Impact Fee Study

prepared for the City of Greeley, Colorado

> FINAL AS OF DECEMBER 5, 2014 PRESENTED TO COUNCIL DECEMBER 9, 2014

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December 2014

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EXECUTIVE SUMMARY

This study reviews the City's transportation, drainage, parks, trails, fire and police impact fees, as well as the City's water and wastewater plant investment fees (PIFs).

Background

The City Greeley is a home rule municipality that is the county seat and the most populous city of Weld County, Colorado. Greeley is in northern Colorado, about 49 miles north-northeast of Denver. The downtown is situated near the intersection of US 34 and US 85, about 15 miles east of I-25. The City's approximately 30 square miles of incorporated area extends mostly to the west from downtown, to within about five miles of I-25.

According to the Census Bureau, the City's population grew from 76,930 in 2000 to 96,539 in 2013, making it the 12th most populous city in the state of Colorado. The City estimates the population to be 98,219 in 2014.

The City's current impact fees for transportation, drainage, fire, police, parks and trails, and its current plant investment fees for water and wastewater, are summarized in Table 1.



Some of the fees in Table 1 had to be estimated for typical uses, because (1) water and wastewater fees for other than single-family detached and multi-family are assessed based on the size of the water meter, (2) drainage fees are assessed based on impervious cover; (3) hotel/motel uses are assessed per room for fire and police, but per 1,000 square feet for the other non-utility fees.

The City's current impact fees for fire, police, parks and trails are unchanged from those adopted in 2003.¹ The transportation, drainage and trail fees were revised in 2007,² but were generally based on the fees adopted in 2003. The transportation, drainage and trail fees have been adjusted annually for the last three years by an "economic adjustment factor," with the result that the current fees for

¹ Tischler & Associates, Development Fee Study Prepared for the City of Greeley, Colorado, June 3, 2003.

² Red Oak Consulting, City of Greeley Development Fee Study, May 2007.

those facilities are about 6% higher than those adopted in 2003. The water and wastewater PIFs are updated annually.

						Nhood	Comm			Waste-	
Land Use	Unit	Roads	Drain	Fire	Police	Park	Park	Trails	Water	Water	Total
Single-Family Det.*	Dwelling	\$2,185	\$341	\$275	\$133	\$1,104	\$1,783	\$334	\$10,600	\$5,600	\$22,355
Single-Family Att.	Dwelling	\$2,185	\$341	\$216	\$104	\$866	\$1,399	\$334	\$5,300	\$2,800	\$13,545
Multi-Family	Dwelling	\$1,505	\$245	\$192	\$93	\$772	\$1,247	\$145	\$5,300	\$2,800	\$12,299
Mobile Home/Other	Dwelling	\$1,505	\$245	\$262	\$127	\$1,053	\$1,701	\$145	\$10,600	\$5,600	\$21,238
Hotel	Room	\$3,805	\$219	\$157	\$29	\$0	\$0	\$0	\$619	\$329	\$5,158
Commercial <50k	1,000 sf	\$7,610	\$439	\$581	\$193	\$0	\$0	\$0	\$1,237	\$658	\$10,718
Commercial <100k	1,000 sf	\$7,610	\$439	\$499	\$170	\$0	\$0	\$0	\$1,237	\$658	\$10,613
Commercial <200k	1,000 sf	\$7,610	\$439	\$436	\$148	\$0	\$0	\$0	\$1,237	\$658	\$10,528
Commercial 200k+	1,000 sf	\$7,610	\$439	\$387	\$128	\$0	\$0	\$0	\$1,237	\$658	\$10,459
Office <25k	1,000 sf	\$3,560	\$263	\$705	\$200	\$0	\$0	\$0	\$1,237	\$658	\$6,623
Office <50k	1,000 sf	\$3,560	\$263	\$661	\$126	\$0	\$0	\$0	\$1,237	\$658	\$6,505
Office <100k	1,000 sf	\$3,560	\$263	\$623	\$89	\$0	\$0	\$0	\$1,237	\$658	\$6,430
Office 100k+	1,000 sf	\$3,560	\$263	\$585	\$71	\$0	\$0	\$0	\$1,237	\$658	\$6,374
Business Park	1,000 sf	\$3,560	\$263	\$551	\$60	\$0	\$0	\$0	\$1,237	\$658	\$6,329
Light Industrial	1,000 sf	\$1,590	\$439	\$403	\$50	\$0	\$0	\$0	\$1,237	\$658	\$4,377
Warehousing	1,000 sf	\$1,590	\$439	\$223	\$35	\$0	\$0	\$0	\$1,237	\$658	\$4,182

Table 1. Current Impact Fees and Plant Investment Fees

Notes: Water/wastewater fees assume minimum 3/4" meter for single-family detached, attached and mobile homes; single-family detached assumes a dwelling unit on a 10,000 sq. ft. lot with 40% impervious cover; multi-family assumes a a density of 12 units per acre and 70% impervious cover; retail, industrial and warehouse assume a 0.15 floor-to-area ratio; office assumes a 0.25 floor-to-area ratio; hotel assumes two hotel rooms per 1,000 sq. ft.

Source: City of Greeley, Building Permit Fee Schedule; City of Greeley, 2014 Transportation, Storm Drainage, and Trails Fee Schedule; City of Greeley, Water and Sewer Department, April 17, 2014.

Summary of Major Changes

Land Use Categories. The current nonresidential land use categories are inconsistent among the non-utility fees, consisting of three broad categories (retail, commercial and industrial) for transportation and drainage fees, and 12 more detailed categories for fire and police fees. Public/institutional land uses are not clearly addressed with either set of land use categories. This update uses a consistent set of land use categories for all of the updated non-utility fees, and includes a public/institutional category. A new oil and gas well category is also proposed.

Type of Methodology. All of the updated fees are calculated based on a standards-based methodology. As described in greater detail in the Methodology Memorandum,³ the alternative to a standards-based approach is a plan-based approach. Of the City's fees that are updated in this study, only the transportation were calculated using a plan-based approach (the 2007 Red Oak study calculated fees using a standards-based approach, but those fees were not implemented). The drainage fees were also based on a plan-based approach (also recalculated in 2007 using a standardsbased approach but not implemented), but this study does not update the drainage fees.

³ Duncan Associates, Impact Fee Methodology Memorandum, June 2014

Drainage Fees. Drainage impact fees pose some unique problems. Drainage infrastructure is a mix of natural channels and man-made structures on public and private land, and must respond to the typography of the land. It can be difficult to clearly distinguish between "regional" improvement that are included in the drainage impact fee (and for which developers would be given credit if they provide), and more localized improvements that developers would be expected to provide without credit. The City's intent is to complete a drainage master plan in 2015. Without such master plan data, a plan-based methodology is not possible. A standards-based methodology could be used, but may require data that are not readily available. Regardless of methodology, fee calculations and expenditures would need to be done separately for each basin. Another complicating factor is that the City also charges a drainage utility fee that is paid by all properties in the city. Given the difficulties involved, the consultant recommends not updating the drainage impact fee at this time.

<u>Park Fees</u>. This update proposes to consolidate the neighborhood and community park fees into a single consolidated park fee. Given that the current exemption area applies only to neighborhood park fees, the updated park fee would apply city-wide, with no exemption area. Land costs are excluded from the updated park fee, and instead are addressed with a proposed park land dedication requirement.

<u>Water/Wastewater Fees</u>. The review of the plant investment fee methodology suggests the City consider an alternative fee calculation approach: dividing the system equity value by existing capacity, rather than existing demand. This approach ensures that new customers pay only for the capacity that they require. However, the Greeley Water and Sewer Board decided not to change from the current methodology. The consultant also recommends eliminating the outside city surcharge for water PIFs (this recommendation does not apply to monthly water rates).

<u>Annual Inflation Indexing</u>. The transportation, drainage and trail fees have been adjusted annually for the last three years by an "economic adjustment factor," derived from six weighted variables considered to be representative of local economic growth and conditions (utility customers, assessed property value and employment), as well as the cost of materials and services associated with constructing capital projects (Colorado transportation cost index and national construction and building cost indices). The consultant's recommendation is to adjust all of the impact fees each year between comprehensive updates with an index that reflects construction costs only. While economic growth factors could be considered, they should not be allowed to increase the fees more rapidly than would be appropriate to reflect cost inflation. This recommendation does not apply to the PIFs, because they are updated annually.

<u>Redevelopment Credits</u>. The City's current ordinance essentially provides a "credit" for the most intensive previous use of a development site. If a landowner or developer proposes to redevelop a site, only the increase in impact fees over the fees that would have been charged for the previous use are required to be paid. For example, if a site that currently has a single-family detached home is proposed to be redeveloped for four apartments, then only the difference between the single-family home fees and the four multi-family units is required to be paid. The consultant does not propose any change to this approach.

Summary of Updated Fees

This study provides the calculations for the updated non-utility fees, except for drainage – the drainage fees will remain unchanged pending a future study. While this study recommended a modification to the water and wastewater PIFs, the Greeley Water and Sewer Board decided to retain the current methodology for next year's update. The updated non-utility fees calculated in this study and the Water Board's proposed PIFs are compared to current fees in Table 2. The updated total fees are higher than current fees for residential uses and lower than current fees for most nonresidential land use types.

									Waste-	
Land Use Type	Unit	Roads	Drain	Parks*	Trails	Fire	Police	Water**	Water**	Total
Updated Fees										
Single-Family Detached	Dwelling	\$3,645	\$341	\$3,124	\$377	\$524	\$117	\$11,000	\$5,150	\$24,278
Multi-Family	Dwelling	\$2,353	\$245	\$2,344	\$283	\$393	\$88	\$5,500	\$2,575	\$13,781
Mobile Home Park	Site	\$1,092	\$245	\$3,280	\$396	\$550	\$123	\$11,000	\$5,150	\$21,836
Retail/Commercial	1,000 sq. ft	\$4,825	\$439	\$0	\$0	\$641	\$143	\$1,284	\$601	\$7,933
Office	1,000 sq. ft	\$4,266	\$263	\$0	\$0	\$301	\$67	\$1,284	\$601	\$6,782
Industrial	1,000 sq. ft	\$1,476	\$439	\$0	\$0	\$119	\$27	\$1,284	\$601	\$3,946
Warehouse	1,000 sq. ft	\$1,376	\$439	\$0	\$0	\$57	\$13	\$1,284	\$601	\$3,770
Public/Institutional	1,000 sq. ft	\$2,390	\$263	\$0	\$0	\$229	\$51	\$1,284	\$601	\$4,818
Oil and Gas Well	Wellhead	\$1,680	\$188	\$0	\$0	\$261	\$58	\$0	\$0	\$2,187
Current Fees										
Single-Family Detached	Dwelling	\$2,185	\$341	\$2,887	\$334	\$275	\$133	\$10,600	\$5,600	\$22,355
Multi-Family	Dwelling	\$1,505	\$245	\$2,019	\$145	\$192	\$93	\$5,300	\$2,800	\$12,299
Mobile Home Park	Site	\$1,505	\$245	\$2,754	\$145	\$262	\$127	\$10,600	\$5,600	\$21,238
Retail/Commercial	1,000 sq. ft	\$7,610	\$439	\$0	\$0	\$436	\$148	\$1,237	\$658	\$10,528
Office	1,000 sq. ft	\$3,560	\$263	\$0	\$0	\$623	\$89	\$1,237	\$658	\$6,430
Industrial	1,000 sq. ft	\$1,590	\$439	\$0	\$0	\$403	\$50	\$1,237	\$658	\$4,377
Warehouse	1,000 sq. ft	\$1,590	\$439	\$0	\$0	\$223	\$35	\$1,237	\$658	\$4,182
Public/Institutional	1,000 sq. ft	\$3,560	\$263	\$0	\$0	\$623	\$89	\$1,237	\$658	\$6,430
Oil and Gas Well	Wellhead	***	***	***	***	***	***	***	***	***
Percent Change										
Single-Family Detached	Dwelling	67%	0%	8%	13%	91%	-12%	4%	-8%	9%
Multi-Family	Dwelling	56%	0%	16%	95%	105%	-5%	4%	-8%	12%
Mobile Home Park	Site	-27%	0%	19%	172%	110%	-3%	4%	-8%	3%
Retail/Commercial	1,000 sq. ft	-37%	0%	n/a	n/a	47%	-3%	4%	-9%	-25%
Office	1,000 sq. ft	20%	0%	n/a	n/a	-52%	-25%	4%	-9%	5%
Industrial	1,000 sq. ft	-7%	0%	n/a	n/a	-70%	-46%	4%	-9%	-10%
Warehouse	1,000 sq. ft	-13%	0%	n/a	n/a	-74%	-63%	4%	-9%	-10%
Public/Institutional	1,000 sq. ft	-33%	0%	n/a	n/a	-63%	-43%	4%	-9%	-25%
Oil and Gas Well	Wellhead	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Table 2. Summary of Updated Fees

* includes estimate of new park fee in lieu of land dedication

** adopted by Greeley Water Board for 2015

*** proposed new category

Source: Updated fees from Table 18 (transportation), Table 27 and Table 31 (park impact fee and illustrative fee in-lieu of park land dedication), Table 35 (trails), Table 43 (fire), and Table 52 (police); adopted 2015 water and wastewater fees from Greeley Water and Sewer Board, November 19, 2014 (nonresidential assumes 3" meter for 100,000 sq. ft. building); "updated" drainage fees are current drainage fees (oil and gas fee assumes 2,000 sq. ft. of impervious cover per wellhead); current fees from Table 1.

Total updated fees are higher than current fees for residential and office uses due to the increase in the transportation fees. However, it should be noted that the current transportation fees are basically unchanged from those originally calculated in the 2003 Tischler study. The 2007 Red Oak study calculated a significantly higher fee of \$3,360 for a single-family unit, which was to be phased-in over a five-year period, but the City chose not implement the phase-in. Had the 2007 transportation fee been adopted, the transportation fees would be increasing only modestly and total fees would be going down for all land uses.

Comparative Fees

Impact fee comparisons are easy to make, but they can also be misleading. The amount of impact fees charged by a jurisdiction has not been demonstrated to have a significant effect on the amount of development activity between jurisdictions. Building or buying real estate in a community entails far more than the up-front, published impact fee rates. Impact fees are only a small portion of development costs, and development costs are only a small part of the overall picture.

Just focusing on development costs, other significant factors besides impact fee amounts include policies for credits against impact fee contributions, developer exactions other than impact fees, building permit fees, land costs, subdivision improvement standards, landscaping standards, and construction sales and use tax rates, among others. All of these can vary substantially from one jurisdiction to the next, but are not as easily quantified as impact fee amounts.

While developers and builders might prefer lowest-cost locations, they must follow market demand and build where people want to live and shop and where companies want to locate. People's location decisions do include housing costs (of which impact fees are a small component), but they also include job and shopping opportunities, quality of schools, adequacy of transportation, water, sewer and drainage infrastructure, public amenities such as parks, trails and libraries, general government and special district tax rates, monthly utility rates, and a host of other factors. Commercial businesses follow residential development. Industries seek an available, educated labor force, and also consider a multitude of other factors, including transportation and utility access, access to raw materials, tax and utility rates, etc.

Table 3 on the following page summarizes the total impact fees currently charged by ten Colorado jurisdictions for each of five typical land use types. The two counties (Weld and Larimer) are placed in the bottom part of the table because they do not provide the same range of facilities as municipalities. For example, the two counties do not provide water, wastewater, and parks – facilities that municipalites typically provide and charge impact fees for. Details on the types and amounts of fees charged by each comparion jurisdiction can be found in Appendix E. Greeley's total proposed impact fees are generally similar to the average for the eight comparison cities.

	Single-	Multi-			
	Family	Family	Retail	Office	Industrial
Jurisdiction	(unit)	(unit)	(1,000 sf)	(1,000 sf)	(1,000 sf)
Windsor	\$21,008	\$9,682	\$5,779	\$4,800	\$4,102
Loveland	\$23,147	\$14,122	\$10,739	\$6,664	\$4,491
Fort Collins	\$18,249	\$11,618	\$15,412	\$7,917	\$6,072
Longmont	\$21,675	\$5,901	\$5,902	\$5,665	\$4,835
Thornton	\$26,078	\$18,626	\$5,618	\$5,618	\$5,618
Boulder	\$37,806	\$22,723	\$17,010	\$13,105	\$16,250
Broomfield	\$37,013	\$22,541	\$5,602	\$5,602	\$5,602
Pueblo	\$6,064	\$3,778	\$725	\$725	\$725
8-City Average	\$23,880	\$13,624	\$8,348	\$6,262	\$5,962
Greeley (Proposed)	\$24,278	\$13,781	\$7,933	\$6,782	\$3,946
Greeley % of Avg.	102%	101%	95%	108%	66%
Weld County	\$3,361	\$2,250	\$4,294	\$2,703	\$2,705
Larimer County	\$5,958	\$4,548	\$8,269	\$4,043	\$2,716

Table 3. Total Impact Fees by Land Use, Colorado Jurisdictions

Source: Comparative jurisdictions' fees from Table 65 through Table 74 in Appendix E; Greeley's proposed fees from Table 2.

Table 4 below does a similar comparison, but this time for a single-family detached unit and broken down by type of fee. As can be seen, the surveyed jurisdictions vary considerably in terms of the types of fees that they charge, but the eight-city comparison jurisdictions all assess water and wastewater impact fees. As already seen in the previous table, Greeley's proposed single-family fee is about the same as the eight-city average.

Table 4. Impact Fees by Type per Single-Family Unit, Colorado Jurisdictions

				-							
				Storm	Park/				Gen.		
Jurisdiction	Roads	Water	Sewer	Water	Trail	Lib.	Fire	Police	Gov't	Other*	Total
Windsor	\$2,115	\$6,725	\$3,700	\$735	\$5,493					\$2,240	\$21,008
Loveland	\$2,280	\$5,670	\$2,410	\$655	\$6,553	\$1,333	\$894	\$880	\$1,090	\$1,382	\$23,147
Fort Collins	\$3,396	\$3,920	\$3,090	\$1,954	\$3,313	\$383	\$192	\$455		\$1,546	\$18,249
Longmont	\$879	\$9,590	\$4,550	\$777	\$4,758				\$1,121		\$21,675
Thornton		\$20,515	\$5,563								\$26,078
Boulder	\$2,171	\$16,807	\$4,473	\$8,240	\$4,263	\$459	\$209	\$295	\$429	\$460	\$37,806
Broomfield		\$22,454	\$12,559							\$2,000	\$37,013
Pueblo		\$4,324	\$1,740								\$6,064
8-City Average**	\$2,168	\$11,251	\$4,761	\$2,472	\$4,876	\$725	\$432	\$543	\$880	\$1,526	\$23,880
Greeley (Proposed)	\$3,645	\$11,000	\$5,150	\$341	\$3,501		\$524	\$117			\$24,278
Greeley % of Avg.	168%	98%	108%	14%	72%	n/a	121%	22%	n/a	n/a	102%
Weld County	\$2,313	\$0	\$0	\$400	\$0	\$0	\$0	\$0	\$648	\$0	\$3,361
Larimer County	\$3,208	\$0	\$0	\$0	\$1,259	\$0	\$0	\$0	\$0	\$1,491	\$5,958

* Other includes school land fees in-lieu (Windsor, Loveland, Fort Collins, Larimer County), affordable housing excise tax (Boulder), expansion fee tax (Broomfield)

** Average fees by type do not include jurisdictions that do not charge that type of fee; average total fee includes all jurisdictions *Source:* Fees for comparative jurisdictions from Table 65 through Table 74 in Appendix E; Greeley's proposed fees from Table 2.

LEGAL FRAMEWORK

Impact fee methodology must comply with certain legal principles. Impact fees were pioneered by local governments in the absence of explicit state enabling legislation. Impact fees were originally defended as an exercise of local government's broad "police power" to protect the health, safety and welfare of the community. The courts gradually developed guidelines for constitutionally valid impact fees, based on a "rational nexus" that must exist between the regulatory fee or exaction and the activity that is being regulated. The guiding principles developed in case law were subsequently incorporated into state impact fee enabling acts, at least to some degree. Some state acts have just borrowed terminology from case law, while others elaborate on the guidelines more explicitly.

Colorado Statutes

In Colorado, the state legislature has adopted explicit impact fee enabling legislation, which is codified in Sec. 29-20-104.5, Colorado Revised Statutes. Key provisions of this section include the following:

(1) "A local government shall quantify the reasonable impacts of proposed development on existing capital facilities and establish the impact fee or development charge at a level no greater than necessary to defray such impacts directly related to proposed development." (§ 29-20-104.5(2))

(2) "No impact fee or other similar development charge shall be imposed to remedy any deficiency in capital facilities that exists without regard to the proposed development." (§ 29-20-104.5(2))

(3) "Any schedule of impact fees or other similar development charges adopted by a local government pursuant to this section shall include provisions to ensure that no individual landowner is required to provide any site specific dedication or improvement to meet the same need for capital facilities for which the impact fee or other similar development charge is imposed." (§ 29-20-104.5(3))

(4) Impact fees may be charged for capital facilities that have "an estimated useful life of five years or longer." (§ 29-20-104.5(4)(b))

(5) Cities "may waive an impact fee or other similar development charge on the development of low- or moderate- income housing or affordable employee housing." (§ 29-20-104.5(5))

(6) "Nothing in this section shall be construed to prohibit a local government from deferring collection of an impact fee or other similar development charge until the issuance of a building permit or certificate of occupancy." (§ 29-20-104.5(6))

Additional accounting requirements are imposed pursuant to Sec. 29-1-803, which requires that impact fees be deposited in "an interest-bearing account which clearly identifies the category, account, or fund of capital expenditure for which such charge was imposed. Each such category, account, or fund shall be accounted for separately. ... Any interest or other income earned on moneys deposited in said interest-bearing account shall be credited to the account."

