City of Evans, Colorado

Meeting Agenda
August 20, 2015
3:30 pm
Evans Community Complex
Council Chambers
1100 37th Street, Evans, Colorado

I. CALL TO ORDER

II. ROLL CALL

Chairman: Jeff Oyler
Vice Chairman: James Krenzel

Commissioners: Lee Morrison
Glenn Snyder
Vacant

Staff in Attendance:
Dawn Anderson
Jessica Gonifas
Chad Reischl
Pat Zietz

Others in Attendance:

III. APPROVAL OF MINUTES of June 18, 2015

IV. AGENDA ITEMS

1) Windy Gap Funding ..... Jessica Gonifas
2) Wastewater Update ..... Jessica Gonifas
3) Water Master Plan ..... Jessica Gonifas
   a. Dave Butler - Dewberry Engineering
4) Impact Fee Study ..... Jessica Gonifas
   a. Handouts from Carson Bise of Tischler Bise
5) Stormwater Master Plan ..... Dawn Anderson/Chad Reischl

V. GENERAL UPDATES

Water and Sewer Board packets are prepared several days prior to the meetings. This information is reviewed and studied by the Board, eliminating lengthy discussions to gain basic understanding. Timely action and/or short discussion on agenda items do not reflect lack of thought or analysis. An informational packet is available for public inspection, which is posted on the bulletin board adjacent to the Council Chambers as soon as its available, and which can be accessed Monday through Friday 8:00 a.m. to 5:00 p.m. excluding holidays.

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Evans Water and Sewer Board 2015

Meeting Minutes

June 18, 2015
3:30 pm
Evans Community Complex
Council Chambers
1100 37th Street, Evans, Colorado

I. CALL TO ORDER

II. ROLL CALL by Dawn Anderson

Chairman: Jeff Oyler - Absent
Vice Chairman: James Krenzel - Here

Commissioners: Lee Morrison - Here
Glenn Snyder - Here
Vacant

Staff in Attendance:
Fred Starr
Dawn Anderson
Dave Burns?

Others in Attendance:
Keith Meyers, Ditesco

III. APPROVAL OF MINUTES – March 19, 2015

James Krenzel: Approval of the Minutes of the Last meeting, any changes?

Question by Lee Morrison: I take it the highlighted portion was to call to it to our attention to raise the Evans Ditch Water Rates, seconded by Snyder. Is that correct? James Krenzel: Yay, we did that at the last meeting. Lee Morrison: Then I would move for the approval of the minutes as stated. James Krenzel: Motion made, is there a second? Glenn Snyder: I'll second it. James Krenzel: All in favor say "AY", all responded. All opposed "NAY". Motion carries

IV. AGENDA ITEMS

1) General Updates – Fred Starr:
   a) Windy Gap is moving forward really quick. The City will probably need to write the City of Greeley a check this year to buy the 5 units of the Windy Gap project. Which depending on which month we decide to exercise that, it's probably going to be around a 5 million dollar check. That then would place Evans in full ownership of the 5 units of the Windy Gap project. And then we'll get into full design and construction of Windy Gap in the next few years. That project is far enough along that it does look like it's going to go through, it will get built, it will get approved so that does trigger that agreement we have with Greeley.

   b) NISP project, I just handed you the most current release they have on the status of NISP. It's basically in the supplemental draft and environmental impact statement was sent out so the NISP project is in that comment period now. NISP also is, if you listen to everyone over at Northern Colorado Water, they don't question whether it will get permitted and approved, it's just a matter of going through the hearings and

addressing any concerns that come up. So they're pretty confident that that project will happen. They are telling the participating communities to be prepared for sort of an accelerated cost because they want to go into more detailed engineering design sooner than they had originally planned. They've also hired, or are in the process of hiring an engineering firm to update the cost estimates for the project. The project cost estimate I think they said was based on 2009 project cost estimate. They anticipate probably a, they say you can count on at least a 30% increase in the project cost. So the project costs are right around 450 million dollars and that was 2009 numbers. NISP will be a much more expensive project for the City of Evans than Windy Gap is. It trails behind Windy Gap I'm guessing about three years, maybe four years between when we would get committed to Windy Gap and when they may say the NISP project is now a real, authorized project and their going to go to full design and construction on NISP. Both projects are on track and I think the City at this point is still anticipating staying in both projects. Which sort of leads into the Water Utility Master Plan element…

c) Water Utility Master Plan…Jessica Gonifas issued an RFP for a Water Utility Master Plan to look at the City's current water portfolio, its infrastructure and probably look at some level of rates as to our rates where they should be, are they competitive and take into account the two big water projects. The Water Utility Master Plan will look at our existing system as it is now, plus the two water projects and make recommendations for system improvements, maintenance, distribution systems and then rates along with three scenarios as I would call them. No Windy Gap and no NISP scenario, both individually, accumulatively, and both are going to be water projects combined. So we're going to be looking at the water side of the rate equation here. That RFP was submitted and I think it's out now, I don't remember when the response date is, commission, the end of this month. Fred: End of this month, that's kind of what I was going to guess but wasn't sure precisely.

d) Storm Water Master Plan - The City did get a grant for a Storm Water Master Plan. We selected Moeller and Associates to do our Storm Water Master Plan. They're going to be looking at Storm Water System City wide for current infrastructure, future demand, all of our Storm Water collection systems and then update our current, I think our current Storm Water Master Plan is 2004. So they're going to update our Storm Water Master Plan, the CIP program and a set of recommendations for our Storm Water systems as well. Dawn is a big part of the37th Street Storm Water project which is the big trench going down 37th Street.

Questions from the commissioners: How many cities are still in that, do you know? Fred: I still think it's thirteen. There's more people in NISP then there are in Windy Gap. I know the City of Firestone is in NISP, their not in the Windy Gap project. So there are more communities that are participating in the NISP project at this point in time than Windy Gap. I want to say that everyone that is in Windy Gap is also in NISP but I could be wrong, there could be one or two that are only in Windy Gap and not in NISP. It works more one way, I think all the folks in Windy Gap are in NISP, but I don't think everyone in NISP is in Windy Gap.

Fred: That's the update on the Storm Water Master Plan, we did get Moeller right? Dawn Anderson: The Storm Water Master Plan was grant funded, I believe five firms sent in an RFP and we chose to go with Moller Engineering. Currently we waiting to get the contract completed by the State, we are still in the project stage. We'll be providing them with all the data for that. We really want to look early at our biggest issues within the City and start fund raising for that. We're certainly going to talk about Right Of Way, the South Platte River and the storm water backing up. We need to put in a project request to get that water out, renting pumps.

Fred: So sort of tying into water, Dave Burns is going to give you an update on the current status of the flood situation. I would prefer to call it the high water situation and not the word flood, but that's okay. I don't want to make anybody here nervous. Dave Burns is our Emergency Management Coordinator, is that the correct title? Dave: Yep. Fred: He has been tasked with, he and Zach Ratkai are taking over a lot of the flood, the 2013 Flood issues, and then Dave keeps us current on emergency response plans for anything and everything that might happen. Locust is coming up next. Dave: or a wild fire. Fred: you never know…you could get locust before you get a wild fire.

2) Flood Update – Dave Burns

Good afternoon, I won't keep you guys very long. One thing I just over heard with the Storm Water drain

system, one of the plans we are working on right not is a hazardous mitigation plan, we just did the kick off meeting om that. So a lot of these plans that Dawn was talking about can be included in those Hazardous Mitigation Plans. So in the event we have another disaster, can obtain money a lot quicker to make those plans come to real life a lot sooner. The spring run off right now, we're in the blue section (see handouts) way up there so we are about 1750% above average for this time of the year on our water table level. The good news is talking with the National Wild Fire Service, they are seeing a dry up and a heat up the next couple of weeks so they are predicting we should be done with our spring runoff within the next two or three weeks, so we're going to have a lot more water coming down. Currently right now, we're in the green section right here for our snow pack level which is just a little bit lower than what we were at last year at this time, almost even. So even though we had a lot more snow last year, our snow came later this year and we've had a lot cooler temperatures, so our snow is still on those hills up there. Up until last week, you can drive by there and still see the snow packs up there pretty high as you drive, now you can see the little patches in there. They are saying we're seeing about a quarter inch of snow melt per day right now, so it's slowly coming down. With our temperatures heating up, we should come out of this hopefully within the next couple of weeks. There's a lot more information right here, right now we're still showing for the basin area, we are about for a total precipitation about 114% above average for this time of the year and our snow pack is well of 767% of average. We're still pretty high right now, so hopefully here soon we'll see that coming down and with the dry weather pattern we're coming into right now it's a good thing because now it's going to be nothing but spring runoff in the river versus those heavy down pours on top of it. So that's kind of where we're at right now. All your reservoirs, that's what this other number is right here, those are the capacities of all your reservoirs up in the hills right now, they're all about 100% full right now so they are continuing to dump those out into the river, the South Platter River will be the big one for us right now to clean out those reservoirs in case they get another down pour the water has somewhere to go. Right now we're doing ok but on the same token there too everyone's being real cautious because we have nowhere for the water to go. That's pretty much where we're at for the Spring Runoff, just a real quick where we're at in the next few weeks to be done with it. Do you guys have any questions of concerns, let me know.

Fred: I think from a stand point of, what has affected Evans during the last two or three weeks because of the high water or saturated ground water or whatever you want to call it, you may have seen 1st and 37th street closed off and on for a little bit. A lot of that water that's getting into the street there is not coming through the berms, it's just ground water coming out of the storm water that can't go anywhere. It's running in behind Riverside Park, hind the berms, finding its way out to 37th and 1st street. We've had to, like Dawn said, we've had to put some by-pass pumps in for both the Evans Wastewater Treatment Plant to get the effluent back to the river because the river is up so high, it blocked the effluent pipe. It also blocked the storm water pipe on the south side of the road. We've been pretty continually, I think we are still pumping from that area. I think you'll see out there one's doing waste water and ones doing storm water trying to get the water away from us. It's only because the river is so high, the water can't get back in the river. James Krenzel: I was going to ask about ground water, do you know how high it is here? Fred: In some places it's like inches. A lot of that stuff in Riverside Park is probably ground water that is coming in and whatever storm water that is coming in on top of that, it just can't go anywhere. Dave Burns: A perfect example of that is back there by Roaches property, just on the south side of the waste water treatment facility, all that water that's on the ground right there, that's all pretty much 100% ground water. It's pretty high right now. James Krenzel: That's were our park would be. Fred: I don't know that we've measured any depth of ground water. James Krenzel: There by that street, is that all ground water? Fred: Well it's ground water, or storm water that comes into the river beside Park Lake and then cuts out of there and just wonder's its way through Riverside Park. Its service water, it could be rain water and ground water that's combining to get its way back, it can't get back to the river. It's got a levee on one side and a dam on the other side. Dave Burns: The good thing is the South Platte River by us is about 8 feet so we got about a foot or a foot and a half for the river to drop before those valves can close so they want to continue to do the pumping. We're getting there, so hopefully within the next week or two if this continues to go the way it's going, we should be able to drop down a little bit. Fred: Down on Industrial Road, we had washed off the curb of temporary repairs that were there because of the 2013 Flood. This latest round of high water is caused 49th street to be closed and Industrial to be closed. A lot of the temporary road repair was washed out so we're going to have to get back in there and do work in that area too. Dave Burns: Thank you guys. Dawn Anderson: That project, Evans was never able to get in there and do permanent repairs. In that location, the first May event did zero water damage. A lot of the damage was on private property. All the other fixes have done exactly what we wanted them to do. We do have a meeting

next week with the County, there were parts that were the County's responsibilities. James Krenzel: We just got to get the water table to drop. Fred: Mike Hunter sent a picture of some guy in his pickup that thought, oh I can get through there. Went around the barricade and dropped into a hole in the river on the 49th street side, there is erosion through there. It's not just standing water over the road way, it cut through some places just enough to keep a pickup truck from going down the road. Glen Snyder: Audio was not understandable, general discussion on the accident.

3) WWTF UPDATE – Keith Meyers, Ditesco, Inc.
Keith: Thanks for having me again. Last time in March when I was here I was talking a lot about getting engineering reports put together, project needs assessments and working towards getting the submittal done to the State. We have done that so the submittal went into the State and it's currently under review. That's our first major step so I'll walk you through the steps. First and foremost, we enter into the SRF Program, the project had to go through a pre-qualification process, and I'll talk to you about that as well. We received the qualifications letter back from the State agreeing that the project is applicable for an SRF Program, so we've entered into that process and they have formally accepted us into the SRF Program. Then our first step is the Project Needs Assessment, it used to be called the Preliminary Engineering Report so there are a lot of similarities to what it used to look like to what it is today. That document that ended up being close to 200 pages of engineering data work, process engineering work has been submitted and is under review. Our next big step for the State is to submit site applications

V. STAFF REPORTS

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Impact Fee Study:
City of Evans, Colorado

Prepared for:

City of Evans, CO

July 22,2015

TischlerBise

FISCAL | ECONOMIC | PLANNING

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2015 Impact Fee Study
City of Evans, Colorado

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EXECUTIVE SUMMARY

The City of Evans, Colorado retained TischlerBise, Inc. to update the impact fees imposed on new development to meet the new demand generated for five types of public facilities in the City:

- Parks, Recreation and Trails
- Fire/Rescue
- Police
- Transportation
- Wastewater

Impact fees for Water and Stormwater are also part of our contract with the City of Evans. However, key assumptions for future capital facility needs are still be formulated and considered and will be presented subsequently in a separate report.

This report presents the methodologies and calculations used to generate current levels of service and updated maximum allowable impact fees. It is intended to serve as supporting documentation for future updates to impact fees in the City of Evans.

The purpose of 2015 Impact Fee Study is to demonstrate the City's compliance with the Colorado Revised Statute 29-20-104.5. Consistent with the authorization, it is the intent of the City of Evans to:

- Collect impact fees to fund capital improvements required to serve growth, and
- To use revenue generated from impact fees to benefit new development by maintaining current levels of service.

Impact fees are one-time payments used to construct system improvements needed to accommodate new development. An impact fee represents new growth's fair share of capital facility needs. By law, impact fees can only be used for *capital* expansions, not operating or maintenance costs. Impact fees are subject to legal standards, which require fulfillment of three key elements: **need**, **benefit** and **proportionality**.

- First, to justify a fee for necessary public services, it must be demonstrated that new development will create a **need** for capital improvements.
- Second, new development must derive a **benefit** from the payment of the fees (i.e., in the form of public facilities constructed within a reasonable timeframe).
- Third, the fee paid by a particular type of development should not exceed its **proportionate** share of the capital cost for system improvements.

TischlerBise evaluated possible methodologies and documented appropriate demand indicators by type of development for the levels of service and impact fees. Local demographic data and improvement costs were used to identify specific capital costs attributable to growth. This report includes summary tables indicating the specific factors, referred to as level of service standards, used to derive the impact fees.

METHODOLOGIES AND CREDITS

Development impact fees can be calculated by any one of several legitimate methods. The choice of a particular method depends primarily on the service characteristics and planning requirements for each facility type. Each method has advantages and disadvantages in a particular situation, and to some extent can be interchangeable, because each allocates facility costs in proportion to the needs created by development.

Reduced to its simplest terms, the process of calculating development impact fees involves two main steps: (1) determining the cost of development-related capital improvements, and (2) allocating those costs equitably to various types of development. In practice, the calculation of impact fees can become quite complicated because of the many variables involved in defining the relationship between development and the need for facilities. The following paragraphs discuss three basic methods for calculating development impact fees, and how each method can be applied.

Plan-Based Fee Calculation. The plan-based method allocates costs for a specified set of improvements to a specified amount of development. Facility plans identify needed improvements, and land use plans identify development. In this method, the total cost of relevant facilities is divided by total demand to calculate a cost per unit of demand. Then, the cost per unit of demand is multiplied by the amount of demand per unit of development (e.g., housing units or square feet of building area) in each category to arrive at a cost per specific unit of development (e.g., single family detached unit).

Cost Recovery or Buy-In Fee Calculation. The rationale for the cost recovery approach is that new development is paying for its share of the useful life and remaining capacity of facilities already built or land already purchased from which new growth will benefit. This methodology is often used for systems that were oversized such as sewer and water facilities.

Incremental Expansion Fee Calculation. The incremental expansion method documents the current level of service (LOS) for each type of public facility in both quantitative and qualitative measures, based on an existing service standard (such as square feet per student). This approach ensures that there are no existing infrastructure deficiencies or surplus capacity in infrastructure. New development is only paying its proportionate share for growth-related infrastructure. The level of service standards are determined in a manner similar to the current replacement cost approach used by property insurance companies. However, in contrast to insurance practices, the fee revenues would not be for renewal and/or replacement of existing facilities. Rather, revenue will be used to expand or provide additional facilities, as needed, to accommodate new development. An incremental expansion cost method is best suited for public facilities that will be expanded in regular increments, with LOS standards based on current conditions in the community.

Credits. Regardless of the methodology, a consideration of "credits" is integral to the development of a legally valid impact fee methodology. There are two types of "credits," each with specific and distinct characteristics, but both of which should be addressed in the calculation of development impact fees. The first is a credit due to possible double payment situations. This could occur when contributions are made by the property owner toward the capital costs of the public facility covered by the impact fee. This type of credit is integrated into the impact fee calculation. The second is a credit toward the payment of a fee for dedication of public sites or improvements provided by the developer and for which the facility fee is imposed. This type of credit is addressed in the administration and implementation of a facility fee program.

FEE METHODOLOGIES

The following table summarizes the method(s) used to derive the impact fee for each type of public facility in Evans.

Figure 1: Summary of Impact Fee Methodologies

	Methodology		
Type of Public Facility	Cost Recovery (Past)	Incremental Expansion (Present)	Plan Based (Future)
Parks	Not Applicable	• Park Land and Open Space and Recreation Improvements	
Fire/Rescue		• Fire Station Space • Apparatus	
Police		• Police Space • Police Vehicles	
Transportation			• Road Improvements
Wastewater			• Wastewater Treatment Plant

MAXIMUM ALLOWABLE IMPACT FEES BY TYPE OF LAND USE

Figure 2 provides a schedule of the maximum allowable impact fees by type of land use for the City of Evans. ***As mentioned previously, this does not include the City's impact fees for Water and Stormwater.*** The fees represent the highest amount allowable for each type of applicable land use, and represents new growth's fair share of the cost for capital facilities. The City may adopt fees that are less than the amounts shown. However, a reduction in impact fee revenue will necessitate an increase in other revenues, a decrease in planned capital expenditures, and/or a decrease in levels of service.

The fees for residential development are to be assessed per housing unit and should be collected when building permits are issued. For nonresidential development, the fees are assessed per square foot of floor area, and should be collected when building permits are issued. Nonresidential development categories are consistent with the terminology and definitions contained in the reference book, Trip Generation 9th Edition, published by the Institute of Transportation Engineers.

Figure 2: Summary of Maximum Allowable Impact Fees by Land Use

Maximum Supportable Impact Fees

Land Use Category	Parks	Police	Fire/Rescue	Transportation	Wastewater	PROPOSED Impact Fee
Residential						
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PARKS , RECREATIONAL FACILITIES AND TRAILS

OVERVIEW

An incremental expansion cost methodology was used to calculate the community parkland, open space, park improvements, multi-use trails, and recreational facilities components of the Parks and Recreational Facilities Impact Fees. Therefore, the assumption is that as population in the City increases, the City will continue to make investments in the system-wide inventory. Parks, Recreational Facilities and Trails Impact Fees are assessed only against residential development.

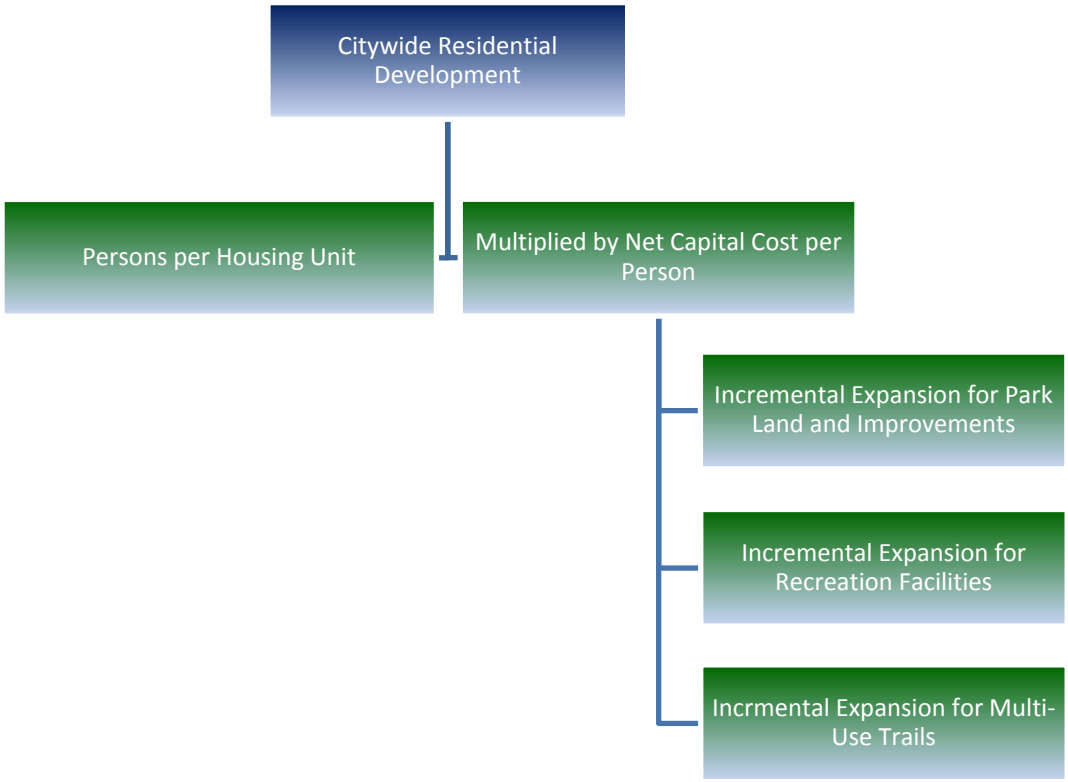
Service Area

The City of Evans plans to provide a uniform level of service and equal service for all community Parks, Recreational Facilities and Trails throughout the City. As a result, the service area for the category is citywide.

