
Mini-Warehouse	1,000 sq. ft.	$309	-$11	-- per sq. ft.*
Agricultural Commercial	1,000 sq. ft.	$472	$104	-- per sq. ft.*

* per square foot of impervious cover

Source: Current fees from Weld County Ordinance Sec. 20-1-220 (100,000-249,999 square feet used for retail/commercial, <100,000 sf for office, nursing home used for public/institutional; potential road fee from Table 16; potential County facilities fee from Table 28; potential drainage fee per square foot of impervious cover from Table 20.

In the event that the full increase is not seen as acceptable, an alternative would be to increase the fees to account for general consumer price inflation since the fees were last updated (this was much less than the increase in road construction costs), and to institute annual inflation adjustments to prevent such large increases in the future. To ensure proportionality and consistency with this

study, it would be necessary to adjust the single-family fee for inflation, and to adopt the fees for other uses at the same percentage of the maximum fee as the single-family fee. An appropriate consumer price index is the Denver CPI. Adjusting the single-family fees for inflation would mean adopting the road fees at 67.65% of the maximum amounts and the County facilities fees at 64.57%. Table 2 presents inflation-adjusted road and County facilities fees. Adjusting for consumer price inflation would increase combined road and County facilities fees for a single-family unit by a total of $343, an increase of 13%.

Table 2. Current and Inflation-Adjusted Impact Fee Summary

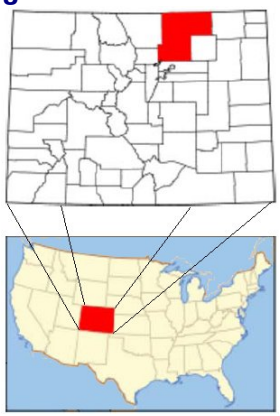
Land Use Type	Unit	Roads	County Facilities	Drainage
Inflation-Adjusted Fee				
Single-Family Detached	Dwelling	$2,269	$636	$0.10 per sq. ft.*
Multi-Family	Dwelling	$1,486	$472	$0.10 per sq. ft.*
Mobile Home Park	Dwelling	$1,392	$642	$0.10 per sq. ft.*
Hotel/Motel	Room	$1,311	$290	$0.10 per sq. ft.*
Shopping Ctr/Commercial	1,000 sq. ft.	$3,146	$608	$0.10 per sq. ft.*
Office	1,000 sq. ft.	$2,075	$302	$0.10 per sq. ft.*
Institutional/Quasi-Public	1,000 sq. ft.	$1,074	$188	$0.10 per sq. ft.*
Manufacturing/Industrial	1,000 sq. ft.	$2,043	$152	$0.10 per sq. ft.*
Warehouse	1,000 sq. ft.	$1,041	$68	$0.10 per sq. ft.*
Mini-Warehouse	1,000 sq. ft.	$434	$54	$0.10 per sq. ft.*
Agricultural Commercial	1,000 sq. ft.	$664	$128	$0.10 per sq. ft.*
Current Fee				
Single-Family Detached	Dwelling	$1,987	$575	$0.10 per sq. ft.*
Multi-Family	Dwelling	$1,377	$575	$0.10 per sq. ft.*
Mobile Home Park	Dwelling	$996	$575	$0.10 per sq. ft.*
Hotel/Motel	Room	$1,497	$48	$0.10 per sq. ft.*
Shopping Ctr/Commercial	1,000 sq. ft.	$3,059	$95	$0.10 per sq. ft.*
Office	1,000 sq. ft.	$2,430	$95	$0.10 per sq. ft.*
Institutional/Quasi-Public	1,000 sq. ft.	$666	$95	$0.10 per sq. ft.*
Manufacturing/Industrial	1,000 sq. ft.	$1,618	$95	$0.10 per sq. ft.*
Warehouse	1,000 sq. ft.	$1,149	$95	$0.10 per sq. ft.*
Mini-Warehouse	1,000 sq. ft.	$333	$95	$0.10 per sq. ft.*
Agricultural Commercial	1,000 sq. ft.	$509	$95	$0.10 per sq. ft.*
Change				
Single-Family Detached	Dwelling	$282	$61	-- per sq. ft.*
Multi-Family	Dwelling	$109	-$103	-- per sq. ft.*
Mobile Home Park	Dwelling	$396	$67	-- per sq. ft.*
Hotel/Motel	Room	-$186	$243	-- per sq. ft.*
Shopping Ctr/Commercial	1,000 sq. ft.	$87	$513	-- per sq. ft.*
Office	1,000 sq. ft.	-$355	$207	-- per sq. ft.*
Institutional/Quasi-Public	1,000 sq. ft.	$408	$93	-- per sq. ft.*
Manufacturing/Industrial	1,000 sq. ft.	$425	$57	-- per sq. ft.*
Warehouse	1,000 sq. ft.	-$108	-$27	-- per sq. ft.*
Mini-Warehouse	1,000 sq. ft.	$101	-$41	-- per sq. ft.*
Agricultural Commercial	1,000 sq. ft.	$155	$33	-- per sq. ft.*

Source: Single-family inflation-adjusted fees are current fees adjusted for change in the Bureau of Labor Statistics, Consumer Price Index – All Urban Consumers for Denver-Boulder-Greeley, CO (2002 annual average to 1st half 2010 for roads and 2005 annual average to 1st half 2010 for County facilities); inflation-adjusted fees for other land uses is the single-family implementation rate (67.65% for roads and 64.57% for County facilities) times the potential fee for that land use from Table 1; current fees from Table 1.

INTRODUCTION

Duncan Associates was retained by Weld County, Colorado to assist in updating the County's impact fees for roads, drainage and County facilities. The County began charging road impact fees in subareas of the county in 1999, and has imposed county-wide road impact fees since 2002. Impact fees for drainage and County facilities (called stormwater drainage infrastructure and capital expansion fees) were enacted in 2005. All three fees apply only to new development in the unincorporated area. It has been eight years since the road impact fees were updated, and five years since the drainage and County facility fees were enacted.

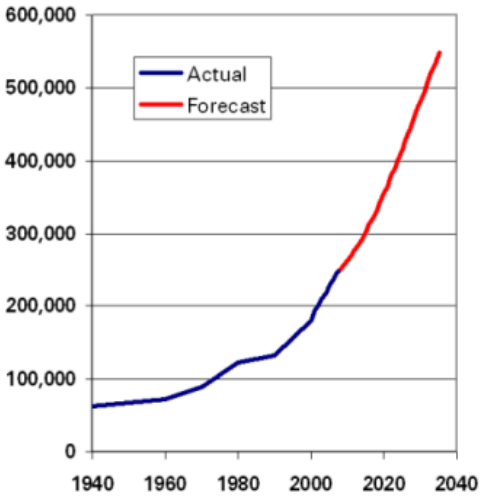
Figure 1. Location Map



Background

Weld County is located on the northern boundary of Colorado, bordering both Nebraska and Wyoming (see Figure 1). It is the third largest county in Colorado. There are 31 municipalities wholly or partially within the county. Greeley, the largest city, is the county seat. The terrain is relatively flat; the northeastern portions of the county contain the extensive Pawnee National Grassland and the Pawnee Buttes, which jut 250 feet above the surrounding terrain. Along the western border some low hills begin the foothills of the Rocky Mountains further west. The county is served by two interstate highways: I-25 runs along the western boundary and I-76 crosses the southeast corner. The area of the county was reduced somewhat in 2001 with the creation of the new Broomfield County from part of Weld County and parts of Adams, Boulder, and Jefferson counties.

Figure 2. Population, 1940-2035



Impact fees are most appropriate for jurisdictions experiencing rapid growth. Weld County has been experiencing significant growth over the past two decades, a trend that is projected to continue. The population growth since 1940, as well as projected growth to 2035, is illustrated in Figure 1. The County's population grew by 3.8% annually during the 2000s, and is projected to grow at 3% annually for the next 20 years.

The cities and towns within the county account for about 80% of the county-wide population and have captured the bulk of new residential development. Between 2000 and 2008, they added 24,625 new dwelling units, compared to 3,250 for the unincorporated area.[1] While the cities and towns have been growing at a faster rate, the unincorporated area has been experiencing rapid development as well. Over the 8-year period, the housing stock in the unincorporated area increased by 21%.

[1] Colorado Department of Local Affairs, State Demography Office

Road Impact Fee. The county-wide road fee enacted in 2002 applies only to development in the unincorporated area. Fees are collected at time of building permit issuance. The fee schedule includes the amount per dwelling unit for three housing types (e.g., $1,987 per single-family unit), the amount per hotel/motel room, and the amount per 1,000 square feet for 30 nonresidential land use categories. The fees were designed to fund improvements to seven major roadway corridors in the county, as identified in the County's 2002 *Strategic Roadway Plan*. As part of this project, the road impact fee will be expanded from just the strategic roads to all County arterials and collectors, giving the County additional flexibility to fund a wider range of roadway improvements. The updated fee excludes drainage costs, which are addressed with a separate County impact fee. The updated fee will continue to be calculated county-wide for the unincorporated area, and will retain the existing four benefit districts.

Drainage Impact Fee. The drainage impact fee is assessed at the rate of 10 cents per square foot of impervious surface. The fee is paid at time of grading permit issuance for developer-installed streets and sidewalks, and at building permit for buildings, driveways, patios and other impervious areas. The updated fee is unchanged from the current rate, but is proposed to be assessed exclusively at building permit like the other impact fees.

County Facilities Impact Fee. While the current fee is called a "capital expansion" fee, all impact fees pay for capital expansion, and the updated fees are proposed to be renamed "County facilities" fees. The capital expansion fee was initially instituted primarily to pay for jail improvements. It is assessed at time of building permit issuance on all new development in the unincorporated area. The fee amounts are $575 per dwelling unit and $95 per 1,000 square feet of nonresidential building area. The updated fee will be based on the existing level of service for all existing County facilities, including the jail, courthouse, administration buildings (including sheriff), public works yards, communication center, etc. It will exclude ambulance facilities, which are supported by user fees. Since most of these facilities provide county-wide service, the level of service will be determined based on existing county-wide land use (including development within municipalities).

Legal Framework

Impact fees are a way for local governments to require new developments to pay a proportionate share of the infrastructure costs they impose on the community. In contrast to traditional "negotiated" developer exactions, impact fees are charges that are assessed on new development using a standard formula based on objective characteristics, such as the number and type of dwelling units constructed. The fees are one-time, up-front charges, with the payment usually made at the time of building permit issuance. Essentially, impact fees require that each new development project pay its pro-rata share of the cost of new capital facilities required to serve that development.

Since impact fees were originally pioneered in states that lacked specific enabling legislation, such fees have generally been legally defended as an exercise of local government's broad "police power" to regulate land development in order to protect the health, safety and welfare of the community. The courts have developed guidelines for constitutionally-valid impact fees, based on "rational nexus" standards. The standards essentially require that the fees must be proportional to the need for additional infrastructure created by the new development, and must be spent in such a way as to provide that same type of infrastructure to benefit new development.

With the governor's signature of Senate Bill 15 on November 6, 2001, Colorado became the 24th state to adopt impact fee enabling legislation. Among other things, this bill created a new section 104.5: Impact Fees, in Article 20 of Title 29, Colorado Revised Statutes, which specifically provides that:

> *Pursuant to the authority granted in section 29-20-104 (1) (g) and as a condition of issuance of a development permit, a local government may impose an impact fee or other similar development charge to fund expenditures by such local government on capital facilities needed to serve new development.*

One of the most fundamental principles of impact fees, rooted in both case law and norms of equity, is that impact fees should not charge new development for a higher level of service than is provided to existing development. While impact fees can be based on a higher level of service than the one existing at the time of the adoption or update of the fees, two things are required if this is done. First, another source of funding other than impact fees must be identified and committed to fund the capacity deficiency created by the higher level of service. Second, the impact fees must generally be reduced to ensure that new development does not pay twice for the same level of service, once through impact fees and again through general taxes that are used to remedy the capacity deficiency for existing development. In order to avoid these complications, the general practice is to base the impact fees on the existing level of service.

A corollary principle is that new development should not have to pay more than its proportionate share when multiple sources of payment are considered. As noted above, if impact fees are based on a higher-than-existing level of service, the fees should be reduced by a credit that accounts for the contribution of new development toward remedying the existing deficiencies. A similar situation arises when the existing level of service has not been fully paid for. Outstanding debt on existing facilities that are counted in the existing level of service will be retired, in part, by revenues generated

from new development. Given that new development will pay impact fees to provide the existing level of service for itself, the fact that new development may also be paying for the facilities that provide that level of service for existing development could amount to paying for more than its proportionate share. Consequently, impact fees should be reduced to account for future payments that will retire outstanding debt on existing facilities.

The issue is less clear-cut when it comes to other types of revenue that may be used to make capacity-expanding capital improvements of the same type being funded by impact fees. Arguably, no credit is warranted in most cases, since, while new development may contribute toward such funding, so does existing development, and both existing and new development benefit from the higher level of service that the additional funding makes possible. Impact fee studies, however, have traditionally given credit for the portion of dedicated revenues that are used for capacity-expanding improvements. This study will provide revenue credits for these types of dedicated revenues.

Credit has also sometimes been provided for outside grants for capacity improvements that can reasonably be anticipated in the future. In addition to the argument presented above (i.e., grants raise the level of service and benefit new development as well as existing development), two additional arguments can be made against applying credit for grants. First, new development in a community does not directly pay for State and Federal grants in the same way they pay local gasoline and property taxes. Second, future grant funding is far more uncertain than dedicated revenue streams. On the other hand, local governments have less discretion about whether to spend grant funding on capacity-expanding capital improvements. In this study, credit will be provided for future Federal and State grant funding based on recent grant funding history, even though State budget woes make it likely that future funding will be at a lower level than in the past.

ROADS

The purpose of this section of the report is to update Weld County's road impact fees. The county-wide road fee enacted in 2002 applies only to development in the unincorporated area. Fees are collected at time of building permit issuance. The fees were designed to fund improvements to seven major roadway corridors in the county, as identified in the County's 2002 *Strategic Roadway Plan*. As part of this project, the road impact fee will be expanded from just the strategic roads to all County arterials and collectors, giving the County additional flexibility to fund a wider range of roadway improvements. The updated fee excludes drainage costs, which are addressed with a separate County impact fee. The updated fee will continue to be calculated county-wide for the unincorporated area, and will retain the existing four benefit districts.

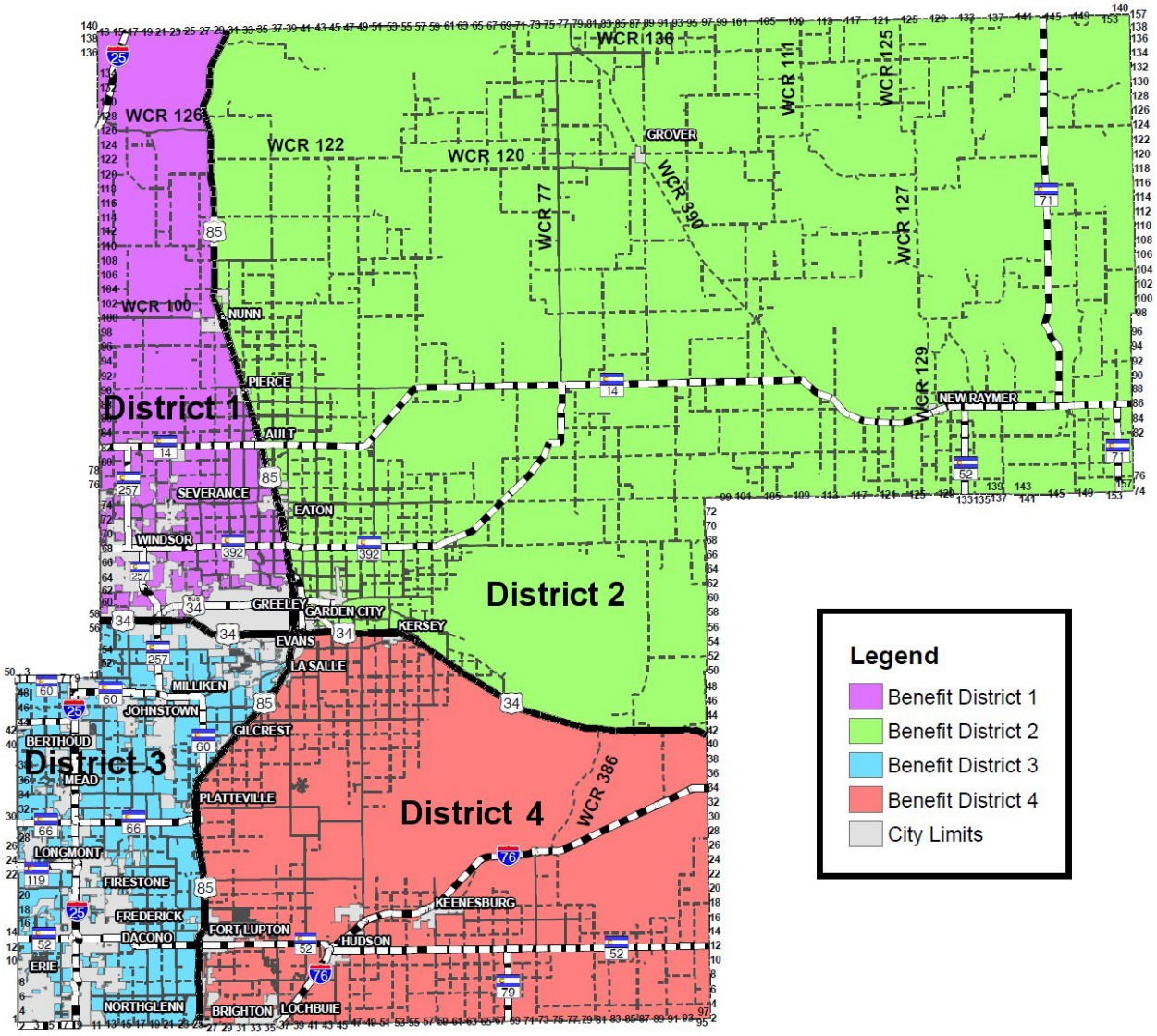
It may be thought that the expansion of the road fee to include a wider range of road improvements would in and of itself cause the fees to increase. However, this is not the case. The methodology for calculating the amount of the fees continues to rely on the average cost to add capacity – that is, the average cost per lane-mile or per vehicle-mile of capacity – not on the total cost of the list of planned road improvements. The average cost to add capacity in the previous study was based on planned strategic road improvements, while in this update it is based on larger list of improvements identified in the County's transportation planning process. While this is a significant change, it would have the effect of increasing the fees only if it is more costly to add a vehicle-mile of capacity to strategic roads than for the new list of planned improvements.