Finally, Sec. 22-54-102(3)(a) prohibits school impact fees: "Nothing in this article shall be construed to prohibit local governments from cooperating with school districts through intergovernmental agreements to fund, construct, maintain, or manage capital construction projects or other facilities ..., as long as funding for such projects is provided solely from a source of local government revenue that is otherwise authorized by law <u>except impact fees</u> or other similar development charges or fees." [emphasis added]

Case Law Requirements

In addition to statutory provisions, national impact fee case law also governs impact fees. One of the key principles enunciated by the courts is that impact fees should only charge new developments for the capital costs that they actually impose on the community. Almost all of the state enabling acts contain words or phrases that acknowledge this principle. Colorado's act uses the phrase "impacts directly related to the proposed development."

Another principle of case law is that impact fees should not charge new development for a higher level of service than is provided to existing development. If the fees are based on a higher level of service than is provided to existing development in the community, other funding must be identified to remedy the existing deficiencies. This principle is expressed colloquially in the saying, "impact fees should not be used to pay for the sins of the past." On this point, Colorado's act states that "No impact fee or other similar development charge shall be imposed to remedy any deficiency in capital facilities that exists without regard to the proposed development."

A corollary principle is that new development should not have to pay more than its proportionate share when multiple sources of payment are considered. This principle is often expressed informally as "new development should not be charged twice for the same facilities." Virtually all of the state enabling acts require construction credits for developments that make in-kind contributions, such as the dedication of property or construction of improvements. The reduction of impact fees on a case-by-case basis for a particular development to account for such contributions is known as a "construction credit." All but four of the 28 state acts explicitly require that developers be given reimbursements or credits for in-kind contributions for the same type of capital facility costs covered by the impact fee. Colorado's act words this principle as follows: "Any schedule of impact fees or other similar development charges adopted by a local government pursuant to this section shall include provisions to ensure that no individual landowner is required to provide any site specific dedication or improvement to meet the same need for capital facilities for which the impact fee or other similar development charge is imposed."

In addition to in-kind contributions, other sources of potential double-payment could include future property taxes that will be generated by the new development and used to pay debt service on existing facilities, or sales tax revenues earmarked to remedy existing deficiencies in facilities serving existing development. Since there is no way to charge new development a lower property or sales tax rate than existing development, the solution is to reduce the impact fees by an amount equivalent to the future payments. Such a reduction is referred to as a "revenue credit." A majority of the state enabling acts explicitly require consideration of revenue credits, although Colorado's does not. Nevertheless, this principle should be adhered to in the development of impact fees in Colorado.

METHODOLOGY

A wide range of methodologies have been developed to calculate impact fees, consistent with the legal requirements and guidelines described in the previous section. Despite variations, there are two primary types of methodologies, which can be referred to as "standards-based" and "planbased." Standards-based methodologies use a system-wide level of service standard, such as the system-wide ratio of road capacity to demand, the number of park acres per 1,000 residents, or the existing capital investment per service unit. Plan-based methodologies are generally based on modeling and geographically-specific level of service standards (e.g., "all road segments and intersections shall function at LOS D or better"), and rely on a facility master plan to create the nexus between the cost of planned improvements and the projected growth over a defined time period. In general, the standards-based approach provides greater flexibility in expenditures (a planbased approach requires a master plan update when planned projects change). The two approaches are described in more detail below.

Standards-Based

The "standards-based" methodology uses a generalized level-of-service standard to determine the costs to accommodate new development. This approach does not require that there be a master plan, or even a list of specific planned projects that will funded with the impact fees.

Most often, the standards-based approach uses the actual level of service (LOS) that exists at the time the study is prepared. This LOS standard can be expressed in terms of a physical ratio (e.g., park acres per 1,000 population), or in dollar terms (e.g., park cost per person). When based on the existing LOS, this approach is sometimes referred to as "incremental expansion." The basic assumption is that, as the community grows, it will be necessary to expand capital facilities proportional to growth. Basing the fees on the existing LOS assumes that there is little or no excess capacity in existing facilities to accommodate future growth.

However, a standards-based methodology can also be based on a LOS that is lower or higher than the current existing LOS. When there is a significant amount of excess capacity, a lower-thanexisting LOS may be used. This is most often the case with roads, water and wastewater facilities. However, it can also be a consideration for parks, trails, fire and police facilities, particularly if the impact fee study follows a recent major expansion of those types of facilities.

<u>Roads</u>. For roads, the most common standards-based approach is often referred to as the "consumption-based" methodology. This methodology charges a new development the cost required to replace the capacity the new development will consume in the major roadway system. In other words, if a development will generate 100 vehicle-miles of travel (VMT) per day, it is charged impact fees based the average cost to create 100 vehicle-miles of capacity (VMC). Most well-functioning roadway systems have considerably more than one VMC for each VMC, but at least a portion of this surplus represents excess capacity. While this is the most common standards-based approach for roads, some transportation impact fees use a VMC/VMT ratio higher than 1.0, but less than the existing ratio. This existing ratio is seldom used, because growing communities tend to have major roads in areas that are not fully developed, and as the community approach build-out are unlikely to be able to maintain the current ratio.

<u>Water/Wastewater</u>. For water and wastewater systems, standards-based approaches tend to be of two main types, which can be referred to as "buy-in" or "consumption-based." In general, buy-in approaches use historical system costs, while consumption-based approaches use current or planned unit costs.

The <u>buy-in method</u> relies on a jurisdiction's fixed asset listings, and may be based on (a) original costs, (b) original costs less depreciation, (c) replacement costs (original costs inflated by a construction cost index), or (d) replacement costs less depreciation. Buy-in approaches that account for depreciation tend to be the most conservative, because new development is not charged impact fees for renovating or replacing worn-out infrastructure (an obligation of both existing and future customers to pay for through utility rates), and because new capacity cannot be purchased at current depreciated rates. Buy-in methods that rely on original costs are also more conservative than those that account for cost inflation, because new capacity cannot be purchased at historical prices.

Another key distinction between utility buy-in approaches is whether total system cost (however that is measured) is divided by (a) existing demand or (b) existing capacity. In general, water/wastewater utility systems in growing communities need to have considerably more capacity than currently required, because of the long lead times and large capacity increments required, especially for central facilities (e.g., treatment plants) but also for transmission/collection lines (it is much cheaper to lay larger lines in anticipation of future demand than to up-size smaller lines as demand increases). Most utility systems will eventually approach a buildout condition, at which time only a modest amount of excess capacity will make economic sense. In this context, buy-in methodologies that divide system cost by current demand, when there is considerable excess capacity, are the most aggressive, while buy-in methodologies that divide system cost by current capacity are more conservative.

In contrast to the buy-in method, the <u>consumption-based method</u> relies not on fixed asset records, but rather on recent or planned unit costs to expand various components of the utility system. For example, the water storage component of a water impact fee would be based on the existing or planned future ratio of water storage per single-family equivalent (SFE) customer (expressed as storage gallons per SFE) times the current cost to construct a new storage tank in terms of cost per SFE. In general, the consumption-based approach is roughly comparable to the buy-in approach using replacement costs without depreciation, to the extent that original costs inflated by a cost index actually correspond to current costs to add capacity. As with the buy-in method, a critical distinction in consumption-based methodologies is whether the fees are based on the existing ratio of capacity to demand, or on a future or buildout ratio.

A final point relates to recoupment of the cost of existing excess capacity. Almost always, recoupment of past costs actually relates to charging new development for actual future costs to retire outstanding debt on existing facilities that have excess capacity – only in rare cases have impact fees been used to recover the cost of excess capacity that has been fully paid for. The use of impact fees to pay for outstanding debt for existing excess capacity is appropriate only for standards-based methodologies based on a level of service that is lower than the current ratio of demand to capacity. Plan-based approaches, which are discussed next, seldom charge for existing excess capacity.

Plan-Based

In contrast to standards-based methodologies, which rely on generalized, system-wide LOS standards, plan-based methodologies rely on a specific list of planned improvements. A plan-based methodology basically divides the cost of planned improvements over a fixed time period by the anticipated growth in service units over the same time period. The least defensible of these approaches are those based on a Capital Improvements Plan, because there is not necessarily any strong correlation between short-term planned improvement costs and long-term costs to accommodate new development. Much more defensible are those based on a long-range master plan or build-out plan.

As discussed above, plan-based methodologies seldom account for the cost of existing excess capacity. Instead, they focus solely on future costs to be incurred, and generally exclude any future costs to retire debt on existing capacity.

Regardless of the methodology used, an impact fee calculation must comply with the legal principles established by impact fee case law, as described earlier. The most fundamental principle is that impact fees should only charge new development for the costs attributable to growth, and should not charge for the correction of existing capacity deficiencies. In addition, the fees should be proportional to the impact of the development. Finally, new development should not be required to pay twice for the same improvements through other taxes and fees.

Plan-based approaches are not exempt from the fundamental requirement that the fees do not exceed the existing level of service. For example, a transportation fee based on a master plan that determines the cost maintain LOS D on all roadways over the next 20 years should identify any existing road-ways that currently function at a LOS worse than D and develop a funding plan to remedy the deficiencies. Because new development will generally contribute toward whatever funding source is used for this purpose, it is usually necessary to calculate a revenue credit that accounts for such contribution. Many impact fee studies that use the plan-based approach omit this critical component.

Current Methodologies

The City's non-utility impact fees are based on two studies. The 2003 Tischler study⁴ used what it called a "plan-based" approach for all of the non-utility fees, but based on the above typology they would be classified as a standards-based methodology for all but transportation and drainage fees, which were calculated based on master plans. The other fees were based on desired future system-wide levels of service that were higher than existing levels of service (e.g., 0.44 miles of trail per person), and would more appropriately be classified as standards-based. The "system equity buy-in" approach used for the transportation, drainage and trail fees in the 2007 Red Oak study⁵ is a variant of the standards-based "buy-in" methodology. Greeley's water/wastewater plant investment fees (PIFs) also use a standards-based buy-in approach.⁶

⁴ Tischler & Associates, Development Fee Study Prepared for the City of Greeley, Colorado, June 3, 2003.

⁵ Red Oak Consulting, City of Greeley Development Fee Study, May 2007.

⁶ City of Greeley Public Works Department, Water Rate Model.

It should be recognized that the City's current adopted non-utility impact fees are still mostly based on the 2003 Tischler study. The park, police and fire impact fees initially adopted based on the Tischler study have never been updated or adjusted for inflation. The transportation, drainage and trail fees calculated in the 2007 Red Oak study were not adopted, and when the Council adopted fees from the Red Oak study in 2011, the fees it adopted were the initial year of a proposed 2007-2011 phase-in. The first-year fees, with the exception of the nonresidential drainage fees and trail fees, were taken from the 2003 Tischler study (i.e., the adopted fees at the time). Because the existing fees at the time were not consistent with the city-wide service areas used in the Red Oak study (there were three fee schedules for transportation and nine for drainage), and because the land use categories were different (fewer residential and nonresidential categories), the Red Oak study selected approximations of the existing fees to be the start of the phase-in, as illustrated below. The recommended phase-in to the fees actually calculated in the Red Oak study was never implemented; instead, the City has applied an annual "economic adjustment factor" each of the last three years, which simply adjusts the fees upwards or downwards proportionately to the change in an index.

Tuble 0. Tees Adopted in Eorr Based on neu ouk olday										
Red Oak Category	2003 Tischler Study Fees Used for Start of Phase-In*									
(City-Wide)	Transportation	Drainage	Trails							
Single-Family	Single-Family Det., Zone 3	SFD, Downtown/North Basin	no study basis							
Multi-Family	Multi-Family, Zone 3	MF, Downtown/North Basin	no study basis							
Retail	Shop Ctr 50-100k, Zone 2	Red Oak Study, no phase-in	n/a							
Commercial	Gen Office, 50-100k, Zone 3	Red Oak Study, no phase-in	n/a							
Industrial	Light Industrial, Zone 3	Red Oak Study, no phase-in	n/a							

Table 5. Fees Adopted in 2011 Based on Red Oak Study

* except for nonresidential drainage fees and trail fees

<u>Transportation</u>. For the start of the phase-in for transportation fees, the Red Oak study used Zone 2 (the mid-range fee schedule) fees for the retail category and Zone 3 fees (the highest fee schedule) for the rest of the land use categories. Retail, commercial and industrial fees used selected "mid-range" land use categories from the Tischler study. Consequently, the current transportation impact fees are all based on fees calculated in the 2003 Tischler study.

<u>Drainage</u>. For the start of the phase-in for residential drainage fees, the Tischler study fees for the Downtown/North basin were used. For nonresidential fees, it was difficult to compare the fees per 1,000 square feet of building calculated in the Tischler study to the proposed fees per 1,000 square feet of impervious cover calculated in the Red Oak study. Due to this, the Red Oak study did not propose a phase-in for nonresidential drainage fees, but rather proposed immediate adoption of the fees calculated in the Red Oak study. Consequently, the current drainage fees are based on the 2003 Tischler study for residential land uses and the 2007 Red Oak study for the nonresidential land uses.

<u>Trails</u>. The trail fees posed a unique problem for developing a phase-in schedule, because the Red Oak fee for multi-family was much lower than the existing adopted fee based on the Tischler study. Red Oak's solution was to propose a slightly higher single-family fee and a much lower multi-family fee than calculated in the Tischler study for the first year of the phase-in. Consequently, the current adopted trail fees are not based on fees actually calculated in either the 2003 Tischler study or the 2007 Red Oak study.

Comparative Methodologies

As described above, there are two primary types of methodologies, which can be referred to as "standards-based" and "plan-based." Standards-based methodologies use a system-wide level of service standard, such as the system-wide ratio of road capacity to demand, the number of park acres per 1,000 residents, or the existing capital investment per service unit. Plan-based methodologies are generally based on modeling and geographically-specific level of service standards (e.g., "all road segments and intersections shall function at LOS D or better"), and rely on a build-out or facility master plan to create the nexus between the cost of planned improvements and the projected growth over a defined time period. In general, the standards-based approach provides greater flexibility in expenditures (a plan-based approach often requires a master plan update when planned projects change).

Table 6 classifies the methodologies used as the basis for the types of fees charged by the City of Greeley and the 10 Colorado jurisdictions. While a few jurisdictions have used a plan-based or a hybrid type of methodology for certain fees, the majority of the fees rely on standards-based methodologies. Plan-based approaches are generally limited to road and stormwater fees.

		•							
				Storm	Park/				Gen.
Jurisdiction	Roads	Water	Sewer	Water	Trail	Lib.	Fire	Police	Gov't
Greeley	Standard	Standard	Standard	Mix	Standard		Standard	Standard	
Windsor	Standard	Standard	Standard	Plan	Unknown				
Loveland	Plan	Standard	Standard	Plan	Standard	Standard	Standard	Standard	Standard
Fort Collins	Plan	Standard	Standard	Standard	Standard		Standard	Standard	Standard
Longmont	Plan	Standard	Standard		Standard				
Thornton		Standard	Standard						
Boulder	Mix	Standard							
Broomfield		Plan	Plan						
Weld County	Standard			Standard					Standard
Larimer County	Standard								
Pueblo		Unknown	Unknown						
Courses Can Annand	L F								

Table 6. Methodologies Used for Current Impact Fees, Colorado Jurisdictions

Source: See Appendix E.

System Buy-In Variants. System buy-in methodologies, like the one that Greeley uses, are standards-based, but can vary significantly in how they are calculated. In general, existing system value is divided by either existing customer service units or existing capacity service units to determine the cost per service unit. However, existing system value can be based on a variety of measures, including original cost, original cost less depreciation, replacement cost, or replacement cost less depreciation. Outstanding debt principal may or may not be subtracted to determine net equity value. Some future costs may or may not be added (if they are, system cost is divided by future service units). System cost may be divided either by existing customer service units or existing capacity service units. Additional methodological details were available for four of the six comparison cities that also use a system buy-in approach for their water and wastewater impact fees. These details are summarized in Table 7.

Three of the four comparison cities use replacement cost (original cost inflated to current cost using a construction cost index), as does Greeley. Only Boulder uses the more conservative replacement cost less depreciation (RCLD). Like Greeley, all four of the other jurisdictions subtract outstanding

debt - this approach is referred to as "equity system buy-in." One of the cities (Fort Collins) adds future costs, but it also divides by future service units, so the approach is basically the same. Only one of the comparison cities (Windsor) also divides system cost by existing customers, rather than by existing capacity (dividing by capacity is the more conservative approach).

Table 7.	water/Sewer Buy-in wethodology Details										
	Replacement/	Less	Add Future	Divide							
Jurisdiction	RCLD	Debt?	Costs?	By:							
Greeley	Replacement	Yes	No	Customers							
Windsor	Replacement	Yes	No	Customers							
Fort Collins	Replacement	Yes	Yes	Capacity							
Thornton	Replacement	Yes	No*	Capacity							
Boulder	RCLD**	Yes	No	Capacity							

construction work-in-progress and fund balances are included ** RCLD stands for replacement cost less depreciation

Source: See Appendix E.

Recommendations

The general type of methodology to use should be made on a case-by-case basis depending of the availability and quality of relevant information, including data on existing facilities as well as available master plans. The decision should also reflect City priorities, such as ease of administration and updates or the value placed on having a defined list of improvements to be funded. Our general preference is the standards-based approach, because it does not require a master plan and is more flexible However, in some cases there may not be a realistic alternative. For example, depending on the quality of available data on existing drainage infrastructure, a plan-based approach may turn out to be the most appropriate for the update of the City's drainage impact fees. For the City's other impact fees and PIF's, we would be comfortable recommending a standards-based approach.

Perhaps more important than the overall methodology are the details of the particular application of the methodology. For transportation impact fees and water/wastewater PIFs, a key issue is the treatment of excess capacity.

Transportation. With respect to transportation fees, we would suggest the standard, consumptionbased approach. The consumption-based approach uses a 1.0 ratio of system capacity to demand (VMC/VMT). While the City likely has a current level of service significantly higher than that, this approach recognizes that there is a significant amount of excess capacity in the existing major road system, and that the capacity/demand ratio will tend to fall closer to 1.0 as the City approaches build-out. The consumption-based approach requires only that new development pay for the capacity of the major road system that it directly consumes.

Water/Wastewater. The City currently uses the system buy-in methodology in its rate model to calculate water/wastewater PIFs. Original system costs, excluding those facilities used by wholesale customers or contributed by developers, are inflated to an approximation of current replacement value using a construction cost index. We believe this approach comes closest to the recovery of actual costs than the alternative buy-in methodologies that utilize original or depreciated costs, because system expansion required by growth cannot be built at historical costs, much less depreciated historical costs. However, dividing the total replacement value of the existing utility system by current customers to determine the cost per service unit, as the City currently does, is most appropriate for utility systems that do not have a significant amount of excess capacity.

Because Greeley's water and wastewater systems (particularly wastewater) do have significant excess capacity, we would suggest that the City consider modifying the fee calculations by dividing existing system cost by existing system capacity (less some essential percentage of excess capacity), rather than by current demand.

<u>Drainage</u>. Drainage impact fees pose some unique problems. Drainage infrastructure is a mix of natural channels and man-made structures on public and private land, and must respond to the typography of the land. It can be difficult to clearly distinguish between "regional" improvement that are included in the drainage impact fee (and for which developers would be given credit if they provide), and more localized improvements that developers would be expected to provide without credit. The City does not have drainage master plans for all of the basins, and the ones that it does have are at least 8 years old. The master plans that are available do not distinguish between existing deficiencies and growth needs, nor do they provide information on existing and future development assumptions. Without such master plan data, a plan-based methodology is not possible. A standards-based methodology could be used, but may require data that are not readily available (more on this below). Regardless of methodology, fee calculations and expenditures would need to be done separately for each basin (see discussion in Service Area/Benefit District section).

Another complicating factor is that the City also charges a drainage utility fee that is paid by all properties in the city. Utility fee revenues can be used for capacity-expanding drainage capital improvements as well as maintenance/rehabilitation. Unless the City is willing to restrict the use of utility fees for maintenance projects, the drainage impact fees will need to be reduced to ensure that new developments are not paying twice for growth-related drainage improvements through their impact fees and future utility rate payments.

Given the difficulties involved in calculating and administering drainage impact fees (distinguishing regional from localized improvements, distinguishing existing deficiency from growth needs, calculating fees and restricting expenditures by drainage basin, ensuring no overlap between impact and utility fees), the consultant recommends not updating the drainage impact fee at this time.