METHODOLOGY

As shown in Figure 3, all capital costs for Parks and Recreational Facilities Impact Fees have been allocated 100 percent to residential development. The impact fees are calculated on a per capita basis, and then they are converted to an appropriate amount for each housing unit type, based on *Persons per Housing Unit* indicators.

Figure 3: Parks and Recreation Impact Fee Methodology Chart



PARKS AND RECREATIONAL FACILITIES IMPROVEMENTS AND COSTS

Community Parkland and Open Space

Community parkland and open space is based on the *incremental expansion* methodology. As shown in Figure 4 the City has 173.4 acres of community parkland and open space. This includes all the acreage associated with Riverside Park, although a portion as damaged by the recent flood. Since the City has secured alternative revenues to restore Riverside Park to full operations, and impact fee revenue will not be used to restore the park to its original condition, it is included as part of the City's inventory. Impact fee revenue will be used to prepare other open space for community park improvements.

The City plans to maintain the level of service for parkland that it provides to existing development. Thus, the incremental expansion methodology is used to calculate this component. Based on the assumption that population generates demand for parks and open space, the formula to determine level of service for residential development is as follows: (173.4 acres X 100% proportionate share) / 19,200 population = 0.0090 acres per capita.

According to projected cost estimates in the 2014 Riverside Park Master Plan, it costs approximately $120,000 to purchase and develop an acre of land. To calculate the cost to purchase and develop park and open space per demand unit, the cost per acre of $120,000 is multiplied by the per service unit LOS (0.0090) resulting in a cost per capita of $1,083.75.

Figure 4: Incremental Expansion – Community Parkland and Open Space

Community Parkland and Open Space	Acres	Cost per Acre [1]	Total Value
City Park	2.95		$354,000
Driftwood Park	6.70		$804,000
Evans Community Compex	3.25		$390,000
EMOC Greenbelt	3.50		$420,000
Pheasant Crt ISD	0.25		$30,000
Freedom Park	7.25		$870,000
Grapevine Hollow Green Space	4.25		$510,000
Municipal Pool	0.85		$102,000
Green Meadows	2.30		$276,000
Riverside Park	88.70	$120,000	$10,644,000
Riverside Sports Park	12.30		$1,476,000
Vineyard Park	4.25		$510,000
Renaissance Park	1.00		$120,000
Dante Park	1.00		$120,000
35th Avenue	2.50		$300,000
Village Park	3.10		$372,000
Prairie View Park	10.00		$1,200,000
Ridge Park	9.00		$1,080,000
Pioneer Park	10.25		$1,230,000
TOTAL	173.40		$20,808,000

Source: City of Evans
[1] Based on Projected Cost Estimates from Riverside Park Master Plan, 16Dec14.
Assumes dedication of acres (no land purchase)

Land Use	Proportionate Share	2014 Demand Units	Developed Acres per Demand Unit	Cost per Demand Unit
Residential	100%	19,200 Population	*0.0090*	**$1,083.75**

Park Improvements

The City of Evans provides active and passive park improvements for use by the current population. Park improvements include playgrounds, sports fields and courts, and a skate park.

The City plans to maintain the level of service for park improvements that it provides to existing development. Thus, the incremental expansion methodology is used to calculate this component. Based on the assumption that population generates demand for Parks and Recreational Facilities, the formula to determine LOS for residential development is as follows: (32 units X 100% proportionate share) / 19,200 population = 0.002 units per capita.

According to discussion with staff and projected cost estimates in the 2014 Riverside Park Master Plan, the average park improvement costs $113,631. To calculate the cost of park improvements per service unit, the cost per unit ($113,631) is multiplied by the per demand unit LOS (0.002) resulting in a park improvements cost per capita of $189.39.

Figure 5: Incremental Expansion – Park Improvements

Park Improvements	Units	Cost per Unit [1]	Total Value
Baseball Fields	5	$135,000	$675,000
Skate Parks	1	$350,000	$350,000
Volleyball	2	$30,000	$60,000
Basketball/Tennis Courts	7	$21,600	$151,200
Sports Fields	4	$200,000	$800,000
Playgrounds	9	$100,000	$900,000
Restrooms and Concessions	4	$175,000	$700,000
TOTAL	32	$113,631	$3,636,200

Source: City of Evans
[1] Based on Projected Cost Estimates from Riverside Park Master Plan, 16Dec14

Land Use	Proportionate Share	2014 Demand Units	Developed Acres per Demand Unit	Cost per Demand Unit
Residential	100%	19,200 Population	*0.002*	**$189.39**

Multi-Use Paths

The City of Evans provides 5 miles of 10' concrete walks in developed Community parks. The City plans to maintain the level of service for the multi-use path that it provides to existing development. Thus, the incremental expansion methodology is used to calculate this component. Based on the assumption that population generates demand for Parks and Recreational Facilities, the formula to determine LOS for residential development is as follows: (5 miles X 100% proportionate share) / 19,200 population = 0.0003 units per capita.

According to discussion with staff and projected cost estimates in the 2014 Riverside Park Master Plan, the average costs per mile of multi-use path is $264,061. To calculate the cost of multi-use paths per service unit, the cost per mile ($264,061) is multiplied by the per demand unit LOS (0.0003) resulting in a multi-use path cost per capita of $68.77.

Figure 6: Incremental Expansion – Multi-Use Paths

Multi-Use Paths	Mile	Cost per Mile [1]	Total Value
Maintained Paths	5.00	$264,061	$1,320,306

Source: City of Evans
[1] Based on 2.45 miles of 10' concrete walks in Riverside Park plan with a cost of $646,950

Land Use	Proportionate Share	2014 Demand Units	Miles per Demand Unit	Cost per Demand Unit
Residential	100%	19,200 Population	*0.0003*	**$68.77**

Recreational Facilities

The City of Evans owns and operates the Evans Community Complex, which includes 20,443 square feet of community recreation space. The existing facility is sufficient to serve the current community and the City plans to maintain the level of service as new development occurs. Thus, the incremental expansion

methodology is used to calculate this component. Based on the assumption that population generates demand for Parks and Recreational Facilities, the formula to determine LOS for residential development is as follows: (20,443 miles X 100% proportionate share) / 19,200 population = 1.065 square feet per capita.

According to discussion with staff the approximate cost per square foot for a similar facility is $136 and the recreation portion of the complex building requires approximately 5 acres of land. Assuming $600,000 in land development costs, the cost per square foot for recreation facilities is $166. To calculate the cost of recreation facilities per service unit, the cost per square foot ($166) is multiplied by the per service unit LOS (1.065) resulting in a multi-use path cost per capita of $176.58.

Figure 7: Incremental Expansion – Recreational Facilities

Recreation Facilities	Square Feet	Cost per Sq. Ft. [1]	Total Value
Evans Community Complex	20,443	$166	$3,390,265

Source: City of Evans

[1] Total Value includes $600,000 for 5 acres of land (i.e., the recreation portion of the total 7 acre Evans Community Complex site).

Land Use	Proportionate Share	2014 Demand Units	Developed Acres per Demand Unit	Cost per Demand Unit
Residential	100%	19,200 Population	*1.065*	**$176.58**

PARKS, RECREATIONAL FACILITIES AND TRAISL CAPITAL IMPROVEMENT NEEDS TO SERVE GROWTH

Ten-year growth projections for the City of Evans suggest the City will add 4,205 new residents (an increase of approximately 22 percent). In order to maintain current levels of service for developed parkland, park improvements, multi-use paths, and recreation facilities the City will need to make incremental investments. Shown in Figure 8 below are the acres and units needed to maintain current levels of service for each component and the total investment necessary based on 10-years of population growth.

Figure 8: Projected Demand for Parks, Recreational Facilities and Trails

Demand Unit	Land (acres)	Park Improvements (units)	Multi-Use Trails (miles)	Recreational Facilities (square feet)
per Person	0.0090	0.002	0.0003	1.065
Average Cost per Component	**$120,000**	**$113,631**	**$264,061**	**$166**

			Projected Demand (Rounded)			
		Demand Units Population	Land (acres)	Park Improvements (units)	Multi-Use Trails (miles)	Recreational Facilities (square feet)
Base	2014	19,200	173.40	32	5.00	20,443
1	2015	19,584	176.87	33	5.10	20,852
2	2016	19,976	180.41	33	5.20	21,269
3	2017	20,375	184.01	34	5.31	21,694
4	2018	20,783	187.70	35	5.41	22,128
5	2019	21,198	191.44	35	5.52	22,570
6	2020	21,622	195.27	36	5.63	23,022
7	2021	22,055	199.18	37	5.74	23,483
8	2022	22,496	203.17	37	5.86	23,952
9	2023	22,946	207.23	38	5.98	24,432
10	2024	23,405	211.38	39	6.10	24,920
Ten Yr Total		**4,205**	**38**	**7**	**1.10**	**4,477**
Cost of Developed Parkland			**$4,557,169**			
Cost of Park Improvements				**$795,419**		
Cost of Multi-Use Trails					**$289,161**	
Cost of Recreation Facilities						**$742,503**

Credit Evaluation

A credit for future revenue generated by new development is only necessary if there is potential double payment for system improvements. In Evans, impact fee revenue will be used exclusively for growth-related capacity improvements. If elected make a legislative policy decision to fully fund growth-related improvements from impact fees, a credit for other revenue sources is unnecessary.

Parks, Recreational Facilities and Trails Input Variables and Impact Fees

Figure 9 provides a summary of the input variables (described in the chapter sections above) used to calculate the net capital cost per person for each Parks and Recreational Facilities component.

The residential Parks, Recreational Facilities and Trails Impact Fees are the product of persons per type of housing unit multiplied by the total net capital cost per person. An example of the calculation for an average single family unit is: the net capital cost per person ($1,524.99) multiplied by the persons per housing unit (3.01) to arrive at the impact fee per average single family unit of $4,594. Also shown is a comparison with the City's current fees.

Figure 9: Parks, Recreation Facilities and Trails Input Variables and Maximum Allowable Impact Fees

Parks and Recreational Facilities Capital Costs	***Per Person***
Improved Parkland	$1,083.75
Park Improvements	$189.39
Multi-Use Trails	$68.77
Recreational Facilities	$176.58
Impact Fee Study	$6.50
GROSS CAPITAL COST	$1,524.99
Revenue Credit	$0.00
NET CAPITAL COST	**$1,524.99**

Parks and Recreational Facilities Impact Fee Schedule		***Impact Fee per Housing Unit***		
Unit Type	***Persons per Housing Unit [1]***	***Proposed Fee***	***Current Fee [2]***	***Increase (Decrease)***
Single Unit	3.01	$4,594	$4,604	($10)
2+ Unit	2.35	$3,587	$4,604	($1,017)
Manufactured Home	2.34	$3,569	$4,604	($1,035)

[1] TischlerBise. 2014 Impact Fee Demographic Data and Development Projections
[2] City of Evans, City Code Title 15 Buildings and Construction

CASH FLOW PROJECTIONS

This section summarizes the potential cash flow to the City, if the Parks, Recreational Facilities and Trails Impact Fees are implemented at the maximum allowable amounts. The cash flow projections are based on the assumptions detailed in this chapter. The summary provides an indication of the impact fee revenue generated by new development projected over the next ten years, and capital expenditures necessary to meet the demand for new Park and Recreational Facilities brought about by new development.

Figure 10: Cash Flow Summary for Parks and Recreation

Ten-Year Growth-Related Costs for Parks and Recreational Facilities

Improved Parkland	$4,557,169
Park Improvements	$795,419
Multi-Use Trails	$289,161
Recreational Facilities	$742,503
Impact Fee Study	$7,898
Total Projected Costs	**$6,392,150**

		per Housing Unit	
		Single Unit	***2+ Units***
		$4,594	**$3,587**
	Year	***Housing Units Added***	
Base	2014	5,350	1,509
Year 1	2015	5,438	1,534
Year 2	2016	5,547	1,565
Year 3	2017	5,658	1,596
Year 4	2018	5,771	1,628
Year 5	2019	5,887	1,660
Year 6	2020	6,004	1,694
Year 7	2021	6,125	1,727
Year 8	2022	6,247	1,762
Year 9	2023	6,372	1,797
Year 10	2024	6,499	1,833
	Ten-Yr Increase	1,149	324
Projected Fees (Rounded)=>		$5,278,506	$1,162,188
Total Projected Revenues		**$6,440,694**	
Cumulative Net Surplus/(Deficit)		$48,544	

POLICE

OVERVIEW

The Police Impact Fee addresses the need for additional facilities, vehicles, and equipment that would be needed to support the greater demand for law enforcement services and facilities due to future residential and nonresidential development in Evans. The impact fee is derived using the incremental expansion methodology, meaning that the impact fee is calculated based on the cost of maintaining the City's current level of service to residential and nonresidential development. Figure 12 shows the methodology chart used for the Police Impact Fee.

Service Area

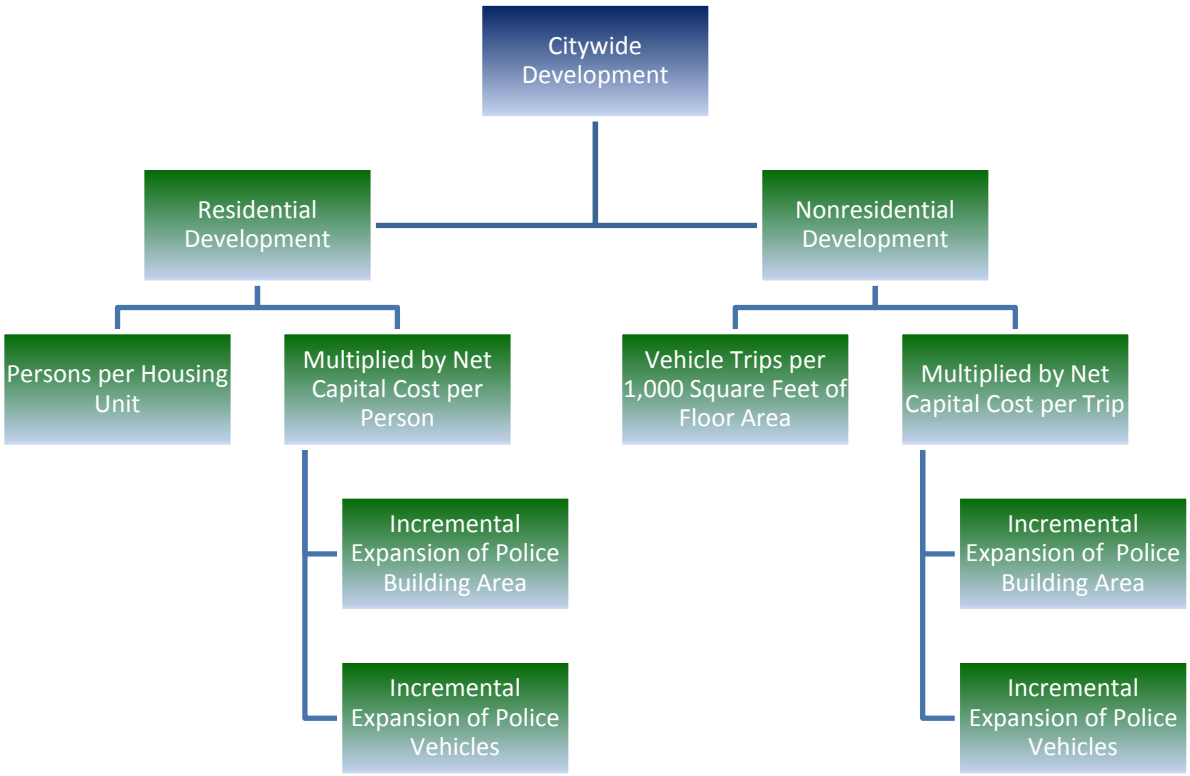
The City of Evans provides a uniform level of Police service throughout the City. As a result, the service area for the category is citywide.

METHODOLOGY

Figure 11 shows that Police Impact Fees use different demand indicators for residential and nonresidential development. Residential impact fees are calculated on a per capita basis and then converted to a proportionate fee amount by type of housing, based on the number of persons per housing unit.

For nonresidential impact fees, TischlerBise recommends using nonresidential vehicle trips as the best demand indicator for Police facilities and equipment. Trip generation rates are used for nonresidential development because vehicle trips are highest for commercial developments, such as shopping centers, and lowest for industrial/warehouse development. Office and institutional trip rates fall between the other two categories. This ranking of trip rates is consistent with the relative demand for Police services from nonresidential development. Other possible nonresidential demand indicators, such as employment or floor area, will not accurately reflect the demand for service. For example, if employees per thousand square feet were used as the demand indicator, Police Impact Fees would be too high for office and institutional development because offices typically have more employees per 1,000 square feet than retail uses. If floor area were used as the demand indicator, Police Impact Fees would be too high for industrial development.

Figure 11: Police Impact Fee Methodology Chart



PROPORTIONATE SHARE

As shown in Figure 12, the Police Impact Fee uses functional population to determine the proportionate cost share for residential and nonresidential development. For residential development, the proportionate share factor is based on estimated person hours of non-working residents, plus the non-working hours of resident workers. Based on 2011 U.S. Census Bureau data, approximately 56% of Evan's population worked in 2011. For resident workers, two-thirds of a day (i.e., annualized average) was allocated to residential demand. Time spent at work (i.e., annualized average of 8 hours per day) was allocated to nonresidential development. In 2011, the U.S. Census Bureau's OnTheMap4 web application indicated that 391 town residents also worked in Evans, but 95% of workers commuted to out-of-town jobs. Total jobs located in Evans include 2,723 inflow commuters. Based on estimated person hours, the cost allocation for residential development is 82% while nonresidential development accounts for 18% of the demand for infrastructure.

Figure 12: Proportionate Share Determination

		Demand Units in 2011		Demand Hours/Day	Person Hours	Proportionate Share
Residential						
	Estimated Residents	18,943				
56%	Residents Not Working		10,694	20	213,880	
44%	Employed Residents		8,249			
5%	Employed in Service Area		391	14	5,474	
95%	Employed outside Service Area		7,858	14	110,012	
				Residential Subtotal	329,366	**82%**
Nonresidential						
	Non-working Residents		10,694	4	42,776	
	Jobs in Service Area		3,114			
	Residents Employed in Service Area		391	10	3,910	
	Non-Resident Workers (inflow Commuters)		2,723	10	27,230	
				Nonresidential Subtotal	73,916	**18%**
				TOTAL	403,282	**100%**

Source: 2011 population estimate from Colorado State Demography Office; U.S. Census Bureau, OnTheMap 6.1.1 Application and LEHD Origin-Destination Employment Statistics

POLICE FACILITIES/VEHICLES AND COSTS

Police Buildings

The City of Evans community is protected by a complement of 29 police officers who provide service 24-hours a day. Police Department offices are housed in the Evans Community Complex, which is located at 1100 37th Street.

The City plans to maintain the level of service for Police buildings in the future. There are several options for increasing space, including a new stand-alone Police Headquarters or a joint use facility with the Fire District. It is anticipated that more concrete plans will be made in the next few years. Therefore, an incremental expansion methodology is used to calculate this component until a new Police Station is programmed in the Capital Improvement Plan, which ensures new growth's share of the cost is captured.

As shown in Figure 13, the Police Department currently occupies 6,168 square feet of the Evans Community Complex. Figure 13 also indicates residential/nonresidential proportionate share factors (from Figure 13 above), current level of service (LOS) standards, and cost per demand unit. The current residential level of service is derived by multiplying the total square footage of Police space by the

residential proportionate share factor and dividing by the estimated 2014 populations (6,168 X 82% / 19,200) resulting in a level of service of 0.263 square feet per person. Similarly, nonresidential level of service (LOS) is derived by multiplying total square footage by the proportionate share and dividing by total nonresidential vehicle trips (6,168 X 18% / 18,130) resulting in a level of service of .061 sq. ft. per nonresidential trip.

The cost per demand unit is derived using the total cost per square foot ($236) and existing levels of service discussed above. For residential development, the cost per demand unit is $62.17 per person. The cost per demand unit for nonresidential development is $14.45 per nonresidential vehicle trip.