Service Areas

There are two kinds of geographic areas in impact fee systems: service areas and benefit districts. A service area, also sometimes called an assessment district, is an area that is served by a defined group of capital facilities and is subject to a uniform impact fee schedule. A benefit district is an area within which fees collected are earmarked to be spent.

The County's road impact fee service area is the entire unincorporated area of the county. The unincorporated area is divided into four road impact fee benefit districts. Fees collected in each district are earmarked to be spent within that same district. The road impact fee benefit districts are illustrated in Figure 3. While the updated fee will no longer be restricted to funding just the strategic roads, the four benefit districts will be retained.

Figure 3. Road Impact Fee Benefit Districts

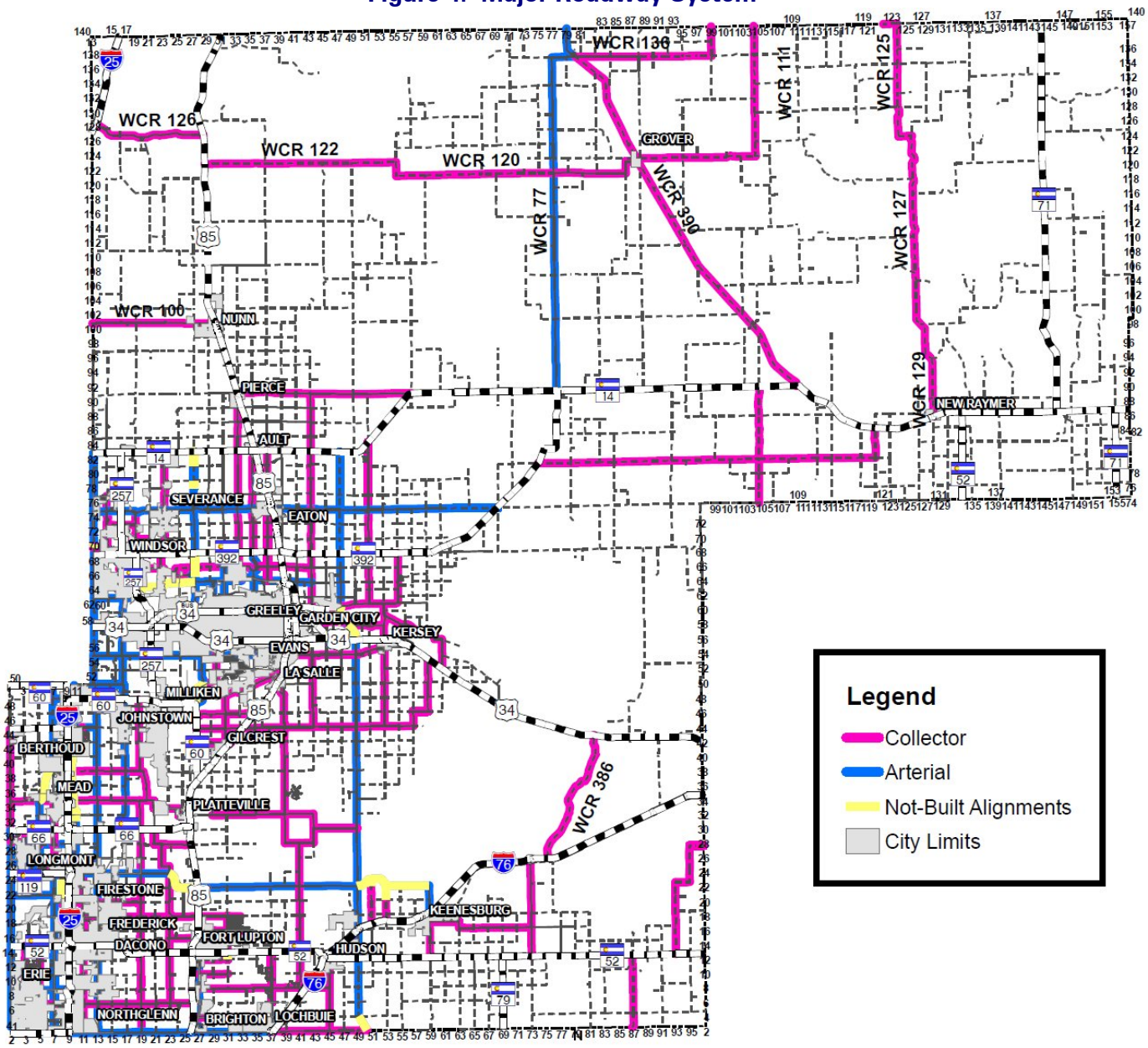


Major Roadway System

A road impact fee program should include a clear definition of the major roadway system that is to be funded with impact fees. Weld County's major roadway system consists of all County-maintained arterials and collectors within the unincorporated area. An inventory of the existing major roadway system was compiled from the County's functional classification map, which is illustrated in Figure 4. A detailed inventory of the County's existing arterial and collector roads is presented in Table 32 in the Appendix. The major purpose of the inventory is to ensure that the travel demand factors for individual land uses used in the fee schedule are calibrated to the actual system-wide travel observed on the major roadway system. A secondary purpose is to ensure that the level of service (LOS) implicit in the standard consumption-based road impact fee methodology does not exceed the actual LOS on the major roadway system. The implicit LOS in the standard consumption-based

methodology is a system-wide ratio of 1.0 between vehicle-miles of capacity (VMC) and vehicle-miles of travel (VMT) on the major roadway system.

Figure 4. Major Roadway System



Calibration of Travel Demand Factors

The travel demand factors used in the impact fee schedule can be calibrated to actual VMT on the major roadway system. The actual total VMT on the major roadway system in the unincorporated area that is generated by development in unincorporated Weld County is based on the average daily trips (ADT) from the County's most recent traffic counts, most of which were conducted in 2007 to 2009, for each roadway segment. The VMT for each road segment is derived by multiplying the ADT by the length of the segment in miles. Segment VMT is then summed to determine the actual total VMT on the major roadway system (see the Appendix).

The actual VMT must be estimated, because traffic counts are not available for all roadway segments. However, counts are available for segments accounting for 95% of paved road miles and 33% of unpaved road miles. Average volumes for segments without counts were estimated, using 75% of the average volume of segments with counts by road classification (arterial vs. collector) and pavement type (paved vs. unpaved). This yields a reasonable estimate of actual total VMT on the major County roads in the unincorporated area, as shown in Table 3.

Table 3. Actual Vehicle-Miles of Travel

	Arterials	Collectors	Total
VMT on Paved Roads with Counts	280,598	258,697	539,295
÷ Miles of Paved Roads with Counts	156.11	298.57	454.68
Average Volume on Paved Roads with Counts	1,797	866	
x Adjustment Factor	75%	75%	
Est. Volume on Paved Roads without Counts	1,348	650	
x Miles of Paved Roads without Counts	10.83	14.82	25.65
Est. VMT on Paved Roads without Counts	14,599	9,633	24,232
Est. Total VMT on Paved Roads	295,197	268,330	563,527
VMT on Unpaved Roads with Counts	1,891	7,218	9,109
Miles of Unpaved Roads with Counts	20.07	41.97	62.04
Average Volume on Unpaved Roads with Counts	94	172	
x Adjustment Factor	75%	75%	
Est. Volume on Unpaved Roads without Counts	71	129	
x Miles of Unpaved Roads without Counts	2.07	125.64	127.71
Est. VMT on Unpaved Roads without Counts	147	16,208	16,355
Est. Total VMT on Unpaved Roads	2,038	23,426	25,464
Estimated Total Actual VMT on County Roads	297,235	291,756	**588,991**

Source: Existing major roadway inventory, Table 32 in Appendix.

The actual VMT can be compared to the VMT one would expect to see based on existing land use and the travel demand factors used to generate the fee schedule. The expected VMT is calculated by multiplying the existing quantities of each land use by the VMT per unit based on the recommended travel demand factors by major land use category to determine the locally-generated VMT that is expected to be present on the major roadway system. Table 4 presents the expected VMT one would expect to see based on existing land use in the unincorporated area and national travel demand factors by land use.

Table 4. Expected Vehicle-Miles of Travel

Land Use Type	Unit	Existing Units	Trip Ends	1/2 Trip Rate	New Trips	Trip Length	Daily VMT
Single-Family Detached	Dwelling	14,119	9.57	4.79	100%	9.22	623,549
Multi-Family	Dwelling	282	6.65	3.33	100%	8.68	8,151
Mobile Home Park	Dwelling	3,167	4.99	2.50	100%	10.83	85,747
Hotel/Motel	Room	282	6.90	3.45	80%	9.25	7,199
Shopping Ctr/Commercial	1,000 sq. ft.	3,917	42.94	21.47	42%	6.79	239,831
Office	1,000 sq. ft.	705	11.01	5.51	75%	9.77	28,464
Institutional/Quasi-Public	1,000 sq. ft.	1,348	7.58	3.79	75%	7.36	28,201
Manufacturing/Industrial	1,000 sq. ft.	5,702	6.97	3.49	95%	11.99	226,671
Warehouse	1,000 sq. ft.	8,218	3.56	1.78	95%	11.99	166,621
Agricultural Commercial	1,000 sq. ft.	484	3.82	1.91	95%	7.12	6,253
Total Expected Vehicle-Miles of Travel on County Roads							**1,420,687**

Source: Existing units in unincorporated area from Weld County GIS Department, February 26, 2010; trip ends and new trips from travel demand schedule in Table 15; average trip lengths are national averages from 2001 *National Household Travel Survey* data (from travel day file, drivers of personal vehicles only, weighted).

The expected system-wide VMT based on existing county-wide land uses and the travel demand factors in the fee schedule is significantly higher than the total system-wide VMT actually observed on the County's major roadways, as shown in Table 5. This is not surprising, since the expected VMT is based on national data that include travel on all types of roadways, including local streets and state and federal highways, and in all jurisdictions, whereas the actual data is only for County-maintained arterials and collectors in the unincorporated area of Weld County. The local adjustment factor derived from the ratio of actual to expected VMT, shown in Table 5, will be used to reduce the VMT generation for each land use type in developing the updated road impact fee schedule.

Table 5. Local Adjustment Factor

Actual Daily VMT on County Roads	588,991
Expected Daily VMT on County Roads	1,420,687
Local VMT Adjustment Factor	**0.415**

Source: Actual VMT from Table 3; expected VMT from Table 4.

System-Wide Level of Service

The secondary purpose for compiling the existing major roadway inventory is to determine the current level of service for impact fee purposes. Oftentimes this is taken to be a segment-specific level of service, such as "all roadway segments shall operate at LOS C or better." The level of service for operational or planning purposes, however, is not necessarily appropriate as the level of service for impact fees. As with the prior impact fee update, this study utilizes the standard consumption-based methodology in developing the road impact fee. This methodology essentially charges new development, for every vehicle-mile of travel (VMT) generated, the cost to add a vehicle-mile of capacity (VMC). In other words, the cost per VMT equals the cost per VMC, which implies a one-to-one ratio of VMC to VMT (cost/VMT = cost/VMC times VMC/VMT, where VMC/VMT = 1). This is conservative, because most roadway systems have more than one VMC for every VMT on a system-wide basis. A fee based on this standard is not sufficient to fund the improvements that would be required to maintain a segment-specific LOS. A segment-specific level

of service standard is simply not appropriate for impact fees calculated using a consumption-based methodology.

With the consumption-based methodology there are no deficiencies as long as the system-wide ratio on which the fees are based is no higher than the actual existing VMC/VMT ratio. The consumption-based methodology also offers flexibility in that it is not tied to a specific list of planned improvements determined by a master plan to be needed to maintain segment-specific LOS in the face of anticipated growth. Thus, revenues from a consumption-based fee can be used on any capacity-expanding improvement.

The existing daily vehicle-miles of capacities for the County's arterial and collector road system is based on the current inventory of roads and the corresponding daily volumes based on the road's characteristics. The average daily capacity for unpaved roads are the same regardless of road classification (while some existing unpaved roads are improved over gravel roads, they are all classified as gravel for the purposes of this overall capacity estimate). The paved road capacities used in the analysis correspond to the maximum service volumes at LOS C. As shown in Table 6, the total existing capacity of the County's major road system is about 2.6 million VMC.

Table 6. Existing Daily Vehicle Miles of Capacity

Road Type	Capacity/ Lane	Existing Ln./Mi.	Daily VMC
Gravel	100	379.50	37,950
Full-Depth (Magnesium Chloride)	150	0.00	0
Recycled Asphalt Paving/Chip Seal	250	0.00	0
Collector (Paved) - No Shoulders	2,300	626.28	1,440,444
Collector (Paved) - 6' Shoulders	3,250	0.50	1,625
Arterial (Paved) - No Shoulders	3,600	315.88	1,137,168
Arterial (Paved) - 6' Shoulders	5,200	18.00	93,600
Total			**2,617,187**

Source: Capacity per lane for unpaved roads and paved roads with shoulders from Felsburg, Holt & Ullevig, September 14, 2010; capacity per lane for paved roads without shoulders is capacity with shoulders multiplied by 0.70, based on the Highway Capacity Manual, 3rd edition, 1994, Table 8-5; existing lane-miles based on analysis of road segments and paving from Table 32, Appendix and information from Weld County Public Works, September 20, 2010; daily VMC is product of capacity per lane and existing lane-miles.

There are no existing deficiencies on the existing major roadway system as a whole, as evidenced by a VMC/VMT ratio of over four-to-one calculated in Table 7.

Table 7. Existing Major Roadway System Level of Service

Existing Daily Vehicle Miles of Capacity (VMC)	2,617,187
Existing Daily Vehicle Miles of Travel (VMT)	588,991
Existing VMC/VMT Ratio	**4.444**

Source: Existing daily VMC from Table 6; daily VMT from Table 3.

Cost per Service Unit

The County's existing major roadway system consists entirely of two-lane roadways, many unpaved and most without shoulders. Expanding the capacity of this system will be accomplished with a mix of improvement types, including constructing new roads (including some segments with bridges), widening existing narrow two-lane roads by adding paved shoulders, and improving the surfacing of unpaved roads.

The County is in the process of preparing a transportation master plan. As part of this process, the County has prepared forecasts of future volumes on the major roadway system by 2035. Improvements that will be needed to accommodate those future volumes have been identified, and cost estimates have been prepared. Generalized cost estimates per mile are detailed in Appendix C. Some of the improvements will require the acquisition of additional right-of-way, and ROW costs have been included. Drainage costs other than bridges were excluded from the cost estimates to ensure that there is no overlap with a separate County drainage impact fee. The capacity-expanding road and bridge improvements that will be needed over the next 25 years are summarized in Table 8.

Table 8. Planned Road Improvements, 2010-2035

Road	From	To	Miles	Current Surface	Improvement	Bridge Cost	Total Cost
Coli Road	Longmont	Bldr N Coli	5.52	Paved	Widen lanes/shoulders		$7,216,070
WCR 2	WCR 49	WCR 51	1.00		New 4 lanes (4 lane bridge)	$2,500,000	$5,038,705
WCR 7	WCR 34	WCR 40	3.00		New 4 lanes		$7,616,115
WCR 7.5	WCR 20	WCR 24.5	2.25		New 4 lanes		$5,712,086
WCR 11	WCR 22	WCR 34	6.00		New 4 lanes		$15,232,230
WCR 22	SH 85	CR 49	11.01	Paved	Widen lanes/shoulders		$14,392,922
WCR 22	WCR 49	WCR 59	5.39		New 4 lanes		$13,683,620
WCR 24	WCR 21.5	WCR 25.5	4.00		New 4 lanes (4 lane bridge)	$3,000,000	$13,154,820
WCR 26	WCR 1	WCR 7	2.56	Gravel	Recycled Asphalt Paving		$2,867,005
83rd Ave	SH 34 BR	CR 64	1.52	Paved	Widen lanes/shoulders		$1,987,034
WCR 27	CR 64	SH 392	1.00		New 2 lanes (2-lane bridge)	$850,000	$2,157,259
WCR 27	WCR 76.5	WCR 78	1.00		New 2 lanes		$1,307,259
2 Rivers	SH 60	WCR 27	1.12		New 4 lanes (4-lane bridge)	$2,850,000	$5,693,350
2 Rivers	WCR 396	CR 52	1.16	Paved	Widen lanes/shoulders		$1,516,420
WCR 28	WCR 5	I-25	2.00	Gravel	Recycled Asphalt Paving		$2,239,848
WCR 31	Greeley	SH 392	1.00	Paved	Widen lanes/shoulders		$1,307,259
35th Ave	CR 62.25	RRX	0.05	Paved	Widen lanes/shoulders		$65,363
WCR 35	RRX	SH 392	2.50	Paved	Widen lanes/shoulders		$3,268,148
WCR 40	I-25	WCR 9.5	0.28		New 4 lanes		$710,837
WCR 49	WCR 4	WCR 16	5.18	Gravel	Recycled Asphalt Paving		$5,801,206
WCR 49	WCR 18	SH 34	19.00	Paved	Widen to 4 lanes		$48,235,395
WCR 49	CR 56	CR 58	1.00		New 2 lanes (4 lane bridge)	$4,700,000	$6,007,259
WCR 54	CR 13	CR 25	4.46	Paved	Widen lanes/shoulders		$5,830,375
O Street	SH 257	WCR 27	2.12		New 4 lanes (4-lane bridge)	$1,000,000	$6,382,055
WCR 74	Windsor	SH 392	15.51	Paved	Widen to 4 lanes (8.5 miles)		$21,578,993
Subtotal, Arterial Roads			99.63			$14,900,000	$199,001,633
WCR 3.5	Pavement	WCR 26	0.50	Full depth	Recycled Asphalt Paving		$559,962
WCR 21	WCR 28	SH 66	1.99	Paved	Widen lanes/shoulders		$2,601,445
WCR 23	SH 392	CL	0.73	Paved	Widen lanes/shoulders		$954,299
WCR 31	WCR 12	WCR 12.5	0.50		New 2 Lanes		$653,630
WCR 35	SH 392	Clault	5.97	Paved	Widen lanes/shoulders		$7,804,336
WCR 55	WCR 60.5	Hwy 37	0.20	Chip Seal	Widen shoulders/Intersection		$261,452
WCR 55	WCR 66	SH 392	0.99	Paved	Widen shoulders/Intersection		$1,294,186
WCR 60.5	CL	WCR 53	3.76	Paved	Widen shoulders/Intersection		$4,915,294
WCR 60.5	SH 37	WCR 57	1.00	Chip Seal	Widen shoulders/Intersection		$1,307,259
WCR 64.5	WCR 23.75	WCR 27	2.09	Paved	Widen lanes/shoulders		$2,732,171
WCR 64.75	WCR 23	WCR 23.75	0.75	Paved	Widen lanes/shoulders		$980,444
WCR 66	WCR 25	WCR 31	3.00	Full Depth	Recycled Asphalt Paving		$600,000
WCR 378	Evans CL	WCR 396	0.66	Gravel	Recycled Asphalt Paving		$739,150
WCR 390	SH 14	WCR 136	28.19	Gravel	Recycled Asphalt Paving		$31,570,658
Subtotal, Collector Roads			50.33			$0	$56,974,286
Total			**149.96**			**$14,900,000**	**$255,975,919**

Source: Weld County Public Works Department, July 23, 2010; total costs include bridge costs and construction/ROW costs using generalized cost per mile from Appendix C.