The City intends to prepare a drainage master plan in 2015. The drainage fees should be updated based on the master plan. In order to support updated drainage impact fees, the drainage master plan will need to provide the following:

- (1) existing and projected impervious cover by drainage basin,
- (2) improvements needed to address existing and growth-related needs in each basin,
- (3) costs of improvements in current dollars, and
- (4) the percentage of the cost of each improvement attributable to future growth.

TRANSPORTATION

This section updates the City of Greeley's transportation impact fees. The City assesses transportation impact fees on new residential and nonresidential development to help pay for the expansion of the arterial road system. The last comprehensive update of the transportation impact fees was in 2003, although the fees were increased by a total of about 6% over the last three years based on the annual application of an "economic adjustment factor."

Service Area

The current transportation fees are based on the 2003 Tischler study, which was based on the cost of improvements to City arterial streets. The updated fees are also limited to the cost of arterial street improvements. The arterial street system is designed to move traffic long distances, and is appropriate for a city-wide service area.

A transportation impact fee system should include a clear definition of the major roadway system that is to be funded with the impact fees. Transportation impact fees are not intended to be used to construct or improve local streets or most collector roads, because these are the responsibility of developers to install within their subdivisions. Transportation impact fees may include improvements to State and County roads located within the City's jurisdiction. The fees may also include the cost of right-of-way in addition to design and construction.

The City's current transportation impact fees are based on the cost of City-owned arterial roadways, and this will be used as the definition of the major roadway system for the purpose of this update. The updated fees will be used for capacity-expanding arterial improvements, including signalization and intersection improvements, which primarily have the effect of expanding capacity of the arterial roadway system, rather than providing greater access to a particular development or promoting safety. An inventory of existing City-owned arterial roads is provided in Appendix C, including information on segment length, number of through lanes, recent traffic counts and capacity. Figure 1 below shows the location of major roads within the City's growth boundary (while collectors are shown in the map, they are not part of the major road system for impact fee purposes).

Service Units

Service units create the link between demand (traffic generated by new development) and supply (roadway capacity). An appropriate service unit basis for transportation impact fees is vehicle-miles. Vehicle-miles is a combination of the number of vehicles traveling during a given time period and the distance (in miles) that those vehicles travel.

The two time periods most often used in traffic analysis are the 24-hour day (average daily trips or ADT) and the single hour of the day with the highest traffic volume (peak hour trips or PHT). The choice of peak hour trips rather than average daily trips as the service unit will tend to generate lower fees for retail uses compared to office and industrial uses. The City's current transportation impact fees are based on the 2003 Tischler study, which used average daily trip generation. The Tischler study also used "trip adjustment factors," which accounted for pass-by trips but not for differences in average trip lengths (e.g., shopping centers tend to generate much shorter trip lengths than office or industrial uses).



On the demand side, this update uses daily trip generation, new trip factors (which account for passby and diverted trips), and average trip lengths. The product of these three factors is the vehiclemiles of travel (VMT) associated with a unit of development for various land use types.

The service unit on the supply side is average daily vehicle-miles of capacity (VMC) at Level of Service "D" (LOS D). Generalized capacity estimates for arterial roadway cross-sections have been developed by the Florida Department of Transportation, and these are summarized in Table 8.

Roadway Type	Vehicles/Day
2-Lane Undivided	15,930
4-Lane Divided	35,820
Source: Florida Departme	nt of Transportation,

2013 Quality/Level of Service Handbook, Table 1.

The methodology used in this update is the standards-based approach known as "consumptionbased." The consumption-based approach uses a system-wide ratio of capacity to demand (VMC/VMT) of one-to-one as the level of service to be maintained. While the City has a current level of service significantly higher than that, this approach recognizes that there is a significant amount of excess capacity in the existing major road system, and that the capacity/demand ratio will tend to fall closer to 1.00 as the City approaches build-out. The consumption-based approach requires only that new development pay for the capacity of the major road system that it directly consumes.

The calculations presented in Table 9 below demonstrate that the City's existing arterial road system currently has a level of service well in excess of 1.00. Because the updated fees are based on a level of service than is lower than the current level of service, there are no existing deficiencies from an impact fee perspective.

Vehicle-Miles of Travel, Roads with Counts	535,250
÷ Lane-Miles with Counts	156.95
Average Daily Trips per Lane, Roads with Counts	3,410
x Reduction Percentage for Roads without Counts	75%
Average Daily Trips per Lane, Roads without Counts	2,558
x Lane-Miles without Counts	35.61
Vehicle-Miles of Travel, Roads without Counts	91,090
Vehicle-Miles of Travel, Roads with Counts	535,250
Total Vehicle-Miles of Travel (VMT)	626,340
Total Vehicle-Miles of Capacity (VMC)	1,652,500
+ Total Vehicle-Miles of Travel (VMT)	626,340
Current VMC/VMT Batio	2 64

Table 9. Current Arterial Road Level of Service

Source: Table 61 in Appendix C (road segments lacking recent traffic counts assumed to have 75% the number of average daily trips as road segments with counts).

Travel Demand 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. The first two factors are well documented in the professional literature, and the average trip generation characteristics identified in studies of communities around the nation should be reasonably representative of trip generation characteristics in Greeley. In contrast, trip lengths are much more likely to vary between communities, depending on the geographic size and shape of the community and its major roadway system.

Trip Generation

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

New Trip Factor

Trip rates also need to be adjusted by a "new trip factor" to exclude pass-by and diverted trips. This adjustment is intended to reduce the possibility of over-counting travel induced by the new development. Pass-by trips are those trips that are already on a particular route for a different purpose and simply stop at a development on that route. For example, a stop at a convenience store on the way home from the office is a pass-by trip for the convenience store. A pass-by trip does not

create an additional burden on the street system and therefore should not be counted in the assessment of impact fees. A diverted-linked trip is similar to a pass-by trip, but a diversion is made from the regular route to make an interim stop. The reduction for pass-by and diverted trips utilized in this study was drawn from the ITE *Trip Generation Handbook* and other published information.

Average Trip Length

The average trip length is the most difficult travel demand factor to determine. In the context of a transportation impact fee using a consumption-based methodology, the relevant input is the average length of a trip on the major roadway system within the city limits. The starting point is national data on average trip lengths for specific land uses and trip purposes. While these national trip lengths provide reasonable estimates of relative magnitudes associated with different land use types, the actual distances are likely to be unrepresentative of travel on the City's major roadway system. An adjustment factor can be derived by dividing the VMT actually observed on the major roadway system by the VMT that would be expected using national average trip lengths and trip generation rates.

The first step in developing the adjustment factor for the local trip length is to estimate the total VMT that would be expected on Greeley's major roadway system based on national travel demand characteristics. Existing land uses are multiplied by trip generation rates, percent new trips and average trip lengths and summed to estimate total city-wide VMT. As shown in Table 10, existing land uses within the city limits, using national trip length data, would be expected to generate approximately 2.77 million VMT every day.

		<u> </u>					
	ITE		Existing	Trip	% New	Avg. Trip	Expected
Land Use Type	Code	Unit	Units	Rate	Trips	Length	VMT
Single-Family Detached*	210	Dwelling	23,976	4.76	100%	9.16	1,045,392
Multi-Family	220	Dwelling	12,856	3.33	100%	8.43	360,892
Mobile Home/RV Park	240	Space/Pad	2,522	2.50	100%	8.43	53,151
Retail/Commercial	820	1,000 sq. ft.	10,380	21.35	43%	6.27	597,491
Office	710	1,000 sq. ft.	6,021	5.52	92%	10.04	306,994
Industrial	140	1,000 sq. ft.	5,637	1.91	92%	10.04	99,450
Warehouse	150	1,000 sq. ft.	5,666	1.78	92%	10.04	93,158
Public/Institutional	620	1,000 sq. ft.	7,012	3.80	89%	8.47	200,863
Oil & Gas Well	na	Wellfield	427	2.00	100%	10.04	8,574
Total							2,765,965

Table 10. Expected Vehicle-Miles of Travel

Source: Existing units from Table 60 in Appendix B; trip rates are ½ of average daily trip ends on a weekday from Institute for Transportation Engineers (ITE), *Trip Generation*, 9th Edition, 2012; retail % new trips based on shopping center from ITE, *Trip Generation Handbook*, June 2004; % new trips for other nonresidential uses from Tindale-Oliver & Associates' origin and destination studies database provided in *City of Casselberry Impact Fee Study*, March 2013; average trip length in miles from U.S. Department of Transportation, Federal Highway Administration, *2009 National Household Travel Survey* (residential based on drivers of personal vehicles only; retail based on shopping trips; office/industrial/warehouse based on weighted average of 28% home-to-work trips (14% of daily office/industrial trips occur in evening peak hour) and 72% average for all trip types; public/institutional based on school/church trips); expected VMT is product of existing units, trip rate, % new trips and average trip length.

The next step in developing the local trip length adjustment factor is to determine actual daily VMT on the City's major roadway system (this was done earlier in Table 9). Actual and expected VMT are shown in Table 11. Expected VMT using existing land use data and national travel demand characteristics significantly over-estimates VMT actually observed on Greeley's major roadway system. This result is not surprising, because the actual VMT does not include travel on City local or

collector roads, County or State roads or on any roadways outside of the city limits. Consequently, it is necessary to develop an adjustment factor to account for this variation.

The local travel demand adjustment factor is the ratio of actual to expected VMT on the major roadway system. As shown in Table 11, the national average trip lengths should be multiplied by a local adjustment factor of 0.226 to determine average trip lengths by land use in Greeley.

Table 11. Local Trip Length Adjustment Factor

Actual Daily Vehicle-Miles of Travel (VMT)	626,340
 Expected Daily Vehicle-Miles of Travel (VMT) 	2,765,965
Local Adjustment Factor	0.226

Source: Actual VMT from Table 9; expected VMT from Table 10.

The trip length adjustment factor calculated in the previous table is used to adjust the national average trip lengths. The resulting local trip lengths by land use type are shown in Table 12.

	National	Local	Local
	Trip Length	Adjustment	Trip Length
Land Use Type	(miles)	Factor	(miles)
Single-Family Detached	9.16	0.226	2.07
Multi-Family	8.43	0.226	1.91
Mobile Home/RV Park	5.24	0.226	1.18
Retail/Commercial	6.27	0.226	1.42
Office	10.04	0.226	2.27
Industrial	10.04	0.226	2.27
Warehouse	10.04	0.226	2.27
Public/Institutional	8.47	0.226	1.91

Table 12. Local Average Trip Lengths

Source: National trip lengths from Table 10; adjustment factor from Table 11.

Travel Demand Summary

The result of combining trip generation rates, new trip factors and average trip lengths is a travel demand schedule that establishes the vehicle-miles of travel (VMT) generated on Greeley's arterial road system during the average weekday by various land use types per unit of development. The recommended travel demand schedule is presented in Table 13.

Table 13. Travel Demand by Land Use								
		Trip	% New	Avg. Trip	Daily			
Land Use Type	Unit	Rate	Trips	Length	VMT			
Single-Family Detached	Dwelling	4.76	100%	2.07	9.85			
Multi-Family	Dwelling	3.33	100%	1.91	6.36			
Mobile Home/RV Park	Pad/Space	2.50	100%	1.18	2.95			
Retail/Commercial	1,000 sq. ft.	21.35	43%	1.42	13.04			
Office	1,000 sq. ft.	5.52	92%	2.27	11.53			
Industrial	1,000 sq. ft.	1.91	92%	2.27	3.99			
Warehouse	1,000 sq. ft.	1.78	92%	2.27	3.72			
Public/Institutional	1,000 sq. ft.	3.80	89%	1.91	6.46			
Oil and Gas Well	Wellhead	2.00	100%	2.27	4.54			

Table 13. Travel Demand by Land Use

Source: Trip rate and percent new trips from Table 10 (oil and gas trip rate is estimate of ½ daily trips for oil and gas removal, routine inspections and maintenance and repair from City of Loveland, Development Services Department, memorandum for August 19, 2014 City Council meeting, agenda item 14); local average trip length from Table 12; daily VMT is product of trip rate, percent new trips and average trip length.

Cost per Service Unit

The City's Public Works Department provided information on recent and planned major road improvements, including design, right-of-way and construction costs. Historical costs are in original dollars, and planned cost estimates are in current dollars. As summarized in Table 14, the average cost of recent and planned improvements is about \$3.54 million per added lane-mile.

Table 14. Average Cost per Lane-Mile							
	Completion		New	New		Cost per	
Segment Description	Year	Miles	Lanes	Ln-Mi.	Total Cost	Lane-Mile	
20th St W from 71st to 74th Ave	2015	0.30	2	0.60	\$2,323,000	\$3,871,667	
20th St W from 74th to 79th Ave	2018	0.45	2	0.90	\$2,357,500	\$2,619,444	
65th Ave from 29th St to 32nd St	2016	0.81	2	1.62	\$5,807,500	\$3,584,877	
65th Ave S of US34 Bypass to 28th St	2014	0.20	2	0.40	\$2,633,946	\$6,584,865	
71st Ave from 10th to 12th St	2012	0.25	2	0.50	\$1,373,782	\$2,747,564	
North 11th Ave	2014	0.12	2	0.24	\$564,631	\$2,352,629	
Total		2.13		4.26	\$15,060,359	\$3,535,295	

Source: City of Greeley Public Works Department, August 25, 2014 and November 15, 2014.

All of the City's recent and planned major road improvements are two- to four-lane widening projects. This type of improvement adds almost 10,000 vehicles per day of capacity at LOS D for each new lane, as shown in Table 15. Dividing the cost per new lane-mile calculated above by the capacity added per new lane yields a cost of \$355 per VMC. Because the standard consumption-based methodology uses a one-to-one ratio of capacity to demand, the cost per service unit (VMT) is also \$355. In addition to the cost of improving road segments is the cost of signalization. Because signals are added incrementally as traffic conditions warrant, signal costs are based on the existing ratio of signals to service units. The total cost per service unit is \$396 per VMT.

Table 15.	Transportation	Cost per	Service	Unit
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Capacity of 4-Lane Divided Road	35,820
– Capacity of 2-Lane Undivided Road	15,930
Capacity Added by 2-4 Lane Widening	19,890
+ Number of Lanes Added	2
Capacity Added per New Lane	9,945
Average Cost per Lane-Mile	\$3,535,295
÷ Capacity Added per New Lane	9,945
Cost per Vehicle-Mile of Capacity (VMC)	\$355
x VMC/VMT Ratio (assumed)	1.00
Segment Cost per VMT	\$355
Existing Traffic Signals	116
x Cost per Signal	\$220,000
Existing Signal Cost	\$25,520,000
+ Existing Vehicle-Miles of Travel (VMT)	626,340
Signal Cost per VMT	\$41
Segment Cost per VMT	\$355
Total Cost per VMT	\$396

Source: Road capacities from Table 8; average cost per lane-mile from Table 14; existing signals and signal cost from Greeley Public Works Department, June 27, 2014; existing VMT from Table 9.

Net Cost per Service Unit

As discussed in the Legal Framework section, credit is due against impact fees under three situations: (1) there are existing deficiencies, (2) there is outstanding debt on facilities serving existing development, or (3) there are dedicated local revenues or outside funding for the same improvements. These are each addressed below. The resulting revenue credits are deducted from the cost per service unit calculated in the previous section to calculate the net cost per service unit.

(1) From an impact fee perspective, there are no existing deficiencies. The fees are based on a system-wide level of service, defined as a 1-to-1 ratio of system-wide capacity (VMC) to system-wide demand (VMT). There are no existing deficiencies on a system-wide basis as long as the VMC/VMT ratio is greater than 1.00. The actual existing major roadway level of service for City arterials is a 2.64 VMC/VMT (see Table 9). Because the fees are based on a LOS that is lower than the actual existing LOS, no deficiency credit is warranted.

(2)The City of Greeley has no outstanding debt for previous capacity-expanding arterial road improvements. Consequently, no debt credit is needed.

(3) The amount of intergovernmental revenue that is applied toward funding capacity-expanding City arterial road improvements is based on anticipated funding over the four-year period covered by the adopted regional Transportation Improvement Program (TIP). The State and Federal funding credit is shown in Table 16. Assuming that planned annual funding will be continued, the present value of State and Federal funding that can be anticipated over the next 25 years, which is the typical long-term debt repayment period, discounted at the current cost of borrowing, is \$26 per daily vehicle-mile of travel (VMT) on the arterial system

Table To. Transportation Funding Credit per Service Unit							
Project Description	Source	FY 2012	FY 2013	FY 2014	FY 2015	Total	
Fiber Optic Communication	AQC	\$1,799,000	\$1,347,000	\$0	\$0	\$3,146,000	
Fiber Optic Communication	STU	\$0	\$222,000	\$0	\$0	\$222,000	
65th Ave, US 34 Bypass-34th St, Turn Lns	STU	\$0	\$0	\$909,000	\$0	\$909,000	
Total State/Federal Funding, FY 2012-2014						\$4,277,000	
÷ Years						4	
Annual State/Federal Funding						\$1,069,250	
÷ Existing VMT						626,340	
Annual State/Federal Funding per VMT						\$1.71	
x Net Present Value Factor (25 Years)						15.09	
State/Federal Funding Credit per VMT						\$26	

Table 10 Transportation Funding Credit per Service Unit

Source: Planned project funding from North Front Range Transportation & Air Quality Planning Council, FY 2012 - FY 2017 Transportation Improvement Program (TIP); daily VMT from Table 9; present value factor based on 25 years at 4.33% discount rate based on average interest rate on state and local bonds in July 2014 from the Federal Reserve at http://www.federalreserve.gov/releases/ h15/data.htm.

Deducting the State/Federal funding credit per service unit from the cost per service unit yields the net cost per service unit, as shown in Table 17.

Cost per Service Unit (VMT)	\$396
 Credit per Service Unit (VMT) 	-\$26
Net Cost per Service Unit (VMT)	\$370
Source: Cost from Table 15, credit from Table	16.

Table 17. Transportation Net Cost per Service Unit

Impact Fee Schedule

The updated transportation impact fees are calculated in Table 18 by multiplying the service unit multipliers (VMT/unit) by the net cost per service unit.

Table To. Opuated Transportation impact rees								
		VMT/	Net Cost/	Net Cost/				
Land Use Type	Unit	Unit	VMT	Unit				
Single-Family Detached*	Dwelling	9.85	\$370	\$3,645				
Multi-Family	Dwelling	6.36	\$370	\$2,353				
Mobile Home/RV Park	Pad/Space	2.95	\$370	\$1,092				
Retail/Commercial	1,000 sq. ft.	13.04	\$370	\$4,825				
Office	1,000 sq. ft.	11.53	\$370	\$4,266				
Industrial	1,000 sq. ft.	3.99	\$370	\$1,476				
Warehouse	1,000 sq. ft.	3.72	\$370	\$1,376				
Public/Institutional	1,000 sq. ft.	6.46	\$370	\$2,390				
Oil and Gas Well	Wellhead	4.54	\$370	\$1,680				

Table 18. Updated Transportation Impact Fees

* includes mobile home on single-family lot

Source: VMT per unit from Table 13; net cost per VMT from Table 17.

Current transportation impact fees charged by the City of Greeley are compared to the updated fees in Table 19. The updated fees are higher for most residential uses and lower for most nonresidential uses. It is worth noting that the updated single-family fee is 11% lower than the fee that was calculated in the 2007 Red Oak study, adjusted for regional construction cost inflation.⁷

Table 15.								
		Current	Updated	Percent				
Land Use Type	Unit	Fee	Fee	Change				
Single-Family Detached	Dwelling	\$2,185	\$3,645	67%				
Multi-Family	Dwelling	\$1,505	\$2,353	56%				
Mobile Home/RV Park	Pad/Space	\$1,505	\$1,092	-27%				
Retail/Commercial	1,000 sq. ft.	\$7,610	\$4,825	-37%				
Office	1,000 sq. ft.	\$3,560	\$4,266	20%				
Industrial	1,000 sq. ft.	\$1,590	\$1,476	-7%				
Warehouse	1,000 sq. ft.	\$1,590	\$1,376	-13%				
Public/Institutional	1,000 sq. ft.	\$3,560	\$2,390	-33%				
Oil and Gas Well	Wellhead	*	\$1,680	n/a				

Table 19. Comparative Transportation Fees

* proposed new category

Source: Current fees from Table 1; updated fees from Table 18.

⁷ From August 2007 to August 2014, the *Engineering News-Record* Denver Construction Cost Index increased by 22.03%. The single-family transportation fee of \$3,360 calculated in the 2007 Red Oak study is the equivalent of \$4,100 in current dollars.

PARKS

This section updates the City's park impact fees, which were last updated in 2003. The City currently assesses separate impact fees for neighborhood and community parks. This update recommends combining the two into a single park impact fee. This update also excludes park land costs, which will be addressed with a new park land dedication/fee in-lieu requirement for new residential subdivisions.

The City of Greeley has over 500 acres of developed park land in 40 parks that are administered and maintained by the Department of Culture, Parks and Recreation. Public recreational facilities are available in Greeley downtown at the Recreation Center, Senior Activity Center, Ice Haus and north at the Jesus Rodarte Cultural Center which also houses the Youth Enrichment Program. West Greeley is served by the Greeley Family FunPlex. In addition to parks, Greeley has eleven natural areas, totaling over 300 acres, but these lands are not included in the park impact fee calculations. Golf courses and cultural or historical sites, such as museums and the Civic Center, are also excluded from the park impact fees.