Figure 13: Incremental Expansion – Police Buildings

Facility	Total Square Feet	Cost per Square Foot [1]	Total Value
Evans Community Complex - Police Portion	6,168	$236.00	$1,455,648

Source: City of Evans, Police Department

[1] Based on 2003 cost per square foot of $177.61 adjusted for inflation using BLS Consumer Price Index, plus $20 per square foot multiplier for land

Land Use	Proportionate Share	2014 Demand Units	Square Feet per Demand Unit	Cost per Demand Unit
Residential	82%	19,200 Population	*0.263*	**$62.17**
Nonresidential	18%	18,130 Nonres Vehicle Trips	*0.061*	**$14.45**

Police Vehicles Levels of Service Standards and Cost Factors

Figure 14 indicates the City's current patrol car inventory, residential/nonresidential proportionate share factors, current level of service (LOS) standards, and cost per demand unit. In accordance with Colorado Impact Fee Act (SB15), Police vehicles qualify as an eligible cost component, given their five-year useful life. The current residential level of service is derived by multiplying the total vehicle inventory by the residential proportionate share factor and dividing by the total residential proportionate share factor and dividing by the estimated 2014 populations (10 X 82% / 19,200) resulting in a level of service of 0.00043 vehicles per person. Similarly, nonresidential level of service (LOS) is derived by multiplying total vehicles by the proportionate share and dividing by total nonresidential vehicle trips (10 X 18% / 18,130) resulting in a level of service of .00010 vehicles per nonresidential trip.

The cost per demand unit is derived using the average vehicle value ($55,034) and existing levels of service discussed above. For residential development, the cost per demand unit is $23.50 per person. The cost per demand unit for nonresidential development is $5.46 per nonresidential vehicle trip.

Figure 14: Incremental Expansion – Police Vehicles

Vehicles	Units in Service	Unit Price	Total Value
Marked Patrol Cars	10	$55,034	$550,340

Source: City of Evans Police Department

Land Use	Proportionate Share	2014 Demand Units	Vehicles per Demand Unit	Cost per Service Unit
Residential	82%	19,200 Population	*0.00043*	**$23.50**
Nonresidential	18%	18,130 Nonres Vehicle Trips	*0.00010*	**$5.46**

POLICE FACILITIES CAPITAL IMPROVEMENT NEEDS TO SERVE GROWTH

Ten-year growth projections for the City of Evans suggest the City will add 4,205 new residents and 2,138 nonresidential vehicle trips. In order to maintain current levels of service for Police space and vehicles the City will need to make incremental investments. Shown in Figure 15 below is the square footage and vehicles needed to maintain current levels of service for each component and the total investment necessary based on 10-years of population growth.

Figure 15: Projected Demand for Police Space and Vehicles

	Demand Units	Facilities per Demand Unit	Vehicles per Demand Unit
Res LOS	Persons	0.26	0.00043
Nonres LOS	Nonresidential Vehicle Trips	0.06	0.00010
	Average Cost per Unit	**$236**	**$55,034**

		Projected Demand Units		Projected Demand (Rounded)	
		Persons	Nonres. Vehicle Trips	Facilities (square feet)	Vehicles (units)
Base	2014	19,200	18,130	6,168	10
1	2015	19,584	18,326	6,281	10
2	2016	19,976	18,536	6,397	10
3	2017	20,375	18,749	6,515	11
4	2018	20,783	18,955	6,636	11
5	2019	21,198	19,168	6,758	11
6	2020	21,622	19,382	6,883	11
7	2021	22,055	19,604	7,010	11
8	2022	22,496	19,821	7,140	12
9	2023	22,946	20,044	7,272	12
10	2024	23,405	20,268	7,407	12
Ten Yr Total		**4,205**	**2,138**	**1,239**	**2**
Cost of Facilities				**$292,316**	
Cost of Vehicles					**$110,068**

Credit Evaluation

A credit for future revenue generated by new development is only necessary if there is potential double payment for system improvements. In Evans, impact fee revenue will be used exclusively for growth-related capacity improvements. If elected officials make a legislative policy decision to fully fund growth-related improvements from impact fees, a credit for other revenue sources is unnecessary.

Police Facilities Input Variables and Impact Fees

Figure 16 provides a summary of the input variables (described in the chapter sections above) used to calculate the net capital cost per person for each Police component.

The residential Police Impact Fees are the product of persons per type of housing unit multiplied by the total net capital cost per person. An example of the calculation for an average single family unit is: the net capital cost per person ($91) multiplied by the persons per housing unit (3.01) to arrive at the impact fee per average single family unit of $274. Figure 16 indicates proposed nonresidential Police Impact Fees for Evans. The average daily vehicle trips per 1,000 square feet (42.70 for commercial space) is multiplied by trip adjustment factor (33 percent) and the capital cost of $19.99 per vehicle trip and divided by 1,000, which yields a Police Impact Fee of $.28 per square foot.

Figure 16: Police Input Variables and Maximum Allowable Impact Fees

Residential Capital Costs	***Per Person***
Police Space	$62.17
Police Vehicles	$23.50
Impact Fee Study	$5.33
GROSS CAPITAL COST	$91.00
Revenue Credit	$0.00
NET CAPITAL COST	**$91.00**

Police Impact Fee Schedule

		Impact Fee per Housing Unit		
Unit Type	***Persons per Housing Unit [1]***	***Proposed Fee***	***Current Fee [2]***	***Increase***
Single Unit	3.01	$274	$0	$274
2+ Unit	2.35	$214	$0	$214
Manufactured Home	2.34	$212	$0	$212

[1] TischlerBise. 2014 Impact Fee Land Use Assumptions

[2] The City of Evans currently does not collect a Police impact fee

Nonresidential Capital Costs	***Per Trip***
Police Space	$14.45
Police Vehicles	$5.46
Impact Fee Study	$0.07
GROSS CAPITAL COST	$19.99
Revenue Credit	$0.00
NET CAPITAL COST	**$19.99**

Police Impact Fee Schedule

			Impact Fee per Square Foot of Floor Area		
Nonresidential Land Use	***Trips [3]***	***Trip Rate Adj. Factors***	***Proposed Fee***	***Current Fee [4]***	***Increase (Decrease)***
	(per 1,000 SF)		***(Per 1,000 Square Feet of Floor Area)***		
Commercial	*42.70*	33%	$0.28	$0.00	$0.28
Office/Institutional	*11.03*	50%	$0.11	$0.00	$0.11
Industrial/Flex	*6.97*	50%	$0.07	$0.00	$0.07

[3] Institute of Transportation Engineers. (2012). Trip Generation Manual 9th Edition.

[4] City of Evans, City Code Title 15 Buildings and Construction

CASH FLOW PROJECTIONS

This section summarizes the potential cash flow to the City, if the Police Impact Fees are implemented at the maximum allowable amounts. The cash flow projections are based on the assumptions detailed in this chapter. The summary provides an indication of the impact fee revenue generated by new development projected over the next ten years, and capital expenditures necessary to meet the demand for new Police space and vehicles brought about by new development.

Figure 17: Cash Flow Summary for Police

Ten-Year Growth-Related Costs for Police Facilities

Police Space	$292,316
Police Vehicles	$110,068
Impact Fee Study	$7,898
TOTAL	**$410,282**

		per Housing Unit		*Per Square Foot of Floor Area*		
		Single Unit $274	*2+ Units* $214	*Commercial* $0.28	*Office/Inst.* $0.11	*Industrial* $0.07
	Year	*Housing Units Added*		*Square Feet Added (1,000)*		
Base	2014	5,350	1,509	733	1,043	628
Year 1	2015	5,438	1,534	741	1,054	635
Year 2	2016	5,547	1,565	750	1,066	642
Year 3	2017	5,658	1,596	759	1,079	649
Year 4	2018	5,771	1,628	768	1,091	657
Year 5	2019	5,887	1,660	777	1,103	664
Year 6	2020	6,004	1,694	785	1,116	671
Year 7	2021	6,125	1,727	793	1,128	679
Year 8	2022	6,247	1,762	802	1,141	686
Year 9	2023	6,372	1,797	811	1,153	694
Year 10	2024	6,499	1,833	820	1,166	702
	Ten-Yr Increase	1,149	324	87	123	74
	Projected Fees (Rounded)=>	$314,826	$69,336	$25,000	$14,000	$5,000

Total Projected Revenues	**$428,162**
Cumulative Net Surplus/(Deficit)	$17,880

FIRE/RESCUE

OVERVIEW

The Fire/Rescue Impact Fee addresses the need for additional facilities, apparatus and equipment that would be needed to support the greater demand for Fire/Rescue services and facilities due to future residential and nonresidential development in Evans. The impact fee is derived using the incremental expansion methodology, meaning that the impact fee is calculated based on the cost of maintaining the City's current level of service to residential and nonresidential development. Figure 19 shows the methodology chart used for the Fire/Rescue Impact Fee.

Service Area

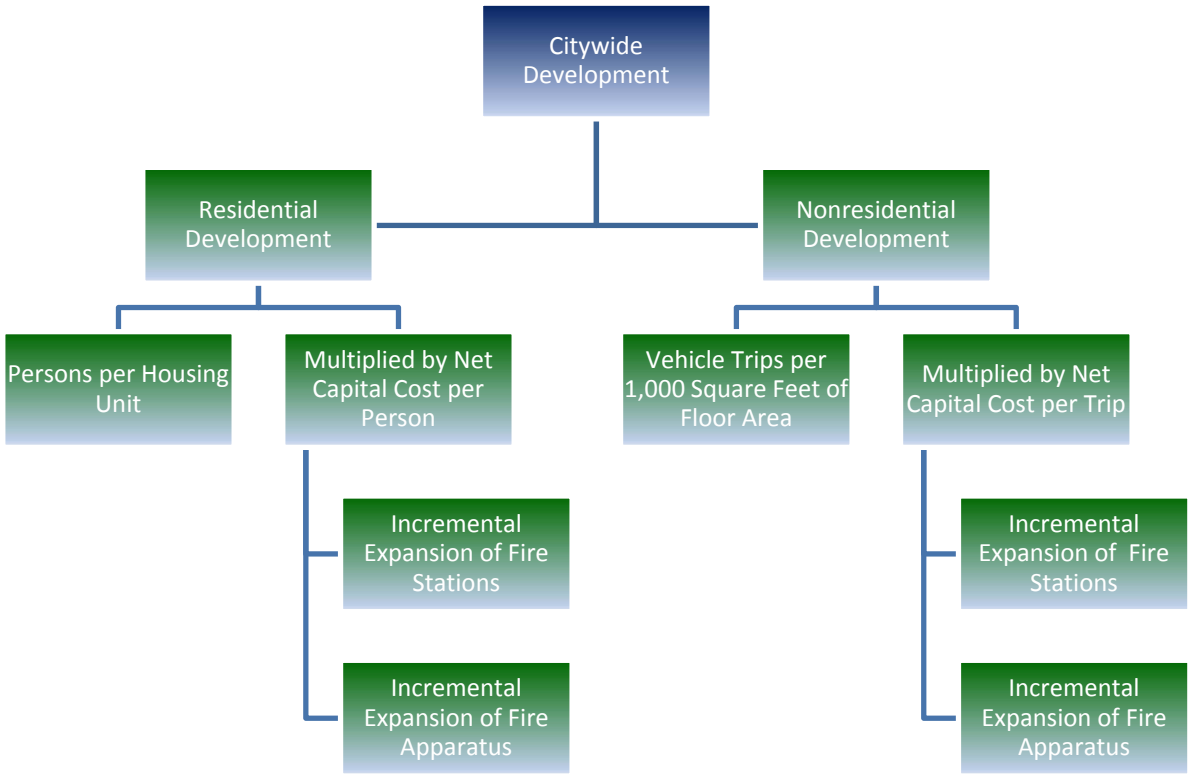
Fire and emergency services are provided to City of Evans residents through the Evans Fire Protection District. There is a small area within the City boundaries south of the South Platte River, which is in the LaSalle Fire Protection District. Due to mutual aid, a uniform level of Fire/Rescue service is provided throughout the City. As a result, the service area for the category is citywide.

METHODOLOGY

Figure 18 below shows that Fire/Rescue impact fees use different demand indicators for residential and nonresidential development. Residential impact fees are calculated on a per capita basis and then converted to a proportionate fee amount by type of housing, based on the number of persons per housing unit.

According to discussions with District staff, the majority of calls for service are for emergency services responses, rather than fire protection, and the need for emergency services is driven by the presence of people. Therefore, TischlerBise recommends using nonresidential vehicle trips as the best demand indicator of demand for Fire/Rescue resulting from nonresidential development. This method will show that demand will be highest for commercial developments, such as shopping centers, and lowest for industrial/warehouse development. Office and institutional trip rates fall between the other two categories. This ranking of trip rates is consistent with the relative demand for Fire/Rescue from nonresidential development. Other possible nonresidential demand indicators, such as employment or floor area, will not accurately reflect the demand for service. For example, if employees per thousand square feet were used as the demand indicator, police impact fees would be too high for office and institutional development because offices typically have more employees per 1,000 square feet than retail uses. If floor area were used as the demand indicator, Fire/Rescue impact fees would be too high for industrial development.

Figure 18: Fire/Rescue Impact Fee Methodology Chart



PROPORTIONATE SHARE

Similar to Police, the Fire/Rescue impact fee uses functional population to determine the proportionate cost share for residential and nonresidential development. For residential development, the proportionate share factor is based on estimated person hours of non-working residents, plus the non-working hours of resident workers. Based on 2011 U.S. Census Bureau data, approximately 56% of Evan's population worked in 2011. For resident workers, two-thirds of a day (i.e., annualized average) was allocated to residential demand. Time spent at work (i.e., annualized average of 8 hours per day) was allocated to nonresidential development. In 2011, the U.S. Census Bureau's OnTheMap web application indicated that 391 town residents also worked in Evans, but 95% of workers commuted to out-of-town jobs. Total jobs located in Evans include 2,723 inflow commuters. Based on estimated person hours, the cost allocation for residential development is 82% while nonresidential development accounts for 18% of the demand for infrastructure.

Figure 19: Proportionate Share Determination

		Demand Units in 2011		Demand Hours/Day	Person Hours	Proportionate Share
Residential						
	Estimated Residents	18,943				
56%	Residents Not Working		10,694	20	213,880	
44%	Employed Residents		8,249			
5%	Employed in Service Area		391	14	5,474	
95%	Employed outside Service Area		7,858	14	110,012	
				Residential Subtotal	329,366	**82%**
Nonresidential						
	Non-working Residents		10,694	4	42,776	
	Jobs in Service Area		3,114			
	Residents Employed in Service Area		391	10	3,910	
	Non-Resident Workers (inflow Commuters)		2,723	10	27,230	
				Nonresidential Subtotal	73,916	**18%**
				TOTAL	403,282	**100%**

Source: 2011 population estimate from Colorado State Demography Office; U.S. Census Bureau, OnTheMap 6.1.1 Application and LEHD Origin-Destination Employment Statistics

FIRE/RESCUE STATIONS/APPARATUS AND COSTS

Fire Stations

The Evans Fire Protection District delivers fire and emergency services out of two fire stations (primarily Fire Station No. 2) within the City limits of Evans. Administrative and support offices for the department are located in Fire Station No. 2.

The District intends to maintain the level of service for Fire/Rescue stations in the future. There are several options for increasing space, somewhat dependent on where and when development and annexation occur. Therefore, an incremental expansion methodology is used to calculate the Station component of the impact fee.

As shown in Figure 20, the Evans Fire Protection District's two stations total 14,612 square feet. Figure 21 also indicates residential/nonresidential proportionate share factors (from Figure 19 above), current level of service (LOS) standards, and cost per demand unit. The current residential level of service is

derived by multiplying the total square footage of Fire/Rescue space by the residential proportionate share factor and dividing by the estimated 2014 populations (14,612 X 82% / 19,200) resulting in a level of service of 0.624 square feet per person. Similarly, nonresidential level of service (LOS) is derived by multiplying total square footage by the proportionate share and dividing by total nonresidential vehicle trips (14,612 X 18% / 18,130) resulting in a level of service of .145 sq. ft. per nonresidential trip.

The cost per demand unit is derived using the total cost per square foot ($360) and existing levels of service discussed above. For residential development, the cost per demand unit is $224.65 per person. The cost per demand unit for nonresidential development is $52.22 per nonresidential vehicle trip.

Figure 20: Incremental Expansion – Fire/Rescue Stations

Stations	Square Feet	Total Cost to Construct Today	Cost per Square Foot
Station 1	3,660	$1,317,600	$360
Station 2	10,952	$3,942,720	$360
TOTAL	14,612	$5,260,320	$360

Source: City of Evans

Land Use	Proportionate Share	2014 Demand Units	Square Feet per Demand Unit	Cost per Demand Unit
Residential	82%	19,200 Population	*0.624*	**$224.65**
Nonresidential	18%	18,130 Nonres Vehicles Trips	*0.145*	**$52.22**

Fire/Rescue Apparatus Levels of Service Standards and Cost Factors

Figure 21 indicates the Evans Fire Protection District's current inventory of apparatus, residential/nonresidential proportionate share factors, current level of service (LOS) standards, and cost per demand unit. The current residential level of service is derived by multiplying the total apparatus inventory by the residential proportionate share factor and dividing by the total residential proportionate share factor and dividing by the estimated 2014 populations (18X 82% / 19,200) resulting in a level of service of 0.00034 apparatus per person. Similarly, nonresidential level of service (LOS) is derived by multiplying total apparatus by the proportionate share and dividing by total nonresidential vehicle trips (8 X 18% / 18,130) resulting in a level of service of .00008 apparatus per nonresidential trip.

The cost per demand unit is derived using the average apparatus value ($231,250) and existing levels of service discussed above. For residential development, the cost per demand unit is $79.01 per person. The cost per demand unit for nonresidential development is $18.37 per nonresidential vehicle trip.

Figure 21: Incremental Expansion – Fire/Rescue Apparatus

Vehicles and Apparatus	Units in Service	Cost per Unit	Total Value
Rosenbauer 78' Quint	1	$700,000	$700,000
Rosenbauer Engine	1	$390,000	$390,000
ALF Engine	1	$400,000	$400,000
Brush Truck/EMS Response	1	$160,000	$160,000
SUV/Trucks	4	$50,000	$200,000
TOTAL	**8**	**$231,250**	**$1,850,000**

Source: Evans Fire Protection District

Land Use	Proportionate Share	2014 Demand Units		Vehicles per Demand Units	Cost per Demand Unit
Residential	82%	19,200	Population	0.00034	**$79.01**
Nonresidential	18%	18,130	Nonres Vehicles Trips	0.00008	**$18.37**

FIRE/RESCUE FACILITIES CAPITAL IMPROVEMENT NEEDS TO SERVE GROWTH

Ten-year growth projections for the City of Evans suggest the City will add 4,205 new residents and 2,138 nonresidential vehicle trips. In order to maintain current levels of service for Police space and vehicles the City will need to make incremental investments. Shown in Figure 22 below is the square footage and vehicles needed to maintain current levels of service for each component and the total investment necessary based on 10-years of population growth.

Figure 22: Projected Demand for Fire/Rescue Space and Apparatus

	Demand Units	Facilities (square feet)	Apparatus (units)
Res LOS	Units Per Person	0.62405	0.00034
Nonres LOS	Units Per Vehicle Trip	0.14507	0.00008
	Average Cost per Component	**$360**	**$231,250**

				Projected Demand (Rounded)	
		Projected Demand Units		Facilities	Apparatus
		Persons	Nonres. Vehicle Trips	(square feet)	(units)
Base	2013	19,200	18,130	14,612	8
1	2014	19,584	18,326	14,880	8
2	2015	19,976	18,536	15,155	8
3	2016	20,375	18,749	15,435	8
4	2017	20,783	18,955	15,720	9
5	2018	21,198	19,168	16,009	9
6	2019	21,622	19,382	16,305	9
7	2020	22,055	19,604	16,608	9
8	2021	22,496	19,821	16,914	9
9	2022	22,946	20,044	17,227	9
10	2023	23,405	20,268	17,546	10
Ten Yr Total		**4,205**	**2,138**	**2,934**	**2**
Cost of Facilities				**$1,056,240**	
Cost of Vehicles					**$462,500**

CREDIT EVALUATION

A credit for future revenue generated by new development is only necessary if there is potential double payment for system improvements. In Evans, impact fee revenue will be used exclusively for growth-related capacity improvements. If elected make a legislative policy decision to fully fund growth-related improvements from impact fees, a credit for other revenue sources is unnecessary.

FIRE/RESCUE FACILITIES INPUT VARIABLES AND IMPACT FEES

Figure 23 provides a summary of the input variables (described in the chapter sections above) used to calculate the net capital cost per person for each Police component.

The residential Fire/Rescue impact fees are the product of persons per type of housing unit multiplied by the total net capital cost per person. An example of the calculation for an average single family unit is: the net capital cost per person ($363.23) multiplied by the persons per housing unit (3.01) to arrive at the impact fee per average single family unit of $1,094. Figure 23 indicates proposed nonresidential Fire/Rescue impact fees for Evans. The average daily vehicle trips per 1,000 square feet (42.70 for commercial space) is multiplied by trip adjustment factor (33 percent) and the capital cost of $83.27 per vehicle trip and divided by 1,000, which yields a Fire/Rescue impact fee of $1.17 per square foot.