The average cost per unit of capacity added by the planned improvements will be based on the cost of improvements to road segments. While intersection improvements are eligible for impact fee funding, costs must be able to be expressed in terms of the cost per vehicle-mile of capacity, and it is

difficult to quantify the capacity added by intersection improvements in terms of vehicle-miles. The costs and capacities added by planned segment improvements are summarized in Table 9.

Table 9. Planned Improvements Cost and Capacity Added

Road	From	To	Total Cost	Miles	Capacity Before	Capacity After	New VMC
Coli Road	CL Lmont	Bldr N Coli	$7,216,070	5.52	7,200	10,400	17,664
WCR 2	WCR 49	WCR 51	$5,038,705	1.00	0	20,800	20,800
WCR 7	WCR 34	WCR 40	$7,616,115	3.00	0	20,800	62,400
WCR 7.5	WCR 20	WCR 24.5	$5,712,086	2.25	0	20,800	46,800
WCR 11	WCR 22	WCR 34	$15,232,230	6.00	0	20,800	124,800
WCR 22	SH 85	CR 49	$14,392,922	11.01	7,200	10,400	35,232
WCR 22	WCR 49	WCR 59	$13,683,620	5.39	0	20,800	112,112
WCR 24	WCR 21.5	WCR 25.5	$13,154,820	4.00	0	20,800	83,200
WCR 26	WCR 1	WCR 7	$2,867,005	2.56	200	500	768
83rd Ave	SH 34 BR	CR 64	$1,987,034	1.52	7,200	10,400	4,864
WCR 27	CR 64	SH 392	$2,157,259	1.00	0	10,400	10,400
WCR 27	WCR 76.5	WCR 78	$1,307,259	1.00	0	10,400	10,400
Two Rivers	SH 60	WCR 27	$5,693,350	1.12	0	20,800	23,296
Two Rivers	WCR 396	CR 52	$1,516,420	1.16	7,200	10,400	3,712
WCR 28	WCR 5	I-25	$2,239,848	2.00	200	500	600
WCR 31	CL Greeley	SH 392	$1,307,259	1.00	7,200	10,400	3,200
35th Ave	CR 62.25	RRX	$65,363	0.05	7,200	10,400	160
WCR 35	RRX	SH 392	$3,268,148	2.50	7,200	10,400	8,000
WCR 40	I-25	WCR 9.5	$710,837	0.28	0	20,800	5,824
WCR 49	WCR 4	WCR 16	$5,801,206	5.18	200	500	1,554
WCR 49	WCR 18	SH 34	$48,235,395	19.00	7,200	20,800	258,400
WCR 49	CR 56	CR 58	$6,007,259	1.00	0	10,400	10,400
WCR 54	CR 13	CR 25	$5,830,375	4.46	7,200	10,400	14,272
O Street	SH 257	WCR 27	$6,382,055	2.12	0	20,800	44,096
WCR 74	Windsor CL	SH 392	$21,578,993	8.50	7,200	20,800	115,600
Subtotal, Arterial Roads			$199,001,633	92.62			1,018,554
WCR 3.5	Pavement	WCR 26	$559,962	0.50	300	500	100
WCR 21	WCR 28	SH 66	$2,601,445	1.99	4,600	6,500	3,781
WCR 23	SH 392	CL	$954,299	0.73	4,600	6,500	1,387
WCR 31	WCR 12	WCR 12.5	$653,630	0.50	0	6,500	3,250
WCR 35	SH 392	Clault	$7,804,336	5.97	4,600	6,500	11,343
WCR 55	WCR 60.5	Hwy 37	$261,452	0.20	500	6,500	1,200
WCR 55	WCR 66	SH 392	$1,294,186	0.99	4,600	6,500	1,881
WCR 60.5	CL	WCR 53	$4,915,294	3.76	4,600	6,500	7,144
WCR 60.5	SH 37	WCR 57	$1,307,259	1.00	500	6,500	6,000
WCR 64.5	WCR 23.75	WCR 27	$2,732,171	2.09	4,600	6,500	3,971
WCR 64.75	WCR 23	WCR 23.75	$980,444	0.75	4,600	6,500	1,425
WCR 66	WCR 25	WCR 31	$600,000	3.00	300	500	600
WCR 378	Evans CL	WCR 396	$739,150	0.66	200	500	198
WCR 390	SH 14	WCR 136	$31,570,658	28.19	200	500	8,457
Subtotal, Collector Roads			$56,974,286	50.33			50,737
Total			**$255,975,919**	**142.95**			**1,069,291**

Source: Improvements and costs from Table 8; capacities from Table 6; new VMC is new capacity (difference between before and after capacities) times segment miles.

The cost per vehicle-mile of capacity (VMC) can be determined by dividing the total cost of planned segment improvements by the VMC added by the improvements. As shown in Table 10, the planned improvements costs yield a weighted average cost of $239 per vehicle-mile of capacity.

Table 10. Average Cost per Vehicle-Mile of Capacity

Total Cost of Planned Segment Improvements, 2010-2035	$255,975,919
Daily Vehicle-Miles of Capacity Added	1,069,291
Average Cost per Vehicle-Mile of Capacity	**$239**

Source: Table 9.

Revenue Credits

This section of the report calculates the revenue credit in order to account for revenue generated by new development that will be used to pay for capacity-related capital improvements through State and Federal motor fuel tax and other State highway grants. The County has no road-related debt; as a result, an additional credit to account for outstanding debt is not required in this update.

To develop the revenue credit, the consultant reviewed Weld County historical funding and expenditure data for roadway projects. As shown in Table 11, the County has received $36.5 million in State and Federal funding over the last four calendar years. Not all of the money received over the past four years has been spent, indicating that the County has built up its reserves. While it is uncertain how future revenue will be spent, expenditures over the past four years provide a reasonable guide. Over the last four years, capacity improvements for construction and right-of-way have accounted for 24% of County road-related expenditures.

Table 11. Roadway Revenues and Expenditures, 2006-2009

	2006	2007	2008	2009	4-Year Total	Share
Local	$17,465,546	$17,663,998	$18,354,047	$16,805,595	$70,289,186	56.6%
State	$10,432,855	$13,820,505	$10,989,739	$17,139,113	**$35,243,099**	28.4%
Federal	$379,774	$253,454	$426,519	$150,977	**$1,210,724**	1.0%
Total Revenue	$28,278,175	$31,737,957	$29,770,305	$34,095,685	$123,882,122	100.0%
Capacity (Construction)	$7,462,756	$3,475,180	$13,182,783	$745,702	$24,866,421	**21.4%**
Capacity (ROW)	$95,978	$2,122,985	$457,808	$353,003	$3,029,774	**2.6%**
Capital Maintenance	$0	$704,949	$2,834,990	$2,439,244	$5,979,183	5.1%
Maintenance	$12,597,258	$18,593,402	$14,842,036	$19,053,267	$65,085,963	55.9%
Operations	$4,497,735	$4,694,339	$3,628,874	$4,586,376	$17,407,324	15.0%
Total Expenditures	$24,653,727	$29,590,855	$34,946,491	$27,177,592	$116,368,665	100.0%

Source: 2006-2009 Local Highway Finance Reports, Weld County Comprehensive Annual Financial Reports, 2006-2009.

Using the last four years as a guide, the County can expect to receive approximately $9 million annually in State and Federal funding for road purposes. About 24% of that will be spent on construction for capacity-expanding improvements. As shown in Table 12, new development can thus be expected to generate approximately $56 in capacity-expanding road funding for every daily vehicle-mile of travel over the next 25 years.

Table 12. Road Revenue Credit per Service Unit

State and Federal Revenue, 2006-2009	$36,453,823
÷ Years	4
Annual Average State and Federal Revenue	$9,113,456
Share of Total Road Expenditures for Capacity	24.0%
Annual Average State and Federal Funding for Capacity	$2,184,701
÷ Total Actual VMT on County Roads	588,991
Annual Outside Capacity Funding per Daily VMT	$3.71
x Net Present Value Factor (25 years at 4.32% discount rate)	15.11
State and Federal Funding Credit per VMT	**$56**

Source: 2006-2009 State and Federal funding and share of County road expenditures for capacity from Table 11; VMT from Table 3; net present value factor discount rate based on three-month average interest rate on state and local bonds (May through July 2010) from the Federal Reserve at http://www.federalreserve.gov/ releases/h15/data/monthly.

The road cost per service unit (VMT) is the same as the cost per VMC, based on the assumed 1.00 ratio of capacity to demand implicit in the consumption-based methodology. As shown in Table 13, reducing the road cost per service unit by the State and Federal revenue credit leaves a net cost of $183 per VMT.

Table 13. Road Net Cost per Service Unit

Road Cost per VMT	$239
x Assumed VMC/VMT Ratio	1.00
Road Cost per VMC	$239
– State and Federal Funding Credit per VMT	-$56
Net Cost per VMT	**$183**

Source: Road cost per VMT from Table 10; credit per VMT from Table 12.

Travel Demand Schedule

This section reviews the travel demand characteristics utilized in the current and updated impact fee formula and compares the updated travel demand schedule to the existing schedule. 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. In addition, this section discusses the rationale for simplifying the current travel demand schedule and related impact fee schedule.

Land Use Simplification

A major change proposed in this study is to simplify and standardize land use categories for the County's impact fees. The County's current road impact fee schedule has 34 categories. This update recommends consolidating them down to 11 categories. There are several advantages to having a smaller number of broader, more generalized categories: (1) it will make it easier to classify land uses; (2) it will avoid the controversies that can arise over very high impact fees for certain high-trip-generation land uses that are a very small part of new development; (3) it avoids the problems that arise when such uses locate in shopping centers, where they should qualify for the much lower general retail rate, compared to the much higher rates they would be charged if they were a stand-

alone use; and (4) there will be fewer issues with change of use. The following table shows the proposed 11 land use categories and compares them with the existing 34 land use categories.

Table 14. Current and Proposed Land Use Categories

Current Land Use Categories	Proposed Land Use Categories
Single-Family Detached	Single-Family Detached
Multi-Family	Multi-Family
Mobile Home Park	Mobile Home Park
Hotel/Motel	Hotel/Motel
Commercial Shop Ctr/Gen Retail (0-99,999 sf) Shop Ctr/Gen Retail (100,000-249,999 sf) Shop Ctr/Gen Retail (250,000-499,999 sf) Shop Ctr/Gen Retail (500,000 sf+) Auto Sales Auto Service/Repair/Tire Store Bank Convenience Store Discount Store Furniture Store Movie Theater Restaurant, Fast Food Restaurant, Sit-Down	Shopping Center/Commercial
Office, General (0-99,999 sf) Office, General (100,000 sf+) Office, Medical (Vet Clinics)	Office
Hospital Nursing Home Church Day Care Center School (Event Center - weddings, etc.) (Recycling Center) (Indoor/Outdoor Arena)	Institutional/Quasi-Public
Industrial Light Manufacturing Heavy Manufacturing	Manufacturing/Industrial
Warehouse Dog Kennel	Warehouse
Mini-Warehouse	Mini-Warehouse
Agricultural Commercial Dairy Barn	Agricultural Commercial

Trip Generation

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. In order avoid double-counting trips, the number of trip ends are divided by two. The trip generation rates utilized in the previous report were from the Institute of Transportation Engineers' (ITE), *Trip Generation* manual, 6th edition, published in 1997. The updated trip rates area are based on the 8th edition of the ITE manual, published in 2008.

Percent New Trips

The trip rates are also adjusted by a "new trip factor" to exclude pass-by and diverted-link trips. This adjustment reduces the possibility of over-counting trips by including only 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 particular development on that route. For example, a stop at a retail store on the way home from the office is a pass-by trip for the retail 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 impact fees. 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 new trip data utilized in the updated fee schedule are based on data ITE, *Trip Generation Handbook*, 2nd edition, June 2004 or data used in the 2002 Weld County road impact fee study.

Trip Length

Trip length represents the average length of a trip on the local major roadway system. The updated trip lengths are based on national data from the 2001 *National Household Travel Survey*, calibrated so that total VMT based on existing land uses and the travel demand factors accurately predicts the actual VMT on the major road system in Weld County.

Travel Demand Summary

The result of combining trip generation rates, primary trip factors and average trip lengths is a travel demand schedule that establishes the VMT during the average weekday generated by various land use types per unit of development for Weld County. Since all trips involve two trip ends, all trip rates are divided by two when calculating the daily VMT. This places the burden of travel equally between the origin and destination of the trip and eliminates double-charging for any particular trip. The local adjustment factor calibrates the travel demand to the actual conditions based on the ratio of actual to expected VMT. The recommended travel demand schedule is shown in Table 15.

Table 15. Travel Demand Schedule

Land Use Type	Unit	Trip Ends	1/2 Trip Rate	New Trips	Trip Length	Local Adj. Factor	Daily VMT
Single-Family Detached	Dwelling	9.57	4.79	100%	9.22	0.415	18.33
Multi-Family	Dwelling	6.65	3.33	100%	8.68	0.415	12.00
Mobile Home Park	Space	4.99	2.50	100%	10.83	0.415	11.24
Hotel/Motel	Room	6.90	3.45	80%	9.25	0.415	10.59
Shopping Ctr/Commercial	1,000 sq. ft.	42.94	21.47	42%	6.79	0.415	25.41
Office	1,000 sq. ft.	11.01	5.51	75%	9.77	0.415	16.76
Institutional/Quasi-Public	1,000 sq. ft.	7.58	3.79	75%	7.36	0.415	8.68
Manufacturing/Industrial	1,000 sq. ft.	6.97	3.49	95%	11.99	0.415	16.50
Warehouse	1,000 sq. ft.	3.56	1.78	95%	11.99	0.415	8.41
Mini-Warehouse	1,000 sq. ft.	2.50	1.25	95%	7.12	0.415	3.51
Agricultural Commercial	1,000 sq. ft.	3.82	1.91	95%	7.12	0.415	5.36

Source: Trip ends from ITE, *Trip Generation*, 8th edition, 2008; new trip factor for shopping center from ITE, *Trip Generation Handbook*, 2nd edition, 2004; other new trip factors assumed consistent with previous 2002 study; trip lengths are national data from Table 4; local adjustment factor from Table 5; daily VMT is the product of one-half trip ends, percent new trips, average trip length and local adjustment factor.

Potential Impact Fee Schedule

The impact fee calculations for each of the recommended land use categories are included in Table 20. The impact fee calculation is the product of the daily VMT per unit on the major roadway system for each land use and the net cost per VMT calculated earlier in this report.

Table 16. Potential Road Impact Fee Schedule

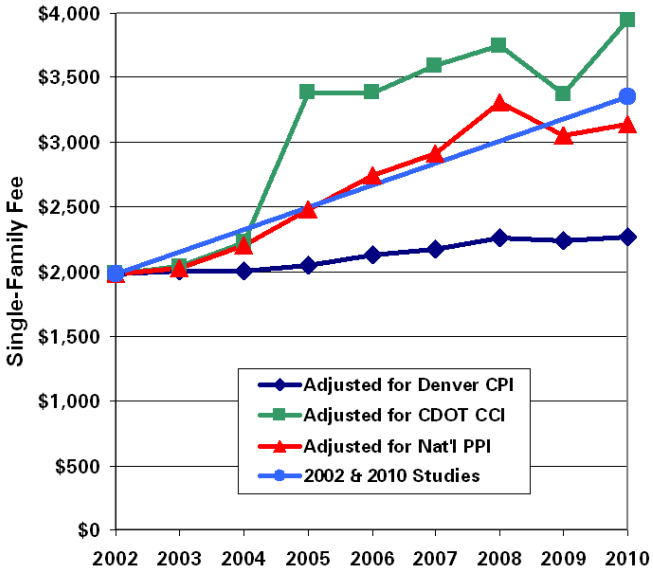
Land Use Type	Unit	VMT/ Unit	Net Cost/ VMT	Potential Fee
Single-Family Detached	Dwelling	18.33	$183	$3,354
Multi-Family	Dwelling	12.00	$183	$2,196
Mobile Home Park	Space	11.24	$183	$2,057
Hotel/Motel	Room	10.59	$183	$1,938
Shopping Ctr/Commercial	1,000 sq. ft.	25.41	$183	$4,650
Office	1,000 sq. ft.	16.76	$183	$3,067
Institutional/Quasi-Public	1,000 sq. ft.	8.68	$183	$1,588
Manufacturing/Industrial	1,000 sq. ft.	16.50	$183	$3,020
Warehouse	1,000 sq. ft.	8.41	$183	$1,539
Mini-Warehouse	1,000 sq. ft.	3.51	$183	$642
Agricultural Commercial	1,000 sq. ft.	5.36	$183	$981

Source: VMT per unit from Table 15; net cost per VMT from Table 13.

Comparative Impact Fees

The updated road impact fees are compared with the current fees in Table 17. The updated fees are higher than the adopted fees for most land uses, but are lower for some specific uses that are proposed to be included in broader, more generalized land use categories.

Figure 5. Inflation-Adjusted Road Fee



The increases reflect the increased road construction cost since 2002 when the current fees were calculated. As illustrated in Figure 5, Colorado and national indices of road construction costs increased much more rapidly than the consumer price index over the last eight years. The national Producer Price Index (PPI) for highway and street construction prepared by the US Bureau of Labor Statistics increased by 58.3% and the Colorado Construction Cost Index (CCI) prepared by the Colorado Department of Transportation based on bid prices increased by 98.7%, while the Denver Consumer Price Index (CPI) increased by only 14.2%.[2] In this context, the 68.8% increase in the

[2] 2010 index based on first half for CPI, first quarter for CCI and February for PPI.

road impact fee for a single-family unit is in line with the general increase in road construction costs during this period.