Service Area

The types of improvements to be funded with impact fees are related to the geographic areas they serve. There are two types of geographic areas in impact fee analysis: service areas and benefit districts. The service area corresponds to the area served by a set of facilities, and is generally the geographic level at which impact fees are calculated. However, a service area may be divided into multiple benefit districts as a way to further ensure that a fee-paying development will receive significant benefit from improvements.

The City's current park impact fees are city-wide, although neighborhood park fees are not assessed on new residential development in the Central Zone (the area south of O Street between 35th Avenue and SR 85 – see Figure 2). There is no prohibition in the ordinance against spending neighborhood park fees on improvements in the exempt area. This poses somewhat of a problem, because if neighborhood parks primarily benefit development in the zone in which they are located, neighborhood park fees that are collected in a zone should be spent on improvements in the same zone, in order to provide a benefit to the development that paid the fee.

The Central Zone is currently exempt from neighborhood park impact fees. With the proposed consolidated park fees, there will no longer be a neighborhood park fee from which development in the Central Zone could be exempted. Because land costs are proposed to be addressed through subdivision dedication requirements rather than through impact fees, and this area is already mostly subdivided, new residential construction in the Central Zone will no longer be paying for land costs for community parks.

The proposed consolidated park impact fee is appropriate for a city-wide service area. The updated fee also includes regional parks (the City has one regional park – Island Grove). Community and regional parks and recreation facilities tend to serve relatively large areas. While neighborhood parks tend to provide more localized benefit, they account for only a small part of the consolidated fee.



Service Units

Impact fee calculations require a definition of a service unit and the development of demand factors. A service unit is a common measure of demand, such as population for park fees. Demand factors are the number of service units that are associated with a unit of development (e.g., persons per unit). Impact fees for parks and trails are typically only assessed on residential development, and are generally based either on population or equivalent dwelling units (EDUs).

The proposed service unit for the updated park impact fees (as well as the separate trail fees) is the equivalent dwelling unit (EDU). One EDU represents the demand, in terms of household residents, of an occupied single-family detached dwelling unit. A multi-family unit, or a mobile home located in a mobile home park, is a fraction of an EDU, based on the ratio of that housing type's average household size to the average household size of a single-family detached unit. The park service unit multipliers for Greeley based on current average household sizes by housing type are shown in Table 20.

Avg. HH	EDUs/
Size	Unit
2.88	1.00
2.16	0.75
3.02	1.05
	Avg. HH Size 2.88 2.16 3.02

Table 20. Park Service Unit Multipliers

* includes mobile home on single-family lot

Source: Average household sizes from Table 59 in Appendix A; EDUs/unit is ratio of average household size to single-family detached average household size.

The total number of existing EDUs is determined by multiplying the existing number of dwelling units of each housing type by the associated EDUs per unit and summing for all housing types. As shown in Table 21, there are 36,266 existing park service units in the city.

	Existing	EDUs/	Total			
Housing Type	Units	Unit	EDUs			
Single-Family Detached*	23,976	1.00	23,976			
Multi-Family	12,856	0.75	9,642			
Mobile Home Park (space)	2,522	1.05	2,648			
Total	39,354		36,266			

Table 21. Existing Park Service Units

* includes mobile home on single-family lot

Source: Existing units from Table 60 in Appendix B; EDUs/unit from Table 20.

Cost per Service Unit

The City's current park system includes 747 acres of park land, of which 556 acres are developed. The acreages of each of the City's existing parks, along with the numbers of standard types of amenities in each, are summarized in Table 22.

		Table	; 22.	EXI	stilly	rain		entor	Y		_		_	
	Acr	es	Play-	_	Shelte	r	Tenr	nis Crt	Bask.	Volley	Bas	<u>seball</u>	Foot	Park
Park Name	Total	Dev'd	grnd	Sm.	Med.	Lge.	Lit	Unlit	ball	ball	Lit	Unlit	ball	Spce.
Allen	11.0	11.0	1	1										
Anna Gimmestad	5.0	5.0	1										_	
Balsam Sports Complex	14.3	14.3											5	
Bittersweet	53.0	53.0	2		2				1				2	50
Brentwood	5.5	5.5	1										1	
Broadview	5.8	5.8	1	1								1		
Centennial	20.6	20.6		1			6	6			1			75
Cottonwood	7.5	7.5												
Coyote Run	5.9	5.9	1	1										
Delta	5.0	5.0							2					
East Memorial	11.2	11.2			2	1			2	2				
Epple	7.0	7.0												
Farr	5.9	5.9	1		1		2		1	2		1		
Forbes Field	7.7	4.7	0						0		1			50
Franklin	3.5	3.5												
Glenmere	12.3	12.3	1	1										
Greeley West	37.7	5.7	1	1										
Homestead Park/OS	32.0	1.0	1	2										
Island Grove Regional	164.1	112.0	2		1	1					1	0	2	1,750
Jimmy's Park	0.4	0.4		1										1
Josephine Jones	37.0	0.0	1	2										
Leavy	3.8	3.8												
Lincoln	5.5	5.5	1											
Luther	9.4	9.4	1		1									
Monfort	43.7	43.7				1							9	420
Peakview	12.7	12.7	2		1				1	1		1		
Pheasant Run	7.7	7.7	1		1							1		
Promontory	23.3	23.3	-	3	-							-		80
Bamseler	15.3	15.3	1	2					1					
Rodarte	4.6	4.6	1	_	1							1		40
Rover Bun Dog Park	27	27	•	1	•									30
Sanborn	29.1	29.1	1	•		1				2				30
Sherwood	7.6	76	•	1			2			2			2	00
Sunrise	3.6	3.6	1		1		-						2	0
Swanson/ Kiwanis	13	13	1	1	I				05					U
Twin Rivers	41.0	36.0	1	2					0.0		4			600
Waggin' Tail Dog Park	37	20.0	·	2							-1			500
Westmoor	2.7 2.2	ວ.7 ງ ຊ	1	1									1	
Woodbrian	2.0 6.2	2.0	1	1									I	
Vouth Sports Complay	70.0	0.2 ۸۰ ۸	I	I.		1					Q	Л		120
Total	747.2	556.3	27	23	11	5	10	6	85	7	15	9	22	3 256

Table 22 Existing Park Inventory

Source: City of Greeley Department of Culture, Parks and Recreation, June 24, 2014.

The methodology used to determine the updated park cost per service unit is a standards-based approach. The standard to be used is the existing level of service, an approach known as "incremental expansion." This approach is appropriate in cases where there is not a significant amount of excess capacity in existing facilities, and requires that new development pay an impact fee based on the cost to provide the proposed development with the existing level of service. The existing level of service is defined as the cost per service unit, calculated by dividing the total replacement cost of existing facilities by the total number of service units currently being served.

One of the major costs of park development is landscaping (turf and irrigation). For the purpose of the updated park impact fees, the site development cost per acre excludes costs incurred as part of typical subdivision improvements (grading/drainage and road/utility access) – these costs will now be recovered as part of a separate park land dedication/fee-in-lieu requirement for new subdivisions. To ensure that site development costs associated with specific improvements, such as parking areas and ball fields, are not double-counted, general park site development costs will only be attributed to half of existing developed park acres.

The replacement cost of standard park amenities, such as playgrounds, parking areas, ball fields, etc., are estimated based on current unit costs, which include 15% for design and bid management. The replacement costs of parks and recreation buildings, such as the Ice Haus, Family FunPlex, restrooms and swimming pool buildings, are estimated based on the City's insured values. The total cost of existing park improvements, including landscaping, standard amenities and buildings is about \$118.2 million. Dividing the total replacement cost of existing park improvements by the number of existing service units (EDUs) served by those improvements yields the park cost of per service unit, as shown in Table 23.

			Existing	Existing
Cost Components	Unit	Cost/Unit	Units	Cost
Landscaping (50%)*	Acre	\$78,103	278.1	\$21,720,444
Playground	Each	\$230,000	27	\$6,210,000
Pavilion/Shelter, Small	Each	\$33,350	23	\$767,050
Pavilion/Shelter, Medium	Each	\$86,250	11	\$948,750
Pavilion/Shelter, Large	Each	\$431,250	5	\$2,156,250
Parking, Paved	Space	\$6,900	3,256	\$22,466,400
Tennis Court, Lighted	Court	\$86,250	10	\$862,500
Tennis Court, Unlighted	Court	\$69,000	6	\$414,000
Basketball	Court	\$69,000	8.5	\$586,500
Volleyball	Court	\$3,450	7	\$24,150
Baseball/Softball, Lighted	Field	\$500,250	15	\$7,503,750
Baseball/Softball, Unlighted	Field	\$299,000	9	\$2,691,000
Football/Soccer	Field	\$299,000	22	\$6,578,000
Parks/Recreation Buildings	n/a	n/a	n/a	\$45,287,786
Total Existing Park Improvemen	t Cost			\$118,216,580
+ Existing Park Service Units				36,266
Park Cost per Service Unit				\$3,260

Table 23. Park Cost per Service Unit

* Turf and irrigation (number of developed acres halved to avoid double-counting development costs associated with specific improvements such as parking areas, ball fields, etc.) *Source:* Unit costs from City of Greeley Department of Culture, Parks and Recreation, June 23,

2014; existing units from Table 22; insured values from City of Greeley Finance Department, August 18, 2014; existing service units from Table 21.

Net Cost per Service Unit

As discussed in the Legal Framework section, credit is due against impact fees under three situations: (1) there are existing deficiencies, (2) there is outstanding debt on facilities serving existing development, or (3) there are dedicated local revenues or outside funding for the same improvements. These are each addressed below. The resulting revenue credits are deducted from the cost per service unit calculated in the previous section to calculate the net cost per service unit.

(1) Because the updated park impact fees are based on the existing level of service, there are no existing deficiencies and no deficiency credit is warranted.

(2) The City has \$18.7 million in outstanding debt from the 2003 Quality of Life bonds, which were used to fund the Ice Haus, FunPlex and other park amenities. A reasonable method that ensures that new development is not required to pay for existing facilities, through funds used for debt retirement, as well as new facilities through impact fees, is to calculate the credit by dividing the outstanding debt by existing park service units. This puts new development on the same footing as existing development in terms of the share of capital costs funded through debt. As shown in Table 24, the park debt credit is \$515 per EDU.

Table 24. Park Debt Credit per Service Unit

Outstanding Park-Related Debt	\$18,695,000
+ Existing Park Service Units (EDUs)	36,266
Park Debt Credit per Service Unit	\$515
Source: Outstanding debt for Quality of Life Bo	nds from City of
Greeley Finance Department, August 12, 2014; units from Table 21.	existing service

(3) The City has received almost \$300,000 in grants for park improvements over the last five years. Using recent funding as a reasonable guide to the future, the present value of future grants that can be anticipated over the next 25 years, discounted at the current cost of borrowing, is \$24 per service unit, as shown in Table 25.

Year	Source	Project	Amount
2008	CDBG	Swanson Kiwanis Park	\$85,288
2011	Fishing is Fun	Poudre Ponds	\$200,000
2013	Xcel Energy	Homestead Park (Trees)	\$6,000
Total F	Park Grant Funding, L	ast Five Years	\$291,288
÷ Nun	5		
Annua	\$58,258		
÷ Existing Park Service Units (EDUs)			36,266
Annual Grant Funding per EDU			\$1.61
x Net I	15.09		
Park G	irant Credit per EDU		\$24

Table 25. Park Grant Credit per Service Unit

Source: Grant funding history from City of Greeley Department of Culture, Parks and Recreation, July 30, 2014; existing service units from Table 21; present value factor based on 25 years at 4.33% discount rate based on average interest rate on state and local bonds in July 2014 from the Federal Reserve at http://www.federalreserve.gov/releases/h15/data.htm.

The debt and grant credits are subtracted from the cost per service unit to determine the net cost per service unit. As shown in Table 26, the park net cost per service unit is \$2,721 per equivalent dwelling unit (EDU).

Table 26. Park Net Cost per Service Unit					
Park Cost per Service Unit	\$3,260				
 Park Debt Credit per Service Unit 	-\$515				
– Park Grant Credit per Service Unit	-\$24				
Park Net Cost per Service Unit	\$2,721				
Source: Cost per service unit from Table 23:	debt credit				

from Table 24; grant credit from Table 25.

Impact Fee Schedule

The updated park impact fees, which exclude the cost of land and typical subdivision improvements, are calculated in Table 27 by multiplying service unit multipliers (EDUs/unit) by the net cost per service unit.

Table 27. Updated Park Impact Fees

		EDUs/	Net Cost/	Net Cost/
Housing Type	Unit	Unit	EDU	Unit
Single-Family Detached*	Dwelling	1.00	\$2,721	\$2,721
Multi-Family	Dwelling	0.75	\$2,721	\$2,041
Mobile Home Park	Space	1.05	\$2,721	\$2,857

* including mobile home on single-family lot

Source: EDUs per unit from Table 20; net cost per EDU from Table 26.

Current park impact fees (sum of neighborhood and community park fees) charged by the City of Greeley are compared to the updated fees in Table 28. The updated park fees differ from current fees by excluding the cost of land and typical subdivision improvements, and by including the cost of regional park improvements. The updated fee for a single-family unit is somewhat lower than the current fee, while updated fees are slightly higher for other housing types. It is also worth noting that the current park fees are unchanged from what was calculated in 2003. If the park fees had been updated annually since they were adopted to account for construction cost inflation, the current single-family fee would be \$4,053.⁸

Table 28. Comparative Park Fees

		Current	Updated	Percent
Housing Type	Unit	Fee	Fee	Change
Single-Family Detached	Dwelling	\$2,887	\$2,721	-6%
Multi-Family	Dwelling	\$2,019	\$2,041	1%
Mobile Home Park	Space	\$2,754	\$2,857	4%

Source: Current fees from Table 1; updated fees from Table 27.

⁸ From August 2003 to August 2014, the *Engineering News*-Record Denver Construction Cost Index increased by 40.4%. The single-family park fee of \$2,887 adopted in 2003 is the equivalent of \$4,053 in current dollars.

Park Land Dedication Requirement

The updated park impact fees, which are collected at time of building permit, exclude land and typical subdivision improvement costs, because these costs are proposed to be addressed with a new subdivision requirement for dedication of park land or payment of a fee in-lieu of dedication. The dedication requirement will require, prior to the approval of a residential subdivision, the dedication of land according to the existing level of service for neighborhood and community parks, or the payment of a fee in lieu of dedication. Land dedication requirements are not an impact fee, but rather a condition of development. Park land will be dedicated in conjunction with the platting of a residential subdivision. New residential construction on already platted land will not be subject to the park land dedication or fee in lieu requirement.

The park land dedication requirement for new residential subdivisions will be based on the existing park level of service. The existing level of service is 0.0161 acres per service unit (EDU), as shown in Table 29. This equates to 5.94 acres per 1,000 residents.9 While the City's Parks, Trails and Open Land Master Plan identifies a need for 7.50 acres per 1,000 new residents, the City cannot require new subdivisions to provide land in excess of what it currently provides for existing residents. Achieving the level of service contemplated in the parks plan will require the City to use other funding mechanisms to acquire additional park land.

Table 29.	Existing	Park	Acres	per	Service	Unit
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Existing Neighborhood/Community Park Acres	583.1					
+ Existing Service Units (EDUs)	36,266					
Park Dedication Requirement (Acres/EDU)	0.0161					
Source: Existing acres are total park acres from Table 22, minus acres for						

Island Grove Regional Park; existing EDUs from Table 21

Multiplying the service unit multipliers (in EDUs per unit) by the existing level of service (acres/EDU) yields the park land dedication requirement (in acres per unit) for the various housing types, as shown in Table 30.

Table 30. Park Land Dedication Requirement						
		EDUs/	Acres/	Acres/		
Housing Type	Unit	Unit	EDU	Unit		
Single-Family Detached*	Dwelling	1.00	0.0161	0.0161		
Multi-Family	Dwelling	0.75	0.0161	0.0121		
Mobile Home Park	Space	1.05	0.0161	0.0169		

* including mobile home on single-family lot

Source: EDUs per unit from Table 20; acres per EDU from Table 29.

New residential subdivisions that cannot provide on-site acreage suitable for a park will be required to pay a fee in-lieu of park land dedication for any required acreage not dedicated. The fee-in-lieu will be based on the required acreage that is not dedicated times the average cost per acre to acquire "improved" land (i.e., with grading/drainage and road/utility access) for parks.

⁹ 583.1 acres of neighborhood/community park land divided by an estimated 2014 population of 98,219

Each year, the City will commission an independent appraiser to determine an average value of developed park land (i.e., with access, curb, gutter, drainage and sidewalk improvements). This cashin-lieu fee will be set annually through the development code and not through the annual impact fee inflation adjustment. Such fee, if required to be paid in lieu of land dedication for a particular subdivision, will be paid at the time of platting and is separate from any impact fees. Where appropriate, there may be a combination of land dedication and cash-in-lieu payment.

The City has not yet completed a study of average park land value. For purposes of illustration, a land value of \$25,000 per acre is used for discussion purposes. Based on this land value, the park fee in lieu of dedication would be \$403 per single-family unit, as shown in Table 31.

		Acres/	Assumed	In-Lieu Fee
Housing Type	Unit	Unit	Cost/Ac.	per Unit
Single-Family Detached*	Dwelling	0.0161	\$25,000	\$403
Multi-Family	Dwelling	0.0121	\$25,000	\$303
Mobile Home Park	Space	0.0169	\$25,000	\$423

Table 31. Illustrative Park Fees in Lieu of Dedication

Source: Acres/unit from Table 30; cost per acre assumed for illustrative purposes.
TRAILS

Excluding on-road trails, the City of Greeley currently provides over 33 miles of concrete and soft-surface trails for bicycle and pedestrian use. The City assesses trail impact fees on new residential development to expand the trail system. The last comprehensive update of the trail impact fees was in 2003, although the fees were increased by a total of about 6% over the last three years based on the annual application of an "economic adjustment factor." This section updates the City's trail impact fees.

Service Area

Bicycle and pedestrian trails provide mobility throughout the city, and are appropriately assessed city-wide.

Service Units



fees. Demand factors are the number of service units that are associated with a unit of development (e.g., persons per unit). Impact fees for parks and trails are typically only assessed on residential development, and are generally based either on population or equivalent dwelling units (EDUs).

The proposed service unit for the updated trail impact fee is the equivalent dwelling unit (EDU). One EDU represents the demand, in terms of household residents, of an occupied single-family detached dwelling unit. A multi-family or mobile home dwelling unit is a fraction of an EDU, based on the ratio of that housing type's average household size to the average household size of a single-family detached unit. The trail service unit multipliers for Greeley are the same as those used for the park fee (see Table 20 in Parks section for multipliers and Table 21 for total existing service units).

Cost per Service Unit

The methodology used to determine the trail cost per service unit is a standards-based approach. The standard to be used is the existing level of service, an approach known as "incremental expansion." This approach is appropriate in cases where there is not a significant amount of excess capacity in existing facilities, and requires that new development pay an impact fee based on the cost to provide the proposed development with the existing level of service. The existing level of service is defined as the cost per service unit, calculated by dividing the total replacement cost of existing facilities by the total number of service units currently being served.

The total cost of existing trails is about \$14.8 million. Dividing the total replacement cost of existing trails by the number of existing service units (EDUs) served by those improvements yields the trail cost of per service unit of \$407 per EDU, as shown in Table 32.

			Existing	Existing
Cost Components	Unit	Cost/Unit	Units	Cost
Trail, Concrete	Mile	\$477,840	30.50	\$14,574,120
Trail, Soft Surface	Mile	\$66,000	2.95	\$194,700
Total Existing Trail Improvement	Cost		33.45	\$14,768,820
+ Existing Trail Service Units				36,266
Trail Cost per Service Unit				\$407

Source: Unit costs and current inventory from City of Greeley Department of Culture, Parks and Recreation, July 8, 2014; existing service units from Table 21.

Net Cost per Service Unit

As discussed in the Legal Framework section, credit is due against impact fees under three situations: (1) there are existing deficiencies, (2) there is outstanding debt on facilities serving existing development, or (3) there are dedicated local revenues or outside funding for the same improvements. These are each addressed below. The resulting revenue credits are deducted from the cost per service unit calculated in the previous section to calculate the net cost per service unit.

(1) Because the updated trail impact fees are based on the existing level of service, there are no existing deficiencies and no deficiency credit is warranted.

(2) The City does not have any outstanding debt relating to past trail improvements. Consequently, no debt credit is warranted.

(3) The City has received some grants for trail improvements over the last five years. Using recent funding as a reasonable guide to the future, the present value of State and Federal funding revenue that can be anticipated over the next 25 years, discounted at the current cost of borrowing, is \$30 per service unit, as shown in Table 33.