Figure 23: Fire/Rescue Input Variables and Maximum Allowable Impact Fees

Residential Capital Costs	*Per Person*
Fire Facilities	$79.01
Fire Vehiles	$224.65
Impact Fee Study	$5.33
GROSS CAPITAL COST	$308.99
Revenue Credit	$0.00
NET CAPITAL COST	**$308.99**

Fire Impact Fee Schedule		*Impact Fee per Housing Unit*		
Unit Type	*Persons per Housing Unit [1]*	*Proposed Fee*	*Current Fee [2]*	*Increase (Decrease)*
Single Unit	3.01	$930	$805	$125
2+ Unit	2.35	$726	$805	($79)
Manufactured Home	2.34	$723	$805	($82)

[1] TischlerBise. 2014 Impact Fee Land Use Assumptions
[2] City of Evans, City Code Title 15 Buildings and Construction

Nonresidential Capital Costs	*Per Trip*
Fire Facilities	$18.37
Fire Vehiles	$52.22
Impact Fee Study	$0.07
GROSS CAPITAL COST	$70.66
Revenue Credit	$0.00
NET CAPITAL COST	**$70.66**

Impact Fee Schedule			Impact Fee per Square Foot of Floor Area		
Nonresidential Land Use	*Trips [3]*	*Trip Rate Adj. Factors*	*Proposed Fee*	*Current Fee [4]*	*Increase (Decrease)*
	(per 1,000 SF)		*(Per Square Feet of Floor Area)*		
Commercial	*42.70*	33%	$1.00	$0.46	$0.54
Office/Institutional	*11.03*	50%	$0.39	$0.46	($0.07)
Industrial/Flex	*6.97*	50%	$0.25	$0.46	($0.21)

[3] Institute of Transportation Engineers. (2012). Trip Generation Manual 9th Edition.
[4] City of Evans, City Code Title 15 Buildings and Construction

CASH FLOW PROJECTIONS

This section summarizes the potential cash flow to the City, if the Fire/Rescue impact fees are implemented at the maximum allowable amounts. The cash flow projections are based on the assumptions detailed in this chapter. The summary provides an indication of the impact fee revenue generated by new development projected over the next ten years, and capital expenditures necessary to meet the demand for new Police space and vehicles brought about by new development.

Figure 24: Cash Flow Summary for Fire/Rescue Buildings

Ten-Year Growth-Related Costs for Fire Facilities

Fire Facilities	$1,056,240
Fire Vehiles	$462,500
Impact Fee Study	$7,898
TOTAL	**$1,526,638**

		per Housing Unit		*Per Square Foot of Floor Area*		
		Single Unit $930	*2+ Units* $726	*Commercial* $1.00	*Office/Instit.* $0.39	*Industrial* $0.25
	Year	*Housing Units Added*		*Square Feet Added (1,000)*		
Base	2013	5,350	1,509	733	1,043	628
Year 1	2014	5,438	1,534	741	1,054	635
Year 2	2015	5,547	1,565	750	1,066	642
Year 3	2016	5,658	1,596	759	1,079	649
Year 4	2017	5,771	1,628	768	1,091	657
Year 5	2018	5,887	1,660	777	1,103	664
Year 6	2019	6,004	1,694	785	1,116	671
Year 7	2020	6,125	1,727	793	1,128	679
Year 8	2021	6,247	1,762	802	1,141	686
Year 9	2022	6,372	1,797	811	1,153	694
Year 10	2023	6,499	1,833	820	1,166	702
	Ten-Yr Increase	1,149	324	87	123	74
	Projected Fees (Rounded)=>	$1,068,570	$235,224	$87,000	$48,000	$18,000

Total Projected Revenues	**$1,456,794**
Cumulative Net Surplus/(Deficit)	($69,844)

TRANSPORTATION

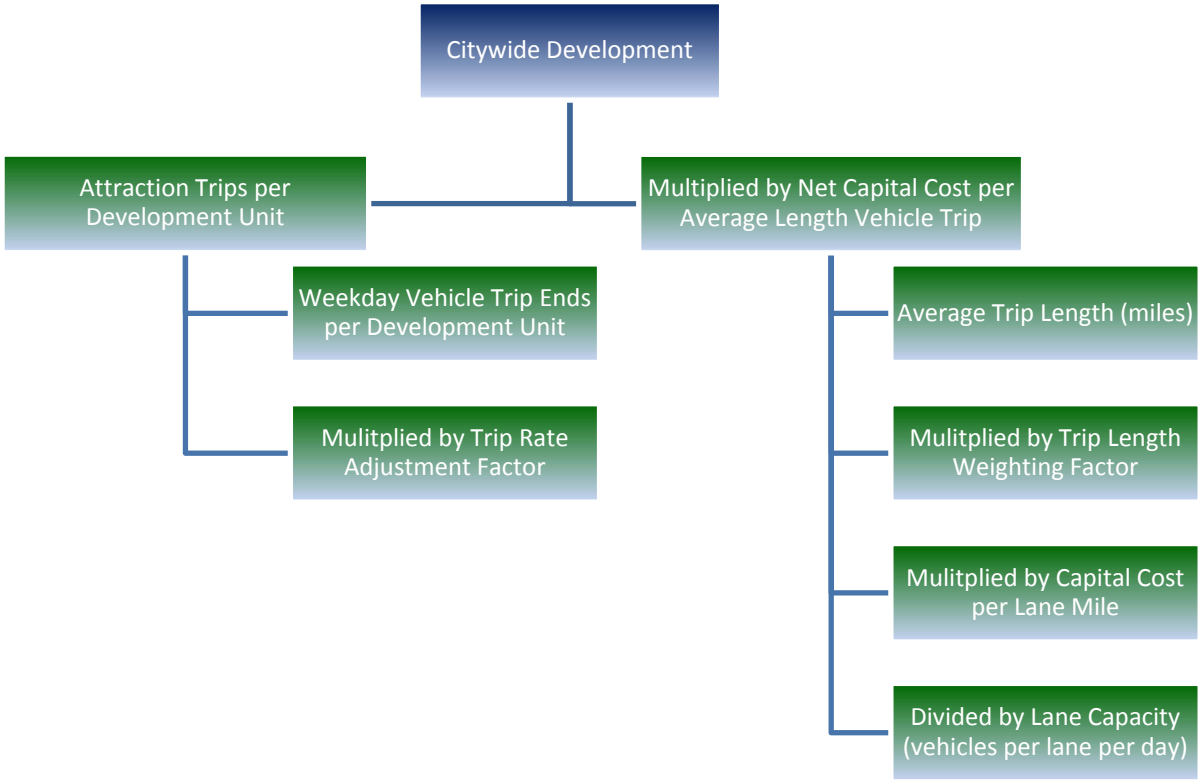
METHODOLOGY

The City of Evans Transportation impact fees are calculated using a plan-based approach for system improvements, including arterial roads, and signalized intersections. As shown in Figure 25, trip generation rates by type of development are multiplied by the total capital cost per unit of trip capacity to yield the impact fees. The plan based approach for road improvements in Evans reflects those planned improvements that will increase system-wide capacity.

Service Area

The City's transportation network functions on a citywide basis. As a result, the service area for this impact fee category is citywide.

Figure 25: Transportation Impact Fee Methodology Chart



EXISTING LEVELS OF SERVICE FOR TRANSPORTATION

The City currently maintains 69.52 lane miles of arterial and collector roads in the city owned and maintained system.

Figure 26: City of Evans Transportation System Inventory

Existing Lane Miles

Existing Roadways	Lanes	Miles	Lane Miles	Daily Per-Lane Capacity
Arterials	2.00	13.66	27.33	6,000
Arterials	4.00	4.60	18.41	8,000
Collectors	2.00	7.08	14.15	5,000
Collectors	4.00	2.41	9.63	5,000
TOTAL	**12.00**	**27.75**	**69.52**	

Source: GIS Centerline Roads.

The steps to calculate a current level of service for the City's street network involve calibrating existing development to the system network. To do so, development units by type are multiplied by adjusted vehicle trip ends per development unit. The factors used to calculate the current level of service expressed in Vehicle Miles of Travel (VMT) are discussed below, and shown in Figure 30 after the discussion.

Trip Generation Rates

Trip generation rates are from the reference book *Trip Generation* (Institute of Transportation Engineers, 2012). City of Evans Transportation Impact Fees are based on average weekday vehicle trip ends. A vehicle trip end represents a vehicle either entering or exiting a development (as if a traffic counter were placed across a driveway). To calculate the impact fees, trip generation rates are adjusted to avoid double counting each trip at both the origin and destination points. Therefore, the basic trip adjustment factor is 50 percent. As discussed below, the impact fee methodology includes additional adjustments to make the fees proportionate to the infrastructure demand for particular types of development.

Residential Vehicle Trip Ends

As an alternative to simply using the national average trip generation rate for residential development, the Institute of Transportation Engineers (ITE) publishes regression curve formulas that may be used to derive custom trip generation rates using local demographic data. Key independent variables needed for the analysis (i.e., vehicles available, housing units, households, and persons) are only available from the ACS Estimates for Evans. This data was used to derive custom average weekday vehicle trip ends by type of housing, as shown in Figure 27.

Figure 27: Average Weekday Vehicle Trip Ends by Housing Type

	Vehicles Available [1]	Households by Structure Type[2]			Vehicles per Household by Tenure
		Single Unit	2+ Units	Total	
	A	B	C	D = B+C	E = A/D
Owner-occupied	7,134	3,419	131	3,550	2.01
Renter-occupied	4,610	1,350	1,176	2,526	1.83
TOTAL	**11,744**	**4,769**	**1,307**	**6,076**	**1.93**

[1] Vehicles available by tenure from Table B25046, American Community Survey, 2012.
[2] Households by tenure and units in structure from Table B25032, American Community Survey, 2012.

	Persons in Households [3]	Trip Ends [4]	Vehicles by Type of Housing	Trip Ends [5]	Average Trip Ends	Housing Units [6]	Trip Ends per Unit	
							Evans	ITE [7]
	F	G	H=Owner(B*E)+ Renter (B*E)	I	J = Avg of G,I	K	L= J/K	M
Single Units	15,040	38,927	9,335	53,954	46,440	5,115	9.10	9.52
2+ Units	3,465	11,959	2,409	9,787	10,873	1,473	7.40	6.65
TOTAL	**18,505**	**50,886**	**11,744**	**63,741**	**57,313**	**6,588**	**8.70**	

[3] Total population in households from Table25033, American Community Survey, 2012.
[4] Vehicle trips ends based on persons using formulas from Trip Generation (ITE 2012). For single units (ITE 210), the fitted curve equation is EXP(0.91*LN(persons)+1.52). To approximate the average population of the ITE studies, persons were divided by 27 and the equation result multiplied by 27. For 2+ units (ITE 220), the fitted curve equation is (3.47*persons)-64.48.
[5]Vehicle trip ends based on vehicles available using formulas from Trip Generation (ITE 2012). For single units (ITE 210), the fitted curve equation is EXP(0.99*LN(vehicles)+1.81). To approximate the average number of vehicles in the ITE studies, vehicles available were divided by 36 and the equation result multiplied by 36. For 2+ units (ITE 220), the fitted curve equation is (3.94*vehicles)+293.58.
[6] Housing units from Table B25024, American Community Survey, 2012.
[7] Trip Generation, Institute of Transportation Engineers, 9th Edition (2012).

Nonresidential Vehicle Trip Ends

Vehicle Trip Ends for nonresidential development are from the reference book, *Trip Generation* (Institute of Transportation Engineers, 2012). The shaded categories in Figure 28 represent the proxy categories for use in determining existing and projected trips from nonresidential development in Evans.

Figure 28: The Institute of Transportation Engineers, Nonresidential Trip Ends, 2012

ITE Code	Land Use	Demand Unit	Wkdy Trip Ends Per 1,000 Sq Ft [1]	Wkdy Trip Ends Per Employee [1]	Emp Per 1,000 Sq Ft	Sq Ft Per Emp [2]
Industrial						
110	Light Industrial	1,000 Sq Ft	6.97	3.02	2.31	433
130	Industrial Park	1,000 Sq Ft	6.83	3.34	2.04	489
140	Manufacturing	1,000 Sq Ft	3.82	2.13	1.79	558
150	Warehousing	1,000 Sq Ft	3.56	3.89	0.92	1,093
254	Assisted Living	bed	2.66	3.93	0.68	na
320	Motel	room	5.63	12.81	0.44	na
Institutional						
520	Elementary School	1,000 Sq Ft	15.43	15.71	0.98	1,018
530	High School	1,000 Sq Ft	12.89	19.74	0.65	1,531
540	Community College	student	1.23	15.55	0.08	na
550	University/College	student	1.71	8.96	0.19	na
565	Day Care	student	4.38	26.73	0.16	na
610	Hospital	1,000 Sq Ft	13.22	4.50	2.94	340
620	Nursing Home	1,000 Sq Ft	7.60	3.26	2.33	429
Office						
710	General Office (avg size)	1,000 Sq Ft	11.03	3.32	3.32	301
760	Research & Dev Center	1,000 Sq Ft	8.11	2.77	2.93	342
770	Business Park	1,000 Sq Ft	12.44	4.04	3.08	325
857	Discount Club	1,000 Sq Ft	41.80	32.21	1.30	771
Commercial						
820	Shopping Center (avg size)	1,000 Sq Ft	42.70	na	2.00	500

[1] Trip Generation, Institute of Transportation Engineers, 2012.
[2] Square feet per employee calculated from trip rates except for Shopping Center data, which are derived from the Urban Land Institute's Development Handbook and Dollars and Cents of Shopping Centers.

Adjustment for Journey-To-Work Commuting

Residential development in the City of Evans has a larger trip adjustment factor of 65 percent to account for commuters leaving Evans for work. According to the National Household Travel Survey (2009), home-based work trips are typically 31 percent of "production" trips, also known as out-bound trips (which are 50 percent of all trip ends). Data from the LEHD for 2011 indicate that 95 percent of Evan's employed residents travel outside the City for work. In combination, these factors (0.31 x 0.50 x 0.95 = 0.15) account for 15 percent (rounded) of additional production trips. The total adjustment factor for residential includes attraction trips (50% of trip ends) plus the journey-to-work commuting adjustment for a total of 65 percent.

Figure 29: Adjustment for Journey-to-Work Commuting

Trip Adjustment Factor for Commuters [1]	
Employed Residents	8,249
Residents Working in City	391
Residents Commuting Outside City for Work	7,858
Percent Commuting out of the City	**95%**
Additional Production Trips [2]	15%
Residential Trip Adjustment Factor	***65%***

[1] U.S. Census Bureau, 2011 OnTheMap Application (version 6) and LEHD Origin-Destination Employment Statistics
[2] Outbound trip statistics from National Household Travel Survey, 2009: Table 30

Adjustment for Pass-By Trips

For commercial and institutional development, the trip adjustment factor is less than 50 percent because these land uses attract vehicles as they pass by. For example, when someone stops at a convenience store or school on the way home from work, the convenience store is not the primary destination. For the average shopping center, the ITE data indicate that 34 percent of the vehicles that enter are passing-by on their way to some other primary destination. The remaining 66 percent of attraction trips have the commercial site as their primary destination. Because attraction trips are half of all trips, the trip adjustment factor is 66 percent multiplied by 50 percent, or approximately 33 percent of the trip ends. These factors are shown to derive inbound vehicle trips for each type of nonresidential land use.

Trip Length Weighting Factor by Type of Land Use

The Transportation Impact Fees methodology includes a percentage adjustment, or weighting factor, to account for trip length variation by type of land use. As documented in Table 6 of the 2009 National Household Travel Survey, vehicle trips from residential development are approximately 121 percent of the average trip length. The residential trip length adjustment factor includes data on home-base work trips, social, and recreational purposes. Conversely, shopping trips associated with commercial development are roughly 66 percent of the average trip length while other nonresidential development typically accounts for trips that are 73 percent of the average for all trips.

Lane Capacity

Transportation impact fees are based on established daily per-lane capacities for each classification of roadways. According to the 2004 City of Evans Transportation Plan completed for the City by Felsburg, Holt and Ullevig, the daily per-lane capacity of major arterials in Evans is 8,000. Minor arterials were established to have a daily per-lane capacity of 6,000. Collectors were established to each have a 5,000 daily per-lane capacity.

Summary of Demand Model Inputs

Figure 30 shows the calibration of existing development to the City's current street network of 2-lane arterial roads. Knowing the current lane miles of 2-lane arterial streets (27.33), TischlerBise determined a weighted-average trip length of 3.67 miles on the current system using a series of spreadsheet iterations. As shown in Figure 30 below, based on the trip generation, trip adjustment, and trip length factors discussed above, existing development within Evans attracted an estimated 218,676 Vehicle Miles of Travel (VMT) in 2014. A VMT is a measurement unit equal to one vehicle traveling one mile. In the aggregate, VMT is the product of vehicle trips multiplied by the average trip length[1]. The current infrastructure standard is 1.25 lane miles per 10,000 vehicle miles of travel (i.e., 27.33 lane miles divided by 218,676 VMT expressed in ten-thousands).

[1] Typical VMT calculations for development-specific traffic studies, along with most transportation models of an entire urban area, are derived from traffic counts on particular road segments multiplied by the length of that road segment. For the purpose of impact fees, VMT calculations are based on attraction (inbound) trips to development located in the service area, with the trip lengths calibrated to the road network considered to be system improvements. This refinement eliminates pass-through or external- external trips, and travel on roads that are not system improvements (e.g. interstate highways).

Figure 30: Existing Level of Service on the City Street Network

Development Type [1]	Dev. Unit	[A] Avg Wkdy Veh Trip Ends per Dev. Unit [2]	[B] Trip Adjustment Factors [3]	[A]X[B]=[C] Trip Length	X[D] Trip Length Weighting Factor [4]
RESIDENTIAL					
Single Units	HU	9.10	65%	5.92	121%
2+ Units	HU	7.40	65%	4.81	121%
NONRESIDENTIAL					
Commercial	KSF	42.70	33%	14.09	66%
Office/ Other	KSF	11.03	50%	5.52	73%
Industrial	KSF	6.97	50%	3.49	73%
Institutional	KSF	15.43	33%	5.09	73%

Average Trip Length (Miles) [5]	3.67
Capacity per Lane	8,000

	Base Year 2014
Development Unit	
Single Units	5,350
2+ Units	1,509
Commercial KSF	733
Office/ Other KSF	719
Industrial KSF	628
Institutional KSF	324
Vehicle Trips	
Single Units	31,645
2+ Units	7,258
Commercial KSF	10,329
Office KSF	3,964
Industrial KSF	2,188
Institutional KSF	1,649
TOTAL Trips	57,033
Vehicle Miles of Travel (VMT)	218,676
Total Arterial Lane Miles (2 Lanes)	27.33
Lane Miles per 10,000 VMT	1.25

[1] KSF = square feet of floor area in thousands.
[2] Residential: TischlerBise Impact Fee Land Use Assumptions; Nonresidential: Trip Generation, Institute of Transportation Engineers, 2012.
[3] On an average weekday, half of all trip ends are inbound. Retail and institutional include 34% pass-by adjustment (i.e. 66% are primary trips) half of which are trip ends. The residential adjustment factor accounts for 65% of employed residents commuting to jobs outside the Community.
[4] Table 6, National Household Travel Survey, 2009.
[5] TischlerBise

PROJECTED TRAVEL DEMAND

The projected need for system lane miles is a function of the ten-year development forecast (see Appendix A) and the existing infrastructure standards discussed above. A typical vehicle trip, such as a person leaving their home and traveling to work, generally begins on a local street that connects to a collector street, which connects to an arterial road and eventually to a state or interstate highway. For the purpose of impact fees, this progression of travel up and down the functional classification chain narrows the average trip length determination to the following question, "what is the average vehicle trip length on

Transportation Impact Fee system improvements (i.e., the same type of streets used to document current infrastructure standards)?"

As shown in Figure 31 below, new development increases vehicle miles of travel on 2-lane arterials from 218,675 in 2014 to 261,196 in 2024, for a net increase of 42,521 VMT. When VMT is compared to the current infrastructure (existing level of service) standards discussed previously new development generates the need for an additional 5.32 lane miles of City-maintained roads in the next 10 years in order to maintain the current level of service.

Figure 31: Transportation Improvement Demand Model

	Base Yr	*1*	*2*	*3*	*4*	*5*	*10*
Year->	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2024**
DEMAND DATA							
SINGLE UNIT	5,350	5,438	5,547	5,658	5,771	5,887	6,499
2+ UNIT	1,509	1,534	1,565	1,596	1,628	1,660	1,833
SINGLE UNIT TRIPS	31,645	32,166	32,811	33,467	34,135	34,822	38,442
2+ UNIT TRIPS	7,258	7,379	7,528	7,677	7,831	7,985	8,817
RES TRIPS	**38,903**	**39,545**	**40,339**	**41,144**	**41,966**	**42,807**	**47,259**
COMMERCIAL KSF	733	741	750	758	767	775	820
OFFICE KSF	719	727	735	743	752	760	804
INDUSTRIAL KSF	628	635	642	649	656	664	702
INSITUTIONAL KSF	324	327	331	335	338	342	361
COMMERCIAL TRIPS	10,329	10,441	10,561	10,681	10,801	10,921	11,548
OFFICE TRIPS	3,964	4,009	4,054	4,100	4,145	4,192	4,434
INDUSTRIAL TRIPS	2,188	2,212	2,236	2,262	2,288	2,313	2,446
INSTITUITIONAL TRIPS	1,649	1,664	1,685	1,706	1,721	1,742	1,840
NONRES TRIPS	**18,130**	**18,326**	**18,536**	**18,749**	**18,955**	**19,168**	**20,268**
Total VMT on Planned Improv.	**218,675**	**222,022**	**226,080**	**230,195**	**234,366**	**238,640**	**261,196**
Lane Miles	27.33	27.75	28.26	28.77	29.30	29.83	32.65
Annual Lane Mile Increase		0.42	0.51	0.51	0.52	0.53	0.58
Cumulative Lane Miles		0.42	0.93	1.44	1.96	2.50	**5.32**

Source: TischlerBise

COST PER LANE MILE AND POTENTIAL IMPACT FEE ELIGIBLE PROJECTS

Figure 32 summarizes a list of potential transportation system improvement projects the City will fund through impact fees. The projects are from the Evans Transportation Plan. This list of projects is also used to determine the cost per lane mile factor used in the impact fee calculation. As shown in Figure 32 potential impact fee funded projects total $34.9 million. When this total is compared to the increase in lane miles (26.7), the cost per lane mile $1,310,261.