Table 17. Comparative Road Impact Fees

Land Use Type	Unit	Current Fee	Potential Fee	Change
Single-Family Detached	Dwelling	$1,987	$3,354	$1,367
Multi-Family	Dwelling	$1,377	$2,196	$819
Mobile Home Park	Space	$996	$2,057	$1,061
Hotel/Motel	Room	$1,497	$1,938	$441
Retail/Commercial				
Shop Ctr/Gen Retail (0-99,999 sf)	1,000 sq. ft.	$3,182	$4,650	$1,468
Shop Ctr/Gen Retail (100,000-249,999 sf)	1,000 sq. ft.	$3,059	$4,650	$1,591
Shop Ctr/Gen Retail (250,000-499,999 sf)	1,000 sq. ft.	$2,934	$4,650	$1,716
Shop Ctr/Gen Retail (500,000 sf+)	1,000 sq. ft.	$2,686	$4,650	$1,964
Auto Sales	1,000 sq. ft.	$2,130	$4,650	$2,520
Auto Service/Repair/Tire Store	1,000 sq. ft.	$1,470	$4,650	$3,180
Bank	1,000 sq. ft.	$8,298	$4,650	-$3,648
Convenience Store	1,000 sq. ft.	$7,203	$4,650	-$2,553
Discount Store	1,000 sq. ft.	$2,722	$4,650	$1,928
Furniture Store	1,000 sq. ft.	$528	$4,650	$4,122
Movie Theater	1,000 sq. ft.	$4,524	$4,650	$126
Restaurant, Fast Food	1,000 sq. ft.	$8,172	$4,650	-$3,522
Restaurant, Sit-Down	1,000 sq. ft.	$3,963	$4,650	$687
Office/Institutional				
Office, General (0-99,999 sf)	1,000 sq. ft.	$2,430	$3,067	$637
Office, General (100,000 sf +)	1,000 sq. ft.	$2,068	$3,067	$999
Office, Medical	1,000 sq. ft.	$5,125	$3,067	-$2,058
Hospital	1,000 sq. ft.	$2,380	$1,588	-$792
Nursing Home	1,000 sq. ft.	$666	$1,588	$922
Church	1,000 sq. ft.	$1,126	$1,588	$462
Day Care Center	1,000 sq. ft.	$3,133	$1,588	-$1,545
School	1,000 sq. ft.	$490	$1,588	$1,098
Industrial				
Industrial Park	1,000 sq. ft.	$1,618	$3,020	$1,402
Warehouse	1,000 sq. ft.	$1,149	$1,539	$390
Mini-Warehouse	1,000 sq. ft.	$333	$642	$309
Agricultural Commercial	1,000 sq. ft.	$509	$981	$472

Source: Updated fees from Table 16; adopted fees from Weld County Code, Sec. 20-1-220.

DRAINAGE

Weld County currently assesses a drainage impact fee on new development to help pay the cost of additional facilities and improvements needed to accommodate the increased stormwater runoff generated by additional impervious cover. The purpose of this section is to update that fee and evaluate the best way to assess it.

Background

Section 5-8-10 of the Weld County Code establishes a drainage impact fee of $0.10 per square foot of impervious cover. Pursuant to the County Code, the fee is paid by developers at the time of subdivision for the construction of roads and sidewalks, and by builders at the time of building permit for the buildings, driveways and other impervious cover created by construction on an individual lot.

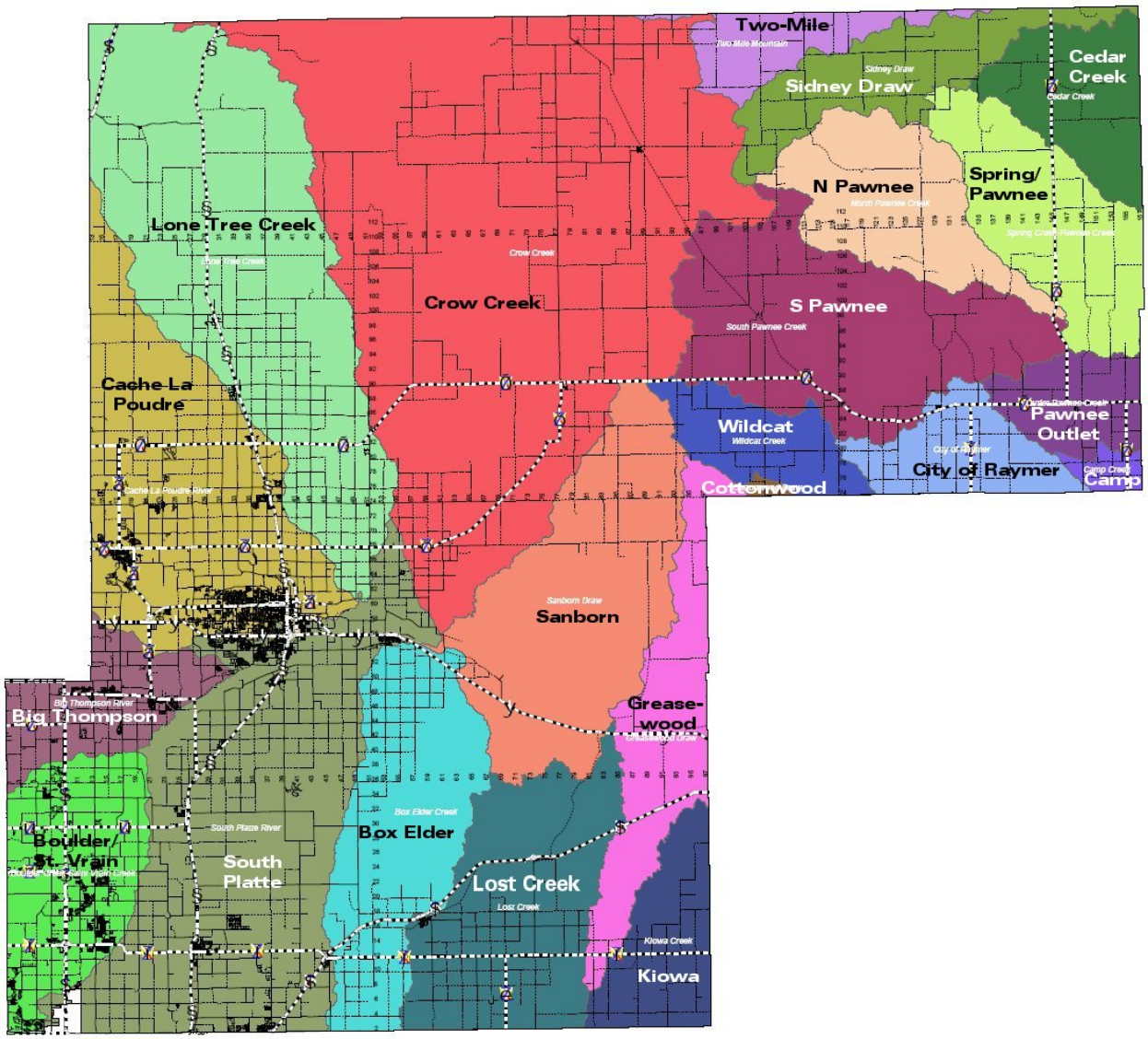
As part of this update, it is recommended that the drainage impact fee be restructured to function in a manner similar to the County's other impact fees. Instead of being assessed partially at subdivision development and partially at building permit, the updated fees are proposed to be assessed exclusively at building permit to be consistent with the other impact fees. The fees will continue to be based on impervious square footage.

Service Areas

In an impact fee system, it is important to clearly define the geographic areas within which impact fees will be collected and within which the fees collected will be spent. There are really two types of geographic areas that serve different functions in an impact fee system: assessment districts and benefit districts. Assessment districts, which may also be called service areas, define the area within which a set of common capital facilities provides service, and for which a fee schedule based on average costs within that district is calculated. Benefit districts, on the other hand, represent an area within which the fees collected must be spent. They ensure that improvements funded with impact fees are constructed within reasonable proximity of the feepaying developments as a means of helping to ensure that feepaying developments benefit from the improvements.

Stormwater drainage systems are naturally organized by topography into watersheds. Weld County Public Works has delineated 22 major watersheds existing in the county, as illustrated in Figure 6. Some watersheds are partially in neighboring jurisdictions. Each watershed is named after its major stream or river.

Figure 6. Watershed Map



County-wide Assessment District

While it would be reasonable to determine drainage impact fees separately for each watershed, there are several reasons in favor of continuing to have a county-wide fee system for the entire unincorporated area. First, the County does not have a drainage master plan for all of the watersheds. Second, it is likely that the cost to accommodate an acre of impervious cover will be similar from one watershed to another. Finally, revenue credits must be calculated on a county-wide basis, since the County does not have the ability to raise revenue from individual watersheds.

Multiple Benefit Districts

The county could be divided up into multiple benefit districts, so that money collected in one part of the county is spent on projects in the same general area. However, the county should not be divided

into too many benefit districts, since this would make it difficult to amass sufficient fees in any district to fund projects. Currently, the entire unincorporated area comprises a single benefit district. An alternative would be to designate the watersheds or some combination of watersheds as drainage impact fee benefit districts.

Service Units

In order to develop a drainage impact fee, the demand for drainage facilities generated by new development of different intensities must be expressed in terms of a common "service unit." A service unit represents the unit of demand for the facility. An appropriate service unit for drainage impact fees is square feet of impervious cover. Impervious cover consists of roofs, pavement, and other surfaces that turn most of the rain that falls on them into stormwater runoff. The stormwater run-off from additional impervious cover creates the need for County investments in drainage infrastructure.

The amount of existing impervious cover was estimated based on data for the square footage of buildings and structures from the Weld County Assessor's Office records, as well as "imperviousness factors" to take into account additional impervious cover. Four land use types were utilized: agricultural, residential, commercial and industrial. For each land use, an imperviousness factor was utilized to account for impervious cover not related to buildings. For agricultural structures and buildings, the factor is 1. For residential structures and buildings, the factor is 2, so the amount of a residential structure's square footage was multiplied by 2 to provide an approximation of the associated imperviousness of related development including such items as patios, driveways, local streets and sidewalks. For commercial and industrial, the imperviousness factors are 4 and 6, respectively, to account for such items as outdoor storage areas, driveways, paved parking, local streets and sidewalks. The result of this analysis is an estimate of 190 million square feet of existing impervious cover in unincorporated Weld County, as shown in Table 18.

Table 18. Existing Impervious Cover, Unincorporated Weld County

	Existing Building Square Footage				
Watershed Name	Agriculture	Residential	Commercial	Industrial	Total
Big Thomspon River	1,840,316	2,171,241	186,595	59,687	4,257,839
Boulder/St. Vrain Crk	4,364,021	7,136,397	5,202,338	1,290,383	17,993,139
Box Elder Creek	3,088,349	1,725,535	712,072	102,424	5,628,380
Cache La Poudre River	4,648,165	6,296,426	1,958,639	3,525,715	16,428,945
Camp Creek	27,580	17,549	0	0	45,129
Cedar Creek	37,222	21,531	0	0	58,753
City of Raymer	95,624	43,081	0	0	138,705
Cottonwood Creek	0	3,991	0	0	3,991
Crow Creek	2,078,376	1,331,779	69,190	0	3,479,345
Greasewood Creek	179,049	158,116	6,732	0	343,897
Kiowa Creek	333,571	132,650	15,960	0	482,181
Lone Tree Creek	3,178,054	2,807,251	395,999	3,999	6,385,303
Lost Creek	1,141,119	1,037,639	394,064	2,600	2,575,422
North Pawnee Creek	82,732	31,383	0	0	114,115
Pawnee Crk at Outlet	75,447	62,899	16,090	0	154,436
Sanborn Creek	1,123,184	273,458	11,366	0	1,408,008
Sidney Draw	104,228	42,995	1	0	147,224
South Pawnee Creek	109,704	66,495	1,800	0	177,999
South Platte River	12,418,140	10,998,922	4,721,543	256,958	28,395,563
Spring/Pawnee Creek	81,838	44,197	0	0	126,035
Two Mile Creek	44,628	14,303	0	0	58,931
Wildcat Creek	57,921	34,245	0	0	92,166
Total, Unincorporate Area	35,109,268	34,452,083	13,692,389	5,241,766	88,495,506
x Imperviousness Factor	1	2	4	6	
Impervious Cover (sq. ft.)	35,109,268	68,904,166	54,769,556	31,450,596	**190,233,586**

Source: Existing building sq. ft. in unincorporated area and impervious cover factors from Weld County Public Works, February 26, 2010.

Existing Level of Service

A fundamental principle of impact fees is that new development should not be charged for a higher level of service than is provided to existing development. This section calculates the existing level of service, expressed in terms of the existing investment in infrastructure per service unit. All three major components of the County's drainage system – roadside ditches, culverts and bridges – are also part of the roadway system. Roadside ditches are primarily needed to receive the stormwater draining from the roadway itself, while culverts and bridges are needed at the intersection of the roadway with natural drainage channels receiving runoff from other areas. To a greater extent than roadside ditches, culverts and bridges could be considered equally drainage and road structures, since they are required only where roadways meet natural drainage channels. However, because of their greater size and cost, bridges are generally sized to accommodate ultimate long term drainage conditions when they are initially built to allow for the extension of a roadway, while culverts more often need to be enlarged over time as development occurs and stormwater flows increase. Consequently, the costs related to bridges and ditches are more related to roads and road extensions and are included in the road impact fee. The drainage impact fee is based on the cost of culverts.

The County does not have an inventory of all its existing culverts. However, the County does have a partially completed inventory of installed culvert pipes. To assist with this project, the Weld County Public Works Department chose a "typical" area of 48 square miles that could be characterized as generally rural, consisting of farmland, scattered single family residences, a mix of paved and unpaved roads, and including no towns or state highways. For this representative area, there were 1.625 culverts per square mile, and 1.14 culverts per mile of County road.

The County also has information on the amount spent for culvert installation and the number of culverts installed for a recent two-year period (2006 and 2007). This information was used to determine the average cost to install a culvert. This historic average cost was inflated to a current (March 2010) cost of $4,610 per culvert based on the *Engineering-News Record* Construction Cost Index.[3] For each watershed, the replacement cost of existing culverts was estimated using both the ratio of culverts per square mile and the ratio of culverts per County road mile, and the lower estimate was used.

The result of this analysis is a conservative estimate of the County current investment in drainage infrastructure. As summarized in Table 19, the current replacement value of the County's existing drainage infrastructure is about $18.4 million using the lower road-mile basis for valuing existing facilities.

Table 19. Existing Drainage Facility Replacement Value

			Est. Culvert Value Based On	
Watershed Name	Sq. Mi.	Road Mi.	Sq. Miles	Road Miles
Big Thompson River	62.34	126.63	$467,005	$665,491
Boulder/St. Vrain Crk	87.91	174.22	$658,556	$915,596
Box Elder Creek	186.47	186.03	$1,396,893	$977,662
Cache La Poudre River	220.88	348.85	$1,654,667	$1,833,346
Camp Creek	12.36	21.13	$92,592	$111,047
Cedar Creek	91.42	30.45	$684,850	$160,027
City of Raymer	72.44	90.76	$542,666	$476,980
Cottonwood Creek	3.19	5.02	$23,897	$26,382
Crow Creek	843.88	567.35	$6,321,716	$2,981,651
Greasewood Creek	125.49	55.79	$940,077	$293,199
Kiowa Creek	82.17	68.34	$615,556	$359,154
Lone Tree Creek	416.62	393.91	$3,121,005	$2,070,155
Lost Creek	192.06	153.37	$1,438,769	$806,021
North Pawnee Creek	129.90	66.76	$973,113	$350,851
Pawnee Crk at Outlet	58.61	55.92	$439,062	$293,882
Sanborn Creek	251.29	106.03	$1,882,476	$557,230
Sidney Draw	105.39	94.43	$789,503	$496,267
South Pawnee Creek	252.19	156.84	$1,889,218	$824,257
South Platte River	361.91	603.63	$2,711,158	$3,172,317
Spring/Pawnee Creek	139.69	78.24	$1,046,453	$411,182
Two Mile Creek	54.63	50.22	$409,247	$263,926
Wildcat Creek	66.11	63.79	$495,247	$335,242
Total	3,816.95	3,497.71	$28,593,726	**$18,381,865**

Source: Weld County Public Works Department, March 18, 2010; culvert values based on 1.625 culverts per square mile and 1.14 culverts per road mile and average cost per culvert of $4,610.

[3] Ratio of March 2010 index (8671) to average of 2006 and 2007 annual indices (7751 and 7966) is 1.104.

The existing drainage level of service is computed as the ratio of unincorporated area replacement costs to unincorporated area impervious cover, as shown in Table 20.

Table 20. Drainage Cost per Service Unit

Total Drainage Costs	$18,381,865
÷ Existing Impervious Cover (sq. ft.)	190,233,586
Cost per Square Foot of Impervious Cover	**$0.10**

Source: Costs from Table 19; existing impervious cover from Table 18.

Potential Impact Fee

In order to ensure that new development is not double-charged, the cost per service unit should be reduced by a revenue credit to take into account the present value of future taxes or fees that will be generated by new development and used to retire debt on existing facilities serving existing development. However, the County does not have any outstanding debt on existing roadways or associated drainage facilities. Some State and Federal funding is received by the County for road improvements, and some of these improvements may include culvert components. However, the portion of road funding allocable to culvert construction is unknown, and the full credit for State and Federal funding was fully attributed to the road impact fee calculated in this update. As a result, the updated drainage impact fee is $0.10 per square foot of impervious cover calculated in the Table 20. The updated cost per service unit is the same as the existing drainage impact fee.

COUNTY FACILITIES

Weld County currently assesses a "capital expansion" fee on new development in the unincorporated area. This fee was initially instituted primarily to pay for jail improvements.

Since all impact fees are for capital expansion, it is proposed that the name of the fee be changed to "County facilities." The updated fee will be based on the existing level of service for all existing County facilities, including the jail, courthouse, administration buildings (including sheriff), public works yards, communication center, etc. It will exclude ambulance facilities, which are supported by user fees. Since most of these facilities provide county-wide service, the level of service will be determined based on existing county-wide land use (including development within municipalities).

Service Areas

County facilities are not geographically distributed among all areas of the county. Existing facilities and employment tend to be concentrated in certain areas of the county. Since the facilities serve all residents, the physical location of the facilities is irrelevant; as a result, this update utilizes a single county-wide service area that includes the municipalities as well and the unincorporated area. This does not mean that municipalities will need to begin collecting the fee for the County, although this would be the ideal situation and could be accomplished through intergovernmental agreements. Instead it recognizes that all development in the county benefits from these services, regardless of where the facilities are located in the county.

Level of Service

The County facilities impact fee is based on the overall existing level of service provided by County-owned facilities that are not included in other impact fee calculations (i.e., roads and drainage). The level of service used in developing the County facilities impact fees in this study is the ratio of the replacement value of existing facilities to the functional population of the service area. The fee calculations in this update are limited to buildings, and exclude land, equipment and fleet costs.

Service Units

In impact fee analysis, different types of development must be translated into a common unit of measurement that reflects the impact of new development on the demand for service. This common unit of measurement is referred to as a "service unit." Service units create the link between the supply of capital facilities and the demand for such facilities generated by new development. The service unit used in this update is called "functional population."

The "functional population" approach is one of the few techniques used in impact fee studies to estimate the demand for government facilities. To a large extent, the demand for general County services is proportional to the presence of people. Functional population is analogous to the concept of "full-time equivalent" employees. It represents the number of "full-time equivalent" people present at the site of a land use, and it is used for the purpose of determining the impact of a particular development on the need for facilities.