Year	Source	Project	Amount
2010	AARA	Broadview Acres Trail, Ph. 1	\$75,000
2012	Transp. Enhancmt.	Sheep Draw Trail	\$38,000
2014	Transp. Enhancmt.	Sheep Draw Trail	\$248,000
Total F	Park Grant Funding, Last	Five Years	\$361,000
÷ Nun	nber of Years		5
Annua	I Trail Grant Funding		\$72,200
÷ Exis	ting Trail Service Units	(EDUs)	36,266
Annua	I State/Federal Funding	per EDU	\$1.99
x Net I	15.09		
Trail G	irant Funding Credit per	EDU	\$30

Table 33. Trail Grant Credit per Service Unit

Source: Grant funding history from City of Greeley Department of Culture, Parks and Recreation, July 30, 2014; existing service units from Table 21; present value factor based on 25 years at 4.33% discount rate based on average interest rate on state and local bonds in July 2014 from the Federal Reserve at http://www.federalreserve.gov/releases/ h15/data.htm.

The grant credit per service unit is subtracted from the cost per service unit to determine the net cost per service unit. As shown in Table 26, the trail net cost per service unit is \$377 per equivalent dwelling unit (EDU).

Table 34. Trail Net Cost per Serv	ice Unit
Trail Cost per Service Unit	\$407
 Trail Grant Credit per Service Unit 	-\$30
Trail Net Cost per Service Unit	\$377
Source: Cost per service unit from Table 32;	grant credit

from Table 33.

Impact Fee Schedule

The updated trail impact fees are calculated in Table 35 by multiplying service unit multipliers (EDUs/unit) by the net cost per service unit.

Table 55.	opulated	ուզը ըընթց	011003	
		EDUs/	Net Cost/	Net Cost/
Housing Type	Unit	Unit	EDU	Unit
Single-Family Detached*	Dwelling	1.00	\$377	\$377
Multi-Family	Dwelling	0.75	\$377	\$283
Mobile Home Park	Space	1.05	\$377	\$396

Table 35. Updated Trail Impact Fees

* including mobile home on single-family lot

Source: EDUs per unit from Table 20; net cost per EDU from Table 34.

Current trail impact fees charged by the City of Greeley are compared to the updated fees in Table 36. While the updated fee for a single-family unit is 13% higher than the current fee, it is 15% lower than the fee that was originally adopted in 2003 in inflation-adjusted dollars.¹⁰

Table 36. Comparative Trail Fees

. Opuateu	Percent
Fee	Change
\$377	13%
\$283	95%
\$396	172%
	50000000000000000000000000000000000000

Source: Current fees from Table 1; updated fees from Table 27.

¹⁰ From August 2007 to August 2014, the *Engineering News-Record* Denver Construction Cost Index increased by 22.03%. The single-family trail fee of \$315 calculated in the 2003 Tischler study is the equivalent of \$442 in current dollars.

FIRE

The City of Greeley assesses fire impact fees on new residential and nonresidential development. The fire impact fees were last updated in 2003. This section calculates updated fire impact fees needed to maintain the existing level of service for fire capital facilities and equipment.

The Greeley Fire Department has four divisions: Administration, Emergency Preparedness, Community Services (construction and inspections, code enforcement, public education and information), and Operations (emergency medical response, fire emergency response, hazardous materials response, technical rescue response, water rescue response). In recent years, the department has seen a surge in the number of medical and "other" calls, while the number of fire calls has declined.

Service Area

The Fire Department is responsible for an area nearly 64 square miles in size. In addition to the City's incorporated area, the Greeley Fire Department also serves the unincorporated Western Hills Fire District by contractual agreement. The Western Hills Fire District contains approximately 1,411 single-family residences, according to property records. Six fire stations are distributed throughout the community. Because equipment located in a station may be called upon to respond to an incident some distance away, a single service area is appropriate.

Service Units

The service unit for fire and police fees is generally based either calls-for-service or "functional population." The 2003 Tischler study, on which the current fire and police impact fees are based, used a hybrid approach. First, the study used the percentage of residential versus nonresidential calls to allocate costs between residential and nonresidential development. Then, residential costs were allocated between housing types based on average household size, and nonresidential costs were allocated between nonresidential land uses based on trip generation rates (adjusted for pass-by trips).

The alternative service unit is "functional population." Functional population is analogous to the concept of full-time equivalent employees, but is applied to population rather than employment. The concept behind the functional population approach is that the demand for fire and police services is proportional to the number of people at the site of the land use. An analysis of ten studies using call data conducted in 2006 found that fire and police demand multipliers tend to be relatively similar, regardless of whether they are based on calls-for-service or functional population.¹¹

This consultant has used both calls-for service by land use and the functional population approach for fire and police impact fees, and has come to prefer the functional population approach, because call ratios by land use tend to be very unstable over time – each time the fees are updated the fees tend to change significantly, going down for some land use types and up for others. Demand factors based on functional population, in contrast, tend to be relatively stable over time.

¹¹ See Clancy Mullen, "Fire and Police Demand Multipliers: Calls-for-Service versus Functional Population," paper presented at National Impact Fee Roundtable, Arlington, Virginia, October 5, 2006 (http://growthandinfrastructure. org/proceedings/2006_proceedings/fire%20police%20multipliers.pdf).

Functional population multipliers for the various land use categories are calculated in Appendix D. The total number of existing fire service units (functional population) in the fire service area (City of Greeley plus Western Hills Fire District) is 98,116, as shown in Table 37.

	Exioting	0011100 0	meo	
		Existing	Function	al Pop.
Land Use	Unit	Units	per Unit	Total
Single-Family Detached	Dwelling	25,387	1.67	42,396
Multi-Family	Dwelling	12,856	1.25	16,070
Mobile Home/RV Park	Pad/Space	2,522	1.75	4,414
Retail/Commercial	1,000 sq. ft.	10,380	2.04	21,175
Office	1,000 sq. ft.	6,021	0.96	5,780
Industrial	1,000 sq. ft.	5,637	0.38	2,142
Warehouse	1,000 sq. ft.	5,666	0.18	1,020
Public/Institutional	1,000 sq. ft.	7,012	0.73	5,119
Oil and Gas Well	Wellhead	427	0.83	354
Total				98,116

	Table 37.	Existing	Fire	Service	Units
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Source: Existing development units within the city limits from Table 60 in Appendix B. plus an estimated 1,411 single-family detached units in the Western Hills Fire District according to Property Appraiser records provided by City of Greeley Fire Department on October 8, 2014; functional population per unit from Table 64 in Appendix D.

Cost per Service Unit

The methodology used to determine the updated fire cost per service unit is a standards-based approach. The standard to be used is the existing level of service, an approach known as "incremental expansion." This approach is appropriate in cases where there is not a significant amount of excess capacity in existing facilities, and requires that new development pay an impact fee based on the cost to provide the proposed development with the existing level of service. The existing level of service is defined as the cost per service unit, calculated by dividing the total replacement cost of existing facilities by the total number of service units currently being served.

The City's existing fire stations are summarized in Table 38.

	Table 38. Existing Fi	re Statio	าร	
Facility	Address	Yr Blt	Bldg (sf)	Land (ac.)
Fire Station # 1	919 7th Street, Suite 103	1967	19,080	0.73
Fire Station # 2	2301 Reservoir Road	1958	6,076	2.10
Fire Station # 3	150 N 35th Avenue	2008	11,500	2.57
Fire Station # 4	2195 1st Avenue	1972	6,273	0.47
Fire Station # 5	4701 24th Street	1996	9,196	2.23
Fire Station # 7	6623 W. 10th Street	2001	8,833	2.18
Total			60,958	10.28

Source: City of Greeley Public Works Department, April 16, 2014.

The ret	olacement	value of	existing	fire apparatus	and vehicles	is shown in	Table 39.
1110 10	Juccincinc	varae or	emoting	me apparata	and venicies	10 0110 111 111	1 4010 571

Table 39. Existing Fire Vehicles								
Vehicle Type	Number	Unit Cost	Total Cost					
Arson Van	1	\$64,043	\$64,043					
Freightliner	1	\$91,768	\$91,768					
HazMat Truck	1	\$85,636	\$85,636					
Ladder Truck	2	\$1,028,818	\$2,057,636					
Mini Pumper	1	\$238,208	\$238,208					
Pickup	6	\$49,465	\$296,790					
Pumper Truck	10	\$694,073	\$6,940,730					
Rehab Van	1	\$49,770	\$49,770					
Rescue Boat	1	\$18,200	\$18,200					
Rescue Truck	2	\$563,430	\$1,126,860					
SUV	2	\$63,135	\$126,270					
Tanker Truck	2	\$180,699	\$361,398					
Dive Trailer	1	\$3,451	\$3,451					
Fire Savety Trailer	1	\$75,000	\$75,000					
Vehicle	5	\$36,9 <mark>8</mark> 9	\$184 <u>,</u> 945					
Total Vehicle Replac	st	\$11,720,705						

Source: City of Greeley Fire Department, July 28, 2014.

The replacement value of the City's existing fire station buildings, land and vehicles is an estimated \$31.0 million. Dividing the total replacement cost by existing functional population yields the cost to maintain the existing level of service, which is \$316 per service unit, as shown in Table 40.

Table 40. Fire Co	ost per Se	ervice Unit	
Cost Component	Number	Unit Cost	Total Cost
Fire Station Buildings (sq. ft.)	60,958	\$300	\$18,287,400
Fire Station Land (acres)	10.28	\$95,000	\$976,600
Vehicle Replacement Cost	37	varies	\$11,720,705
Total Fire Facility Replacement Cost			\$30,984,705
+ Existing Functional Population			98,116
Fire Cost per Service Unit			\$316
	T I I 00		

Source: Building sq. feet and acres from Table 38; unit costs from City of Greeley Fire Department, July 29 and August 8, 2014; vehicle replacement cost from Table 39; existing functional population from Table 37.

Net Cost per Service Unit

As discussed in the Legal Framework section, credit is due against impact fees under three situations: (1) there are existing deficiencies, (2) there is outstanding debt on facilities serving existing development, or (3) there are dedicated local revenues or outside funding for the same improvements. These are each addressed below. The resulting revenue credits are deducted from the cost per service unit calculated in the previous section to calculate the net cost per service unit.

(1) Because the updated fire impact fees are based on the existing level of service, there are no existing deficiencies and no deficiency credit is warranted.

(2) The City does not have any outstanding debt relating to past fire improvements. Consequently, no debt credit is warranted.

(3) The City has received some grants for fire improvements over the last five years. Using recent funding as a reasonable guide to the future, the present value of State and Federal funding revenue that can be anticipated over the next 25 years, discounted at the current cost of borrowing, is \$2 per service unit (functional population), as shown in Table 41.

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	Table 41. Fire Grant Credit per Service Unit				
Year	Source	Project	Amount		
2010	CO Div of Emergency Management	EOC Upgrade	\$4,000		
2012	CO Div of Emergency Management	EOC Technology Upgrade	\$5,600		
2013	CO Dept of Public Health & Envir.	Monitors/Difibrillators	\$42,000		
Total C	Grant Funding, Last Five Years		\$51,600		
÷ Nun	nber of Years		5		
Annua	I Fire Grant Funding		\$10,320		
÷ Exis	ting Functional Population		98,116		
Annua	I Grant Funding per Service Unit		\$0.11		
x Net F	Present Value Factor (25 Years)		15.09		
Fire Gr	ant Credit per Service Unit		\$2		
Source	Grant funding history from City of Gree	lev Fire Department July 28 20	014 existing		

Source: Grant funding history from City of Greeley Fire Department, July 28, 2014; existing functional population from Table 37; present value factor for annual payments over 25 years at 4.33% discount rate, based on average interest rate on state and local bonds in July 2014 from the Federal Reserve at http://www.federalreserve.gov/releases/ h15/data.htm.

The grant credit per service unit is subtracted from the cost per service unit to determine the net cost per service unit. As shown in Table 42, the net cost per service unit for fire facilities is \$314 per service unit.

Table 42. Fire Net Cost per Service Unit

Fire Cost per Service Unit	\$316
 – Fire Grant Credit per Service Unit 	-\$2
Fire Net Cost per Service Unit	\$314
Source: Cost per convice unit from Table 40:	grant gradit

Source: Cost per service unit from Table 40; grant credit from Table 41

Impact Fee Schedule

The updated fire impact fees are calculated in Table 43 by multiplying the service unit multipliers (functional population per unit) by the net cost per service unit.

		Func. Pop./	Net Cost/	Net Cost/
Land Use Type	Unit	Unit	Func. Pop.	Unit
Single-Family Detached*	Dwelling	1.67	\$314	\$524
Multi-Family	Dwelling	1.25	\$314	\$393
Mobile Home Park	Site	1.75	\$314	\$550
Retail/Commercial	1,000 sq. ft.	2.04	\$314	\$641
Office	1,000 sq. ft.	0.96	\$314	\$301
Industrial	1,000 sq. ft.	0.38	\$314	\$119
Warehouse	1,000 sq. ft.	0.18	\$314	\$57
Public/Institutional	1,000 sq. ft.	0.73	\$314	\$229
Oil and Gas Well	Wellhead	0.83	\$314	\$261

Table 43. Updated Fire Impact Fees

* includes mobile home on single-family lot

Source: Functional population per unit from Table 64; net cost per functional population from Table 42.

Current fire impact fees charged by the City of Greeley are compared to the updated fees in Table 44. The updated fees represent an increase from current fees for residential and retail uses, and a decrease for office, industrial, warehouse and public/institutional uses. The fact that the current fees were calculated in 2003 and never adjusted for inflation needs to be taken into consideration. While the updated single-family fee is almost double the current fee, it is only 36% higher than fee that was calculated in 2003, when adjusted for construction cost inflation.¹²

		Current	Updated	Percent		
Land Use Type	Unit	Fee	Fee	Change		
Single-Family Detached	Dwelling	\$275	\$524	91%		
Multi-Family	Dwelling	\$192	\$393	105%		
Mobile Home Park	Site	\$262	\$550	110%		
Retail/Commercial	1,000 sq. ft.	\$436	\$641	47%		
Office	1,000 sq. ft.	\$623	\$301	-52%		
Industrial	1,000 sq. ft.	\$403	\$119	-70%		
Warehouse	1,000 sq. ft.	\$223	\$57	-74%		
Public/Institutional	1,000 sq. ft.	\$623	\$229	-63%		
Oil and Gas Well	Wellhead	*	\$261	n/a		

Table 44. Comparative Fire Fees

* proposed new category

Source: Current fees from Table 1 (assumes 100,000 sq. ft. shopping center for retail and 50,000 sq. ft. office building for office); updated fees from Table 43.

¹² From August 2003 to August 2014, the *Engineering News-Record* Denver Construction Cost Index increased by 40.4%. The single-family fire fee of \$275 calculated in the 2003 Tischler study is the equivalent of \$386 in current dollars.

POLICE

The City of Greeley assesses police impact fees on new residential and nonresidential development. The police impact fees were last updated in 2003. This section calculates updated police impact fees needed to maintain the existing level of service for fire capital facilities and equipment.

The Greeley Police Department employs 200 people. The Department has 147 authorized sworn or officer positions of all ranks; other positions are civilian support personnel. In a move intended to increase both efficiency and effectiveness, in 2014 the Department was reorganized into two divisions, each commanded by a captain. The Operations Division contains Patrol, Traffic Enforcement and Investigations functions. Included are such units as SWAT, Drug Task Force, K-9, bomb unit, accident investigation, animal control, victim assistance, parking enforcement and the Neighborhood Action Team. The Support Services Division is primarily a civilian-staffed work group and includes recruitment, hiring, training, property/evidence, records and fiscal management. The Department offers 24-hour a day services to the public. As of late 2013, Weld County assumed responsibility for E911 and dispatch services for the county's emergency responders, including the Greeley Police Department.

Service Area

Because police protection is provided from centralized facilities, a city-wide service area is appropriate for the police impact fees.

Service Units

The service unit for fire and police fees is generally based either calls-for-service or "functional population." The 2003 Tischler study, on which the current fire and police impact fees are based, used a hybrid approach. First, the study used the percentage of residential versus nonresidential calls to allocate costs between residential and nonresidential development. Then, residential costs were allocated between housing types based on average household size, and nonresidential costs were allocated between nonresidential land uses based on trip generation rates (adjusted for pass-by trips).

The alternative service unit to calls-for-service is "functional population." Functional population is analogous to the concept of full-time equivalent employees, but is applied to population rather than employment. The concept behind the functional population approach is that the demand for fire and police services is proportional to the number of people at the site of the land use. An analysis of ten studies using call data conducted in 2006 found that fire and police demand multipliers tend to be relatively similar, regardless of whether they are based on calls-for-service or functional population.¹³

This consultant has used both calls-for service by land use and the functional population approach for fire and police impact fees, and has come to prefer the functional population approach, because call ratios by land use tend to be very unstable over time – each time the fees are updated the fees

¹³ See Clancy Mullen, "Fire and Police Demand Multipliers: Calls-for-Service versus Functional Population," paper presented at National Impact Fee Roundtable, Arlington, Virginia, October 5, 2006 (http://growthandinfrastructure. org/proceedings/2006_proceedings/fire%20police%20multipliers.pdf).

tend to change significantly, going down for some land use types and up for others. Demand factors based on functional population, in contrast, tend to be relatively stable over time.

Functional population multipliers for the various land use categories are calculated in Appendix D. The total number of existing police service units (functional population) in the City of Greeley is 95,760, as shown in Table 45.

		Existing	Function	al Pop.
Land Use	Unit	Units	per Unit	Total
Single-Family Detached	Dwelling	23,976	1.67	40,040
Multi-Family	Dwelling	12,856	1.25	16,070
Mobile Home/RV Park	Pad/Space	2,522	1.75	4,414
Retail/Commercial	1,000 sq. ft.	10,380	2.04	21,175
Office	1,000 sq. ft.	6,021	0.96	5,780
Industrial	1,000 sq. ft.	5,637	0.38	2,142
Warehouse	1,000 sq. ft.	5,666	0.18	1,020
Public/Institutional	1,000 sq. ft.	7,012	0.73	5,119
Oil and Gas Well	Wellhead	427	0.83	354
Total				95,760

Table 45.	Existing	Police	Functional	Population	ı
			Eviation	- Eurotia	-

Source: Existing development units from Table 60 in Appendix B; functional population per unit from Table 64 in Appendix D.

Cost per Service Unit

The methodology used to determine the police cost per service unit is a standards-based approach. The standard to be used is the existing level of service, an approach known as "incremental expansion." This approach is appropriate in cases where there is not a significant amount of excess capacity in existing facilities, and requires that new development pay an impact fee based on the cost to provide the proposed development with the existing level of service. The existing level of service is defined as the cost per service unit, calculated by dividing the total replacement cost of existing facilities by the total number of service units currently being served.

The City's existing police facilities are summarized in Table 46.

Table 46. Existing Police Facilities					
Facility	Address	Bldg (sf)	Land (ac.)	Building Cost	
Police Headquarters	2875 W. 10th Street	49,922	10.50	\$20,164,386	
Police HQ Secondary Bldg	810 30th Ave.	26,450	incl. above	incl. above	
Police HQ JAC Bldg	2835 W. 10th Street	4,069	incl. above	\$710,466	
Police Gun Range	South of Airport	6,680	leased	\$1,430,032	
Total		87,121	10.50	\$22,304,884	

Source: City of Greeley Police Department, July 30, 2014.

The replacement value of existing police vehicles is summarized in Table 47.

Vehicle Type	Number	Unit Cost	Total Cost		
Ford Crown Victoria Emergency Patrol Marked	40	\$59,763	\$2,390,520		
Ford Taurus Emergency Patrol Marked	3	\$27,451	\$82,353		
Ford/Jeep SUV - Patrol	2	\$42,018	\$84,036		
GMC Safari Van - Patrol	1	\$28,401	\$28,401		
Chevrolet Tahoe SUV - Patrol	6	\$38,047	\$228,282		
Ford Mid-Size/Chevrolet Sedan	18	\$26,965	\$485,370		
Van - School Emergency	1	\$30,586	\$30,586		
Utility 4x2 - Tactical	1	\$76,842	\$76,842		
Van/Stakebed Truck - Tactical	2	\$47,812	\$95,624		
Motorcycle	8	\$17,823	\$142,584		
Chevrolet Equinox SUV - Parking	1	\$31,726	\$31,726		
Chevrolet Trail Blazer SUV - Parking	2	\$42,308	\$84,616		
Dodge Sedan - Admin	3	\$37,763	\$113,289		
Van - Administration	2	\$22,675	\$45,350		
Chevrolet 3500 Hd IT 4x4 - Admin	2	\$59,525	\$119,050		
Total Police Vehicle Replacement Cost			\$4,038,629		

Table 47. Existing Police Vehicles

Source: City of Greeley Police Department, August 8, 2014.

The replacement value of the City's existing police facilities and vehicles totals an estimated \$26.3 million. Dividing the total replacement cost by existing functional population yields the cost to maintain the existing level of service, which is \$275 per service unit, as shown in Table 48.