Figure 32: Summary of Growth-Related Transportation Projects (10-Year Plan)

Location	*From*	*To*	*Lanes 2014*	*Future Lane Miles*	*Miles*	*LaneMi Increase*	*City Cost*	*$/LnMi*
35th Ave Widening	Prairie View	49th St	2	4	0.7	1.4	$1,700,000	$1,246,667
35th Ave	CR 394	Hwy 85	2	4	3.0	6.0	$7,000,000	$1,169,620
23rd Ave	42nd St	49th St	2	4	0.5	0.9	$400,000	$422,400
47th Ave Widening	32nd St	37th St	2	4	0.5	1.0	$750,000	$754,286
35th Ave Widening	Prairie View	49th St	2	4	0.7	1.4	$1,700,000	$1,246,667
37th St Widening	47th Ave	65th Ave	2	4	1.5	3.0	$3,200,000	$1,056,000
65th Ave Widening	37th St	N City Limits	2	4	0.5	1.0	$800,000	$804,571
49th St Widening	35th Ave	65th Ave	2	4	3.0	2.7	$7,860,795	$2,911,406
65th Ave Widening	49th St	54th St	2	4	0.8	1.5	$1,900,000	$1,254,000
37th St Widening	35th Ave	47th Ave	2	4	1.1	2.3	$3,363,637	$1,480,000
65th Ave Widening	37th Ave	S City Limits	2	4	1.0	2.0	$1,504,545	$749,434
23rd Ave Widening	37th St	42nd St	2	4	0.5	1.0	$2,273,864	$2,286,858
Two Rivers Parkway	37th St	49th St	2	4	1.0	2.0	$1,488,637	$744,319
35th Ave Widening	37th St	Prairie View	2	4	0.3	0.5	$1,040,000	$1,961,143
					Subtotal	26.7	$34,981,478	$1,310,261
					Cost Per Lane Mile		$1,310,261	

TRANSPORTATION INPUT VARIABLES AND IMPACT FEES

Figure 15 provides a summary of the input variables (described in the chapter sections above) used to calculate the net capital cost per vehicle mile of travel for Transportation improvements.

The residential Transportation Impact Fees are the product of adjusted residential vehicle miles of travel multiplied by the total net capital cost per VMT ($164.38). Also shown is a comparison with the City's current fees. For example, the net capital cost per VMT ($164.20) multiplied by the single unit Vehicle Miles Travel factor (26.27) resulting in a Transportation Impact Fee of $4,317 per housing unit. The nonresidential Transportation Impact Fees are calculated in the same way. Fees are provided for three categories of nonresidential land use. TischlerBise used 2012 weekday vehicle trip ends factors published by The Institute of Transportation Engineers in Trip Generation, 9th Edition for the *Weekday Vehicle Trip Ends* factors by land use.

Figure 33: Transportation Input Variables and Maximum Allowable Impact Fees

Street Level Of Service and Capital Costs	
Lane Miles Needed to Maintain LOS	5.32
Cost Per Lane Mile	$1,310,261
Total Cost of System Improvements	$6,964,239
Net Increase in VMT	42,521
Cost per VMT	*$163.78*
Impact Fee Study Cost per VMT	$0.59
NET CAPITAL COST	**$164.38**

Residential Schedule

	[A]	*[B]*	*[C]*	*[D]*	*VMT = [A] x [B] x [C] x [D]*			
	Weekday Vehicle Trip Ends	***Trip Rate Adjustment Factors***	***Avg Miles per Veh. Trip on System***	***Trip Length Weighting Factors***	***VMT***	***Proposed Impact Fee***	***Current Fee***	***Increase (Decrease)***
Unit Type					*per unit*	***(Per Housing Unit)***		
Single Unit	9.10	65%	3.67	121%	26.27	$4,317	$1,894	$2,423.00
2+ Unit	7.40	65%	3.67	121%	21.36	$3,511	$1,306	$2,205.00
Manufactured Home	9.10	65%	5.22	121%	37.36	$6,141	$1,894	$4,247.00

Nonresidential Schedu

	[A]	*[B]*	*[C]*	*[D]*	*VMT = [A] x [B] x [C] x [D]*			
	Weekday Vehicle Trip Ends	***Trip Rate Adjustment Factors***	***Avg Miles per Veh. Trip on System***	***Trip Length Weighting Factors***	***VMT***	***Proposed Impact Fee***	***Current Fee***	***Increase (Decrease)***
	(Per 1,000 sq. ft.)				***(Per Square Foot of Floor Area)***			
Commercial	42.70	33%	3.67	66%	34.13	$5.61	$2.36	$3.26
Office/Institutional	11.03	50%	3.67	73%	14.78	$2.42	$1.82	$0.60
Industrial	6.97	50%	3.67	73%	9.34	$1.53	$0.55	$0.98

CASH FLOW PROJECTIONS

This section summarizes the potential cash flow to the City of Evans, if the Transportation Impact Fees are implemented at the maximum allowable amounts. The cash flow projections are based on the assumptions detailed in this chapter. To the extent the rate of development either accelerates or slows down from those detailed in Appendix A, there will be a corresponding change in the impact fee revenue available for the prioritized projects.

The cash flow summary provides an indication of the impact fee revenue generated by new development over the next ten years, and capital expenditures necessary to meet existing and new demand for new Transportation system improvements.

Figure 34: Cash Flow Summary for Transportation

Ten-Year Growth-Related Costs for Transportation Improvements

Total Cost of System Improvements	$6,964,239
Impact Fee Study	$11,847
TOTAL	**$6,976,086**

		per Housing Unit		*Per Square Foot of Floor Area*		
		Single Unit $4,317	*2+ Units* $3,511	*Commercial* $5.61	*Office/Inst.* $2.42	*Industrial* $1.53
	Year	*Housing Units Added*		*Square Feet Added (1,000)*		
Base	2014	5,350	1,509	733	1,043	628
Year 1	2015	5,438	1,534	741	1,054	635
Year 2	2016	5,547	1,565	750	1,066	642
Year 3	2017	5,658	1,596	759	1,079	649
Year 4	2018	5,771	1,628	768	1,091	657
Year 5	2019	5,887	1,660	777	1,103	664
Year 6	2020	6,004	1,694	785	1,116	671
Year 7	2021	6,125	1,727	793	1,128	679
Year 8	2022	6,247	1,762	802	1,141	686
Year 9	2023	6,372	1,797	811	1,153	694
Year 10	2023	6,499	1,833	820	1,166	702
	Ten-Yr Increase	1,149	324	87	123	74
Projected Fees (Rounded)=>		$4,960,233	$1,137,564	$488,000	$298,000	$113,000

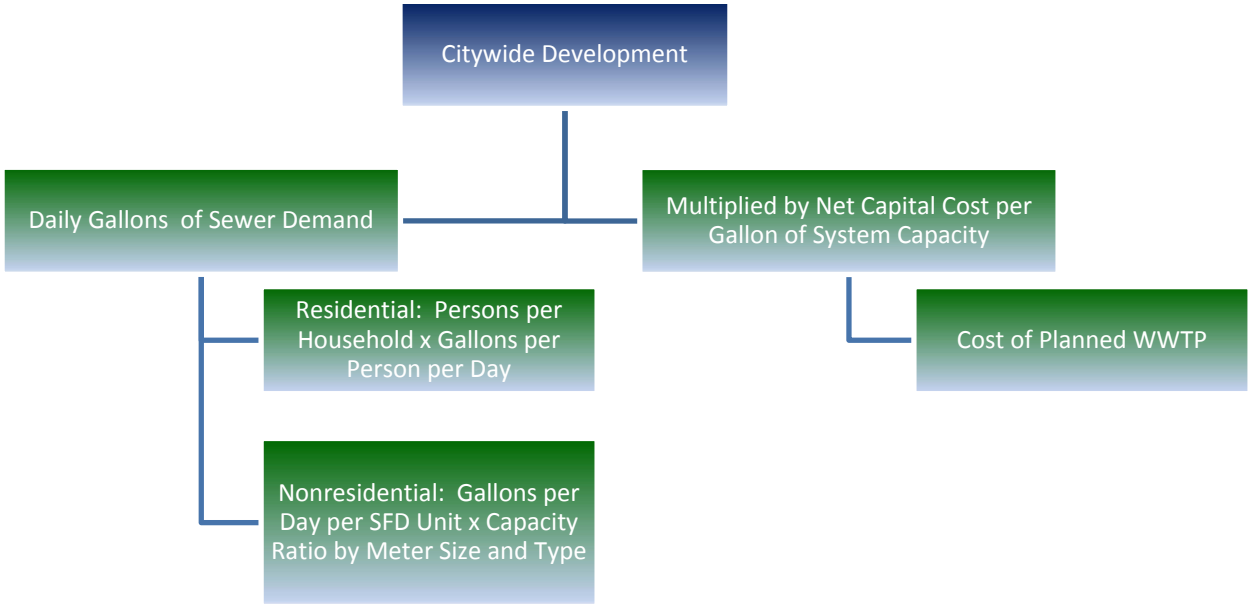
Total Projected Revenues	**$6,996,797**
Cumulative Net Surplus/(Deficit)	$20,711

WASTEWATER

METHODOLOGY

Wastewater Impact Fees are derived using a plan-based approach. As shown in Figure 35, the impact fees are based on the average daily gallons of sewage flow demand for a single-family housing unit and the net capital cost per gallon of system capacity. Wastewater Impact Fees are based on the cost of the proposed wastewater treatment plant. Impact fees paid by nonresidential development are derived from capacity ratios according to the size of the new customer's water meter. Capacity ratios were obtained from the American Water Works Association (AWWA).

Figure 35. Wastewater Impact Fee Methodology



LEVEL OF SERVICE/PROPORTIONATE SHARE ANALYSIS FOR WASTEWATER DEMAND

Wastewater use by current customers was determined from the City's utility billing records. The City of Evans does not track wastewater consumption by customer, so water consumption by customer is used as a proxy for wastewater demand. The number of utility customers (the City does not differentiate between water and sewer customers) and use for 2013 is shown in Figure 36. As shown in Figure 36, Evans has 6,557 connections with average daily demand of 1.74 million gallons per day. This equates to average daily demand of 266 gallons per day per connection and 253 gallons per day per residential connection.

Figure 36. Average Day Utility System Demand

Current Usage	Customer Connections	Average Day Gallons per Land Use	Average Day Gallons per Connection	Gallons Per Day Per Person*
Residential	6,316	1,186,921	253	90
Nonresidential	241	559,779	2,323	
TOTAL	**6,557**	**1,746,700**	**266**	

Source: Evans Finance Department

*Gallons per day per person based on an average persons per housing unit of 2.81

PROJECTION OF WASTEWATER SYSTEM DEMAND

Annual wastewater demand projections are shown in Figure 37 for informational purposes. Projected utility demand is a function of the development projections (discussed in Appendix A) and the wastewater demand factors shown above in Figure 35 (266 gallons per day per customer). Based on the increase in utility customers shown below, wastewater system demand will be approximately 2.16 million gallons per day (MGD) by 2024.

Figure 37. Projected Wastewater System Demand

				Demand Unit: Connections			Service Unit: MGD		
		Housing Units	Jobs	Residential	Nonresidental	Total	Residential	Nonresidental	Total
	Year			0.92 Con/HU	23 Jobs/Con		253 Gal/Con	2,323 Gal/Con	
Base	2014	6,859	5,621	6,316	241	6,557	1.19	0.56	1.75
1	2015	6,972	5,684	6,420	244	6,664	1.21	0.57	1.78
2	2016	7,112	5,748	6,549	246	6,795	1.25	0.57	1.82
3	2017	7,254	5,813	6,680	249	6,929	1.28	0.58	1.86
4	2018	7,399	5,878	6,813	252	7,065	1.31	0.59	1.90
5	2019	7,547	5,944	6,950	255	7,205	1.35	0.59	1.94
6	2020	7,698	6,011	7,089	258	7,347	1.38	0.60	1.98
7	2021	7,852	6,079	7,230	261	7,491	1.42	0.61	2.02
8	2022	8,009	6,147	7,375	264	7,639	1.45	0.61	2.07
9	2023	8,169	6,216	7,522	267	7,789	1.49	0.62	2.11
10	2024	8,332	6,286	7,672	270	7,942	1.53	0.63	2.16
Ten Yr Increase		**1,473**	**665**	**1,356**	**29**	**1,385**	**0.343**	**0.067**	**0.410**

PLANNED WASTEWATER SYSTEM IMPROVEMENTS

Treatment

As Figure 38 indicates, the City currently has two wastewater treatment facilities, totaling 1.70 million gallons of daily treatment capacity. These two facilities are presently at capacity.

Figure 38. Sewer Capital Improvement Program-Treatment

Existing Facilties				
Wastewater Treatment	***Total Capacity (MGD)***	***Usage (MGD)***	***Remaining***	***Today's Value***
Evans System	1.20	1.20	0.00	$12,000,000
Hill n/ Park System	0.50	0.50	0.00	$5,000,000

Figure 39 indicates the City's capital plan for increasing wastewater treatment capacity. As Figure 39 indicates, the City plans on constructing a new wastewater treatment plant with 3.0 millions of gallons of daily capacity, with a total cost of $30 million. The cost per demand unit of $10.00 per gallon of capacity was determined by dividing the future treatment plant cost ($30,000,000) by the increase in treatment capacity.

Figure 39. Wastewater Treatment Projects

Wastewater Treatment	***Total Capacity (MGD)***	***Cost***	***Cost per Gallon***
New Wastewater Treatment Plant	3.00	$30,000,000	$10.00

Collection

Figure 40 indicates the City's capital plan for sewer collection projects over the next ten years. As the Figure indicates, collection projects total $7,883,000. These cost estimates were provided by the City of Evans Finance Department. The cost per demand unit of $6.06 per gallon was determined by dividing the future collection improvement costs ($7,883,000) by the increase in system capacity provided by these pipes (1,300,000 gallons per day).

Figure 40. Collection Projects

Collection	***Total Capacity (MGD)***	***Original Cost***	***Cost per Gallon***
40th and Pueblo Street-Phase I		$1,502,000	
43rd Street		$2,080,000	
37th Street Area		$617,000	
49th Street		$3,684,000	
	1.30	**$7,883,000**	**$6.06**

WASTEWATER INPUT VARIABLES AND IMPACT FEES

Input variables for the Wastewater Impact Fees are shown in the upper section of Figure 41. Residential fees are calculated by multiplying the number of persons per housing unit by type of housing unit by the

average number of gallons per person per day. The average number of gallons per housing unit is then multiplied by the net capital cost per gallon of system capacity. For example, the calculation for a single family housing unit is 3.01 persons per housing unit x 90 gallons per person per day = 271 gallons per day per housing unit. This figure is then multiplied by the net capital cost per gallon of $16.06 for a Wastewater Impact Fee of $4,354.

Nonresidential fees are based on size and type of meter and their restrictive capacity. The capacity ratios by meter size and type are from the American Water Works Association (AWWA). The demands of an average single family housing unit are used as the basis of the calculation.

Figure 41. Wastewater Input Variables and Maximum Allowable Impact Fees

	Standards:
Level Of Service	
Gallons per Person per Day	90
Capital Cost per Gallon-Treatment	$10.00
Capital Cost per Gallon-Collection	$6.06
Net Capital Cost per Gallon	**$16.06**

Residential Impact Fees per Housing Unit

Unit Type	*Persons per Housing Unit*	***Impact Fee Per Housing Unit***	***Current Fee***	***Increase (Decrease)***
Single Unit	3.01	**$4,354**	**$4,024**	$330
2+ Unit	2.35	**$3,400**	**$4,024**	($624)
Manufactured Home	2.34	**$3,383**	**$4,024**	($641)

Nonresidential			**Per Meter**	**Current**	***Increase***
*Meter Size (inches)**		*Capacity Ratio*	***Proposed Fee***	***Fee***	***(Decrease)***
0.75	Displacement	1.00	**$3,400**	**$4,024**	($624)
1.00	Displacement	1.70	**$7,394**	**$6,721**	$673
1.50	Displacement	3.30	**$14,354**	**$13,401**	$953
2.00	Compound	5.30	**$23,054**	**$21,450**	$1,604
3.00	Compound	10.70	**$46,544**	**$42,940**	$3,604
4.00	Compound	16.70	**$72,644**	**$67,086**	$5,558

* Fees for meters larger than four inches will be based on annualized average day demand and the net capital cost per gallon of capacity.

APPENDIX A: DEMOGRAPHIC DATA AND DEVELOPMENT PROJECTIONS

The population, housing unit, job, and nonresidential floor area projections discussed in this document provide the foundation for the Impact Fee Study. To evaluate the demand for growth-related infrastructure from various types of development, TischlerBise prepared documentation on population, housing units by type, jobs, floor area by type of nonresidential development, and average weekday vehicle trip generation rates. These metrics (explained further below) are the service units and demand indicators that will be used in the Impact Fee Study.

The demographic data and development projections will be used to demonstrate proportionality and anticipate the need for future infrastructure. Demographic data reported by the U.S. Census Bureau, and data provided by the City, are used to calculate base year estimates and annual projections for a 10-year horizon. Typically, impact fee studies look out five to ten years, with the expectation that fees will be periodically updated (every three to five years).

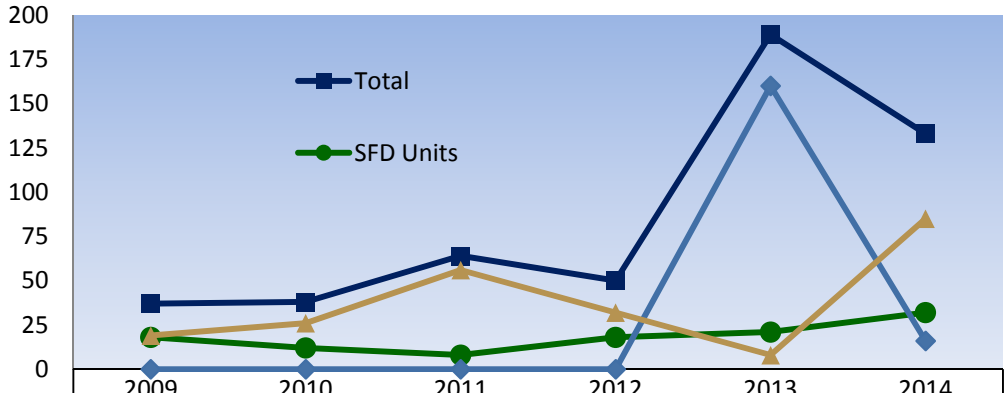
RESIDENTIAL DEVELOPMENT

Current estimates and future projections of residential development are detailed in this section, including population and housing units by type.

Recent Residential Construction

Figure A1 shows residential building permit trends since 2009 by type of housing unit (tracked by the City of Evans). Recent building activity suggests increasing market demand, which is reflected in the residential development projections discussed in the next section.

Figure A1: Residential Building Permits in the City of Evans, 2009-2014



	2009	2010	2011	2012	2013	2014
Total	37	38	64	50	189	133
SFD Units	18	12	8	18	21	32
Multifamily	0	0	0	0	160	16
Manufactured	19	26	56	32	8	85

- Source: City of Evans

Residential Estimates and Projections

Based on an analysis of base year estimates provided by the City, data compiled by the City of Evans for its 2010 Comprehensive Plan Update, and recent residential building trends, over the next decade, the City is projected to add population at a compound annual growth rate of two percent. This equates to an additional 4,205 persons above the 2014 base year estimate of 19,200, which was provided by the City.

Given the expectation that impact fees are updated every three to five years, TischlerBise held constant base year demographic indicators, including the average *Persons per Housing Unit* (PPHU) factor of 2.81, derived from 2012 American Community Survey 5-Year Estimates for Evans. As discussed further below, TischlerBise recommends the use of PPHU to derive impact fees.

The base year housing unit estimate is calculated as follows: 19,200 [population] / 2.81[PPHU] = 6,835 [housing units]. To calculate housing unit projections for each year past the base, the annual population projection is divided by the PPHU factor of 2.81. Next, to calculate the annual projections of housing units by type, the annual total unit projection is multiplied by the 2012 ACS Estimates housing stock distribution of 78 percent single unit dwellings, and 22 percent units in multi-unit structures (see Figure A12). The City is projected to gain 1,497 new housing units between 2014 and 2024, at an average annual increase of 150 units.