The County's current capital expansion fees include a flat fee for all residential units and a flat fee based on square feet for all nonresidential structures. The proposed County facilities fee land use categories match those used in the road impact fee.

Residential Functional Population

For residential land uses, the impact of a dwelling unit on the need for capital facilities is generally proportional to the number of persons residing in the dwelling unit. This can be measured for different housing types in terms of either average household size (average number of persons per occupied dwelling unit) or persons per unit (average number of persons per dwelling unit, including vacant as well as occupied units). In this analysis, average household size is used to develop the functional population multipliers, as it avoids the need to make assumptions about occupancy rates.

The housing types used in Weld County's impact fees are single-family, multi-family and mobile home. The multi-family category includes townhouses, duplexes, tri-plexes, four-plexes, apartments and condominiums. The mobile home category includes mobile homes, manufactured homes and recreational vehicles located in a mobile home or recreational vehicle park (a manufactured home or mobile home located on a separate lot is treated as a single-family detached dwelling).

Determining residential functional population multipliers is considerably simpler than the nonresidential component. In developing the residential component of 24-hour functional population, it is assumed that people, on average, spend 16 hours, or 67%, of each 24-hour day at their place of residence, and the other 33% away from home. A similar approach is used for the hotel/motel category. The functional population per unit for these uses is shown in Table 21.

Table 21. Functional Population per Unit for Residential Uses

Housing Type	Unit	Average HH Size	Occupancy	Func. Pop./Unit
Single-Family Detached	Dwelling	2.94	0.67	**1.970**
Multi-Family	Dwelling	2.18	0.67	**1.461**
Mobile Home	Dwelling	2.97	0.67	**1.990**
Hotel/Motel	Room	1.34	0.67	**0.898**

Source: Average household size from Table 31 (hotel/motel room based on one-half of average vehicle occupancy on vacation trips from U.S. Department of Transportation, *National Household Travel Survey*, 2001); residential occupancy factor assumed.

Nonresidential Functional Population

The functional population methodology for nonresidential uses is based on trip generation data utilized in developing the travel demand schedule prepared for the updated road impact fee. Functional population per 1,000 square feet is derived by dividing the total number of hours spent by employees and visitors during a weekday by 24 hours. Employees are estimated to spend nine hours per day at their place of employment, and visitors are estimated to spend one hour per visit. The formula used to derive the nonresidential functional population estimates is summarized in Figure 7.

Figure 7. Nonresidential Functional Population Formula

Functional population/1000 sf = (employee hours/1000 sf + visitor hours/1000 sf) ÷ 24 hours/day

Where:

Employee hours/1000 sf = employees/1000 sf x hours/day

Visitor hours/1000 sf = visitors/1000 sf x 1 hour/visit

Visitors/1000 sf = weekday ADT/1000 sf x avg. vehicle occupancy – employees/1000 sf

Weekday ADT/1000 sf = one way average daily trips (total trip ends ÷ 2)

Using this formula and information on trip generation rates from the road impact fee update, vehicle occupancy rates from the 2001 *National Household Travel Survey* and employees per 1,000 square feet from the 2003 U.S. Department of Energy survey, nonresidential functional population estimates per 1,000 square feet of gross floor area are calculated. Table 22 presents the results of these calculations for the proposed nonresidential land use categories.

Table 22. Functional Population per Unit for Nonresidential Uses

Land Use	Unit	Trip Rate	Persons/ Trip	Employee/ Unit	Visitors/ Unit	Functional Pop./Unit
Retail/Commercial	1,000 sq. ft.	21.47	1.77	1.02	36.98	**1.881**
Office	1,000 sq. ft.	5.51	1.14	2.31	3.97	**0.935**
Institutional/Public	1,000 sq. ft.	3.79	1.63	1.11	5.07	**0.581**
Industrial	1,000 sq. ft.	3.49	1.14	1.05	2.93	**0.472**
Warehouse	1,000 sq. ft.	1.78	1.14	0.43	1.60	**0.210**
Mini Warehouse	1,000 sq. ft.	1.25	1.63	0.22	1.82	**0.149**
Agricultural Comm.	1,000 sq. ft.	1.91	1.14	1.05	1.13	**0.397**

Source: Trip rates are one-half average daily trip ends from Table 15; persons/trip is average vehicle occupancy from Federal Highway Administration, *National Household Travel Survey*, 2001; employees/unit from U.S. Department of Energy, *Commercial Buildings Energy Consumption Survey*, 2003; visitors/unit is trips times persons/trip minus employees/unit; functional population/unit calculated based on formula from Figure 7.

Functional Population Summary

As shown in Table 23, the existing functional population of the county (including municipalities) is 244,523 based on existing land use data and the functional population factors calculated above.

Table 23. County-Wide Functional Population

Land Use	Unit	Existing Units	Functional Pop./Unit	Total Func. Pop.
Single-Family Detached	Dwelling	68,767	1.970	135,471
Multi-Family	Dwelling	21,732	1.461	31,750
Mobile Home	Dwelling	8,000	1.990	15,920
Hotel/Motel	Room	1,473	0.898	1,323
Retail/Commercial	1,000 sq. ft.	17,997	1.881	33,852
Office	1,000 sq. ft.	9,391	0.935	8,781
Institutional/Public	1,000 sq. ft.	8,125	0.581	4,721
Industrial	1,000 sq. ft.	17,973	0.472	8,483
Warehouse	1,000 sq. ft.	19,175	0.210	4,027
Agricultural Commercial	1,000 sq. ft.	492	0.397	195
Total County-Wide Functional Population				**244,523**

Source: Existing county-wide units from Table 30, Appendix A; residential functional population per unit from Table 21; nonresidential functional population per unit from Table 22.

Cost per Service Unit

The County's existing facilities are used to determine the cost per service unit. As mentioned above, the level of service used in developing the County facilities impact fees in this study is the ratio of the replacement value of existing facilities to existing functional population. The facilities that provide public building space needed to provide County services and their replacement values are shown in Table 24. Excluded from the facilities used to determine the xisting level of service are EMS facilities, which are partially fee-supported, the County's only park, since the County does not intend to provide additional parks, and the Sykes building, which will be occupied in 2011 and could be considered an expansion to serve future growth. The building values are based on the current insured value for each facility, which reflects the estimated cost to replace each structure. The replacement cost of the facilities included in the County facilities impact fee is an estimated $138 million.

Table 24. County Facilities Building Replacement Cost

Building	Address	Square Feet	Insured Value
Courthouse/Centennial Bldg	915 10th St, Greeley	193,206	$41,380,642
Courthouse Annex	922-940 9th Ave, Greeley	15,989	$1,656,543
West Courthouse Annex	901 10th Ave, Greeley	6,143	$477,853
North Jail	2110 O St, Greeley	222,843	$39,581,851
Law Enforcement Administration	1950 O St, Greeley	16,210	$3,357,633
Planning	918 10th St, Greeley	10,738	$534,745
Alternative Programs Bldg	1390 N 17th Ave, Greeley	30,000	$4,262,360
Assessor/Treasurer	1400 N 17th Ave, Greeley	15,901	$1,107,512
Elections/GIS/PBX	1401 N 17th Ave, Greeley	17,266	$1,950,888
Clerk and Recorder	1402 N 17th Ave, Greeley	14,949	$1,107,512
On-Site Clinic/Police Records	1551 N 17th Ave, Greeley	15,000	$1,527,699
Public Health Building	1555 N 17th Ave, Greeley	40,250	$5,741,337
Training Center	1104 H St, Greeley	4,777	$1,255,080
Public Works/B&G/Shop/Warehouses	1111 H St, Greeley	114,100	$4,391,000
Southwest County Admin. Bldg	4209 CR 24 1/2	19,055	$5,339,726
Social Services Building	315 N 11th Ave, Greeley	51,675	$5,174,566
Southeast Weld Service Center	2950 9th St, Ft. Lupton	23,911	$4,262,360
South County Service Center	330 Park Ave, Ft. Lupton	4,638	$467,608
Johnstown Shop	100 E S 2nd St, Johnstown	9,000	$254,061
Printing and Supply	1500 2nd St, Greeley	18,763	$1,093,027
Frederick	320 Maple St, Fredrick	1,760	$399,834
Household HazMat Bldg (North)	1311 17th Ave, Greeley	4,200	$243,054
South County HazMat Bldg	5500 Hwy 53, Dacono	3,200	$119,896
Motor Pool	1399 17th Ave, Greeley	30,000	$1,495,654
Communications Back-up Bldg/Tower	310 35th Ave, Greeley	3,000	$363,873
Blade Stations/Grader Sheds/De-Icer Storage	Multiple locations	53,305	$1,904,208
County-Owned Island Grove Facilities	425 N 15th Ave	79,802	$3,343,161
Community Corrections (Justice Services)	1101 H St, Greeley	35,750	$5,000,000
Stanley Radio	300 8th Ave, Greeley	12,000	$297,312
Total		1,067,431	**$138,090,995**

Source: Facility inventory, square feet and insured values from Weld County Controller, February 5, 2010.

The cost per service unit based on the existing level of service can be determined by dividing the replacement cost of existing County buildings by the county-wide functional population. As shown in Table 25, dividing the replacement cost by the existing service units yields a cost per service unit of $565 per functional population.

Table 25. County Facilities Cost per Service Unit

Weld County Facilities Insured Value	$138,090,995
÷ County-Wide Functional Population	244,523
Cost per Functional Population	**$565**

Source: Public building replacement value from Table 24; county-wide functional population from Table 23.

Net Cost per Service Unit

Impact fees should be reduced to account for future funding that will be generated by new development and used to remedy existing deficiencies or to retire outstanding debt on facilities that serve existing development. The updated fees are based on the existing level of service and, consequently, there are no deficiencies. Weld County has no outstanding debt for the types of County facilities covered in this section.

The County has received some State funding over the past five years for improvements to County facilities. A credit for the State grant funding is calculated in Table 26.

Table 26. County Facility Grant Credit per Service Unit

State Grants, 2006-2009	$5,235,000
÷ Years	5
Annual Average State Grants	$1,047,000
÷ County-Wide Functional Population	244,523
Annual State Funding per Functional Population	$4.28
x Net Present Value Factor (25 years at 4.32% discount rate)	15.11
State Funding Credit per Functional Population	**$65**

Source: State grant funding from Weld County Chief Financial Officer, September 16, 2010; county-wide functional population from Table 23; net present value factor from Table 12.

As shown in Table 27, reducing the county facility cost per service unit by the State grant funding credit leaves a net cost of $500 per unit.

Table 27. County Facilities Net Cost per Service Unit

Cost per Functional Population	$565
– State Grant Credit	-$65
Net Cost per Functional Population	**$500**

Source: Cost per functional population from Table 25; grant credit from Table 26.

Potential Impact Fee Schedule

The maximum County facilities impact fees that can be adopted by the County based on this study are derived by multiplying the number of service units (functional population) represented by each impact unit by the cost per service unit, as shown in Table 28.

Table 28. Potential County Facilities Impact Fee Schedule

Land Use	Unit	Functional Pop./Unit	Net Cost/ Func. Pop.	Net Cost/ Unit
Single-Family Detached	Dwelling	1.970	$500	$985
Multi-Family	Dwelling	1.461	$500	$731
Mobile Home/RV Park	Space	1.990	$500	$995
Hotel/Motel	Room	0.898	$500	$449
Retail/Commercial	1,000 sq. ft.	1.881	$500	$941
Office	1,000 sq. ft.	0.935	$500	$468
Institutional/Public	1,000 sq. ft.	0.581	$500	$291
Industrial	1,000 sq. ft.	0.472	$500	$236
Warehouse	1,000 sq. ft.	0.210	$500	$105
Agricultural Commercial	1,000 sq. ft.	0.397	$500	$199

Source: Functional population per unit from Table 23; cost per functional population from Table 25.

Comparative Impact Fees

The potential County facilities impact fee schedule is compared with the current fees in Table 29 for the recommended land use categories. The potential fees would increase by 71% for single-family dwelling units if adopted at the maximum amount.

Table 29. Comparative County Facilities Impact Fees

Land Use	Unit	Current Fee	Potential Fee	Change
Single-Family Detached	Dwelling	$575	$985	$410
Multi-Family	Dwelling	$575	$731	$156
Mobile Home/RV Park	Space	$575	$995	$420
Hotel/Motel	Room	$48	$449	$402
Retail/Commercial	1,000 sq. ft.	$95	$941	$846
Office	1,000 sq. ft.	$95	$468	$373
Institutional/Public	1,000 sq. ft.	$95	$291	$196
Industrial	1,000 sq. ft.	$95	$236	$141
Warehouse	1,000 sq. ft.	$95	$105	$10
Agricultural Commercial	1,000 sq. ft.	$95	$199	$104

Source: Current fee from Weld County Code (for comparison purposes, current hotel/motel fee assumes 500 square feet per room); potential fees from Table 28.

APPENDIX A: LAND USE DATA

For impact fee analysis, it is important to know both the amount of existing development in order to determine existing levels of service. Weld County GIS analysts were able to provide the following estimates of existing development for the incorporated and unincorporated areas of the county, shown in Table 30.

Table 30. Existing Land Use, 2010

Land Use	Unit	Unincorp.	Incorp.	Total
Single-Family Detached	Dwelling	14,119	54,648	68,767
Multi-Family	Dwelling	282	21,450	21,732
Mobile Home Park	Dwelling	3,167	4,833	8,000
Total Dwelling Units		17,568	80,931	98,499
Hotel/Motel	Room	282	1,191	1,473
Shopping Center/Commercial	Sq. Ft.	3,916,653	14,080,661	17,997,314
Office	Sq. Ft.	704,540	8,686,059	9,390,599
Institutional/Quasi-Public	Sq. Ft.	1,348,339	6,776,648	8,124,987
Manufacturing/Industrial	Sq. Ft.	5,702,255	12,270,326	17,972,581
Warehouse	Sq. Ft.	8,218,499	10,956,197	19,174,696
Agricultural Commercial	Sq. Ft.	483,622	8,745	492,367
Total Nonres. Square Feet		20,373,908	52,778,636	73,152,544

Source: Weld County GIS, February 26, 2010.

The average household size associated with each general housing category is shown in Table 31.

Table 31. Average Household Size, 2000

Land Use	Total Units	Vacant	Occupied	Population	Avg HH Size
Single-Family Detached	44,367	1,843	42,524	125,091	2.94
Multi-Family	14,398	771	13,627	29,762	2.18
Mobile Home Park	7,429	333	7,096	21,105	2.97
Total	66,194	2,947	63,247	175,958	2.78

Source: 2000 U.S. Census for Weld County.

APPENDIX B: MAJOR ROADWAY INVENTORY

Table 32. Existing Major Roadway Inventory

Road	From	To	Miles	Lanes	Surface	ADT	VMT
35TH AV	CR 62.25	RRX	0.05	2	Paved	7,463	373
37TH ST	CL (GREELEY)	CR 25	0.49	2	Paved	2,958	1,449
83RD AV	SH 34 BR	CL GREELEY	1.09	2	Paved		
83RD AV	STR	CR 64	0.43	2	Paved	2,929	1,259
COLI RD	CL LONGMONT	SH 66	1.51	2	Paved	5,742	8,670
COLI RD	SH 66	BLDR CR 6	1.00	2	Paved	3,082	3,082
COLI RD	BOULDER CR 6	STR	0.15	2	Paved	2,487	373
COLI RD	STR	BOULDER N COLI RD	2.86	2	Paved	1,873	5,357
DENVER AV	CR 6	CL FORT LUPTON	0.18	2	Paved		
DENVER AV	CL FL / CR 10.5	CL FORT LUPTON	0.45	2	Paved		
MAIN ST	NCL - BRIGHTON	CR 2.5	0.15	2	Paved		
TWO RIVERS PY	WCR 396	WCR 378	1.50	2	Paved	5,772	8,658
TWO RIVERS PY	CR 50.1	CR 52	1.16	2	Paved	2,503	2,903
WCR 10	WCR 5	WCR 7	1.02	2	Gravel	139	142
WCR 13	168TH AV	URBDRY	2.00	2	Paved	1,936	3,872
WCR 13	WCR 2	WCR 4	1.00	2	Paved	1,936	1,936
WCR 13	WCR 4	WCR 6	1.00	2	Paved	1,906	1,906
WCR 13	WCR 6	Dacono	0.52	2	Paved	464	241
WCR 13	URBDRY	CL DACONO	0.52	2	Paved	464	241
WCR 13	WCR 10	WCR 10.5	0.50	2	Paved		
WCR 13	CL FIRESTONE	URBDRY	0.06	2	Paved		
WCR 13	URBDRY	STR	0.43	2	Paved		
WCR 13	STR	STR	0.24	2	Paved		
WCR 13	STR	SH 66	1.28	2	Paved	2,954	3,781
WCR 13	SH 66	CR 34	2.01	2	Paved	3,206	6,444
WCR 13	CR 34	CR 38	2.01	2	Paved	2,563	5,152
WCR 13	CR 38	RRX	0.50	2	Paved	984	492
WCR 13	RRX	CR 40	0.51	2	Paved	984	502
WCR 13	CR 40	CR 42	0.75	2	Paved	998	749
WCR 13	CR 42	CR 44	1.01	2	Paved	1,311	1,324
WCR 13	CR 44	STR	0.05	2	Paved	1,807	90
WCR 13	STR	STR	0.45	2	Paved	1,967	885
WCR 13	STR	URBDRY	0.39	2	Paved	1,967	767
WCR 13	URBDRY	RRX	0.61	2	Paved	316	193
WCR 13	WCR 50	WCR 52	1.00	2	Paved	316	316
WCR 13	WCR 52	WCR 52.25	0.25	2	Paved	244	61
WCR 13	WCR 52.25	WCR 54	0.75	2	Paved	313	235
WCR 13	WCR 54	WCR 56	1.00	2	Paved	182	182
WCR 13	WCR 56	WCR 56.5	0.44	2	Paved	187	82

Table 32. Existing Major Roadway Inventory (continued)