Police Buildings	\$22,304,884
Vehicle Replacement Cost	\$4,038,629
Total Police Facility Replacement Cost	\$26,343,513
÷ Existing Functional Population	95,760
Police Cost per Service Unit	\$275
Source: Building value from Table 46: vehicle	roplagement gest from

Table 48. Police Cost per Service Unit

Source: Building value from Table 46; vehicle replacement cost from Table 47; existing functional population from Table 37.

Net Cost per Service Unit

As discussed in the Legal Framework section, credit is due against impact fees under three situations: (1) there are existing deficiencies, (2) there is outstanding debt on facilities serving existing development, or (3) there are dedicated local revenues or outside funding for the same improvements. These are each addressed below. The resulting revenue credits are deducted from the cost per service unit calculated in the previous section to calculate the net cost per service unit.

(1) Because the updated police impact fees are based on the existing level of service, there are no existing deficiencies and no deficiency credit is warranted.

(2) The City has \$16.2 million in outstanding debt from the 2005 Sales Tax Increment Bonds, which were used to fund the construction of the police headquarters. A reasonable method that ensures that new development is not required to pay for existing facilities, through funds used for debt retirement, as well as new facilities through impact fees, is to calculate the credit by dividing the

outstanding debt by existing police service units. This puts new development on the same footing as existing development in terms of the share of capital costs funded through debt. As shown in Table 49, the police debt credit is \$170 per service unit.

Table 49. Police Debt Credit per	Service Unit		
Outstanding Police-Related Debt	\$16,235,000		
+ Existing Police Service Units	95,760		
Police Debt Credit per Service Unit	\$170		
Source: Outstanding debt for Sales Tax Increment Bonds from			

City of Greeley Finance Department, August 12, 2014; existing service units from Table 37.

(3) The City has received some grants for police improvements over the last seven years. Using recent funding as a reasonable guide to the future, the present value of State and Federal funding revenue that can be anticipated over the next 25 years, discounted at the current cost of borrowing, is \$35 per service unit (functional population), as shown in Table 50.

Table 50. Police Grant Credit per Service Unit				
Source	Project	Amount		
CO Dept. of Local Affairs	Mail Police HQ	\$600,000		
CO Dept. of Local Affairs	Police Gun Range	\$476,331		
CO Dept. of Local Affairs	JAC Building	\$500,000		
Total Police Grants, Last Seven Ye	ars	\$1,576,331		
÷ Number of Years		7		
Annual Police Grant Funding		\$225,190		
+ Existing Functional Population		95,760		
Annual Grant Funding per Service	Unit	\$2.35		
x Net Present Value Factor (25 Yea	rs)	15.09		
Police Grant Credit per Service Un	it	\$35		
Source: Grant funding history from Cit	y of Greeley Police Depar	tment, July 30,		

Source: Grant funding history from City of Greeley Police Department, July 30, 2014; existing functional population from Table 37; present value factor for annual payments over 25 years at 4.33% discount rate, based on average interest rate on state and local bonds in July 2014 from the Federal Reserve at http://www.federalreserve.gov/releases/ h15/data.htm.

The debt and grant credits per service unit are subtracted from the cost per service unit to determine the net cost per service unit. As shown in Table 51, the net cost per service unit for police facilities is \$70 per service unit.

Table 51. Police Net Cost per Service Unit		
Police Cost per Service Unit	\$275	
 Police Debt Credit per Service Unit 	-\$170	
– Police Grant Credit per Service Unit	-\$35	
Police Net Cost per Service Unit	\$70	

Source: Cost per service unit from Table 40; grant credit from Table 41

Impact Fee Schedule

The updated police impact fees are calculated in Table 52 by multiplying the service unit multipliers (functional population per unit) by the net cost per service unit.

Table 52. Updated Police Impact Fees							
		Func. Pop./	Net Cost/	Net Cost/			
Land Use Type	Unit	Unit	Func. Pop.	Unit			
Single-Family Detached*	Dwelling	1.67	\$70	\$117			
Multi-Family	Dwelling	1.25	\$70	\$88			
Mobile Home Park	Site	1.75	\$70	\$123			
Retail/Commercial	1,000 sq. ft.	2.04	\$70	\$143			
Office	1,000 sq. ft.	0.96	\$70	\$67			
Industrial	1,000 sq. ft.	0.38	\$70	\$27			
Warehouse	1,000 sq. ft.	0.18	\$70	\$13			
Public/Institutional	1,000 sq. ft.	0.73	\$70	\$51			
Oil and Gas Well	Wellhead	0.83	\$70	\$58			

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* includes mobile home on single-family lot

Source: Functional population per unit from Table 64; net cost per functional population from Table 51.

Current police impact fees charged by the City of Greeley are compared to the updated fees in Table 53. The updated fees are lower than current fees for all land use types.

Table 53. Comparative Police Fees							
		Current	Updated	Percent			
Land Use Type	Unit	Fee	Fee	Change			
Single-Family Detached	Dwelling	\$133	\$117	-12%			
Multi-Family	Dwelling	\$93	\$88	-5%			
Mobile Home Park	Site	\$127	\$123	-3%			
Retail/Commercial	1,000 sq. ft.	\$148	\$143	-3%			
Office	1,000 sq. ft.	\$89	\$67	-25%			
Industrial	1,000 sq. ft.	\$50	\$27	-46%			
Warehouse	1,000 sq. ft.	\$35	\$13	-63%			
Public/Institutional	1,000 sq. ft.	\$89	\$51	-43%			
Oil and Gas Well	Wellhead	*	\$58	n/a			

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* proposed new category

Source: Current fees from Table 1 (assumes 100,000 sq. ft. shopping center for retail and 50,000 sq. ft. office building for office); updated fees from Table 52.

WATER/WASTEWATER

This section reviews methodological alternatives for the update of the City's water and wastewater plant investment fees (PIFs). The PIFs are impact fees, in that they are charges to new customers to cover the capital costs of system expansion. Unlike the City's other impact fees, which are adopted by the City Council, PIFs are set by an appointed Water and Sewer Board, which also sets other water and wastewater rates and charges. The Water and Sewer Board updates the PIFs annually.

Current Fees

The current PIFs are presented in Table 54. Multi-family units that are not individually metered are charged PIFs that are one-half the rate for the smallest meter size. New customers located outside the Greeley city limits are charged a water PIF that is 50% higher than the in-city rate.

Table 54.	Current Plant Investment Fees					
Meter	W	ater				
Size	In-City	Outside	Sewer			
Multi-Family*	\$5,300	\$7,950	\$2,800			
3/4"	\$10,600	\$15,900	\$5,600			
1"	\$17,700	\$26,550	\$9,400			
1-1/2"	\$35,300	\$52,950	\$18,800			
2"	\$56,500	\$84,750	\$30,100			
3"	\$123,700	\$185,550	\$65,800			
4"	\$211,900	\$317,850	\$112,800			
6"	\$441,600	\$662,400	\$235,000			

* per unit charge for multi-unit meters

Source: City of Greeley Water and Sewer Board rate resolution, effective March 1, 2014.

Some communities assess multi-family customers based on meter size, while others, like Greeley, assess on the basis of a flat rate per dwelling unit. The multi-family fees are based on consumption data indicating that multi-family units consume about one-half as much water as single-family units.

There is no clearly-articulated rationale for the out-of-city water PIF surcharge. Some cities charge higher PIFs for out-of-city customers because they have issued general obligation debt to expand the utility system, and that debt is retired with taxes paid only by City residents. However, Greeley does not use general obligation bonds for utility debt, and bonds are retired by all ratepayers, regardless of location. Unless some rationale can be articulated to justify the out-of-city surcharge, it is recommended that it be eliminated. If the City rarely extends service outside its city limits, the effect on PIF revenues may not be significant. It should be noted that this recommendation applies only to the PIF surcharge, not to the monthly water rate surcharge.

Methodology

The City currently uses the system buy-in methodology in its rate model to calculate the plant investment fees (PIFs). Using fixed asset listings, original system costs, excluding those facilities used by wholesale customers or contributed by developers, are inflated to an approximation of current replacement value using a construction cost index. Outstanding debt is subtracted, and the resulting net system value is divided by existing customer service units to determine the fee per service unit.

The service unit employed is the equivalent $\frac{3}{4}$ " meter. A customer with a $\frac{3}{4}$ " meter, the smallest meter size used by the City, represents one service unit. Larger meters represent more service units based on the capacity of the meter relative to the $\frac{3}{4}$ " meter. Meter capacity ratios are based on American Water Works recommended maximum capacities for disc and turbine meters.

Any impact fee methodology should comply with three fundamental principles: (1) the fees should be proportional to costs incurred; (2) the fees should not charge new development for a higher level of service than is currently provided to existing development; and (3) new development should not have to pay twice for the facilities funded by the impact fees – once through impact fees and again through rates or taxes that will be used to retire debt on facilities that are serving existing development.

Greeley's PIF methodology generally meets each of these criteria: (1) it meets the proportionality test, because the fees vary by customer based on the potential demand represented by the capacity of the customer's water meter; (2) it does not charge for a higher level of service than is provided to current customers, because the fees are based on existing customers' equity investment in the system; and (3) it does not double-charge new customers, because outstanding debt is subtracted from system value in the impact fee calculation.

This consultant has suggested that, because the City's utility systems have significant excess capacity, it might be more reasonable to divide system equity by existing capacity (expressed in service units), rather than existing demand. Some excess capacity is necessary, given fluctuations in demand over time and the long lead times required to build new capacity. The City's policy is not to allow existing demand to exceed 90% of system capacity. The City has somewhat more excess capacity than that, however, especially in the wastewater system. Some of this excess capacity beyond the minimum required by the City's policy is likely to have been funded with debt, which has already been removed from the current fee calculations. Nevertheless, the alternative approach of dividing system equity by 90% of system capacity would ensure that new customers are not charged for more than the capacity required for them. City staff has calculated that using this alternative approach would yield estimated PIFs that are about 4% lower for water, 37% lower for wastewater, and 16% lower overall, as shown in Table 55.

Meter	Current PIF Rates (2014)			Alternati	Alternative PIF Rates (2015)			Percent Change		
Size	Water	Sewer	Total	Water	Sewer	Total	Water	Sewer	Total	
Multi-Family*	\$5,300	\$2,800	\$8,100	\$5,075	\$1,775	\$6,850	-4%	-37%	-15%	
3/4"	\$10,600	\$5,600	\$16,200	\$10,150	\$3,550	\$13,700	-4%	-37%	-15%	
1"	\$17,700	\$9,400	\$27,100	\$16,917	\$5,917	\$22,834	-4%	-37%	-16%	
1-1/2"	\$35,300	\$18,800	\$54,100	\$33,833	\$11,833	\$45,666	-4%	-37%	-16%	
2"	\$56,500	\$30,100	\$86,600	\$54,133	\$18,933	\$73,066	-4%	-37%	-16%	
3"	\$123,700	\$65,800	\$189,500	\$118,417	\$41,417	\$159,834	-4%	-37%	-16%	
4"	\$211,900	\$112,800	\$324,700	\$203,000	\$71,000	\$274,000	-4%	-37%	-16%	
6"	\$441,600	\$235,000	\$676,600	\$422,917	\$147,917	\$570,834	-4%	-37%	-16%	

Table 55. Alternative Plant Investment Fees

* per unit charge for multi-unit meters

Source: City of Greeley Budget Analyst, September 9, 2014.

City staff recommended the consultant's suggested change in methodology to the Greeley Water and Sewer Board. At their November 19, 2014 meeting, the Water Board considered this recommendation, but decided to retain the current methodology.

APPENDIX A: AVERAGE HOUSEHOLD SIZE

An important input for an impact fee analysis is the average household size related to different housing types (e.g., single-family detached or multi-family). Average household size is the ratio of household population to the number of households, which is the same as the number of occupied housing units (a household is by definition a group of people occupying a housing unit).

The best sources of data on average household size are those provided by the U.S. Census Bureau. Prior to the 2010 census, the Bureau provided 16.7% sample data on households and occupied units by housing type as part of the decennial census. Unfortunately, this was discontinued with the 2010 census. Now, the available information related to average household size is the 1% samples collected as part of the annual American Community Survey (ACS). For smaller communities like Greeley, this poses some challenges for accurately determining current average household sizes by housing type.

Consequently, our starting point for this analysis is the more-robust 2000 Census data. These data contain information on four main housing types: single-family detached, single-family attached (townhouses), multi-family (duplexes, apartments and condominiums), and mobile homes. The average household sizes for these housing types are shown in Table 56. At the bottom of the table, the average household size for the combined single-family detached/attached category is shown, for reasons that will be discussed next.

Housing Type	Household Population	Occupied Units	Avg. HH Size
Single-Family Detached	45,751	15,690	2.92
Single-Family Attached	2,779	1,228	2.26
Multi-Family	18,482	8,777	2.11
Mobile Home	5,590	1,947	2.87
Total	72,602	27,642	2.63
Single-Family Det./Attached	48,530	16,918	2.87

Table 56. Average Household Size, 2000 Census

Source: U.S. Census Bureau, 2000 Census SF-3 (1-in-6 or 16.7% sample); average household size is ratio of household population to occupied units.

The most current data on average household size is from the American Community Survey. The annual 1% sample data is not very useful for a modest-sized community, because the margins of error are so large. Fortunately, the Census Bureau provides consolidated data sets for five years of samples, which are basically equivalent to a 5% sample for the middle year. The most recent available data for Greeley are the 2008-2012 data, which is roughly equivalent to a 5% sample for 2010. The average household sizes for the available housing types from the 2008-2012 period are shown in Table 56.

Unfortunately, these data collapse the single-family detached and attached housing categories. The more-robust but older 2000 Census data indicate that single-family attached (townhouse) units are much more similar in terms of average household size to multi-family units than to single-family detached units, with which they are combined in the most-recent ACS data. This issue will be addressed below.

•			
	Household	Occupied	Avg. HH
Housing Type	Population	Units	Size
Single-Family Det./Attached	61,956	21,958	2.82
Multi-Family	20,880	9,700	2.15
Mobile Home	5,040	1,668	3.02
Total	87,876	33,326	2.64

Table 57. Average	e Household Size	, 2008-2012
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Source: U.S. Census Bureau, American Community Survey, 2008-2012 (5year data set consisting of 1% annual samples, roughly equivalent to a 5% sample for 2010); average household size is ratio of household population to occupied units.

A reasonable estimate of the current average household sizes for single-family detached and attached units can be derived from a combination of the 2000 Census data and the 2008-2012 (equivalent to 2010) ACS data. The results are shown in Table 58.

Three rows are presented at the bottom of the table. The first row confirms that the estimated average household sizes for single-family detached and attached units are consistent with the average household size for the combined, recent ACS data.

The second row shows the average household size for a combined single-family detached/mobile home category. While mobile homes may have a slightly higher average household size than site-built single-family detached units, the City is not going to refund impact fees when a mobile home is replaced with a site-built unit. Because most existing mobile homes are in mobile home subdivisions and would be classified as single-family detached, this blended average household size is the most appropriate to use for this category.

The final row shows the average household size for a combined single-family attached/multi-family category. The two housing types had very similar average household sizes in the 2000 Census, and although the estimates shown below carry forward that distinction, the two appear to be even closer together in 2010. Given the closeness of the average household sizes and the large margin of error inherent in the current small size of the townhouse category, the most accurate approach is to use the consolidated average household size for both housing types.

······································			-
	Household	Occupied	Avg. HH
Housing Type	'opulation	Units	Size
Single-Family Detached	58,408	20,364	2.87
Single-Family Attached	3,548	1,594	2.23
Multi-Family	20,880	9,700	2.15
Mobile Home	5,040	1,668	3.02
Total	87,876	33,326	2.64
Single-Family Det./Attached	61,956	21,958	2.82
Single-Family Det./Mobile Home	e 63,448	22,032	2.88
Single-Family Att /Multi-Family	24 428	11 294	2 16

Table 58. Average Household Size, 2010

Source: Estimated 2010 household population and occupied units for singlefamily detached and single-family attached based on combined data from Table 57 (for 2008-2012) times proportions from Table 56 (for 2000); average household size is ratio of household population to occupied units. Based on the foregoing analysis, the recommended average household sizes for each of the three housing types used in the impact fee schedules are summarized in Table 59.

Table 59. Average	Household Size
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	Avg. HH			
Housing Type	Size			
Single-Family Detached*	2.88			
Multi-Family	2.16			
Mobile Home Park Space	3.02			

* includes mobile home on single-family lot *Source:* Table 58.

APPENDIX B: EXISTING LAND USE

In order to determine existing levels of service for the various impact fee facility types, it is necessary to have reasonable estimates of the amounts of existing development for various land use types. Current estimates of existing land uses in the City of Greeley are shown in Table 60.

Table 60. Existing Land Use						
Land Use Type	Unit	Total Units				
Single-Family Detached*	Dwelling	23,976				
Multi-Family	Dwelling	12,856				
Mobile Home Park	Pad/Space	2,522				
Retail/Commercial	1,000 sq. ft.	10,380				
Office	1,000 sq. ft.	6,021				
Industrial	1,000 sq. ft.	5,637				
Warehouse	1,000 sq. ft.	5,666				
Public/Institutional	1,000 sq. ft.	7,012				
Oil and Gas Well	Wellhead	427				

* includes mobile home on single-family lot

Source: Dwelling units are 2014 estimates from City of Greeley Community Development Department, *Housing Population Estimate, 2000-2014*, February 5, 2014; count of mobile home park spaces and oil and gas wellheads from Community Development Department, September 12, 2014; nonresidential square feet from Weld County Property Appraiser data provided by City of Greeley on June 24, 2014; .

APPENDIX C: EXISTING ARTERIAL ROAD INVENTORY

				Lane-	Miles			
Arterial Street	Segment Description	Miles	Lns	Total	Cnts	ADT	VMT	VMC
4th St (W)	(W) City Limit-Dundee Ave	0.783	2	1.57	1.57	3,500	2,741	12,473
4th St (W)	Dundee Ave-71st Ave	0.224	4	0.90	0.90	3,500	784	8,024
4th St (W)	71st Ave-59th Ave	1.022	4	4.09	4.09	7,500	7,665	36,608
4th St (W)	59th Ave-47th Ave	0.989	4	3.96	3.96	10,500	10,385	35,426
4th St (W)	47th Ave-43rd Ave	0.387	4	1.55	1.55	13,500	5,225	13,862
4th St (W)	43rd Ave-39th Ave	0.306	4	1.22	1.22	13,500	4,131	10,961
4th St (W)	39th Ave-35th Ave	0.372	4	1.49	1.49	11,000	4,092	13,325
4th St	35th Ave-28th Ave	0.508	2	1.02	1.02	11,000	5,588	8,092
4th St	28th Ave-23rd Ave	0.527	2	1.05	1.05	8,500	4,480	8,395
5th St	23rd Ave-21st Ave	0.248	2	0.50	0.50	8,500	2,108	3,951
5th St	21st Ave-14th Ave	0.508	2	1.02	1.02	8,250	4,191	8,092
5th St	14th Ave-11th Ave	0.284	2	0.57	0.57	8,000	2,272	4,524
5th St	11th Ave-10th Ave	0.096	2	0.19	0.19	8,200	787	1,529
5th St	10th Ave-9th Ave	0.095	2	0.19	0.19	8,200	779	1,513
5th St	9th Ave-8th Ave	0.095	2	0.19	0.19	8,400	798	1,513
5th St	8th Ave-RR Tracks (Center)	0.098	4	0.39	0.39	8,400	823	3,510
5th St	RR Tracks (Center)-6th Ave	0.110	4	0.44	0.44	8,400	924	3,940
5th St	6th Ave-4th Ave	0.199	2	0.40	0.40	8,400	1,672	3,170
5th St	4th Ave-Hwy 85	0.243	2	0.49	0.49	8,400	2,041	3,871
8th Ave	25th St-24th St	0.136	4	0.54	0.54	13,000	1,768	4,872
8th Ave	24th St-23rd St	0.202	2	0.40	0.40	13,000	2,626	, 3,218
8th St	8th Ave-7th Ave	0.096	4	0.38	0.38	2,700	259	3,439
8th St	7th Ave-3rd Ave	0.384	4	1.54	1.54	2,700	1,037	13,755
8th St	3rd Ave-Hwy 85 Bypass	0.164	4	0.66	0.66	2,700	443	5,874
11th Ave	Hwy 34 Bypass-26th St	0.225	4	0.90	0.90	17,500	3,938	8,060
11th Ave	26th St-25th St	0.123	4	0.49	0.49	18,000	2,214	4,406
11th Ave	25th St-24th St	0.123	4	0.49	0.49	18,000	2,214	4,406
11th Ave	24th St-20th St	0.474	4	1.90	1.90	22,000	10,428	16,979
11th Ave	20th St-16th St	0.515	4	2.06	2.06	15,500	7,983	18,447
11th Ave	16th St-13th St	0.320	4	1.28	1.28	11,000	3,520	11,462
11th Ave	13th St-10th St	0.284	4	1.14	1.14	10,000	2,840	10,173
11th Ave	10th St-9th St	0.087	4	0.35	0.35	11,000	957	3,116
11th Ave	9th St-6th St	0.217	4	0.87	0.87	12,000	2,604	7,773
11th Ave	6th St-5th St	0.084	4	0.34	0.34	11,000	924	3,009
11th Ave	5th St-2nd St	0.237	4	0.95	0.95	10,000	2,370	8,489
11th Ave	2nd St-1st St	0.128	4	0.51	0.51	9,000	1,152	4,585
11th Ave	1st St-D St	0.398	4	1.59	1.59	8,500	3,383	14,256
11th Ave	D St-H St	0.401	4	1.60	1.60	8,500	3,409	14,364
11th Ave	H St-M St	0.521	4	2.08	2.08	8.500	4,429	18.662
11th Ave	M St-O St	0.148	2	0.30	0.30	8.500	1,258	2.358
16th St	47th Ave-43rd Ave	0.414	4	1.66	1.66	6,500	2,691	14,829
16th St	43rd Ave-40th Ave	0.454	4	1.82	1.82	9.500	4,313	16.262
16th St	40th Ave-35th Ave	0.317	4	1.27	1.27	12.500	3,963	11.355
16th St	35th Ave-40th Ave	0.317	4	1.27	1.27	12.500	3,963	11.355
16th St (W)	35th Ave-28th Ave	0.541	4	2.16	2.16	13.625	7.371	19.379
16th St (W)	28th Ave-23rd Ave	0.486	4	1.94	1.94	16,250	7,898	17,409
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Table 61. Existing Arterial Road Inventory