Figure A2: Residential Development in the City of Evans

		Dec 31st ===>					*Five-Year Increment*		
		Base Yr 2014	**1 2015**	**2 2016**	**3 2017**	**4 2018**	**5 2019**	**10 2024**	**2014-2024 Cumulative**
POPULATION	*Growth Rate [1]*								
Total Population [1]	*2.00%*	19,200	19,584	19,976	20,375	20,783	21,198	23,405	**4,205**
Persons per Housing Unit		2.81	2.81	2.81	2.81	2.81	2.81	2.81	
RESIDENTIAL DEVELOPMENT									
Housing Units	*Distribution [2]*								
Single Unit	*78%*	5,307	5,413	5,522	5,632	5,745	5,860	6,469	**1,162**
2+ Unit	*22%*	1,528	1,559	1,590	1,622	1,654	1,687	1,863	**335**
Total Residential Units [1]	*2.00%*	6,835	6,972	7,112	7,254	7,399	7,547	8,332	**1,497**

								Average Annual Increases	
ANNUAL INCREASES		**2015**	**2016**	**2017**	**2018**	**2019**	**2024**	**5-Years**	**10-Years**
Year-Round Population		384	392	399	408	415	459	**400**	**421**
Total Residential Units		137	140	142	145	148	163	**142**	**150**
Jobs		63	64	65	65	66	70	**65**	**67**
Commercial Sq. Ft. (x1,000)		8	9	9	9	9	9	**8**	**9**
Office/Other Services Sq. Ft. (x1,000)		8	8	8	8	8	9	**8**	**9**
Industrial Sq. Ft. (x1,000)		7	7	7	7	7	8	**7**	**7**
Institutional Sq. Ft. (x1,000)		3	4	4	3	4	4	**4**	**4**
Total Nonres Floor Area Sq. Ft. (x1,000)		26	28	28	27	28	30	**28**	**28**

[1] Base year estimate as of 31Dec14: City of Evans.
Annual projections based on recent building trends
[2] 2012 American Community Survey 5-Year Estimates

NONRESIDENTIAL DEVELOPMENT

Current estimates and future projections of nonresidential development are detailed in this section, including employment and square footage by industry type.

Nonresidential Square Footage Development

TischlerBise uses the team "jobs" to refer to employment by place of work. Job estimates by industry type are used to calculate nonresidential square footage based on nationally recognized average *Square Feet per Employee* data published by The Institute of Transportation Engineers (ITE), and shown in Figure A3 below. The four land uses highlighted in grey serve as nonresidential prototypes that will be used by TischlerBise to derive average weekday vehicle trips, vehicle miles of travel, and the projected increase in nonresidential floor area. Current Floor area estimates for commercial, office/other services, industrial, and institutional land uses are documented in the next section.

Figure A3: Nonresidential Service Units per Development Unit

ITE Code	Land Use	Demand Unit	Wkdy Trip Ends Per 1,000 Sq Ft [1]	Wkdy Trip Ends Per Employee [1]	Emp Per 1,000 Sq Ft	Sq Ft Per Emp [2]
Industrial						
110	Light Industrial	1,000 Sq Ft	6.97	3.02	2.31	433
130	Industrial Park	1,000 Sq Ft	6.83	3.34	2.04	489
140	Manufacturing	1,000 Sq Ft	3.82	2.13	1.79	558
150	Warehousing	1,000 Sq Ft	3.56	3.89	0.92	1,093
254	Assisted Living	bed	2.66	3.93	0.68	na
320	Motel	room	5.63	12.81	0.44	na
Institutional						
520	Elementary School	1,000 Sq Ft	15.43	15.71	0.98	1,018
530	High School	1,000 Sq Ft	12.89	19.74	0.65	1,531
540	Community College	student	1.23	15.55	0.08	na
550	University/College	student	1.71	8.96	0.19	na
565	Day Care	student	4.38	26.73	0.16	na
610	Hospital	1,000 Sq Ft	13.22	4.50	2.94	340
620	Nursing Home	1,000 Sq Ft	7.60	3.26	2.33	429
Office						
710	General Office (avg size)	1,000 Sq Ft	11.03	3.32	3.32	301
760	Research & Dev Center	1,000 Sq Ft	8.11	2.77	2.93	342
770	Business Park	1,000 Sq Ft	12.44	4.04	3.08	325
857	Discount Club	1,000 Sq Ft	41.80	32.21	1.30	771
Commercial						
820	Shopping Center (avg size)	1,000 Sq Ft	42.70	na	2.00	500

[1] Trip Generation, Institute of Transportation Engineers, 2012.
[2] Square feet per employee calculated from trip rates except for Shopping Center data, which are derived from the Urban Land Institute's Development Handbook and Dollars and Cents of Shopping Centers.

Jobs by Type of Nonresidential Development

TischlerBise reviewed data prepared by the U.S. Census Bureau, the Colorado Department of Local Affairs, and the North Front Range Metropolitan Planning Organization (NFRMPO) to calculate a 2014 estimate of jobs, and used a four-step process summarized below to estimate base year jobs and annual projections by industry type.

- First, TischlerBise used the U.S. Census 2011 distribution of Weld County jobs in Evans, organized by industry sector, and the State's 2012 Weld County jobs estimate of 113,032 to calculate a cumulative 2012 City jobs estimate of 5,497.
- Second, the 2012 City estimate and County jobs projections, reported by NFRMPO, were used to calculate a 1.12 percent (rounded) projected jobs growth rate for the City, which was then used to calculate total City jobs estimates for each year past the base.
- Third, the U.S. Census Bureau 2011 distribution of jobs in the City of Evans organized by industry type (shown below in Figure A4) was applied to the 2014 jobs estimate of 5,621 (based on the 1.12% growth rate) to establish base year rounded estimates of jobs by industry type.
- Lastly, TischlerBise used the annual total jobs projection for each year past the base, and the distribution of jobs by industry, to calculate the jobs by industry for each year past the base (see Figure A5).

As shown in Figure A4, 26 percent of jobs located in Evans in 2014 are assumed to be commercial jobs, 42 percent were office/other services jobs, 26 percent were industrial jobs, and 6 percent of all jobs in the City were estimated to be institutional jobs, which includes both government and education jobs. Also shown in Figure A4 is an estimate of the current nonresidential floor area calculated by multiplying the 2014 jobs by industry estimates, by the ITE *Square Feet per Employee* factors from Figure A3 above.

Figure A4: Distribution of Jobs by Industry Type

	2011 Distribution by Industry [1]		Base Year 2014 Estimate Jobs by Industry [2]	Square Feet Per Employee [3]	Nonresidential Floor Area
Commercial	812	26%	1,466	*500*	733,000
Office/Other Services	1,323	42%	2,388	*301*	718,782
Industrial	803	26%	1,449	*433*	627,831
Institutional	176	6%	318	*1,018*	323,771
TOTAL	*3,114*	100%	*5,621*	*428*	*2,403,383*

[1] OnTheMap 6.1.1 Application and LEHD Origin-Destination Employment Statistics
[2] TischlerBise; North Front Range Metropolitan Planning Organization
[3] Trip Generation Manual, Institute of Transportation Engineers, 9th Edition (2012).

Jobs and Nonresidential Development Projections

Based on data compiled by the U.S. Census Bureau, Colorado Department of Local Affairs, and the NFRMPO, over the next decade, the City is projected to add jobs at an annual growth rate of 1.12 percent. This equates to an additional 665 jobs above the 2014 base year estimate of 5,621.

To calculate jobs projections for each year past the base, the 1.12 percent projected job growth rate calculated from NFRMPO data was held constant for the 10-year projection period, as was the distribution of jobs by industry type, shown in Figure A4. The City is projected to gain an average of 67 jobs a year for the next ten years.

Using Commercial development as an example, the annual square footage by industry type is calculated as follows: 1,466 [2014 Commercial jobs] X 500 [ITE *SF per Emp*. Factor] = 733 square feet [expressed in thousands]. This calculation is repeated for each industry type and for each year of the 10-year projection period. To keep pace with job growth, the City should expect to add roughly 28,000 square feet of nonresidential development each year.

Figure A5: Nonresidential Development in the City of Evans

		Dec 31st ===>					*Five-Year Increment*		
		Base Yr 2014	**1 2015**	**2 2016**	**3 2017**	**4 2018**	**5 2019**	**10 2024**	**2014-2024 Cumulative**
NONRESIDENTIAL DEVELOPMENT									
Employment By Type	*Share of Ttl [3]*								
Commercial	*26%*	1,466	1,482	1,499	1,516	1,533	1,550	1,639	**173**
Office/Other Services	*42%*	2,388	2,415	2,442	2,470	2,497	2,525	2,671	**283**
Industrial	*26%*	1,449	1,466	1,482	1,499	1,516	1,533	1,621	**172**
Institutional	*6%*	318	321	325	329	332	336	355	**37**
Total Jobs [4]	*1.12%*	5,621	5,684	5,748	5,813	5,878	5,944	6,286	**665**
Jobs to Housing Ratio		0.82	0.82	0.81	0.80	0.79	0.79	0.75	
Nonres Floor Area (x1,000 Sq. Ft.)	*Sq.Ft./Emp. [5]*								
Commercial	*500*	733	741	750	758	767	775	820	**87**
Office/Other Services	*301*	719	727	735	743	752	760	804	**85**
Industrial	*433*	628	635	642	649	656	664	702	**74**
Institutional	*1,018*	324	327	331	335	338	342	361	**38**
Total Nonresidential Square Feet (x1,000)		2,403	2,430	2,457	2,486	2,513	2,541	2,687	**283**
Avg. Sq. Ft. per Job		428	427	427	428	427	427	427	
Avg. Jobs per KSF		2.34	2.34	2.34	2.34	2.34	2.34	2.34	

							Average Annual Increases	
ANNUAL INCREASES	**2015**	**2016**	**2017**	**2018**	**2019**	**2024**	**5-Years**	**10-Years**
Jobs	63	64	65	65	66	70	**65**	**67**
Commercial Sq. Ft. (x1,000)	8	9	9	9	9	9	**8**	**9**
Office/Other Services Sq. Ft. (x1,000)	8	8	8	8	8	9	**8**	**9**
Industrial Sq. Ft. (x1,000)	7	7	7	7	7	8	**7**	**7**
Institutional Sq. Ft. (x1,000)	3	4	4	3	4	4	**4**	**4**
Total Nonres Floor Area Sq. Ft. (x1,000)	26	28	28	27	28	30	**28**	**28**

[3] U.S. Census, 2011 OnTheMap 6.1.1 Application and LEHD Origin-Destination Employment Statistics
[4] TischlerBise; State of Colorado, North Front Range Metropolitan Planning Organization
[5] Trip Generation Manual, Institute of Transportation Engineers, 9th Edition (2012)

DETAILED LAND USE ASSUMPTIONS – RESIDENTIAL AND NONRESIDENTIAL

Demographic data summarized in Figure A6 are the key inputs for the Impact Fee Study. Cumulative data are shown at the top and projected annual increases by type of development are shown at the bottom of

the figure. The annual increases for the demographic indicators increase over the ten-year projection period, which is reflected by the 5-year and 10-year average annual increases shown at the bottom of Figure A6.

These projections will be used to estimate impact fee revenue and to indicate the anticipated need for growth-related infrastructure. However, impact fee methodologies are designed to reduce sensitivity to accurate development projections in the determination of the proportionate share fee amounts. If actual development is slower than projected, impact fee revenue will decline, but so will the need for growth-related infrastructure. In contrast, if development is faster than anticipated, the City will receive an increase in impact fee revenue, but will also need to accelerate capital improvements to keep pace with development.

Figure A6: Annual Demographic Data, 2014-2024, City of Evans

		Dec 31st ===>					Five-Year Increment		
		Base Yr 2014	1 2015	2 2016	3 2017	4 2018	5 2019	10 2024	2014-2024 Cumulative
POPULATION	*Growth Rate [1]*								
Total Population [1]	*2.00%*	19,200	19,584	19,976	20,375	20,783	21,198	23,405	**4,205**
Persons per Housing Unit		2.81	2.81	2.81	2.81	2.81	2.81	2.81	
RESIDENTIAL DEVELOPMENT									
Housing Units	*Distribution [2]*								
Single Unit	*78%*	5,307	5,413	5,522	5,632	5,745	5,860	6,469	**1,162**
2+ Unit	*22%*	1,528	1,559	1,590	1,622	1,654	1,687	1,863	**335**
Total Residential Units [1]	*2.00%*	6,835	6,972	7,112	7,254	7,399	7,547	8,332	**1,497**
NONRESIDENTIAL DEVELOPMENT									
Employment By Type	*Share of Ttl [3]*								
Commercial	*26%*	1,466	1,482	1,499	1,516	1,533	1,550	1,639	**173**
Office/Other Services	*42%*	2,388	2,415	2,442	2,470	2,497	2,525	2,671	**283**
Industrial	*26%*	1,449	1,466	1,482	1,499	1,516	1,533	1,621	**172**
Institutional	*6%*	318	321	325	329	332	336	355	**37**
Total Jobs [4]	*1.12%*	5,621	5,684	5,748	5,813	5,878	5,944	6,286	**665**
Jobs to Housing Ratio		0.82	0.82	0.81	0.80	0.79	0.79	0.75	
Nonres Floor Area (x1,000 Sq. Ft.)	*Sq.Ft./Emp. [5]*								
Commercial	*500*	733	741	750	758	767	775	820	**87**
Office/Other Services	*301*	719	727	735	743	752	760	804	**85**
Industrial	*433*	628	635	642	649	656	664	702	**74**
Institutional	*1,018*	324	327	331	335	338	342	361	**38**
Total Nonresidential Square Feet (x1,000)		2,403	2,430	2,457	2,486	2,513	2,541	2,687	**283**
Avg. Sq. Ft. per Job		428	427	427	428	427	427	427	
Avg. Jobs per KSF		2.34	2.34	2.34	2.34	2.34	2.34	2.34	

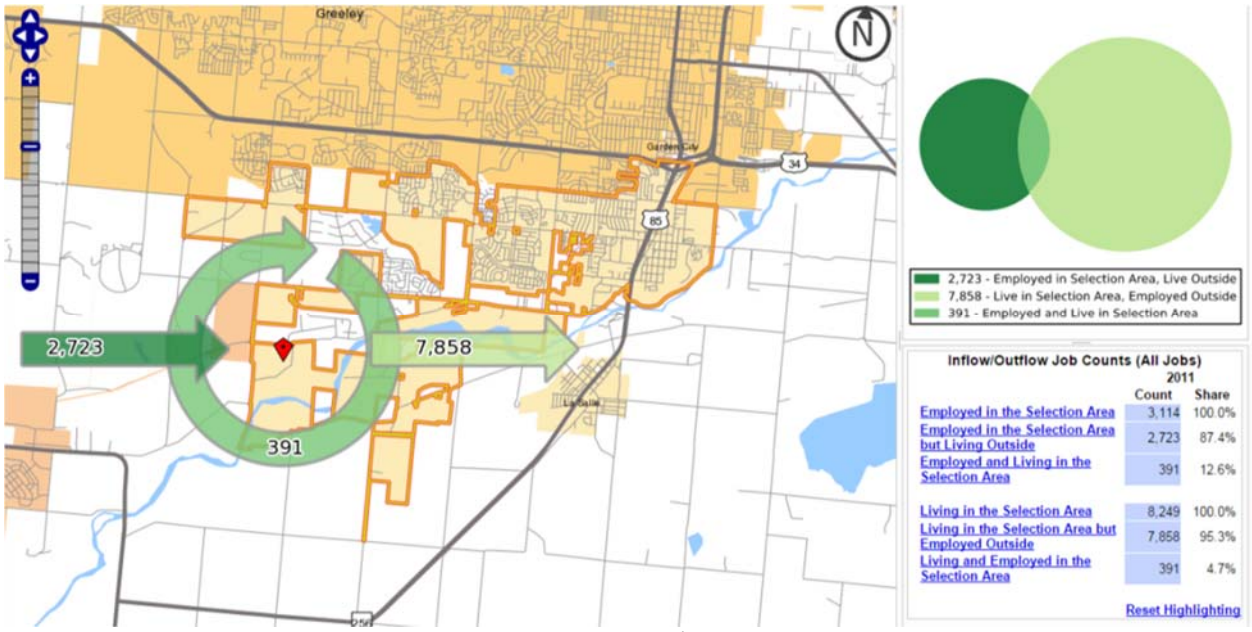
ANNUAL INCREASES	2015	2016	2017	2018	2019	2024	Average Annual Increases 5-Years	10-Years
Year-Round Population	384	392	399	408	415	459	**400**	**421**
Total Residential Units	137	140	142	145	148	163	**142**	**150**
Jobs	63	64	65	65	66	70	**65**	**67**
Commercial Sq. Ft. (x1,000)	8	9	9	9	9	9	**8**	**9**
Office/Other Services Sq. Ft. (x1,000)	8	8	8	8	8	9	**8**	**9**
Industrial Sq. Ft. (x1,000)	7	7	7	7	7	8	**7**	**7**
Institutional Sq. Ft. (x1,000)	3	4	4	3	4	4	**4**	**4**
Total Nonres Floor Area Sq. Ft. (x1,000)	26	28	28	27	28	30	**28**	**28**

[1] Base year estimate as of 31Dec14: City of Evans.
Annual projections based on recent building trends
[2] 2012 American Community Survey 5-Year Estimates
[3] U.S. Census, 2011 OnTheMap 6.1.1 Application and LEHD Origin-Destination Employment Statistics
[4] TischlerBise; State of Colorado, North Front Range Metropolitan Planning Organization
[5] Trip Generation Manual, Institute of Transportation Engineers, 9th Edition (2012)

COMMUTING PATTERNS AND FUNCTIONAL POPULATION

As shown in Figure A7, the U.S. Census Bureau's Longitudinal Employer-Household Dynamics (LEHD) web application OnTheMap indicates that Evans received a significant inflow of 2,723 workers on an average weekday in 2011 (the most recent data year available). In addition to these non-resident workers, another 391 persons lived and worked in Evans in 2011. TischlerBise will account for commuting patterns in the allocation of transportation infrastructure costs to residential and nonresidential development, and to derive functional population, as described below.

Figure A7: Inflow/Outflow Analysis, City of Evans



Source: U.S. Census Bureau. (14Aug14). OnTheMap Version 6, Inflow/Outflow Jobs Counts All Jobs) City of Evans, CO.

Functional Population

If local public safety calls for service data are not available by land use, TischlerBise recommends functional population to allocate the cost of certain facilities to residential and nonresidential development. Functional population has a long history in the professional literature. Originally called activity analysis by Stuart Chapin in 1965, and incorporated into the impact fee methodology by James Nicholas in the mid-1980s, functional population can be used to equitably spread infrastructure costs between residential and nonresidential sectors. TischlerBise has refined the functional population concept by incorporating what the U.S. Census Bureau calls "daytime population." Using jurisdiction-specific data on commuting patterns (discussed above), it is now possible to roughly estimate where people live and work (i.e., spend their daily hours).

As shown below, residents that do not work are assigned 20 hours per day to residential development and four hours per day to nonresidential development (annualized averages). Residents that work in the City are assigned 14 hours to residential development and 10 hours to nonresidential development. Residents that work outside the City are assigned 14 hours to residential development. Inflow commuters are assigned 10 hours to nonresidential development.

Based on 2011 population data from the City, and U.S. Census Bureau data from the LEHD program, the proportionate share for residential development is 82 percent (rounded), while nonresidential development accounts for 18 percent (rounded) of the functional population distribution.

Figure A8: Functional Population

	Demand Units in 2011		Demand Hours/Day	Person Hours	Proportionate Share
Residential					
Estimated Residents	18,943				
Residents Not Working		10,694	20	213,880	
Employed Residents		8,249			
Employed in Service Area		391	14	5,474	
Employed outside Service Area		7,858	14	110,012	
			Residential Subtotal	329,366	**82%**
Nonresidential					
Non-working Residents		10,694	4	42,776	
Jobs in Service Area		3,114			
Residents Employed in Service Area		391	10	3,910	
Non-Resident Workers (inflow Commuters)		2,723	10	27,230	
			Nonresidential Subtotal	73,916	**18%**
			TOTAL	403,282	**100%**

Source: 2011 population estimate from Colorado State Demography Office; U.S. Census Bureau, OnTheMap 6.1.1 Application and LEHD Origin-Destination Employment Statistics

AVERAGE DAILY VEHICLE TRIPS

Average Daily Vehicle Trips are used for the Streets impact fee category as a measure of demand by land use. Vehicle trips are estimated using average weekday trip ends from the reference book, Trip Generation, 9th Edition, published by the Institute of Transportation Engineers (ITE) in 2012. A vehicle trip end represents a vehicle either entering or exiting a development (as if a traffic counter were placed across a driveway).

Trip Rate Adjustments

Trip generation rates are adjusted to avoid double counting each trip at both the origin and destination points. Therefore, the basic trip adjustment factor is 50 percent. As discussed below, additional adjustments are made to ensure the fees are proportionate to the infrastructure demand for particular types of development.

Adjustment for Journey-To-Work Commuting

Residential development in the City of Evans has a larger trip adjustment factor of 65 percent to account for commuters leaving Evans for work. According to the National Household Travel Survey (2009), home-based work trips are typically 31 percent of "production" trips, also known as out-bound trips (which are 50 percent of all trip ends). Data from the LEHD for 2011 indicate that 95 percent of Evan's employed residents travel outside the City for work. In combination, these factors (0.31 x 0.50 x 0.95 = 0.15) account for 15 percent (rounded) of additional production trips. The total adjustment factor for residential includes attraction trips (50% of trip ends) plus the journey-to-work commuting adjustment for a total of 65 percent.