Road	From	To	Miles	Lanes	Surface	ADT	VMT
WCR 13	WCR 56.5	WCR 58	0.56	2	Paved	187	105
WCR 13	CL WINDSOR	SH 392	0.20	2	Paved	4,049	810
WCR 13	WCR 68.5	WCR 70	0.62	2	Paved	436	270
WCR 13	WCR 70	WCR 72	1.00	2	Paved	436	436
WCR 136	CR 77	STR	1.01	2	Paved	268	271
WCR 136	STR	STR	0.31	2	Paved	180	56
WCR 15	WCR 34	WCR 36	1.01	2	Gravel	50	50
WCR 15	WCR 36	WCR 38	1.06	2	Gravel	32	34
WCR 15	WCR 38	WCR 40	1.00	2	Gravel	67	67
WCR 15	WCR 40	WCR 42	1.00	2	Gravel	87	87
WCR 15	WCR 42	WCR 44	0.99	2	Gravel	118	117
WCR 15	CL	CR 50	0.34	2	Paved	922	313
WCR 15	CR 54	RRX	0.24	2	Paved	479	115
WCR 15	RRX	RRX	0.17	2	Paved	479	81
WCR 15	RRX	CR 56	0.59	2	Paved	479	283
WCR 15	CR 56	STR	0.17	2	Paved	488	83
WCR 15	STR	SH 34	0.81	2	Paved	488	395
WCR 17	SH 66	CR 32	1.20	2	Paved	801	961
WCR 17	CR 32	CR 34	1.00	2	Paved	1,063	1,063
WCR 17	CR 34	CR 36	1.00	2	Paved	1,335	1,335
WCR 17	CR 36	CR 36.5	0.50	2	Paved	1,379	690
WCR 17	CR 36.5	CR 38	0.52	2	Paved	1,379	717
WCR 17	CR 38	CR 40	1.00	2	Paved	1,624	1,624
WCR 17	CR 40	CL JOHNSTOWN	0.12	2	Paved		
WCR 17	CL	CR 50	0.75	2	Paved	3,137	2,353
WCR 17	CR 50	CR 17	0.17	2	Paved		
WCR 17	CR 17	RRX	0.10	2	Paved		
WCR 17	RRX	STR	0.68	2	Paved		
WCR 17	STR	CR 52	0.06	2	Paved	4,025	242
WCR 17	CR 52	RRX	0.47	2	Paved	4,027	1,893
WCR 17	RRX	CR 54	0.52	2	Paved	4,027	2,094
WCR 17	CR 54	STR	0.88	2	Paved	1,875	1,650
WCR 17	STR	CL GREELEY	0.12	2	Paved	1,875	225
WCR 2	CR 15	CR 17	1.00	2	Paved	2,527	2,527
WCR 2	CL	CR 39	0.50	2	Paved	976	488
WCR 2	CR 39	STR	1.25	2	Paved	1,284	1,605
WCR 20.5	Fredrick	I-25	0.46	2	Gravel	80	37
WCR 20.5	CR 1	CL	0.52	2	Paved	1,873	974
WCR 20.5	CL	CL	0.07	2	Paved	1,873	131
WCR 20.5	CL	RRX	0.21	2	Paved	1,873	393
WCR 20.5	RRX	STR	0.24	2	Paved	1,873	450
WCR 20.5	STR	STR	0.06	2	Paved	1,873	112
WCR 20.5	STR	CR 7	1.13	2	Paved	1,873	2,116
WCR 22	SH 85	RRX	0.05	2	Paved	1,209	60
WCR 22	RRX	CR 31	1.97	2	Paved	1,209	2,382
WCR 22	CR 31	CR 37	3.01	2	Paved	1,012	3,046
WCR 22	CR 37	CR 39	0.99	2	Paved	848	840
WCR 22	CR 39	CR 41	1.00	2	Paved	1,115	1,115
WCR 22	CR 41	STR	1.50	2	Paved	746	1,119

Table 32. Existing Major Roadway Inventory (continued)

Road	From	To	Miles	Lanes	Surface	ADT	VMT
WCR 22	STR	CR 49	2.49	2	Paved	746	1,858
WCR 22	WCR 51	END	0.21	2	Gravel		
WCR 24	CR 19	CR 23	1.98	2	Paved	1,010	2,000
WCR 25.75	CR 64.5	RRX	0.04	2	Paved		
WCR 25.75	RRX	STR	1.00	2	Paved		
WCR 25.75	STR	SH 392	0.46	2	Paved		
WCR 26	WCR 1	Longmont	0.46	2	Gravel		
WCR 26	WCR 3	WCR 3.5	0.50	2	Paved		
WCR 26	WCR 3.5	pavement	0.60	2	Paved	524	314
WCR 26	CR 5	CR 5.5	0.44	2	Paved	524	231
WCR 26	WCR5.5	WCR 7	0.56	2	Paved	966	541
WCR 27	CR 64	CR 25.75	0.66	2	Paved	2,844	1,877
WCR 27	SH 392	CR 74	2.97	2	Paved	388	1,152
WCR 27	WCR 74	WCR 76	1.00	2	Gravel	111	111
WCR 27	WCR 76	END	0.51	2	Gravel	73	37
WCR 27	WCR 78	WCR 80	1.00	2	Gravel	47	47
WCR 27	WCR 80	WCR 82	0.99	2	Gravel	19	19
WCR 27.5	CR 396	STR	0.29	2	Paved		
WCR 27.5	STR	CR 50.1	0.68	2	Paved		
WCR 28	WCR 5	WCR 7	1.01	2	Gravel	210	212
WCR 28	WCR 7	I-25	0.99	2	Gravel	152	150
WCR 31	CL GREELEY	CR 66	0.50	2	Paved	4,348	2,174
WCR 31	CL GREELEY	SH 392	0.50	2	Paved	4,348	2,174
WCR 35	RRX	STR	0.60	2	Paved	7,463	4,478
WCR 35	STR	CR 64	0.27	2	Paved	7,463	2,015
WCR 35	CR 64	CR 66	0.54	2	Paved	3,991	2,155
WCR 35	CR 66	STR	0.98	2	Paved	1,475	1,446
WCR 35	STR	SH 392	0.11	2	Paved	1,475	162
WCR 396	SH 60	CR 27.5	0.54	2	Paved		
WCR 40	I-25	WCR 9.5	0.28	2	Paved		
WCR 47	CL GREELEY	CR 62	0.48	2	Paved	326	156
WCR 47	CR 62	CR 64	1.00	2	Paved	448	448
WCR 47	CR 64	CR 66	1.00	2	Paved	438	438
WCR 47	WCR 66	WCR 68	1.01	2	Paved	206	208
WCR 47	SH 392	WCR 70	1.01	2	Paved	245	247
WCR 47	WCR 70	WCR 72	1.01	2	Paved	226	228
WCR 47	WCR 72	WCR 74	1.00	2	Paved	160	160
WCR 47	WCR 74	WCR 76	1.00	2	Gravel	130	130
WCR 47	WCR 76	WCR 78	1.00	2	Gravel	100	100
WCR 47	WCR 78	WCR 80	1.00	2	Gravel	100	100
WCR 47	WCR 80	SH 14	1.00	2	Gravel	100	100
WCR 48	WCR 7	Johnstown	0.51	2	Paved	1,533	782
WCR 49	WCR 4	WCR 6	1.00	2	Gravel	48	48

Table 32. Existing Major Roadway Inventory (continued)

Road	From	To	Miles	Lanes	Surface	ADT	VMT
WCR 49	WCR 6	WCR 8	1.00	2	Gravel	52	52
WCR 49	WCR 8	WCR 10	1.00	2	Gravel	107	107
WCR 49	WCR 10	SH 52	1.03	2	Gravel	140	144
WCR 49	SH 52	Hudson	0.57	2	Gravel		
WCR 49	Hudson	WCR 16	0.58	2	Gravel		
WCR 49	I-76	WCR 18	1.00	2	Paved	2,901	2,901
WCR 49	CR 18	CR 22	1.98	2	Paved	3,775	7,475
WCR 49	CR 22	STR	1.32	2	Paved	2,920	3,854
WCR 49	STR	SECTION LINE	1.68	2	Paved	2,920	4,906
WCR 49	SECTION LINE	CR 30	1.00	2	Paved	2,920	2,920
WCR 49	CR 30	CR 32	1.01	2	Paved	4,334	4,377
WCR 49	CR 32	CR 34	1.00	2	Paved	4,061	4,061
WCR 49	CR 34	CR 34.5	0.50	2	Paved	1,621	811
WCR 49	CR 34.5	CR 36	0.50	2	Paved	2,976	1,488
WCR 49	CR 36	CR 38	1.00	2	Paved	2,980	2,980
WCR 49	CR 38	CR 40	1.00	2	Paved	3,183	3,183
WCR 49	CR 40	CR 42	1.01	2	Paved	3,021	3,051
WCR 49	CR 42	CR 44	0.99	2	Paved	2,429	2,405
WCR 49	CR 44	CR 46	1.01	2	Paved	4,187	4,229
WCR 49	CR 46	CR 48	0.99	2	Paved	4,221	4,179
WCR 49	CR 48	CR 50	1.01	2	Paved	4,413	4,457
WCR 49	CR 50	CR 52	1.00	2	Paved	3,118	3,118
WCR 49	CR 52	CR 54	1.00	2	Paved	4,444	4,444
WCR 49	CR 54	RRX	0.03	2	Paved	4,365	131
WCR 49	RRX	SH 34	0.97	2	Paved	4,365	4,234
WCR 50	CR 13	CR 13	0.11	2	Paved		
WCR 50	CR 13	CR 17	1.96	2	Paved	1,390	2,724
WCR 54	CR 13	WIDCH	0.18	2	Paved	3,016	543
WCR 54	WIDCH	STR	0.51	2	Paved	2,681	1,367
WCR 54	STR	RRX	0.52	2	Paved	2,681	1,394
WCR 54	RRX	RRX	0.17	2	Paved	2,681	456
WCR 54	RRX	CR 17	0.61	2	Paved	2,681	1,635
WCR 54	CR 17	STR	1.47	2	Paved	3,268	4,804
WCR 54	STR	SH 257	0.51	2	Paved	3,519	1,795
WCR 58	CR 25	CL GREELEY	0.71	2	Paved		
WCR 62	CR 13	CR 15	1.01	2	Paved	3,852	3,891
WCR 62	CR 15	CL	0.50	2	Paved	4,924	2,462
WCR 64	CR 27	CR 29	1.01	2	Paved	1,962	1,982
WCR 64	CR 29.3	RRX	0.33	2	Paved	2,448	808
WCR 64	RRX	CR 31	0.42	2	Paved	2,448	1,028
WCR 64	RRX	STR	0.73	2	Paved		
WCR 64	SH 85	RRX	0.05	2	Paved	937	47
WCR 64	STR	CR 41	0.08	2	Paved	638	51
WCR 64	CR 41	CR 41.5	0.50	2	Paved	296	148
WCR 64	CR 41.5	CR 45	1.50	2	Paved	211	317
WCR 7	CL BROOM	CL ERIE	1.00	2	Paved		
WCR 7	CR 18	CR 20	1.01	2	Paved	1,578	1,594
WCR 7	CR 20.50	STR	0.40	2	Paved	1,974	790
WCR 7	STR	CL	0.68	2	Paved	2,060	1,401
WCR 7	CL	SH 119	0.24	2	Paved	2,017	484

Table 32. Existing Major Roadway Inventory (continued)

Road	From	To	Miles	Lanes	Surface	ADT	VMT
WCR 7	WCR 26	WCR 26.5	0.50	2	Paved	278	139
WCR 7	WCR 40	WCR 40.25	0.25	2	Gravel		
WCR 7	hy56	WCR 46	1.00	2	Paved	398	398
WCR 7	WCR 46	WCR 48	1.00	2	Paved	462	462
WCR 7	WCR 48	hy60	0.97	2	Paved	1,386	1,344
WCR 74	WINDSOR CL	CR 15	1.00	2	Paved	9,750	9,750
WCR 74	CR 15	WINDSOR CL	0.79	2	Paved	9,296	7,344
WCR 74	WINDSOR CL	STR	0.41	2	Paved	6,300	2,583
WCR 74	STR	CR 19	0.48	2	Paved	6,300	3,024
WCR 74	CR 19	WCL SEVERANCE	0.71	2	Paved	5,154	3,659
WCR 74	ECL / CR 25	CR 27	1.01	2	Paved	2,332	2,355
WCR 74	CR 27	CR 29	1.07	2	Paved	2,305	2,466
WCR 74	CR 29	CR 31	1.01	2	Paved	2,518	2,543
WCR 74	CR 31	CR 33	1.01	2	Paved	2,880	2,909
WCR 74	CR 33	CR 35	1.01	2	Paved	3,116	3,147
WCR 74	CR 55	CR 57	1.00	2	Paved	779	779
WCR 74	CR 57	CR 59	1.01	2	Paved	684	691
WCR 74	WCR 59	WCR 61	1.00	2	Paved	436	436
WCR 74	WCR 61	WCR 63	1.00	2	Paved	389	389
WCR 74	WCR 63	WCR 65	1.00	2	Paved	389	389
WCR 74	WCR 65	WCR 67	1.00	2	Paved	118	118
WCR 74	WCR 67	SH 392	1.00	2	Paved	118	118
WCR 77	SH 14	CR 94	1.82	2	Paved	618	1,125
WCR 77	CR 94	CR 100	3.14	2	Paved	396	1,243
WCR 77	CR 100	STR	1.03	2	Paved	580	597
WCR 77	STR	CR 106	1.99	2	Paved	580	1,154
WCR 77	CR 106	STR	0.43	2	Paved	570	245
WCR 77	STR	CR 110	1.62	2	Paved	570	923
WCR 77	CR 110	CR 114	2.00	2	Paved	576	1,152
WCR 77	CR 114	CR 116	1.00	2	Paved	578	578
WCR 77	CR 116	CR 118	1.00	2	Paved	718	718
WCR 77	CR 118	CR 120	1.01	2	Paved	562	568
WCR 77	CR 120	CR 122	1.03	2	Paved	321	331
WCR 77	CR 122	CR 124	1.00	2	Paved	284	284
WCR 77	CR 124	CR 126	0.93	2	Paved	282	262
WCR 77	CR 126	CR 126	0.07	2	Paved		
WCR 77	CR 126	CR 128	1.01	2	Paved	277	280
WCR 77	CR 128	CR 132	2.00	2	Paved	282	564
WCR 77	CR 132	CR 136	1.96	2	Paved	282	553
WCR 79	CR 136	CR 140	2.22	2	Paved	297	659
WCR 9.5	WCR 24	WCR 24.5	0.25	2	Paved		
WCR 9.5	WCR 26	WCR 28	1.00	2	Paved	1,286	1,286
WCR 9.5	WCR 30.5	WCR 32	1.00	2	Paved	1,537	1,537
WCR 136	CR 77	STR	1.01	2	Paved	270	273
WCR 136	STR	STR	0.31	2	Paved	180	56
Subtotal, Arterials			189.08				282,489

Table 32. Existing Major Roadway Inventory (continued)

Road	From	To	Miles	Lanes	Surface	ADT	VMT
WCR 2	WCR 39	WCR 41	1.00	2	Paved	1,284	1,284
WCR 2	STR	SRFCH	1.24	2	Paved	1,284	1,592
WCR 2	SRFCH	CR 45	0.50	2	Paved	1,284	642
WCR 2	CR 45	STR	0.59	2	Paved	1,438	848
WCR 2	WCR 45.25?	Adams Cty	0.75	2	Paved		
WCR 2	STR	CR 47	0.40	2	Paved	1,438	575
WCR 3	Erie	WCR 10	0.35	2	Paved	271	95
WCR 3	CR 10	CR 1.5	0.28	2	Paved	652	183
WCR 3	CR 1.5	CR 10.5	0.24	2	Paved	237	57
WCR 3	WCR 10	WCR 12	1.10	2	Paved	476	524
WCR 3	WCR 12	Hwy 52	1.00	2	Paved	379	379
WCR 3.5	Pavement	WCR 26	0.50	2	Paved	371	186
WCR 4	SH 85	CR 27	0.32	2	Paved	623	199
WCR 4	CL	STR	0.88	2	Paved		
WCR 4	STR	STR	0.20	2	Paved		
WCR 4	STR	STR	0.29	2	Paved		
WCR 4	STR	STR	0.83	2	Paved		
WCR 4	RRX	CL Brighton	2.05	2	Paved	885	1,814
WCR 5	CL	CR 12	0.50	2	Paved	995	498
WCR 5	CR 12	SH 52	0.99	2	Paved	1,355	1,341
WCR 5	SH 66	CL	0.51	2	Paved	864	441
WCR 5	CR 32	CR 34	1.00	2	Paved	807	807
WCR 5.5	SH 119	SRFCH	0.49	2	Paved		
WCR 5.5	SRFCH	CR 26	0.59	2	Paved		
WCR 6	CL ERIE	SERVICE RD	0.47	2	Paved	556	261
WCR 6	CR 11	RRX	0.32	2	Paved	1,077	345
WCR 6	RRX	CR 13	0.67	2	Paved	1,077	722
WCR 6	CR 13	CR 15	0.99	2	Paved	1,475	1,460
WCR 6	CR 15	CR 17	1.00	2	Paved	1,432	1,432
WCR 6	CR 17	CR 19	1.00	2	Paved	1,177	1,177
WCR 6	19	CR 21/URBDRY	0.20	2	Paved	1,153	231
WCR 6	21	23	1.00	2	Paved	1,138	1,138
WCR 6	CR 23	STR	0.05	2	Paved	1,891	95
WCR 6	STR	URBDRY	0.43	2	Paved	1,891	813
WCR 6	URBDRY	STR	0.43	2	Paved	1,891	813
WCR 6	STR	STR	0.29	2	Paved	1,891	548
WCR 6	STR	STR	0.26	2	Paved	1,891	492
WCR 6	STR	SH 85	0.13	2	Paved	1,891	246
WCR 7.5	BGN	SH 119	0.51	2	Paved		
WCR 8	CL	CR 29	0.25	2	Paved	762	191
WCR 8	CR 29	CR 31	0.99	2	Paved	968	958

Table 32. Existing Major Roadway Inventory (continued)