				Lane-	<u>Miles</u>			
Arterial Street	Segment Description	Miles	Lns	Total	Cnts	ADT	VMT	VMC
16th St	23rd Ave-21st Ave (W)	0.171	4	0.68	0.68	19,000	3,249	6,125
16th St	21st Ave (W)-21st Ave (W)	0.060	4	0.24	0.24	16,000	960	2,149
16th St	21st Ave (E)-14th Ave	0.560	4	2.24	2.24	13,000	7,280	20,059
16th St	14th Ave-11th Ave	0.274	4	1.10	1.10	13,125	3,596	9,815
16th St	11th Ave-10th Ave	0.090	4	0.36	0.36	13,250	1,193	3,224
16th St	10th Ave-9th Ave	0.086	4	0.34	0.34	10,475	901	3,081
16th St	9th Ave-8th Ave	0.084	4	0.34	0.34	7,700	647	3,009
16th St	8th Ave-RR TRACKS	0.268	2	0.54	0.54	7,700	2,064	4,269
16th St	RR TRACKS-4th Ave	0.078	2	0.16	0.16	7,700	601	1,243
16th St	4th Ave-Hwy 85 Bypass	0.191	2	0.38	0.38	7,700	1,471	3,043
20th St	95th Ave-83rd Ave	0.996	2	1.99	1.99	7,500	7,470	15,866
20th St	83rd Ave-71st Ave	0.997	2	1.99	1.99	7,500	7,478	15,882
20th St	71st Ave-65th Ave	0.498	4	1.99	1.99	11,750	5,852	17,838
20th St	65th Ave-59th Ave	0.503	4	2.01	2.01	16,000	8,048	18,017
20th St	59th Ave-50th Ave	0.754	4	3.02	3.02	16,250	12,253	27,008
20th St	50th Ave-47th Ave	0.237	4	0.95	0.95	16,000	3,792	8,489
20th St	47th Ave-43rd Ave	0.473	4	1.89	1.89	15,500	7,332	16,943
20th St	43rd Ave-35th Ave	1.111	4	4.44	4.44	15,500	17,221	39,796
20th St	35th Ave-28th Ave	0.716	4	2.86	2.86	13,625	9,756	25,647
20th St	28th Ave-23rd Ave	0.605	4	2.42	2.42	9,125	5,521	21,671
23rd Ave	32nd St-30th St	0.250	4	1.00	1.00	20,000	5,000	8,955
23rd Ave	30th St-29th St	0.159	4	0.64	0.64	20,000	3,180	5,695
23rd Ave	29th St-28th St	0.109	4	0.44	0.44	23,500	2,562	3,904
23rd Ave	28th St-25th St	0.377	4	1.51	1.51	24,250	9,142	13,504
23rd Ave	25th St-24th St (W)	0.100	4	0.40	0.40	21,500	2,150	3,582
23rd Ave	24th St (W)-Reservoir Rd	0.082	4	0.33	0.33	21,000	1,722	2,937
23rd Ave	Reservoir Rd-20th St	0.431	4	1.72	1.72	20,500	8,836	15,438
23rd Ave	20th St-16th St	0.504	4	2.02	2.02	18,250	9,198	18,053
23rd Ave	16th St-13th St	0.325	4	1.30	1.30	15,000	4,875	11,642
23rd Ave	13th St-10th St	0.302	4	1.21	1.21	12,500	3,775	10,818
23rd Ave	10th St-9th St	0.080	4	0.32	0.32	11,000	880	2,866
23rd Ave	9th St-5th St	0.325	2	0.65	0.65	9,750	3,169	5,177
23rd Ave	5th St-1st St	0.345	2	0.69	0.69	8,500	2,933	5,496
23rd Ave	1st St-C St	0.252	2	0.50	0.50	8,500	2,142	4,014
35th Ave	29th St-Hwy 34 Bypass	0.363	4	1.45	1.45	19,000	6,897	13,003
35th Ave	Hwy 34 Bypass-25th St	0.265	4	1.06	1.06	24,750	6,559	9,492
35th Ave	25th St-24th St	0.223	4	0.89	0.89	24,000	5,352	7,988
35th Ave	24th St-22nd St	0.253	4	1.01	1.01	24,000	6,072	9,062
35th Ave	22nd St-20th St	0.263	4	1.05	1.05	24,500	6,444	9,421
35th Ave	20th St-16th St	0.563	4	2.25	2.25	24,250	13,653	20,167
35th Ave	16th St-13th St (W)	0.251	4	1.00	1.00	22,750	5,710	8,991
35th Ave	13th St (W)-10th St	0.312	4	1.25	1.25	19,250	6,006	11,176
35th Ave	10th St-4th St (W)	0.502	4	2.01	2.01	14,000	7,028	17,982
35th Ave	4th St (W)-C St	0.507	2	1.01	1.01	11,000	5,577	8,077
35th Ave	C St-City Limit (N)	0.252	2	0.50	0.50	11,000	2,772	4,014
37th St	83rd Ave-City Limit (E)	0.511	2	1.02	n/a	n/a	n/a	8,140
37th St	83rd Ave-95th Ave	1.031	2	2.06	n/a	n/a	n/a	16,424
37th St	95th Ave-Hwy 257 (City Limit)	2.027	2	4.05	n/a	n/a	n/a	32,290

Table 61. Continued

				<u>Lane</u>	Miles			
Arterial Street	Segment Description	Miles	Lns	Total	Cnts	ADT	VMT	VMC
47th Ave	City Limit (S)-Hwy 34 Bypass	0.438	4	1.75	1.75	13,000	5,694	15,689
47th Ave	Hwy 34 Bypass-24th St	0.508	4	2.03	2.03	23,000	11,684	18,197
47th Ave	24th St-20th St	0.502	4	2.01	2.01	21,750	10,919	17,982
47th Ave	20th St-16th St	0.305	4	1.22	1.22	20,000	6,100	10,925
47th Ave	16th St-10th St	0.710	4	2.84	2.84	16,125	11,449	25,432
47th Ave	10th St-4th St	0.511	4	2.04	2.04	10,750	5,493	18,304
47th Ave	O St-47th Ave	0.028	4	0.11	0.11	7,000	196	1,003
47th Ave	O St-AA St	0.908	4	3.63	3.63	7,000	6,356	32,525
47th Ave	1/2 Way 2nd Curve N-AA St	0.037	4	0.15	0.15	7,000	259	1,325
47th Ave	AA St-N CL	0.504	4	2.02	2.02	7,000	3,528	18,053
59th Ave	20th St-10th St	1.004	4	4.02	4.02	11,500	11,546	35,963
59th Ave	10th St-4th St (W)	0.571	4	2.28	2.28	10,000	5,710	20,453
59th Ave	4th St (W)-F St	0.566	2	1.13	1.13	8,500	4,811	9,016
59th Ave	F St-O St	1.042	2	2.08	2.08	8,500	8,857	16,599
59th Ave	O St-CL (N)	0.520	2	1.04	1.04	8,500	4,420	8,284
59th Ave	AA St-City Limit (N)	0.503	2	1.01	1.01	8,500	4,276	8,013
59th/65th Ave	20th St-Hwy 34 Bypass	1.108	2	2.22	2.22	10,250	11,357	17,650
65th Ave	City Limit (S)-Hwy 34 Bypass	0.813	2	1.63	1.63	9,000	7,317	12,951
71st Ave	C St-4th St (W)	0.559	4	2.24	2.24	4,500	2,516	20,023
71st Ave	4th St (W)-10th St	0.536	4	2.14	2.14	4,750	2,546	19,200
71st Ave	10th St-20th St	0.990	2	1.98	1.98	4,750	4,703	15,771
71st Ave	20th St-Bypass	0.992	2	1.98	1.98	4,500	4,464	15,803
83rd Ave	28th St-Hwy 34 Bypass	0.561	2	1.12	1.12	3,000	1,683	8,937
83rd Ave	Hwy 34 Bypass-20th St	0.422	2	0.84	0.84	3,000	1,266	6,722
83rd Ave	20th St-10th St	1.023	2	2.05	2.05	3,000	3,069	16,296
83rd Ave	10th St-4th St	0.534	2	1.07	1.07	3,000	1,602	8,507
83rd Ave	City Limit (S)-CR 62	0.289	2	0.58	0.58	3,000	867	4,604
83rd Ave	CR 62-City Limit (N)	0.350	2	0.70	0.70	3,000	1,050	5,576
83rd Ave	37th St-Two Rivers Pky	0.584	2	1.17	1.17	3,000	1,752	9,303
95th Ave	Hwy 34-CL (S)	0.750	2	1.50	n/a	n/a	n/a	11,948
95th Ave	37th St-Hwy 34 Bypass	1.951	2	3.90	n/a	n/a	n/a	31,079
95th Ave	Hwy 34 Bypass-10th St	1.834	2	3.67	n/a	n/a	n/a	29,216
AA St	E CL-47th Ave	0.504	2	1.01	n/a	n/a	n/a	8,029
AA St (CR 66)	47th Ave (N)-59th Ave (N)	1.012	2	2.02	n/a	n/a	n/a	16,121
Canberra Ave	CR 23 and 1/2-CDS (E)	0.484	2	0.97	n/a	n/a	n/a	7,710
County Road 17	City Limit (S)-Hwy 34	0.952	2	1.90	n/a	n/a	n/a	15,165
County Road 17	Hwy 34-City Limit (N)	1.023	2	2.05	n/a	n/a	n/a	16,296
CR 62	83rd Ave-City Limit (W)	0.095	2	0.19	n/a	n/a	n/a	1,513
CR 64 and 3/4	CR23 and 1/2-CL (W)	0.251	2	0.50	n/a	n/a	n/a	3,998
F St	35th Ave (N)-City Limit (W)	0.511	2	1.02	n/a	n/a	n/a	8,140
O St	8th Ave-11th Ave	0.095	2	0.19	n/a	n/a	n/a	1,513
O St	11th Ave-23rd Ave	0.985	2	1.97	n/a	n/a	n/a	15,691
O St	23rd Ave-35th Ave	1.080	2	2.16	n/a	n/a	n/a	17,204
O St	35th Ave-47th Ave	0.777	2	1.55	n/a	n/a	n/a	12,378
O St	CR 23 and 1/2-CDS (E)	0.484	2	0.97	n/a	n/a	n/a	7,710
O St / CR 64	47th Ave-59th Ave / CR 31	1.439	2	2.88	n/a	n/a	n/a	22,923
Promontory Pky	Hwy 34-Hwy 34	0.013	2	0.03	n/a	n/a	n/a	207
Total		66.264		192.56	156.95	1,413,650	535,250	1,652,500

Table 61. Continued

Source: City of Greeley Public Works Department, July 31, 2014; "Lns" is number of through lanes, lane-mile is lanes times miles, "Cnts" is lane-miles with traffic counts; ADT is recent average daily trip traffic count, VMT is vehicle-miles of travel (miles times ADT), VMC is vehicle-miles of capacity (miles times capacity from Table 8).

APPENDIX D: FUNCTIONAL POPULATION

This update uses the "functional population" approach to calculate fire and police impact fees. This approach is a generally-accepted methodology for these impact fee types, and is based on the observation that demand for public safety facilities tends to be proportional to the presence of people at a particular site.

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. For residential development, functional population is simply average household size times the percent of time people spend at home. For nonresidential development, functional population is based on a formula that includes trip generation rates, average vehicle occupancy and average number of hours spent by visitors at a land use.

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 Greeley's impact fees are single-family detached, multi-family and mobile home park. 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. It is generally estimated that people spend one-half to two-thirds of their time at home and the rest of each 24-hour day away from their place of residence. It is estimated that people, on average, spend 14 hours, or 58 percent, of each 24-hour day at their place of residence and the rest of the time away from home (at work, school, shopping, etc.). The functional population per unit for residential uses is shown in Table 62.

Table 62 .	Functional	Population	per Unit	for Residential	Uses
					-

		Average		Func.
Housing Type	Unit	HH Size	Occupancy	Pop./Unit
Single-Family, Detached	Dwelling	2.88	0.58	1.67
Multi-Family	Dwelling	2.16	0.58	1.25
Mobile Home/RV Park	Pad/Space	3.02	0.58	1.75

Source: Average household size from Table 59; residential occupancy factor based on analysis described above.

Nonresidential Functional Population

The functional population methodology for nonresidential uses is based on trip generation data utilized in developing the transportation demand schedule prepared for the updated transportation fees. 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 eight 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 3.

Figure 3. 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 8 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 \div 2)	

Using this formula and information on trip generation rates used in this study for the transportation impact fee update, vehicle occupancy rates from the *National Household Travel Survey* and other sources and assumptions, nonresidential functional population estimates per 1,000 square feet of gross floor area are calculated. Table 63 presents the results of these calculations for the nonresidential land use categories.

	directionari	op and no			oraonaa	
		Trip	Persons/	Employee/	Visitors/	Functional
Land Use	Unit	Rate	Trip	Unit	Unit	Pop./Unit
Retail/Commercial	1,000 sq. ft.	21.35	1.96	1.02	40.83	2.04
Office	1,000 sq. ft.	5.52	1.24	2.31	4.53	0.96
Industrial	1,000 sq. ft.	1.91	1.24	1.05	0.66	0.38
Warehouse	1,000 sq. ft.	1.78	1.24	0.43	0.89	0.18
Public/Institutional	1,000 sq. ft.	3.80	2.59	1.11	8.73	0.73
Oil and Gas Well	Wellhead	2.00	1.24	2.48	0.00	0.83

Table 63. Functional Population per Unit for Nonresidential Uses

Source: Trip rates (one-half trip ends) from Table 10; persons/trip is average vehicle occupancy from Federal Highway Administration, *Nationwide Household Travel Survey*, 2009; 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 3.

Functional Population Summary

The functional population multipliers for the residential and nonresidential land use categories are summarized in Table 64.

	i i opulation mu	Inpliers
		Functional
Land Use	Unit	Pop./Unit
Single-Family Detached	Dwelling	1.67
Multi-Family	Dwelling	1.25
Mobile Home/RV Park	Pad/Space	1.75
Retail/Commercial	1,000 sq. ft.	2.04
Office	1,000 sq. ft.	0.96
Industrial	1,000 sq. ft.	0.38
Warehouse	1,000 sq. ft.	0.18
Public/Institutional	1,000 sq. ft.	0.73
Oil and Gas Well	Wellhead	0.83

Table 64. Functional Population Multipliers

Source: Residential dwelling unit functional population per unit from Table 62; nonresidential functional population per unit from Table 63.

APPENDIX E: FEE SURVEY

This survey provides current impact fees and similar charges (connection fees, development excise taxes, fees in-lieu of land dedication) assessed on new development to recover the cost of growth-related capital improvements charged by ten other Colorado jurisdictions selected by the City of Greeley. It also attempts to determine the methodologies used to calculate those fees. The jurisdictions selected by the City to include in the survey are:

- Weld County,
- Town of Windsor (Weld County),
- Larimer County,
- City of Fort Collins (Larimer County),
- City of Loveland (Larimer County),
- City of Thornton (Adams and Weld Counties),
- City of Longmont (Boulder and Weld Counties),
- City of Boulder (Boulder County),
- City and County of Broomfield, and
- City of Pueblo (Pueblo County).

This survey includes a summary of current impact fees and similar charges for five typical land use categories: a single-family detached dwelling unit, a multi-family dwelling unit, and 1,000 square feet of retail, office and industrial buildings. The following assumptions were made to determine the "typical" unit of development:

■ Single-family detached – a 3-bedroom, 2,000 sq. ft. dwelling unit on a 10,000 sq. ft. lot with 40% impervious cover.

• Multi-family – a 2-bedroom, 1,000 sq. ft. dwelling unit located in a 240-unit apartment complex developed at a density of 12 units per acre, with 7 2" water meters (2 for irrigation) and 60% impervious cover.

■ Retail – a 100,001 sq. ft. shopping center with a 3" water meter, a 0.15 floor-to-area ratio and 70% impervious cover.

■ Office – a 100,001 sq. ft. general office building with a 3" water meter, a 0.25 floor-to-area ratio and 70% impervious cover.

■ Industrial – a 100,001 sq. ft. light industrial or industrial park development with a 3" water meter, a 0.15 floor-to-area ratio and 70% impervious cover.

Weld County

Weld County collects impact fees in the unincorporated area for roads, drainage and County facilities. Current fees are summarized in Table 65.

Table 05. Weld County Current Impact ree Summary									
			County	Storm					
Land Use Type	Unit	Roads	Facilities	Water	Total				
Single-Family Detached	Dwelling	\$2,313	\$648	\$400	\$3,361				
Multi-Family	Dwelling	\$1,515	\$481	\$254	\$2,250				
Shoping Center/Comm.	1,000 sq. ft.	\$3,207	\$620	\$467	\$4,294				
Office	1,000 sq. ft.	\$2,115	\$308	\$280	\$2,703				
Industrial/Manufacturing	1,000 sq. ft.	\$2,083	\$155	\$467	\$2,705				

Note: Stormwater fees are estimates based on 10 cents per sq. ft. of impervious cover. Source: Weld County Department of Planning Services, Impact Fees, accessed July 3, 2014 at http://www.co.weld.co.us/ Departments/PlanningZoning.ImpactFees.html.

Weld County's impact fees are based on Duncan Associates, Weld County Impact Fee Study: Roads, Drainage and County Facilities, October 2010. The road and County facilities impact fees were adopted at about two-thirds of the amounts calculated in the 2010 study. The adoption percentages for road and County facilities fees was designed to avoid a sharp increase in these fees, and to reflect only the changes in the consumer price index from dates of the previous studies. Drainage fees were adopted at \$0.10 per square foot of impervious cover - the same fee was calculated in both the 2005 and 2010 studies. The 2010 study used a standards-based methodology for all three impact fee types, including a standard consumption-based methodology for roads.

Windsor

The Town of Windsor collects water and sewer plant investment fees (PIFs), impact fees for roads, storm water and parks, as well as park and school land dedication requirements or fees in-lieu of dedication. The Town's current fees for new development are summarized in Table 66.

					Storm		Fees	In-Lieu	
Land Use Type	Unit	Roads	Water	Sewer	Water	Parks	Parks	Schools	Total
Single-Family Detached	Dwelling	\$2,115	\$6,725	\$3,700	\$735	\$4,766	\$727	\$2,240	\$21,008
Multi-Family	Dwelling	\$1,483	\$1,234	\$485	\$467	\$4,766	\$727	\$520	\$9,682
Shoping Center/Gen Ret.	1,000 sq. ft.	\$3,476	\$932	\$513	\$858	\$0	\$0	\$0	\$5,779
Office, General	1,000 sq. ft.	\$2,840	\$932	\$513	\$515	\$0	\$0	\$0	\$4,800
Light Industrial	1,000 sq. ft.	\$1,799	\$932	\$513	\$858	\$0	\$0	\$0	\$4,102

Table 66. Windsor Current Impact Fee Summary

Source: "Town of Windsor Fee Schedule," updated 3/12/2014, accessed July 5, 2014 at https://www.windsorgov.com/Document Center/Home/View/1057; school fees in-lieu from Windsor Town Code, accessed on July 5, 2014 at http://www.colocode. com/windsorpdf.html.

Windsor's water and sewer PIFs are based on an annual *Plant Investment Fee Study* prepared by Town staff,¹⁴ although they have not been updated since 2007 due to the depressed economy. The PIF study uses the same standards-based "system buy-in" methodology used by the City of Greeley – the original value of non-contributed assets is inflated to replacement cost using the *Engineering News-Record* Construction Cost Index, the amount of outstanding debt is deducted from total replacement cost to determine net replacement cost, and the net replacement cost is divided by number of existing customer service units to determine the fee per service unit.

The road impact fees are based on Duncan Associates, 2007 Road Impact Fee Update, January 2008, and are adjusted periodically for cost inflation. The study used a standard, consumption-based road impact fee methodology. These fees have been adjusted downward since their adoption in 2008 to reflect declines in the Colorado Department of Transportation construction cost index.