Figure A9: Adjustment for Journey-to-Work Commuting

Trip Adjustment Factor for Commuters [1]	
Employed Residents	8,249
Residents Working in City	391
Residents Commuting Outside City for Work	7,858
Percent Commuting out of the City	**95%**
Additional Production Trips [2]	15%
Residential Trip Adjustment Factor	***65%***

[1] U.S. Census Bureau, 2011 OnTheMap Application (version 6) and LEHD Origin-Destination Employment Statistics
[2] Outbound trip statistics from National Household Travel Survey, 2009: Table 30

Adjustment for Pass-By Trips

The basic trip adjustment factor of 50 percent is applied to both the office and industrial categories. The commercial and institutional categories have a trip factor of less than 50 percent because these types of development attract vehicles as they pass-by on arterial and collector roads. For example, for an average size shopping center, the ITE (2012) indicates that on average 34 percent of the vehicles that enter are passing by on their way to some other primary destination. The remaining 66 percent of attraction trips

have the shopping center as their primary destination. Because attraction trips are half of all trips, the trip adjustment factor is 66 percent multiplied by 50 percent, or approximately 33 percent of the trip ends.

Customized Trip Generate Rates per Housing Unit

As an alternative to simply using the national average trip generation rate for residential development, the ITE publishes regression curve formulas that may be used to derive custom trip generation rates using local demographic data. Key independent variables needed for the analysis (i.e., vehicles available, housing units, households, and persons) are only available collectively from the 2012 ACS 5-Year Estimates for Evans.

Customized average weekday trip generation rates by type of housing are shown in Figure A10. A vehicle trip end represents a vehicle either entering or exiting a development, as if a traffic counter were placed across a driveway. The custom trip generation rates for Evans vary slightly from the national averages. For example, single unit structures in the City of Evans have an average daily trip rate of 9.10 per unit (compared to the national average of 9.52), and units in multi-unit structures have an average daily trip rate of 7.40 trips per unit (compared to the national average of 6.65).

Figure A10: Residential Trip Generation Rates by Type of Housing

	Vehicles Available [1]	Households by Structure Type[2]			Vehicles per Household by Tenure
		Single Unit	2+ Units	Total	
	A	B	C	D = B+C	E = A/D
Owner-occupied	7,134	3,419	131	3,550	2.01
Renter-occupied	4,610	1,350	1,176	2,526	1.83
TOTAL	**11,744**	**4,769**	**1,307**	**6,076**	**1.93**

[1] Vehicles available by tenure from Table B25046, American Community Survey, 2012.
[2] Households by tenure and units in structure from Table B25032, American Community Survey, 2012.

	Persons in Households [3]	Trip Ends [4]	Vehicles by Type of Housing	Trip Ends [5]	Average Trip Ends	Housing Units [6]	Trip Ends per Unit Evans	Trip Ends per Unit ITE [7]
	F	G	H=Owner(B*E)+ Renter (B*E)	I	J = Avg of G,I	K	L= J/K	M
Single Units	15,040	38,927	9,335	53,954	46,440	5,115	9.10	9.52
2+ Units	3,465	11,959	2,409	9,787	10,873	1,473	7.40	6.65
TOTAL	**18,505**	**50,886**	**11,744**	**63,741**	**57,313**	**6,588**	**8.70**	

[3] Total population in households from Table25033, American Community Survey, 2012.
[4] Vehicle trips ends based on persons using formulas from Trip Generation (ITE 2012). For single units (ITE 210), the fitted curve equation is EXP(0.91*LN(persons)+1.52). To approximate the average population of the ITE studies, persons were divided by 27 and the equation result multiplied by 27. For 2+ units (ITE 220), the fitted curve equation is (3.47*persons)-64.48.
[5]Vehicle trip ends based on vehicles available using formulas from Trip Generation (ITE 2012). For single units (ITE 210), the fitted curve equation is EXP(0.99*LN(vehicles)+1.81). To approximate the average number of vehicles in the ITE studies, vehicles available were divided by 36 and the equation result multiplied by 36. For 2+ units (ITE 220), the fitted curve equation is (3.94*vehicles)+293.58.
[6] Housing units from Table B25024, American Community Survey, 2012.
[7] Trip Generation, Institute of Transportation Engineers, 9th Edition (2012).

Figure A11 below details the calculations to determine that existing development in Evans generates an average of 58,309 vehicle trips on an average weekday. Residential development is estimated to generate 40,180 vehicle trips, or 69 percent of all trips, compared to 18,129 vehicle trips (31 percent) generated by nonresidential development. An example of the calculation is as follows for single residential units: 5,504 units X 9.10 vehicle trips per day per unit X 65% adjustment factor = 32,556 total vehicle trips per day form single residential units in the City. The same calculation is repeated for each land use type.

Figure A11: Average Daily Trips from Existing Development in the City of Evans

Residential Vehicle Trips on an Average Weekday*	**2014**	
Residential Units	*Assumptions*	
Single Unit	5,504	
2+ Unit	1,585	
Average Weekday Vehicle Trip Ends per Unit*	*Trip Rate*	*Trip Factor*
Single Unit	9.10	65%
2+ Unit	7.40	65%
Residential Vehicle Trip Ends of an Average Weekday		
Single Unit	32,556	
2+ Unit	7,624	*% of total*
Total Residential Trips	**40,180**	***69%***

Nonresidential Vehicle Trips on an Average Weekday**	**2014**	
Nonresidential Gross Floor Area (1,000 sq. ft.)	*Assumptions*	
Commercial	733	
Office/Other Services	719	
Industrial	628	
Institutional	324	
Average Weekday Vehicle Trips Ends per 1,000 Sq. Ft.**	*Trip Rate*	*Trip Factor*
Commercial	42.70	33%
Office/Other Services	11.03	50%
Industrial	6.97	50%
Institutional	15.43	33%
Nonresidential Vehicle Trips on an Average Weekday		
Commercial	10,329	
Office/Other Services	3,964	
Industrial	2,188	
Institutional	1,649	
Total Nonresidential Trips	**18,129**	***31%***
TOTAL TRIPS	**58,309**	***100%***

**Trip rates are customized for City. See accompanying tables and discussion.*
***Trip rates are from the Institute of Transportation Engineers (ITE) Trip Generation Manual (2012)*

PERSONS PER HOUSING UNIT

According to the U.S. Census Bureau, a household is a housing unit that is occupied by year-round residents. Impact fees often use per capita standards and persons per housing unit (PPHU) or persons per household (PPH) to derive proportionate share fee amounts. When PPHU is used in the fee calculations, infrastructure standards are derived using year-round population. When PPH is used in the fee calculations, the impact fee methodology must assume all housing units will be occupied, thus requiring seasonal or peak population to be used when deriving infrastructure standards. **TischlerBise recommends that impact fees for residential development in the City of Evans be imposed according to the number of year-round residents per housing unit. This methodology acknowledges that some portion of the housing stock will be vacant during the course of a year. According to the U.S. Census Bureau American Community Survey, the City of Evans had a 2012 vacancy rate of eight percent.**

The 2010 census did not obtain detailed information using a "long-form" questionnaire. Instead, the U.S. Census Bureau switched to a continuous monthly mailing of surveys, known as the American Community Survey (ACS), which has limitations due to sample-size constraints. For example, data on detached housing units are now combined with attached single units (commonly known as townhouses). For impact fees in Evans, units in single unit structures include detached stick-built units and attached units (commonly known as townhouses, which share a common sidewall, but are typically constructed on an individual parcel of land) and manufactured units (formerly known as mobile homes). The second residential category (2+ Units) includes structures with two or more units on an individual parcel of land, such as duplexes and apartments.

Figure A12 shows the ACS 2012 5-Year Estimates for the City of Evans. To calculate the citywide average PPHU, persons in units (18,505) is divided by housing units (6,588), resulting in a PPHU factor of 2.81. Dwellings with a single unit per structure averaged 3.01 PPHU. Dwellings in structures with multiple units averaged 2.35 PPHU. *(Note: ACS estimates will not equal base year estimates provided by the City. These data are used only to derive the custom PPHU factors for each type of residential unit).*

Figure A12: Year-Round Persons per Housing Unit by Type of Structure

2012 Summary by Type of Housing	*Persons*	*House-holds*	*Housing Units*	***PPHU***	*Housing Mix*
Single Units [1]	13,748	4,249	4,563	**3.01**	69%
2+ Units [2]	3,465	1,307	1,473	**2.35**	22%
Mobile Homes	1,292	520	552	**2.34**	8%
Subtotal	18,505	6,076	6,588	**2.81**	*Vacancy*
Group Quarters Population	8				*Rate*
TOTAL	18,513	6,076	6,588		8%

2012 American Community Survey 5-Year Estimates
[1] "Single Unit" includes detached, attached, and manufactured homes
[2] "2+ Unit" includes duplex and all other units with 2 or more units per structure

City of Evans Impact Fee Study Overview
8/3/15

TischlerBise
FISCAL | ECONOMIC | PLANNING

Impact Fee Categories

- ✧Parks, Recreational Facilities, and Open Space
- ✧Fire/EMS
- ✧Police
- ✧Transportation
- ✧Wastewater
- ✧Water (will be provided once Master Plan is complete)
- ✧Stormwater (will be provided once Master Plan is complete)

Study Process

- Determine existing development base and project future growth/redevelopment
- Determine existing levels of service and capital needs due to new growth
- Determine appropriate indicators of demand
- Evaluate methodological alternatives
- Evaluate need for credits
- Calculate fees
- Adoption process

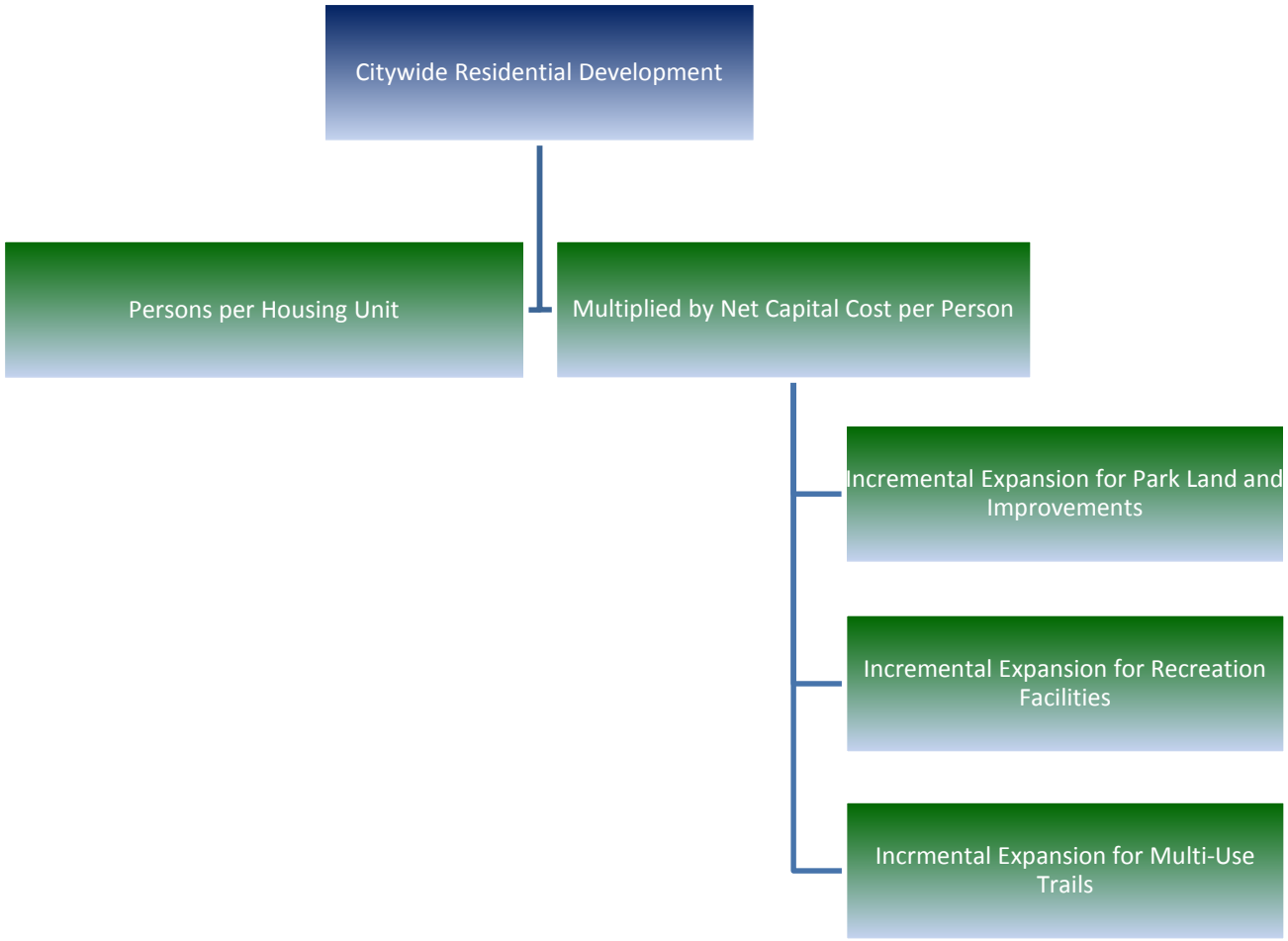
Overview of Methodologies Used

Type of Fee	*Cost Recovery (past)*	*Incremental Expansion (present)*	*Plan-Based (future)*
Parks, Recreation & Open Space		Park Land, Trails, Open Space and Recreational Improvements	
Fire/EMS		Fire Station Space Apparatus	
Police		Police Space Police Vehicles	
Transportation			Road Improvements
Wastewater			Wastewater Treatment Plant

Eligible Costs

- Facilities/improvement required to serve new development - Yes
- Maintenance and repairs – No
- Excess capacity in existing facilities – Yes
- Improvements required to correct existing deficiencies – No
  - Unless there is a funding plan

Park, Recreational Facilities and Open Space



Park, Recreational Facilities and Open Space

Parks and Recreational Facilities Capital Costs	*Per Person*
Improved Parkland	$1,083.75
Park Improvements	$189.39
Multi-Use Trails	$68.77
Recreational Facilities	$176.58
Impact Fee Study	$6.50
GROSS CAPITAL COST	$1,524.99
Revenue Credit	$0.00
NET CAPITAL COST	**$1,524.99**

Parks and Recreational Facilities Impact Fee Schedule		*Impact Fee per Housing Unit*		
Unit Type	*Persons per Housing Unit [1]*	*Proposed Fee*	*Current Fee [2]*	*Increase (Decrease)*
Single Unit	3.01	$4,594	$4,604	($10)
2+ Unit	2.35	$3,587	$4,604	($1,017)
Manufactured Home	2.34	$3,569	$4,604	($1,035)

[1] TischlerBise. 2014 Impact Fee Demographic Data and Development Projections

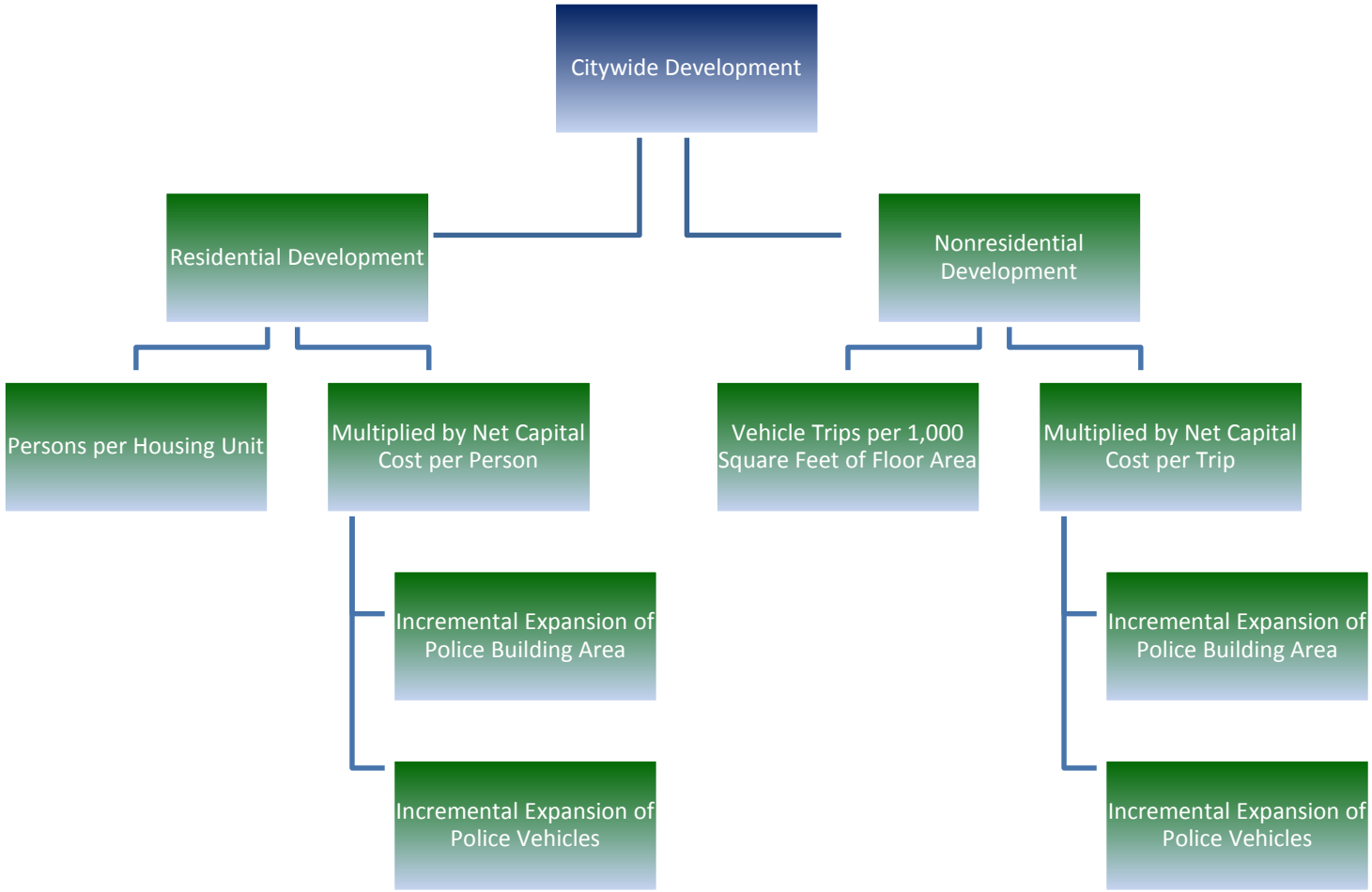
[2] City of Evans, City Code Title 15 Buildings and Construction

Park, Recreational Facilities and Open Space Demand

Demand Unit	Land (acres)	Park Improvements (units)	Multi-Use Trails (miles)	Recreational Facilities (square feet)
per Person	0.0090	0.002	0.0003	1.065
Average Cost per Component	$120,000	$113,631	$264,061	$166

			Projected Demand (Rounded)			
		Demand Units Population	Land (acres)	Park Improvements (units)	Multi-Use Trails (miles)	Recreational Facilities (square feet)
Base	2014	19,200	173.40	32	5.00	20,443
1	2015	19,584	176.87	33	5.10	20,852
2	2016	19,976	180.41	33	5.20	21,269
3	2017	20,375	184.01	34	5.31	21,694
4	2018	20,783	187.70	35	5.41	22,128
5	2019	21,198	191.44	35	5.52	22,570
6	2020	21,622	195.27	36	5.63	23,022
7	2021	22,055	199.18	37	5.74	23,483
8	2022	22,496	203.17	37	5.86	23,952
9	2023	22,946	207.23	38	5.98	24,432
10	2024	23,405	211.38	39	6.10	24,920
Ten Yr Total		**4,205**	**38**	**7**	**1.10**	**4,477**
Cost of Developed Parkland			**$4,557,169**			
Cost of Park Improvements				**$795,419**		
Cost of Multi-Use Trails					**$289,161**	
Cost of Recreation Facilities						**$742,503**
TOTAL						**$6,384,252**

Police


Citywide Development
Residential Development
Nonresidential Development
Persons per Housing Unit
Multiplied by Net Capital Cost per Person
Vehicle Trips per 1,000 Square Feet of Floor Area
Multiplied by Net Capital Cost per Trip
Incremental Expansion of Police Building Area
Incremental Expansion of Police Vehicles
Incremental Expansion of Police Building Area
Incremental Expansion of Police Vehicles

Police

Residential Capital Costs	Per Person
Police Space	$62.17
Police Vehicles	$23.50
Impact Fee Study	$5.33
GROSS CAPITAL COST	$91.00
Revenue Credit	$0.00
NET CAPITAL COST	$91.00

Police Impact Fee Schedule

		Impact Fee per Housing Unit		
Unit Type	Persons per Housing Unit [1]	Proposed Fee	Current Fee [2]	Increase
Single Unit	3.01	$274	$0	$274
2+ Unit	2.35	$214	$0	$214
Manufactured Home	2.34	$212	$0	$212

[1] TischlerBise. 2014 Impact Fee Land Use Assumptions

[2] The City of Evans currently does not collect a Police impact fee

Nonresidential Capital Costs	Per Trip
Police Space	$14.45
Police Vehicles	$5.46
Impact Fee Study	$0.07
GROSS CAPITAL COST	$19.99
Revenue Credit	$0.00
NET CAPITAL COST	$19.99

Police Impact Fee Schedule

			Impact Fee per Square Foot of Floor Area		
Nonresidential Land Use	Trips [3]	Trip Rate Adj. Factors	Proposed Fee	Current Fee [4]	Increase (Decrease)
	(per 1,000 SF)		(Per 1,000 Square Feet of Floor Area)		
Commercial	42.70	33%	$0.28	$0.00	$0.28
Office/Institutional	11.03	50%	$0.11	$0.00	$0.11
Industrial/Flex	6.97	50%	$0.07	$0.00	$0.07

[3] Institute of Transportation Engineers. (2012). Trip Generation Manual 9th Edition.