Road	From	To	Miles	Lanes	Surface	ADT	VMT
WCR 8	CR 31	CR 37	3.01	2	Paved	946	2,847
WCR 8	CR 37	CR 39	1.01	2	Paved	804	812
WCR 8	CR 39	CL	0.99	2	Paved	643	637
WCR 8	SH 76	STR	0.99	2	Paved	353	349
WCR 8	STR	CR 45	0.60	2	Paved	353	212
WCR 12	WCR 29	WCR 29.5	0.50	2	Gravel	171	86
WCR 12	WCR 29.5	WCR 31	0.52	2	Paved	229	119
WCR 14.5	CR 23	STR	1.41	2	Paved	776	1,094
WCR 14.5	STR	CL FT LUPTON	0.12	2	Paved	776	93
WCR 15	CR 72	CR 74	1.01	2	Paved	2,549	2,574
WCR 15	CR 74	CL WINDSOR	0.78	2	Paved	719	561
WCR 16	SH 85	RRX	0.11	2	Paved	2,446	269
WCR 16	RRX	CR 31	1.72	2	Paved	1,806	3,106
WCR 16	CR 63	CR 69	3.01	2	Paved	393	1,183
WCR 16	CR 69	CR 73	2.01	2	Paved	190	382
WCR 16.5	WCR 59	WCR 63	2.00	2	Paved	594	1,188
WCR 18	WCR 17	WCR 19	1.00	2	Gravel	124	124
WCR 18	WCR 19	WCR 21	1.00	2	Gravel	143	143
WCR 18	WCR 21	WCR 23	1.06	2	Gravel	142	151
WCR 18	CR 23	STR	1.74	2	Paved	1,612	2,805
WCR 18	STR	SH 85	0.42	2	Paved	1,854	779
WCR 18	SH 85	RRX	0.11	2	Paved	689	76
WCR 18	RRX	CR 33	2.88	2	Paved	537	1,547
WCR 19	168TH AV	CR 4	1.00	2	Paved	477	477
WCR 19	CR 4	STR	0.97	2	Paved	552	535
WCR 19	STR	CR 6	0.04	2	Paved	552	22
WCR 19	CR 6	CR 8	0.92	2	Paved	506	466
WCR 19	CR 8	CR 10	1.00	2	Paved	460	460
WCR 19	CR 10	CR 12	1.00	2	Paved	720	720
WCR 19	CR 12	SH 52	0.50	2	Paved	720	360
WCR 19	SH 52	CR 14	0.52	2	Paved	1,596	830
WCR 19	CR 14	CR 16	1.00	2	Paved	1,127	1,127
WCR 19	CR 16	CR 18	1.00	2	Paved	1,179	1,179
WCR 19	CR 18	CR 20	1.00	2	Paved	1,284	1,284
WCR 19	CR 20	CR 22	1.00	2	Paved	1,191	1,191
WCR 19	CR 22	STR	0.59	2	Paved	1,074	634
WCR 19	STR	CR 24	0.40	2	Paved	1,074	430
WCR 19	CR 26	CR 28	1.01	2	Paved	1,387	1,401
WCR 19	CR 28	SH 66	1.00	2	Paved	1,381	1,381
WCR 19	SH 66	CR 34	2.00	2	Paved	385	770
WCR 19	CR 38	CR 40 SL	1.00	2	Paved	988	988
WCR 19	CR 42	CL	0.75	2	Paved	940	705
WCR 19	CR 44	STR	1.62	2	Paved	947	1,534
WCR 19	STR	SH 60	0.36	2	Paved	682	246
WCR 19	CR 70	CR 72	1.02	2	Paved	3,926	4,005
WCR 19	CR 72	CR 74	0.83	2	Paved	3,351	2,781
WCR 19.5	CR 34	RRX	0.76	2	Paved	492	374
WCR 19.5	RRX	RRX	0.09	2	Paved	492	44
WCR 19.5	RRX	STR	0.91	2	Paved	492	448
WCR 19.5	STR	CR 38	0.27	2	Paved	492	133
WCR 20	SEC LINE	CR 19	1.02	2	Paved	796	812

Table 32. Existing Major Roadway Inventory (continued)

Road	From	To	Miles	Lanes	Surface	ADT	VMT
WCR 21	CR 28	SH 66	1.00	2	Paved	676	676
WCR 21	CR 32.5	CR 34	0.49	2	Paved	866	424
WCR 21	WINDSOR CL	CR 70	0.50	2	Paved	1,485	743
WCR 21.5	CR 24.5	CR 28	1.52	2	Paved	354	538
WCR 21.8	CL	STR	0.43	2	Paved		
WCR 21.8	STR	SH 392	0.34	2	Paved		
WCR 22	WCR 93	WCR 95	1.00	2	Gravel		
WCR 23	CR 6	STR	0.71	2	Paved	428	304
WCR 23	STR	STR	0.11	2	Paved		
WCR 23	STR	STR	0.20	2	Paved		
WCR 23	STR	SH 52	2.48	2	Paved	445	1,104
WCR 23	SH 52	CR 14.5	1.02	2	Paved	613	625
WCR 23	CR 14.5	CR 18	1.31	2	Paved	377	494
WCR 23	CR 18	CR 22.5	2.56	2	Paved	1,377	3,525
WCR 23	CR 22.5	CR 24	0.50	2	Paved	1,403	702
WCR 23	CR 24	CR 24.5	0.49	2	Paved	355	174
WCR 23	WCR 62.25	WCR 64.50	1.10	2	Gravel		
WCR 23	SH 392	CL	0.73	2	Paved	1,598	1,167
WCR 24.5	CR 21.5	CR 23	0.49	2	Paved	363	178
WCR 28	CR 21	CR 21.50	0.53	2	Paved	493	261
WCR 28	CR 21.5	STR	1.47	2	Paved	493	725
WCR 28	STR	SH 85	0.51	2	Paved	560	286
WCR 28	CR 39	CR 41	1.01	2	Paved	1,041	1,051
WCR 28	WCR 41	WCR 43	0.99	2	Paved	200	198
WCR 29	WCR 14.5	WCR 16	0.50	2	Gravel	76	38
WCR 31	CR 16	CR 18	1.00	2	Paved	934	934
WCR 31	CL GILCREST	SH 256	1.00	2	Paved	273	273
WCR 31	SH 256	CR 46	1.00	2	Paved	173	173
WCR 31	CR 46	CR 394	1.27	2	Paved	348	442
WCR 32	CL	CR 29	1.00	2	Paved	1,164	1,164
WCR 32	CR 29	CR 31	0.99	2	Paved	1,439	1,425
WCR 32	CR 31	CR 33	1.01	2	Paved	1,350	1,364
WCR 32	CR 33	CR 35	1.01	2	Paved	1,252	1,265
WCR 32	CR 35	CR 37	1.01	2	Paved	842	850
WCR 32	CR 37	CR 39	1.00	2	Paved	842	842
WCR 32	CR 39	CR 43	1.97	2	Paved	925	1,822
WCR 32.5	CR 21	STR	0.71	2	Paved	1,427	1,013
WCR 32.5	STR	STR	0.20	2	Paved	1,353	271
WCR 32.5	STR	STR	0.69	2	Paved	1,353	934
WCR 32.5	STR	CL PLATT	0.13	2	Paved	1,279	166
WCR 33	CL	SH 392	0.48	2	Paved	827	397
WCR 33	SH 392	STR	0.02	2	Paved	1,064	21
WCR 33	STR	CR 74	2.98	2	Paved	970	2,891
WCR 33	CR 74	RRX	0.50	2	Paved	1,094	547
WCR 33	RRX	STR	1.82	2	Paved		
WCR 33	STR	SH 14	1.71	2	Paved	906	1,549
WCR 33	SH 14	STR	2.02	2	Paved	1,085	2,192
WCR 33	STR	CR 88	0.96	2	Paved	1,089	1,045
WCR 34	CR 1	CR 3	0.99	2	Paved	1,410	1,396
WCR 34	CR 3	CR 5	1.00	2	Paved	1,387	1,387

Table 32. Existing Major Roadway Inventory (continued)

Road	From	To	Miles	Lanes	Surface	ADT	VMT
WCR 34	CR 5	CL/MEAD	0.70	2	Paved	1,118	783
WCR 34	CL	CR 13	1.51	2	Paved	1,228	1,854
WCR 34	CR 13	CR 15	0.98	2	Paved	880	862
WCR 34	CR 15	CR 17	0.98	2	Paved	812	796
WCR 34	CR 17	RRX	0.78	2	Paved	758	591
WCR 34	RRX	CR 19	0.20	2	Paved	758	152
WCR 34	CR 19	CR 19.5	0.49	2	Paved	968	474
WCR 34	CR 19.5	CR 21	0.49	2	Paved	825	404
WCR 35	SH 392	CR 70	1.00	2	Paved	1,924	1,924
WCR 35	CR 70	CR 72	1.01	2	Paved	1,926	1,945
WCR 35	CR 72	CL	0.45	2	Paved	1,916	862
WCR 35	CR 74	RRX	0.49	2	Paved	1,146	562
WCR 35	RRX	CR 76	0.51	2	Paved	1,146	584
WCR 35	CR 76	CR 78	1.01	2	Paved	834	842
WCR 35	CR 78	STR	0.91	2	Paved	824	750
WCR 35	STR	CR 80	0.10	2	Paved	824	82
WCR 35	CR 80	CL	0.49	2	Paved	903	442
WCR 37	CR 6	CR 8	1.00	2	Paved	1,956	1,956
WCR 37	CR 8	CR 10	1.00	2	Paved	1,716	1,716
WCR 37	CR 10	CR 12	1.01	2	Paved	876	885
WCR 37	CR 12	SH 52	0.50	2	Paved	890	445
WCR 37	CR 64	CR 66	0.99	2	Paved	2,171	2,149
WCR 37	CR 66	SH 392	1.00	2	Paved	2,449	2,449
WCR 37	SH 392	STR	0.12	2	Paved	1,662	199
WCR 37	STR	CR 70	0.89	2	Paved	1,662	1,479
WCR 37	CR 70	CR 72	1.00	2	Paved	1,756	1,756
WCR 37	CR 72	CL EATON	0.50	2	Paved	1,764	882
WCR 37	SH 85	RRX	0.02	2	Paved	411	8
WCR 37	RRX	STR	1.81	2	Paved	351	635
WCR 37	STR	SH 14	0.90	2	Paved	388	349
MAIN ST	CR 39	URBDRY	0.23	2	Paved		
MAIN ST	URBDRY	CL LASALLE	0.15	2	Paved		
WCR 38	I-25	WCR 11	1.05	2	Gravel	152	160
WCR 38	WCR 11	WCR 13	1.00	2	Gravel	152	152
WCR 38	CR 13	CR 15	0.98	2	Paved	647	634
WCR 38	CR 15	CR 17	0.97	2	Paved	594	576
WCR 38	CR 17	CR 19	1.18	2	Paved	885	1,044
WCR 38	CR 19	RRX	0.02	2	Paved		
WCR 38	RRX	CR 19.5	0.06	2	Paved		
WCR 39	CR 28	CR 32	2.00	2	Paved	968	1,936
WCR 39	CR 32	CR 40	4.00	2	Paved	1,189	4,756
WCR 39	CR 40	CR 44	2.00	2	Paved	1,266	2,532
WCR 39	CR 44	CR 37.7	2.27	2	Paved		
WCR 39	WCR 37.7(48.5)	Lasalle	0.49	2	Gravel	1,150	564
WCR 41	CR 8	CR 10	1.03	2	Paved	323	333
WCR 41	CR 10	CR 12	1.01	2	Paved	340	343
WCR 41	CR 12	SH 52	0.50	2	Paved	342	171
WCR 41	SH 52	CR 14	0.50	2	Paved	1,153	577
WCR 41	CR 14	CR 16	1.00	2	Paved	1,090	1,090
WCR 41	CR 16	CR 18	1.00	2	Paved	971	971
WCR 41	CR 18	CR 20	1.00	2	Paved	955	955

Table 32. Existing Major Roadway Inventory (continued)

Road	From	To	Miles	Lanes	Surface	ADT	VMT
WCR 41	CR 20	CR 22	1.00	2	Paved	925	925
WCR 41	CR 22	CR 24	1.00	2	Paved	867	867
WCR 41	CR 24	CR 26	0.98	2	Paved	1,123	1,101
WCR 41	CR 26	CR 28	1.00	2	Paved	1,123	1,123
WCR 42	SH 60	CR 29	1.01	2	Paved	582	588
WCR 42	CR 29	CR 31	0.22	2	Paved		
WCR 42	CL	SH 85	0.03	2	Paved		
WCR 43	WCR 28	WCR 30	1.00	2	Paved	190	190
WCR 43	CR 30	CR 32	0.99	2	Paved	309	306
WCR 43	CR 44	STR	2.50	2	Paved	544	1,360
WCR 43	STR	CR 50	0.49	2	Paved	1,017	498
WCR 43	CR 50	RRX	0.91	2	Paved	996	906
WCR 43	RRX	CR 54	1.09	2	Paved	916	998
WCR 43	SH 263 (60.5)	CR 62	0.74	2	Paved	976	722
WCR 43	CR 62	URBDRY	1.00	2	Paved	1,089	1,089
WCR 43	URBDRY	RRX	0.52	2	Paved	1,056	549
WCR 43	RRX	STR	1.40	2	Paved	1,056	1,478
WCR 43	STR	SH 392	0.11	2	Paved	1,075	118
WCR 43	SH 392	STR	0.72	2	Paved	1,021	735
WCR 43	STR	STR	0.53	2	Paved	1,021	541
WCR 43	STR	STR	0.14	2	Paved	937	131
WCR 43	STR	STR	0.33	2	Paved	937	309
WCR 43	STR	CR 74	1.35	2	Paved	1,205	1,627
WCR 43	CR 74	STR	0.07	2	Paved	902	63
WCR 43	STR	STR	2.05	2	Paved	722	1,480
WCR 43	STR	SH 14	1.88	2	Paved	712	1,339
WCR 43	SH 14	CR 90	3.96	2	Paved	470	1,861
WCR 45	168TH AV	CR 4	1.00	2	Paved	919	919
WCR 45	CR 4	STR	1.04	2	Paved	826	859
WCR 45	STR	CR 10	0.56	2	Paved	929	520
WCR 46	SH 60	CR 29	1.06	2	Paved	1,204	1,276
WCR 46	CR 29	CR 31	0.99	2	Paved	895	886
WCR 46	CR 31	CR 33	1.01	2	Paved	624	630
WCR 46	CR 33	CR 35	1.00	2	Paved	917	917
WCR 46	CR 57	CR 59	1.00	2	Paved	286	286
WCR 49	SH 263	CR 62.5	0.99	2	Paved	260	257
WCR 49	WCR 62.5	WCR 64	0.50	2	Gravel	99	50
WCR 49	WCR 64	WCR 66	1.00	2	Gravel	64	64
WCR 49	WCR 66	WCR 392	1.00	2	Gravel	65	65
WCR 51	I-76	WCR 18	0.55	2	Gravel		
WCR 51	WCR 18	WCR 20	1.00	2	Gravel	53	53
WCR 51	WCR 20	WCR 22	0.99	2	Gravel	19	19
WCR 51	SH 263	CR 64	1.99	2	Paved	1,100	2,189
WCR 51	CR 64	SH 392	1.50	2	Paved	890	1,335
WCR 51	SH 392	STR	0.42	2	Paved	1,000	420
WCR 51	STR	STR	2.03	2	Paved	1,119	2,272
MAIN ST	STR	CR 74	0.55	2	Paved	1,106	608
WCR 51	CR 74	STR	2.94	2	Paved	714	2,099
WCR 51	STR	SH 14	1.69	2	Paved	378	639
WCR 53	I-76	WCR 18	0.43	2	Gravel	147	63
WCR 53	WCR 18	WCR 20	1.00	2	Gravel	52	52

Table 32. Existing Major Roadway Inventory (continued)

Road	From	To	Miles	Lanes	Surface	ADT	VMT
WCR 53	CR 44	CR 50	3.00	2	Paved	1,146	3,438
WCR 53	CR 50	CL KERSEY	2.00	2	Paved	1,551	3,102
WCR 53	SH 34	CR 58	0.94	2	Paved	3,780	3,553
WCR 54	1ST AV	URBDRY	0.16	2	Paved	621	99
WCR 54	STR	STR	0.55	2	Paved	621	342
WCR 54	STR	CR 45	1.25	2	Paved	1,172	1,465
WCR 54	CR 45	CR 49	2.01	2	Paved	890	1,789
WCR 54	WCR 49	WCR 51	0.98	2	Gravel	277	271
WCR 54.4	CR 54	CR 53	1.90	2	Paved	750	1,425
WCR 55	WCR 60.5	Hwy 37	0.20	2	Paved	2,452	490
WCR 55	CR 66	SH 392	0.99	2	Paved	1,807	1,789
WCR 55	WCR 120	WCR 122	0.96	2	Gravel		
WCR 57	WCR 44	WCR 46	1.00	2	Paved	286	286
WCR 58	CR 47.5	CR 49.5	0.98	2	Paved	392	384
WCR 58	CR 49.5	CR 51	0.50	2	Paved	358	179
WCR 58	CR 51	SH 37	1.03	2	Paved	281	289
WCR 58.25	CR 45	STR	1.24	2	Paved		
WCR 58.25	STR	CR 47.5	0.37	2	Paved		
WCR 59	SH 52	WCR 14	1.00	2	Paved	1,286	1,286
WCR 59	WCR 14	CR 16.5	1.50	2	Paved	842	1,263
WCR 59	CR 46	CR 50	1.99	2	Paved	227	452
WCR 59	CR 50	STR	0.61	2	Paved	388	237
WCR 59	STR	SH 34	1.05	2	Paved	389	408
WCR 60.5	CL	CR 49	0.98	2	Paved	2,511	2,461
WCR 60.5	CR 49	CR 51	0.98	2	Paved	2,913	2,855
WCR 60.5	CR 51	CR 53	0.98	2	Paved	2,703	2,649
WCR 60.5	CR 53	WYE	0.82	2	Paved	3,180	2,608
WCR 60.5	SH37 (CR 53)	WCR 57	1.00	2	Paved	462	462
WCR 61	SH 34	CR 380	0.91	2	Paved	632	575
WCR 61	CR 380	STR	0.21	2	Paved	227	48
WCR 61	STR	STR	0.37	2	Paved	227	84
WCR 61	STR	CR 388	0.49	2	Paved	227	111
C ST	CR 41	CR 41.50	0.51	2	Paved	242	123
C ST	CR 41.50	CR 43	0.50	2	Paved	238	119
WCR 62	CR 43	CL GREELEY	0.13	2	Paved	163	21
WCR 62	CL GREELEY	CR 45	0.13	2	Paved	121	16
WCR 62	CR 45	CDS	0.31	2	Paved	57	18
WCR 62	CDS	CR 47	0.35	2	Paved	18	6
WCR 62	CR 47	URBDRY	0.20	2	Paved	408	82
WCR 62	URBDRY	CR 49	0.80	2	Paved	408	326
WCR 63	CR 16	CR 16.5	0.49	2	Paved	474	232
CONNECTER	CR 35	CR 66	0.07	2	Paved		
WCR 64.5	CR 23.75	CR 25.75	1.09	2	Paved	2,794	3,045
WCR 64.5	CR 25	CR 27	1.00	2	Paved	2,212	2,212
WCR 64.75	WCR 23	WCR 23.75	0.75	2	Paved	2,907	2,180
WCR 66	WCR 25	WCR 27	1.00	2	Paved	203	203
WCR 66	WCR 27	WCR 29	1.00	2	Gravel	247	247
WCR 66	WCR 29	WCR 31	1.00	2	Gravel	122	122
WCR 66	CR 35	CR 37	0.75	2	Paved		
WCR 66	CR 37	SH 85	1.00	2	Paved	815	815
WCR 66	SH 85	RRX	0.02	2	Paved	674	13

Table 32. Existing Major Roadway Inventory (continued)