The drainage impact fees are based on Anderson Consulting Engineers, *Town of Windsor Master Drainage Plan*, October 2003, and have not been updated since they were adopted. The drainage plan used a plan-based approach, dividing the total cost of identified improvements by the anticipated growth in impervious cover in Windsor's growth management area over a 30-year period. The total improvement cost includes both the cost of remedying existing deficiencies and the cost of improvements required over a 25-50 year period. The improvements plan assumed that new development would be required to install on-site detention facilities. The financing plan assumed that growth would continue at then-current rates (400 new units per year), that the improvements would be funded with revenue bonds, that principal payments would be paid from PIF revenues and that interest costs would be financed by the monthly drainage utility fee.

The basis for the park impact fees is unclear. The consultant was unable to locate a copy of the study.

¹⁴ The consultant reviewed the latest PIF Study for Fiscal Year 2014, prepared by Town of Windsor Finance and Engineering Departments and dated February 12, 2014.

Larimer County

Larimer County collects Transportation Capital Expansion Fees, consisting of regional and nonregional fees. The regional fees are earmarked to be spent only on selected regional roads that largely carry traffic through the unincorporated area that is going between municipalities or from municipalities to I-25. The County also collects fees in-lieu of land dedication for community parks within the growth management areas of Fort Collins, Loveland Berthoud and Estes Park, and fees in-lieu of land dedication for regional parks throughout the unincorporated area. Finally, the County collects fees-in-lieu for three school districts. The current fees charged by Larimer County for new development in the unincorporated area are summarized in Table 67.

Table 67. Larimer County Current Impact Fee Summary

		Road Impact Fees			Fee			
Land Use Type	Unit	County	Regional	Total	Com Pks	Reg Parks	Schools	Total
Single-Family Det.	Dwelling	\$2,924	\$284	\$3,208	\$558	\$701	\$1,491	\$5,958
Multi-Family	Dwelling	\$2,053	\$198	\$2,251	\$350	\$456	\$1,491	\$4,548
General Retail	1,000 sq. ft.	\$7,541	\$728	\$8,269	\$0	\$0	\$0	\$8,269
Office, General	1,000 sq. ft.	\$3,682	\$361	\$4,043	\$0	\$0	\$0	\$4,043
Light Industrial	1,000 sq. ft.	\$2,475	\$241	\$2,716	\$0	\$0	\$0	\$2,716

Notes: General retail and office fees based on 100,000 sq. ft. shopping center; community park fees in-lieu apply only in four municipal growth management areas and fees shown are averages; school fees in-lieu are the average for Poudre Pr-1 and Thompson RJ2 districts.

Source: "Capital Expansion Fees, Updated July 1, 2014" accessed July 5, 2014 at http://www.larimer.org/building/ impact-fee-schedule-2014.pdf (nonresidential road fees from road fee from http://www.larimer.org/engineering/Devel/ 2014_TCEF_Calculation_and_Schedul_Form%20_%20Bld_Dept.pdf).

Larimer County's Transportation Capital Expansion Fees are based on Felsburg Holt & Ullevig, Larimer County Road Capital Expansion Fee Study, September 2006. This study used a standards-based methodology, in the form of a modified consumption-based road impact fee methodology. The park fees in-lieu are based on Duncan Associates, *Transportation Capital Expansion Fee and Park In-Lieu Fee Study*, October 1998. The park fees in-lieu were calculated in the 1998 study using a standardsbased methodology based on the existing ratio of park land per residential service unit. The school fees in-lieu are based on studies prepared by the school districts, which could not be obtained.

Fort Collins

The City of Fort Collins charges a Street Oversizing Fee, Plant Investment Fees for water, wastewater and stormwater, Capital Expansion Fees for parks, fire, police and general government facilities, and school impact fees for the Poudre and Thompson School Districts. The City's current fees are summarized in Table 68.

					Storm				Gen.		
Land Use Type	Unit	Roads	Water	Sewer	Water	Park	Fire	Police	Gov't	School	Total
Single-Family Det.	Dwelling	\$3,396	\$3,920	\$3,090	\$1,954	\$3,313	\$383	\$192	\$455	###	\$18,249
Multi-Family	Dwelling	\$2,360	\$1,448	\$2,470	\$651	\$2,878	\$333	\$167	\$395	\$916	\$11,618
Shopping Center	1,000 sq. ft.	\$11,048	\$1,120	\$1,048	\$1,196	\$0	\$284	\$160	\$556	\$0	\$15,412
Office, General	1,000 sq. ft.	\$4,031	\$1,120	\$1,048	\$718	\$0	\$284	\$160	\$556	\$0	\$7,917
Light Industrial	1,000 sq. ft.	\$2,461	\$1,120	\$1,048	\$1,196	\$0	\$71	\$41	\$135	\$0	\$6,072

Table 68. Fort Collins Current Impact Fee Summary

Notes: Stormwater fees estimated based on flat rate of \$7,817 per gross acre of development, effective January 1, 2014 per Ordinance 152, 2013; school fees are average for Poudre and Thompson school districts.

Source: Street Oversizing Fees accessed July 5, 2014 at http://www.fcgov.com/engineering/oversizing.php; other fees http://www.fcgov.com/building (see permit fees, impact fee schedule).

The City's Street Oversizing Fees are hybrid of a road impact fee and developer frontage requirements. Developers are required to construct the equivalent of local street of improvements (13 feet of pavement, curb and gutter, 4.5-foot wide sidewalk, and adjacent street landscaping) for abutting arterial and collector street. The oversizing fees cover the cost of additional pavement width, sidewalk width and median. Developers receive credit against the oversizing fees for improvements beyond their local street requirements.

The Street Oversizing Fees were calculated in-house using a plan-based methodology.¹⁵ Projected build-out costs for major streets construction, bicycle lanes, pedestrian facilities, grade separations and outparcel right-of-way were divided by projected new trips to determine a cost per trip.

The City's Capital Expansion Fees for park, fire, police and general government facilities are based on Duncan Associates, *Capital Expansion Fee Study for the City of Fort Collins, Colorado*, June 2013. The study calculated the fees using a standards-based methodology based on the existing level of service.

The City's Plant Investment Fees for water, wastewater and stormwater use a system buy-in methodology, which is described in more detail as follows: (1) past plant and major distribution capital expenditures (greater than 25-year useful life) are brought to current prices with the ENR CCI adjustments; (2) applicable future plant and distribution capital expenditures are added, along with construction works-in-progress; (3) unpaid debt principal is deducted to avoid double-charging; (4) the resulting value is divided buy the total build-out plant capacity to determine the cost per peak gallon/day.¹⁶

 ¹⁵ City of Fort Collins Engineering Department, *Street Oversizing Impact Fee Study Update*, October 2000
 ¹⁶ Email from Lance Smith, City of Fort Collins Strategic Financial Planning Manager, July 21, 2014

Loveland

The City of Loveland charges capital expansion fees for transportation, stormwater, parks, recreation, trails, open lands, libraries, cultural facilities (museum), fire, police and general government facilities; plant investment fees for water and wastewater; and fees in-lieu of land dedication for schools. The City adopted updated Capital Expansion Fees for residential uses (small increase for single-family, decrease for multi-family) in 2013, based on a 5-year in-house update, but opted to freeze nonresidential fees. The City's current fees for new development are summarized in Table 69.

					Storm	Parks/	Lib./			Gen.		
Land Use Type	Unit	Roads	Water	Sewer	Water	Trails	Cult.	Fire	Police	Gov't	School	Total
Single-Family Det.	Dwelling	\$2,280	\$5,670	\$2,410	\$655	\$6,553	\$1,333	\$894	\$880	\$1,090	\$1,382	\$23,147
Multi-Family	Dwelling	\$1,584	\$2,193	\$1,620	\$308	\$4,553	\$927	\$621	\$612	\$758	\$946	\$14,122
Shopping Center	1,000 sq. ft.	\$6,960	\$1,033	\$923	\$713	\$0	\$0	\$300	\$390	\$420	\$0	\$10,739
Office, General	1,000 sq. ft.	\$3,170	\$1,033	\$923	\$428	\$0	\$0	\$300	\$390	\$420	\$0	\$6,664
Light Industrial	1,000 sq. ft.	\$1,660	\$1,033	\$923	\$735	\$0	\$0	\$30	\$50	\$60	\$0	\$4,491

Notes: Park fees are sum of separate parks, recreation, trails and open lands fees; library/cultural fees are sum of separate library and cultural (museum) fees; school fees are fees in-lieu of land dedication.

Source: "City of Loveland Impact Fees for 2014," received from Alan Krcmarik, Executive Fiscal Advisor, on July 24, 2014.

The current capital expansion fees and plant investment fees, with the exception of streets and stormwater, are all based on a standards-based methodology. The street and stormwater fees are plan-based. The water and wastewater plant investment fees use an equity buy-in approach. However, the City recently engaged the consulting firm BBC to assess updating the parks, recreation, trails, open lands, library, cultural, police, fire, and general government fees using a planbased methodology.¹⁷

¹⁷ Communication with Alan Krcmarik, City of Loveland Executive Fiscal Advisor, on July 24, 2014

Thornton

Most major new developments in Thornton use Metropolitan Districts to fund infrastructure through special district taxes. The City of Thornton charges impact fees only for water and wastewater facilities. These include water and sewer connection fees, a water resource fee, and a capacity fee for the Metro Wastewater Reclamation District. The City's current fees for new development are summarized in Table 70.

		Water	Water	Water	Metro	Sewer	Sewer				
Land Use Type	Unit	Conn.	Resour.	Total	Sewer	Conn.	Total	Total			
Single-Family Det.	Dwelling	\$4,165	\$16,350	\$20,515	\$3,960	\$1,603	\$5,563	\$26,078			
Multi-Family	Dwelling	\$2,202	\$11,339	\$13,541	\$3,960	\$1,125	\$5,085	\$18,626			
Shopping Center	1,000 sq. ft.	\$666	\$2,616	\$3,282	\$1,663	\$673	\$2,336	\$5,618			
Office, General	1,000 sq. ft.	\$666	\$2,616	\$3,282	\$1,663	\$673	\$2,336	\$5,618			
Light Industrial	1,000 sq. ft.	\$666	\$2,616	\$3,282	\$1,663	\$673	\$2,336	\$5,618			

Table 70.	Thornton	Current	Impact	Fee	Summary
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Source: City of Thornton, "Connection Fee Schedule," effective January 1, 2014.

The City's water and wastewater connection fees and water resource fee are based on Red Oak Consulting, 2006 Connection Fee Update, completed in February 2007. The water and wastewater connection fees are based on a system buy-in methodology, described in detail as follows: (1) existing water assets are inflated to current cost using the ENR Construction Cost Index; (2) contributions in aid of construction are added; (3) the current connection fee fund balance is added; (4) outstanding debt principal is subtracted; (5) the resulting total cost is divided by current capacity in service units to determine the maximum fee per service unit.

The water resources fee uses what the Red Oak study calls a "marginal cost allocation" methodology. This approach divides projected total 30-year costs by planned capacity service units 30 years out to determine the fee per service unit. Total 30-year costs include the market value of current water rights, remaining borrowing costs (principal and interest) on existing water resource debt, future borrowing costs on future external debt, and future borrowing costs on internal debt (loans from the operating fund required to maintain a positive year-end cash balance in the water resources fund.

The Metro sewer fee is calculated in-house by the Metro District, and the methodology is described as follows: (1) total existing asset value is estimated using fixed asset listings, adjusted for inflation using the ENR Construction Cost Index; (2) fund balances, other than bond principal earmarked for growth-related projects, are included in existing assets; (3) outstanding debt principal on existing assets is subtracted from total asset value to get net asset value; (4) costs for growth-related, planned 10-year improvements are added to net asset value, based on projected cost of each improvement at the mid-year of planned construction, and with probability adjustments for cost and timing; (5) interest costs for debt financing of planned improvements are added to the sum of net asset value and planned improvement costs; (6) the resulting total cost (net asset value + planned improvement cost per SFRE.¹⁸

¹⁸ Email from Barbara Biggs, Government Affairs Officer, Metro Wastewater Reclamation District, July 21, 2014.

Longmont

The City of Longmont charges transportation and public building community investment fees, water and wastewater development fees, storm drainage fees and park improvement fees. The City's current fees are summarized in Table 71.

		<u>.</u>					,	
					Storm		Public	
Land Use Type	Unit	Roads	Water	Sewer	Water	Parks	Bldgs	Total
Single-Family Det.	Dwelling	\$879	\$9,590	\$4,550	\$777	\$4,758	\$1,121	\$21,675
Multi-Family	Dwelling	\$437	\$1,263	\$470	\$276	\$2,334	\$1,121	\$5,901
Commercial	1,000 sq. ft.	\$2,236	\$1,734	\$939	\$592	\$0	\$401	\$5,902
Office	1,000 sq. ft.	\$2,236	\$1,734	\$939	\$355	\$0	\$401	\$5,665
Industrial	1,000 sq. ft.	\$1,169	\$1,734	\$939	\$592	\$0	\$401	\$4,835
Source: City of L	onamont "Per	mit Fees	" accesser	luly 7	201/ at	http://www.	MAN ci long	mont co us/

Table 71. Longmont Current Impact Fee Summary

Source: City of Longmont, "Permit Fees," accessed July 7, 2014 at http://www.ci.longmont.co.us/ bldginsp/fees/.

The City was able to locate a description of the transportation community investment fee prepared in 1993.¹⁹ It uses a plan-based methodology intended to cover the "oversizing" portion of the cost to build out the arterial street system. Developers adjacent to the arterials are required to dedicate right-of-way (ROW) for a standard arterial and to construct the arterial, but are eligible for reimbursement for the "oversizing," which is the differential between the cost of constructing collector road and an arterial street. In cases where there no adjacent developer is likely to construct the arterial, the full cost of the arterial improvement is included. The costs of bridges and arterial landscaping (including a bikeway) are also included. In a couple of cases where planned arterials will require more than the standard ROW width, ROW costs are also included. The total planned costs are segmented into arterial oversizing and arterial landscaping. Oversizing costs are allocated among four land use categories (single-family, multi-family, commercial and industrial) based on the average of new trip generation and new land area. Landscaping costs are allocated among land uses based solely on land area. The costs allocated to each land use are divided by projected growth to determine the cost per development unit (dwelling unit or nonresidential building square foot).

The City's park impact fee is based on RPI Consulting, *City of Longmont Parks Improvement Fee Update*, November 2013. The park fee is calculated by dividing the future value of the parks and trails system in 2023, including both existing and planned improvements, by projected 2023 residential service units to determine the fee per service unit. The fee is assessed on residential building square footage. This approach has elements of both standards-based and plan-based methodologies, but might be most accurately categorized as standards-based.

While the previous water, wastewater and storm drainage fee studies could not be located, the City says that they are based on an "equity buy-in" method (water/wastewater) or "incremental" method (storm drainage).²⁰ This suggests that these three fees all rely on a standards-based approach.

¹⁹ City of Longmont, Transportation Community Investment Fee Technical Documentation, September 7, 1993

²⁰ Email from Barbara McGrane, Business Services Manager, Public Works & Natural Resources Department, City of Longmont, July 18, 2014

Boulder

Boulder assesses excise taxes for transportation facilities, park land and affordable housing, plant investment fees for water, wastewater and stormwater, and capital facility impact fees for parks and recreation, libraries, fire, police, human services and municipal facilities. The City's current fees are summarized in Table 72.

Table 72. Doulder Current Impact i de Summary												
	Storm									Gen. Hous-		
Land Use Type	Unit	Roads	Water	Sewer	Water	Park	Lib.	Fire	Police	Gov't	ing	Total
Single-Family Det.	Dwelling	\$2,171	\$16,807	\$4,473	\$8,240	\$4,263	\$459	\$209	\$295	\$429	\$460	\$37,806
Multi-Family	Dwelling	\$1,608	\$9,224	\$2,556	\$4,487	\$3,364	\$378	\$282	\$243	\$351	\$230	\$22,723
Retail	1,000 sq. ft.	\$2,480	\$2,689	\$716	\$9,613	\$0	\$0	\$380	\$480	\$140	\$512	\$17,010
Office	1,000 sq. ft.	\$2,480	\$2,689	\$716	\$5,768	\$0	\$0	\$580	\$160	\$200	\$512	\$13,105
Light Industrial	1,000 sq. ft.	\$2,480	\$2,689	\$716	\$9,613	\$0	\$0	\$70	\$50	\$120	\$512	\$16,250

Table 72. Boulder Current Impact Fee Summary

Notes: Park fee shown is sum of parks and recreation impact fee and park land excise tax; general government fee shown is sum of separate impact fees for human services and municipal facilities.

Source: City of Boulder Planning and Development Services, 2014 Schedule of Fees, Effective January 2, 2014.

The water, wastewater and stormwater plant investment fees are based on Red Oak Consulting, *Water, Wastewater and Stormwater Plant Investment Fees*, June 2008. The study used an equity buy-in approach, in which existing assets, excluding developer contributed assets, are valued at replacement cost less depreciation, outstanding debt principal is subtracted to determine net equity value, and net equity value is divided by existing capacity to determine the cost per service unit.

The studies that are the basis for the current excise taxes and impact fees were prepared in 2009.²¹ All of the fees/taxes were calculated using a standards-based "incremental expansion" methodology, with the exceptions of transportation and affordable housing, which used a plan-based approach. However, the City modified the transportation fee methodology to divide plan-based costs by total future service units, rather than growth in service units, making this a mixed or hybrid approach.

²¹ TischlerBise, *Development Excise Tax Study*, City of Boulder, Colorado, January 2009; TischlerBise, *Development Impact Fee Study*, City of Boulder, Colorado, January 2009.

Broomfield

The City and County of Broomfield charges new water and sewer customers "license fees." These fees are based on estimated annual usage and appear to function as impact fees. According to the municipality's financial plan, utility license fees are "set to cover the cost of growth related expenditures," including debt service. Water license fees are set at a minimum of \$22,454 per singlefamily detached unit, with multi-family assessed 40% of that rate and nonresidential fees based on estimated annual water consumption. Sewer license fees are set a \$12,559 per residential dwelling unit, with nonresidential fees based on estimated annual usage.

In addition to water and sewer license fees, Broomfield also imposes a "services expansion fee," which is an excise tax of \$1 per square foot on new residential construction. Broomfield's current development-related fees and taxes are summarized in Table 73.

Table 73. Broomfield Current Impact Fee Summary										
	Expansion									
Land Use Type	Unit	Water	Sewer	Fee Tax	Total					
Single-Family Detached	Dwelling	\$22,454	\$12,559	\$2,000	\$37,013					
Multi-Family	Dwelling	\$8,982	\$12,559	\$1,000	\$22,541					
Retail	1,000 sq. ft.	\$3,593	\$2,009	\$0	\$5,602					
Office	1,000 sq. ft.	\$3,593	\$2,009	\$0	\$5,602					
Light Industrial	1,000 sq. ft.	\$3,593	\$2,009	\$0	\$5,602					

. . . .

Source: Water and sewer fees from City and County of Broomfield, "Building Permit Fees," effective February 1, 2013; services expansion fees from Broomfield Municipal Code, Chapter 3-28

The water and sewer license fees are based on the Water, Sewer and Reclaimed Water Rate and Fee Study prepared by Red Oak Consulting in 2012. That study used an "incremental cost" methodology, which divided forecast future capital costs, including projected interest costs and a debt service reserve, by projected new customer service units to determine the fee per service unit.

The expansion fee tax is used to fund a variety of improvements, including capital improvements within or adjacent to the subdivision; improvements in the area, such as arterial roadways, that directly benefit the subdivision; community parks, community facilities, stormwater facilities, streetscapes, traffic signals, joint-use educational/municipal facilities in the area of the subdivision, and payments of bonds on joint-use educational/municipal facilities, transportation and parks improvements. No study or methodology is required to justify the services expansion fee residential excise tax.
Pueblo

The City of Pueblo charges sanitary sewer connection fees that are earmarked for growth-related improvements to the collection system and sanitary sewer plant investment fees that are earmarked for growth-related improvements to the water reclamation plant. Water plant investment fees are set by an independently-elected Board of Water Works. These fees are summarized in Table 74.

Table 74. Tueblo Current impact i ee Summary				
		Water	Sewer	
		Plant	Plant	
Land Use Type	Unit	Investment	Investment	Total
Single-Family Detached	Dwelling	\$4,324	\$1,740	\$6,064
Multi-Family	Dwelling	\$2,468	\$1,310	\$3,778
Commercial	1,000 sq. ft.	\$522	\$203	\$725
Office	1,000 sq. ft.	\$522	\$203	\$725
Industrial	1,000 sq. ft.	\$522	\$203	\$725

Table 74. Pueblo Current Impact Fee Summary

Source: Board of Water Works of Pueblo, Colorado, "Plant Water Investment Fees Effective May 1, 2014"; Pueblo City Code, Chapter 11: Sanitary Sewer Connection Fees (2012 and subsequent years).

The consultant was unable to locate a copy of the water and sewer plant investment fee studies, and consequently was unable to determine the methodologies that were used to calculate the fees.