[4] City of Evans, City Code Title 15 Buildings and Construction

Police

Residential Capital Costs	Per Person
Police Space	$62.17
Police Vehicles	$23.50
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2+ Unit	2.35	$214	$0	$214
Manufactured Home	2.34	$212	$0	$212

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Police Impact Fee Schedule

			Impact Fee per Square Foot of Floor Area		
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	(per 1,000 SF)		(Per 1,000 Square Feet of Floor Area)		
Commercial	42.70	33%	$0.28	$0.00	$0.28
Office/Institutional	11.03	50%	$0.11	$0.00	$0.11
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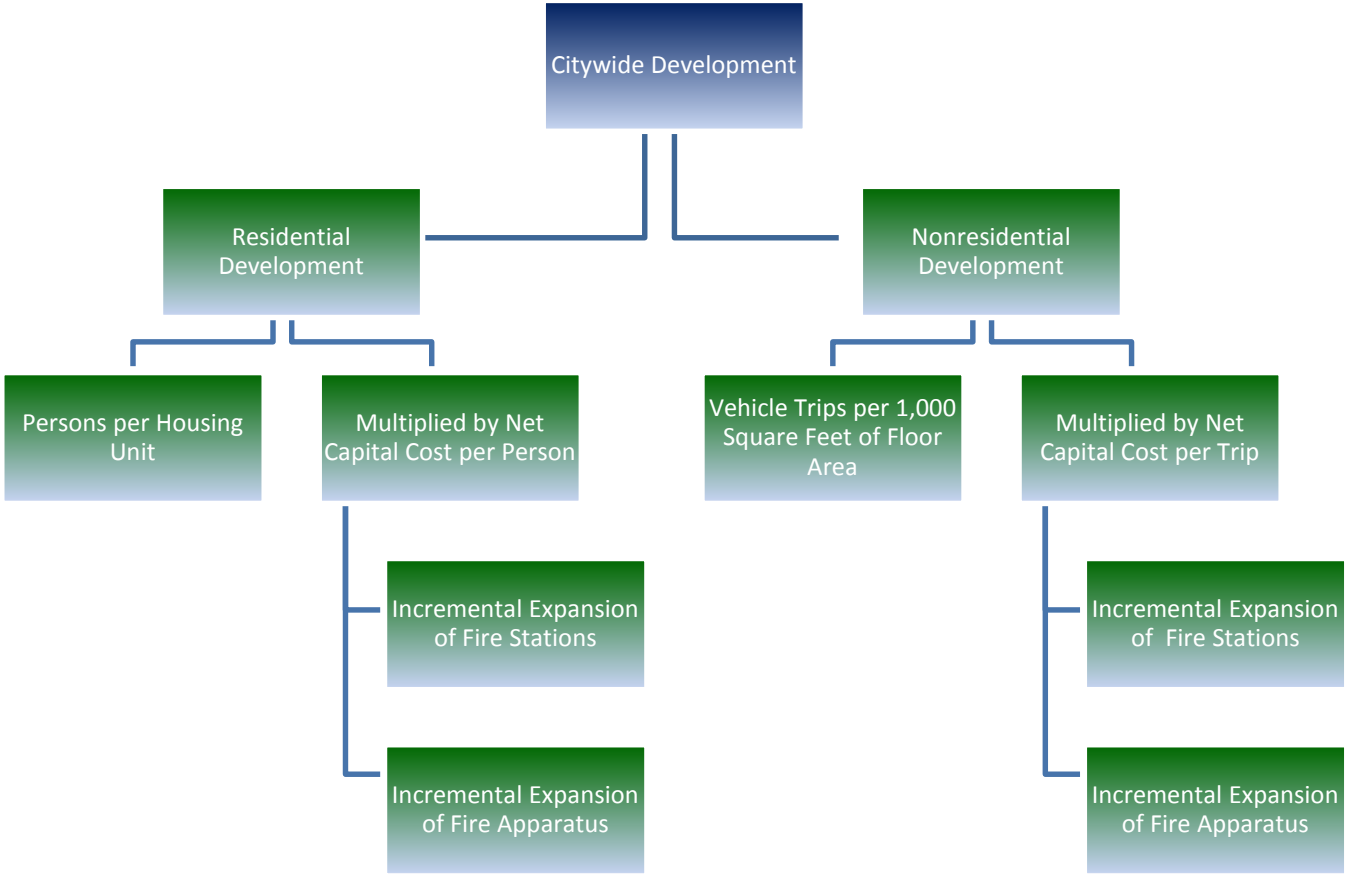
[3] Institute of Transportation Engineers. (2012). Trip Generation Manual 9th Edition.

[4] City of Evans, City Code Title 15 Buildings and Construction

Fire/EMS


Citywide Development
Residential Development
Nonresidential Development
Persons per Housing Unit
Multiplied by Net Capital Cost per Person
Vehicle Trips per 1,000 Square Feet of Floor Area
Multiplied by Net Capital Cost per Trip
Incremental Expansion of Fire Stations
Incremental Expansion of Fire Apparatus
Incremental Expansion of Fire Stations
Incremental Expansion of Fire Apparatus

Fire/EMS

Residential Capital Costs	*Per Person*
Fire Facilities	$79.01
Fire Vehiles	$224.65
Impact Fee Study	$5.33
GROSS CAPITAL COST	$308.99
Revenue Credit	$0.00
NET CAPITAL COST	$308.99

Fire Impact Fee Schedule		*Impact Fee per Housing Unit*		
Unit Type	*Persons per Housing Unit [1]*	*Proposed Fee*	*Current Fee [2]*	*Increase (Decrease)*
Single Unit	3.01	$930	$805	$125
2+ Unit	2.35	$726	$805	($79)
Manufactured Home	2.34	$723	$805	($82)

[1] TischlerBise. 2014 Impact Fee Land Use Assumptions

[2] City of Evans, City Code Title 15 Buildings and Construction

Nonresidential Capital Costs	*Per Trip*
Fire Facilities	$18.37
Fire Vehiles	$52.22
Impact Fee Study	$0.07
GROSS CAPITAL COST	$70.66
Revenue Credit	$0.00
NET CAPITAL COST	$70.66

Impact Fee Schedule			Impact Fee per Square Foot of Floor Area		
Nonresidential Land Use	*Trips [3]*	*Trip Rate Adj. Factors*	*Proposed Fee*	*Current Fee [4]*	*Increase (Decrease)*
	(per 1,000 SF)		*(Per Square Feet of Floor Area)*		
Commercial	*42.70*	33%	$1.00	$0.46	$0.54
Office/Institutional	*11.03*	50%	$0.39	$0.46	($0.07)
Industrial/Flex	*6.97*	50%	$0.25	$0.46	($0.21)

[3] Institute of Transportation Engineers. (2012). Trip Generation Manual 9th Edition.

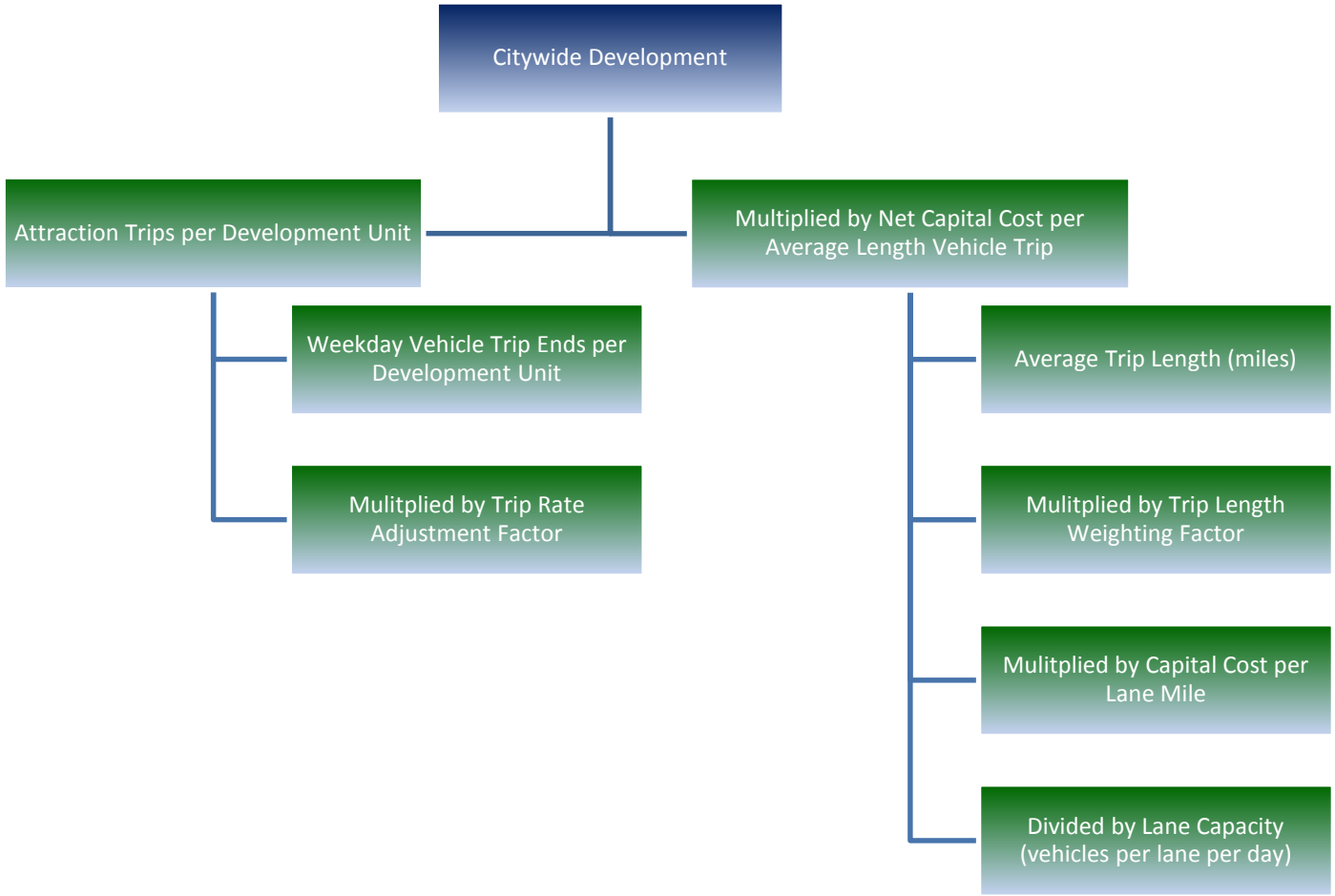
[4] City of Evans, City Code Title 15 Buildings and Construction

Fire/EMS Demand

	Demand Units	Facilities (square feet)	Apparatus (units)
Res LOS	Units Per Person	0.62405	0.00034
Nonres LOS	Units Per Vehicle Trip	0.14507	0.00008
	Average Cost per Component	$360	$231,250

		Projected Demand Units		Projected Demand (Rounded)	
		Persons	Nonres. Vehicle Trips	Facilities (square feet)	Apparatus (units)
Base	2013	19,200	18,130	14,612	8
1	2014	19,584	18,326	14,880	8
2	2015	19,976	18,536	15,155	8
3	2016	20,375	18,749	15,435	8
4	2017	20,783	18,955	15,720	9
5	2018	21,198	19,168	16,009	9
6	2019	21,622	19,382	16,305	9
7	2020	22,055	19,604	16,608	9
8	2021	22,496	19,821	16,914	9
9	2022	22,946	20,044	17,227	9
10	2023	23,405	20,268	17,546	10
Ten Yr Total		**4,205**	**2,138**	**2,934**	**2**
Cost of Facilities				**$1,056,240**	
Cost of Vehicles					**$462,500**
TOTAL					**$1,518,740**

Transportation



Transportation

Street Level Of Service and Capital Costs	
Lane Miles Needed to Maintain LOS	5.32
Cost Per Lane Mile	$1,310,261
Total Cost of System Improvements	$6,964,239
Net Increase in VMT	42,521
Cost per VMT	*$163.78*
Impact Fee Study Cost per VMT	$0.59
NET CAPITAL COST	**$164.38**

Residential Schedule

	[A]	*[B]*	*[C]*	*[D]*	*VMT = [A] x [B] x [C] x [D]*			
	Weekday Vehicle Trip Ends	***Trip Rate Adjustment Factors***	***Avg Miles per Veh. Trip on System***	***Trip Length Weighting Factors***	***VMT***	***Proposed Impact Fee***	***Current Fee***	***Increase (Decrease)***
Unit Type					*per unit*	*(Per Housing Unit)*		
Single Unit	9.10	65%	3.67	121%	26.27	$4,317	$1,894	$2,423.00
2+ Unit	7.40	65%	3.67	121%	21.36	$3,511	$1,306	$2,205.00
Manufactured Home	9.10	65%	5.22	121%	37.36	$6,141	$1,894	$4,247.00

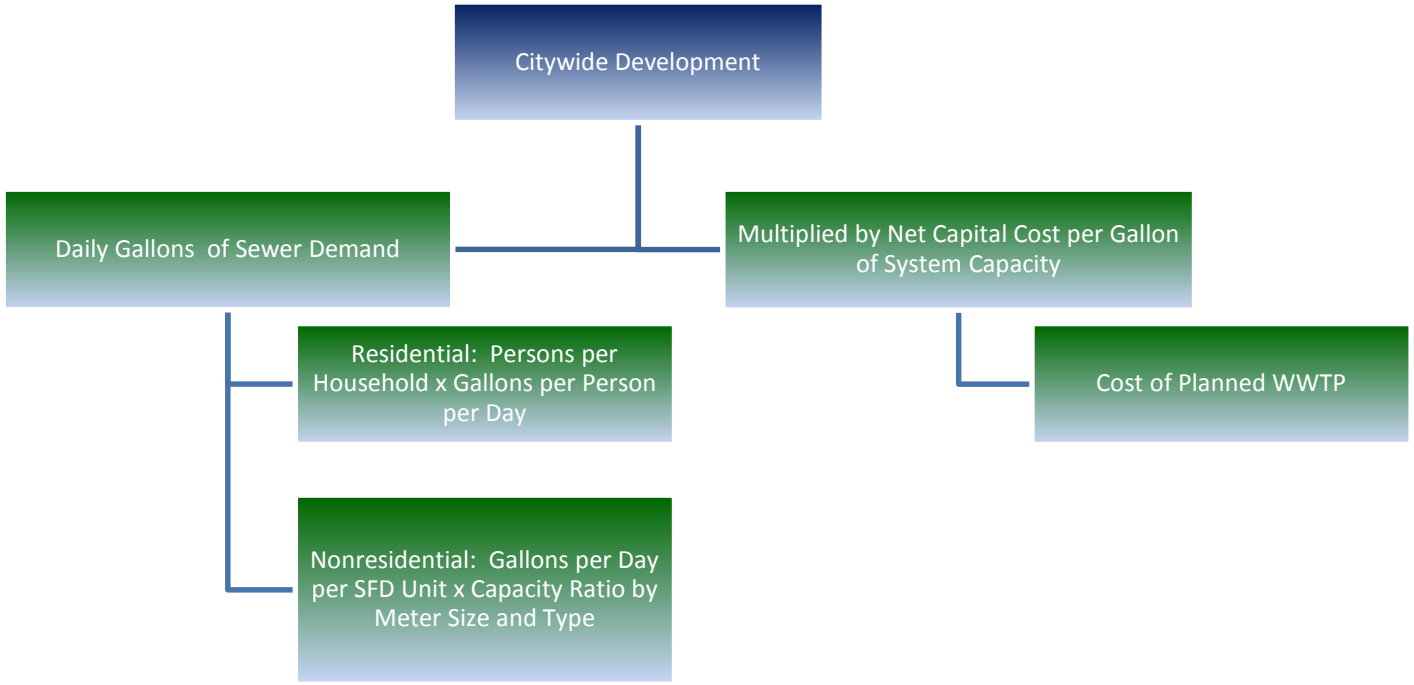
Nonresidential Schedu

	[A]	*[B]*	*[C]*	*[D]*	*VMT = [A] x [B] x [C] x [D]*			
	Weekday Vehicle Trip Ends	***Trip Rate Adjustment Factors***	***Avg Miles per Veh. Trip on System***	***Trip Length Weighting Factors***	***VMT***	***Proposed Impact Fee***	***Current Fee***	***Increase (Decrease)***
	(Per 1,000 sq. ft.)				*(Per Square Foot of Floor Area)*			
Commercial	42.70	33%	3.67	66%	34.13	$5.61	$2.36	$3.26
Office/Institutional	11.03	50%	3.67	73%	14.78	$2.42	$1.82	$0.60
Industrial	6.97	50%	3.67	73%	9.34	$1.53	$0.55	$0.98

Transportation Capital Plan

Location	From	To	Lanes 2014	Future Lane Miles	Miles	LaneMi Increase	City Cost	$/LnMi
35th Ave Widening	Prairie View	49th St	2	4	0.7	1.4	$1,700,000	$1,246,667
35th Ave	CR 394	Hwy 85	2	4	3.0	6.0	$7,000,000	$1,169,620
23rd Ave	42nd St	49th St	2	4	0.5	0.9	$400,000	$422,400
47th Ave Widening	32nd St	37th St	2	4	0.5	1.0	$750,000	$754,286
35th Ave Widening	Prairie View	49th St	2	4	0.7	1.4	$1,700,000	$1,246,667
37th St Widening	47th Ave	65th Ave	2	4	1.5	3.0	$3,200,000	$1,056,000
65th Ave Widening	37th St	N City Limits	2	4	0.5	1.0	$800,000	$804,571
49th St Widening	35th Ave	65th Ave	2	4	3.0	2.7	$7,860,795	$2,911,406
65th Ave Widening	49th St	54th St	2	4	0.8	1.5	$1,900,000	$1,254,000
37th St Widening	35th Ave	47th Ave	2	4	1.1	2.3	$3,363,637	$1,480,000
65th Ave Widening	37th Ave	S City Limits	2	4	1.0	2.0	$1,504,545	$749,434
23rd Ave Widening	37th St	42nd St	2	4	0.5	1.0	$2,273,864	$2,286,858
Two Rivers Parkway	37th St	49th St	2	4	1.0	2.0	$1,488,637	$744,319
35th Ave Widening	37th St	Prairie View	2	4	0.3	0.5	$1,040,000	$1,961,143
					Subtotal	26.7	$34,981,478	$1,310,261
					Cost Per Lane Mile		$1,310,261	

Wastewater


Citywide Development
Daily Gallons of Sewer Demand
Multiplied by Net Capital Cost per Gallon of System Capacity
Residential: Persons per Household x Gallons per Person per Day
Cost of Planned WWTP
Nonresidential: Gallons per Day per SFD Unit x Capacity Ratio by Meter Size and Type

Wastewater

	Standards:
Level Of Service	
Gallons per Person per Day	90
Capital Cost per Gallon-Treatment	$10.00
Capital Cost per Gallon-Collection	$6.06
Net Capital Cost per Gallon	**$16.06**

Residential Impact Fees per Housing Unit

Unit Type	*Persons per Housing Unit*	***Impact Fee Per Housing Unit***	***Current Fee***	***Increase (Decrease)***
Single Unit	3.01	$4,354	$4,024	$330
2+ Unit	2.35	$3,400	$4,024	($624)
Manufactured Home	2.34	$3,383	$4,024	($641)

Nonresidential *Meter Size (inches)**		*Capacity Ratio*	**Per Meter** ***Proposed Fee***	Current ***Fee***	***Increase (Decrease)***
0.75	Displacement	1.00	$3,400	$4,024	($624)
1.00	Displacement	1.70	$7,394	$6,721	$673
1.50	Displacement	3.30	$14,354	$13,401	$953
2.00	Compound	5.30	$23,054	$21,450	$1,604
3.00	Compound	10.70	$46,544	$42,940	$3,604
4.00	Compound	16.70	$72,644	$67,086	$5,558

* Fees for meters larger than four inches will be based on annualized average day demand and the net capital cost per gallon of capacity.

Wastewater Capital Plan

Wastewater Treatment	*Total Capacity (MGD)*	*Cost*	*Cost per Gallon*
New Wastewater Treatment Plant	3.00	$30,000,000	$10.00

Collection	*Total Capacity (MGD)*	*Original Cost*	*Cost per Gallon*
40th and Pueblo Street-Phase I		$1,502,000	
43rd Street		$2,080,000	
37th Street Area		$617,000	
49th Street		$3,684,000	
	1.30	**$7,883,000**	**$6.06**

Fee Summary

Maximum Supportable Impact Fees

Land Use Category	Parks	Police	Fire/Rescue	Transportation	Wastewater	PROPOSED Impact Fee
Residential						
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