Road	From	To	Miles	Lanes	Surface	ADT	VMT
WCR 66	RRX	URBDRY	1.48	2	Paved	674	998
WCR 66	URBDRY	CR 45	1.51	2	Paved	277	418
WCR 70	CR 19	CR 21	0.99	2	Paved	136	135
WCR 70	CL	SRFCH	0.43	2	Paved	102	44
WCR 72	SH 257	STR	0.09	2	Paved	1,040	94
WCR 72	STR	CR 19	0.90	2	Paved	1,040	936
WCR 73	SH 52	CR 16	2.01	2	Paved	349	701
WCR 73	CR 16	CR 18	1.00	2	Paved	364	364
WCR 73	CR 18	CR 22	2.00	2	Paved	353	706
WCR 73	CR 22	CR 24.5	1.50	2	Paved	472	708
WCR 80	SH 392	WCR 77	1.18	2	Gravel		
WCR 80	WCR 77	WCR 79	1.02	2	Gravel		
WCR 80	WCR 79	WCR 81	1.02	2	Gravel		
WCR 80	WCR 81	WCR 83	1.02	2	Gravel		
WCR 80	WCR 83	WCR 85	1.02	2	Gravel		
WCR 80	WCR 85	WCR 87	1.00	2	Gravel		
WCR 80	WCR 87	WCR 89	1.05	2	Gravel		
WCR 80	WCR 89	WCR 91	1.05	2	Gravel		
WCR 80	WCR 91	WCR 93	0.88	2	Gravel		
WCR 80	WCR 93	WCR 95	1.02	2	Gravel		
WCR 80	WCR 95	WCR 97	1.01	2	Gravel		
WCR 80	WCR 97	WCR 99	1.01	2	Gravel		
WCR 80	WCR 99	WCR 101	1.01	2	Gravel		
WCR 80	WCR 101	WCR 103	1.01	2	Gravel		
WCR 80	WCR 103	WCR 105	1.01	2	Gravel		
WCR 80	WCR 105	WCR 107	1.00	2	Gravel		
WCR 80	WCR 107	WCR 109	1.00	2	Gravel		
WCR 80	WCR 109	WCR 111	1.00	2	Gravel		
WCR 80	WCR 111	WCR 113	1.00	2	Gravel		
WCR 80	WCR 113	WCR 115	1.00	2	Gravel		
WCR 80	WCR 115	WCR 117	1.00	2	Gravel		
WCR 80	WCR 117	WCR 119	1.00	2	Gravel		
WCR 80	WCR 119	WCR 121	1.01	2	Gravel		
WCR 87	WCR 2	WCR 4	1.04	2	Gravel		
WCR 87	WCR 4	WCR 6	1.00	2	Gravel		
WCR 87	WCR 6	WCR 8	1.00	2	Gravel		
WCR 87	WCR 8	WCR 10	1.00	2	Gravel		
WCR 87	WCR 10	SH 52	1.01	2	Gravel		
WCR 87	CR 120	CHATOGA AV	0.82	2	Paved		
WCR 90	CL	CR 35	0.79	2	Paved	449	355
WCR 90	CR 35	CR 37	1.01	2	Paved	533	538
WCR 90	CR 37	CR 39	1.04	2	Paved	480	499
WCR 90	CR 39	CR 41	1.00	2	Paved	348	348
WCR 90	CR 41	CR 43	1.00	2	Paved	312	312
WCR 90	CR 43	CR 45	1.00	2	Paved	301	301
WCR 90	CR 45	STR	0.36	2	Paved	323	116
WCR 90	STR	CR 49	1.62	2	Paved	323	523
WCR 90	CR 49	CR 51	4.00	2	Paved	222	888
WCR 90	CR 51	SH 14	3.00	2	Paved	182	546
WCR 100	COLI	CR 17	2.00	2	Paved	1,007	2,014
WCR 100	CR 17	CR 19	5.03	2	Paved	875	4,401

Table 32. Existing Major Roadway Inventory (continued)

Road	From	To	Miles	Lanes	Surface	ADT	VMT
WCR 100	CR 19	CR 23	2.00	2	Paved	850	1,700
WCR 100	CR 23	CR 27	0.26	2	Paved	828	215
WCR 100	SPLIT	CR 27.5	0.24	2	Paved	818	196
WCR 100	CR 27.5	CR 29	0.49	2	Paved	818	401
WCR 105	WCR 74	WCR 76	1.00	2	Gravel		
WCR 105	WCR 76	WCR 78	1.00	2	Gravel		
WCR 105	WCR 78	WCR 80	1.00	2	Gravel		
WCR 105	WCR 80	WCR 82	1.00	2	Gravel		
WCR 105	WCR 82	WCR 84	1.00	2	Gravel		
WCR 105	WCR 84	WCR 86	1.00	2	Gravel		
WCR 105	WCR 86	WCR 88	1.00	2	Gravel		
WCR 105	WCR 88	SH 14	1.01	2	Gravel		
WCR 105	WCR 122	WCR 124	1.00	2	Gravel		
WCR 105	WCR 124	WCR 126	1.00	2	Gravel		
WCR 105	WCR 126	WCR 128	1.00	2	Gravel		
WCR 105	WCR 128	WCR 130	1.01	2	Gravel		
WCR 105	WCR 130	WCR 132	1.01	2	Gravel		
WCR 105	WCR 132	WCR 134	1.01	2	Gravel		
WCR 105	WCR 134	WCR 136	1.00	2	Gravel		
WCR 105	WCR 136	WCR 138	1.00	2	Gravel		
WCR 105	WCR 138	WCR 140	0.96	2	Gravel		
WCR 120	WCR 55	WCR 57	1.01	2	Gravel		
WCR 120	WCR 57	WCR 59	1.01	2	Gravel		
WCR 120	WCR 59	WCR 61	1.01	2	Gravel		
WCR 120	WCR 61	WCR 63	1.01	2	Gravel		
WCR 120	WCR 63	WCR 65	1.00	2	Gravel		
WCR 120	WCR 65	WCR 67	1.00	2	Gravel		
WCR 120	WCR 67	WCR 69	1.00	2	Gravel		
WCR 120	WCR 69	WCR 71	1.00	2	Gravel		
WCR 120	WCR 71	WCR 73	1.00	2	Gravel		
WCR 120	WCR 73	WCR 75	1.00	2	Gravel		
WCR 120	WCR 75	WCR 77	1.00	2	Gravel		
WCR 120	CR 77	WCR 79	4.32	2	Paved	403	1,741
WCR 120	WCR 79	WCR 81	1.00	2	Paved	212	212
WCR 120	WCR 83	WCR 87	2.00	2	Paved	208	416
WCR 120.75	CR 87	CL	0.38	2	Paved		
WCR 121	WCR 80	WCR 82	1.01	2	Gravel		
WCR 121	WCR 82	SH 14	1.02	2	Gravel		
WCR 122	SH 85	WCR 31	1.22	2	Gravel		
WCR 122	WCR 31	WCR 33	1.00	2	Gravel		
WCR 122	WCR 33	WCR 35	1.00	2	Gravel		
WCR 122	WCR 35	WCR 37	1.00	2	Gravel		
WCR 122	WCR 37	WCR 39	1.00	2	Gravel		
WCR 122	WCR 39	WCR 41	1.00	2	Gravel		
WCR 122	WCR 41	WCR 43	1.00	2	Gravel		
WCR 122	WCR 43	WCR 45	1.00	2	Gravel		
WCR 122	WCR 45	WCR 47	1.00	2	Gravel		
WCR 122	WCR 47	WCR 49	1.00	2	Gravel		
WCR 122	WCR 49	WCR 51	1.00	2	Gravel		
WCR 122	WCR 51	WCR 53	1.00	2	Gravel		
WCR 122	WCR 53	WCR 55	1.00	2	Gravel		

Table 32. Existing Major Roadway Inventory (continued)

Road	From	To	Miles	Lanes	Surface	ADT	VMT
WCR 125	WCR 124	WCR 126	1.00	2	Gravel		
WCR 125	WCR 126	WCR 128	1.07	2	Gravel		
WCR 125	WCR 128	WCR 130	1.00	2	Gravel		
WCR 125	WCR 130	WCR 132	1.00	2	Gravel		
WCR 125	WCR 132	WCR 134	1.00	2	Gravel		
WCR 125	WCR 134	Missile site	0.25	2	Gravel		
WCR 125	Missile Site	WCR 136	0.75	2	Gravel		
WCR 125	WCR 136	WCR 138	1.00	2	Gravel		
WCR 125	WCR 138	WCR 140	0.77	2	Gravel		
WCR 126	I-25	CR 126.5	0.49	2	Paved	354	173
WCR 126	WCR 15.5	WCR 17	0.50	2	Paved	367	184
WCR 126	CR 17	SFCH	1.05	2	Paved	338	355
WCR 126	SFCH	RRX	0.64	2	Paved	256	164
WCR 126	RRX	STR	0.35	2	Paved	281	98
WCR 126	STR	SRFCH	0.94	2	Paved	312	293
WCR 126	SRFCH	SH 85	2.89	2	Paved	162	468
WCR 127	WCR 98	WCR 100	1.15	2	Gravel		
WCR 127	WCR 100	WCR 102	1.00	2	Gravel		
WCR 127	WCR 102	WCR 104	1.00	2	Gravel		
WCR 127	WCR 104	WCR 106	1.00	2	Gravel		
WCR 127	WCR 106	WCR 108	1.00	2	Gravel		
WCR 127	WCR 108	Missile Site	0.75	2	Gravel		
WCR 127	Missile Site	WCR 110	0.25	2	Gravel		
WCR 127	WCR 110	WCR 112	1.14	2	Gravel		
WCR 127	WCR 112	WCR 114	1.00	2	Gravel		
WCR 127	WCR 114	WCR 116	1.00	2	Gravel		
WCR 127	WCR 116	WCR 118	1.00	2	Gravel		
WCR 127	WCR 118	WCR 120	1.00	2	Gravel		
WCR 127	WCR 120	WCR 122	1.05	2	Gravel		
WCR 127	WCR 122	WCR 124	1.05	2	Gravel		
WCR 127	WCR 124	WCR 126	1.00	2	Gravel		
WCR 127.5	WCR 92.5	WCR 94	0.65	2	Gravel		
WCR 127.5	WCR 94	WCR 96	1.00	2	Gravel		
WCR 127.5	WCR 96	WCR 98	1.00	2	Gravel		
WCR 129	CITY LIM	WCR 88	0.80	2	Gravel		
WCR 129	WCR 88	WCR 90	1.00	2	Gravel		
WCR 129	WCR 90	WCR 92	1.00	2	Gravel		
WCR 129	WCR 92	WCR 92.5	0.74	2	Gravel		
WCR 136	STR	CR 390	0.27	2	Paved	194	52
WCR 136	CR 390	CR 89	4.33	2	Paved	160	693
WCR 136	WCR 89	WCR 91	1.09	2	Gravel		
WCR 136	WCR 91	WCR 93	1.01	2	Gravel		
WCR 136	WCR 93	WCR 95	1.01	2	Gravel		
WCR 136	WCR 95	WCR 97	1.01	2	Gravel		
WCR 136	WCR 97	WCR 99	0.99	2	Gravel		
WCR 136	WCR 99	WCR 101	1.00	2	Gravel		
WCR 136	WCR 101	WCR 103	1.00	2	Gravel		
WCR 136	WCR 103	WCR 105	1.00	2	Gravel		
WCR 136	WCR 105	WCR 107	0.99	2	Gravel		
WCR 136	WCR 107	WCR 109	0.99	2	Gravel		
WCR 136	WCR 109	WCR 111	1.00	2	Gravel		

Table 32. Existing Major Roadway Inventory (continued)

Road	From	To	Miles	Lanes	Surface	ADT	VMT
WCR 378	CR 27.5	CR 29	0.50	2	Paved	2,373	1,187
WCR 378	Evans CL	WCR 396	0.66	2	Gravel	3,521	2,324
WCR 386	I-76	Crevi gate	0.60	2	Gravel		
WCR 386	Crevi Gate	WCR 28	0.75	2	Gravel		
WCR 386	WCR 28	WCR 30	1.25	2	Gravel		
WCR 386	WCR 30	WCR 32	1.10	2	Gravel		
WCR 386	WCR 32	WCR 34	1.10	2	Gravel		
WCR 386	WCR 34	WCR 36	1.30	2	Gravel		
WCR 386	WCR 36	WCR 38	1.35	2	Gravel		
WCR 386	WCR 38	WCR 40	1.11	2	Gravel		
WCR 386	WCR 40	SH 34	1.20	2	Gravel		
WCR 388	SH 37	CR 59	3.24	2	Paved	480	1,555
WCR 388	CR 59	STR	1.41	2	Paved	212	299
WCR 388	STR	CR 61	0.16	2	Paved	212	34
WCR 390	SH 14	WCR 92	1.50	2	Gravel	104	156
WCR 390	WCR 92	WCR 94	1.30	2	Gravel	99	129
WCR 390	WCR 94	Missle site	0.80	2	Gravel		
WCR 390	Missle Site	WCR 96	0.30	2	Gravel		
WCR 390	WCR 96	WCR 98	1.22	2	Gravel	107	131
WCR 390	WCR 98	WCR 100	1.32	2	Gravel	132	174
WCR 390	WCR 100	WCR 102	1.30	2	Gravel	85	110
WCR 390	WCR 102	WCR 104	1.35	2	Gravel	85	115
WCR 390	WCR 104	WCR 106	1.34	2	Gravel	76	102
WCR 390	WCR 106	WCR 108	1.15	2	Gravel	78	90
WCR 390	WCR 108	WCR 110	1.10	2	Gravel	78	86
WCR 390	WCR 110	WCR 112	1.10	2	Gravel	86	95
WCR 390	WCR 112	WCR 114	1.15	2	Gravel	111	128
WCR 390	WCR 114	WCR 116	1.15	2	Gravel	118	136
WCR 390	WCR 116	WCR 118	1.15	2	Gravel	118	136
WCR 390	WCR 118	WCR 120	1.15	2	Gravel	92	106
WCR 390	WCR 120	Grover	0.45	2	Gravel	137	62
WCR 390	Grover	WCR 124	0.55	2	Gravel	80	44
WCR 390	WCR 124	WCR 126	1.15	2	Gravel	80	92
WCR 390	WCR 126	WCR 128	1.10	2	Gravel	80	88
WCR 390	WCR 128	WCR 130	1.15	2	Gravel	80	92
WCR 390	WCR 130	WCR 132	1.08	2	Gravel	80	86
WCR 390	WCR 132	WCR 134	1.43	2	Gravel	89	127
WCR 390	WCR 134	WCR 136	1.62	2	Gravel	114	185
WCR 394	CR 31	RRX	0.03	2	Paved	289	9
WCR 394	CL EVANS	CL EVANS	0.06	2	Paved	367	22
WCR 394	CR 35	URBDRY	1.09	2	Paved	796	868
WCR 394	URBDRY	1ST AVE/CL LASALLE	0.29	2	Paved	796	231
WCR 394	CL LASALLE	SH 85	0.77	2	Paved		
Subtotal, Collectors			481.00				265,915
Total, Arterials and Collectors			670.08				548,404

Source: Weld County Public Works, September 13, 2010 (includes only County roads in unincorporated area).

APPENDIX C: ROADWAY UNIT COSTS

Table 33. Four-Lane Rural Arterial Cost Estimate per Mile

Item Description	Unit	Unit Cost	Quantity	Total Cost
Clearing and Grubbing	LS	$85,000	1	$85,000
Removal of Asphalt Mat	SY	$3.00	21,120	$63,360
Embankment Material (Complete in Place)	CY	$12.00	12,500	$150,000
Aggregate Base Course (9 inch thickness)	TON	$18.00	20,025	$360,450
Hot Mix Asphalt (6 inch thickness)	TON	$75.00	14,750	$1,106,250
Subtotal Cost				$1,765,060
Traffic Control @ 3% of Subtotal	LS	$52,952	1	$52,952
Utilities Relocation @ 6% of Subtotal	LS	$105,904	1	$105,904
Signing and Striping @ 1.5% of Subtotal	LS	$26,476	1	$26,476
Drainage @ 5% of Subtotal	LS	$88,253	1	$88,253
Right Of Way	ACRE	$20,000	10	$200,000
Design and Construction Engineering @ 15%	LS	$264,759	1	$264,759
Mobilization @ 7% of Subtotal	LS	$123,554	1	$123,554
Total Cost				$2,626,958
Total Cost, Excluding Drainage				$2,538,705

Source: Weld County Public Works Department, July 9, 2010.

Table 34. Widened Two-Lane Rural Collector Cost Estimate per Mile

Item Description	Unit	Unit Cost	Quantity	Total Cost
Clearing and Grubbing	LS	$50,000	1	$50,000
Removal of Asphalt Mat	SY	$3.00	26,425	$79,275
Unclassified Excavation (Complete in Place)	CY	$10.00	4,800	$48,000
Aggregate Base Course (9 inch thickness)	TON	$18.00	10,575	$190,350
Hot Mix Asphalt (6 inch thickness)	TON	$75.00	7,750	$581,250
Subtotal Cost				$948,875
Traffic Control @ 3% of Subtotal	LS	$28,466	1	$28,466
Utilities Relocation @ 6% of Subtotal	LS	$56,933	1	$56,933
Signing and Striping @ 1.5% of Subtotal	LS	$14,233	1	$14,233
Drainage @ 5% of Subtotal	LS	$47,444	1	$47,444
Right Of Way	ACRE	$20,000	2.5	$50,000
Design and Construction Engineering @ 15%	LS	$142,331	1	$142,331
Mobilization @ 7% of Subtotal	LS	$66,421	1	$66,421
Total Cost				$1,354,703
Total Cost, Excluding Drainage				$1,307,259

Source: Weld County Public Works Department, July 9, 2010.

Table 35. Two-Lane Gravel Road Improvement Cost Estimate per Mile

Item Description	Unit	Unit Cost	Quantity	Total Cost
Clearing and Grubbing	LS	$40,000	1	$40,000.00
Removal of Asphalt Mat	SY	$3.00	26,425	$79,275.00
Unclassified Excavation (Complete in Place)	CY	$10.00	2,950	$29,500.00
Aggregate Base Course (9 inch thickness)	TON	$18.00	9,525	$171,450.00
Hot Mix Asphalt (6 inch thickness)	TON	$75.00	7,000	$525,000.00
Subtotal Cost				$845,225.00
Traffic Control @ 3% of Subtotal	LS	$25,357	1	$25,357.00
Utilities Relocation @ 6% of Subtotal	LS	$50,714	1	$50,714.00
Signing and Striping @ 1.5% of Subtotal	LS	$12,678	1	$12,678.00
Drainage @ 5% of Subtotal	LS	$42,261	1	$42,261.00
Design and Construction Engineering @ 15%	LS	$126,784	1	$126,784.00
Mobilization @ 7% of Subtotal	LS	$59,166	1	$59,166.00
Total Cost				$1,162,185
Total Cost, Excluding Drainage				$1,119,924

Source: Weld County Public Works Department, July 9, 2010.