



# Capital Improvement Plan and Development Impact Fee Study

Submitted to:  
Star Fire Protection District

August 23, 2023

Prepared by:



999 W Main Street  
Suite 100  
Boise, Idaho 83702  
208.515.7480  
[www.tischlerbise.com](http://www.tischlerbise.com)



TischlerBiseGalena  
999 W Main Street  
Suite 100  
Boise, Idaho 83702  
208.515.7480

[www.tischlerbise.com](http://www.tischlerbise.com)

**Development Impact Fee Study  
Star Fire Protection District**

Executive Summary.....	3
Fee Methodology.....	5
Capital Improvement Plan .....	5
Maximum Supportable Development Impact Fees .....	6
Development Impact Fee Framework .....	7
Idaho Development Impact Fee Enabling Legislation.....	7
Summary of Capital Improvement Plans and Development Impact Fees .....	8
Fire Protection Development Impact Fees .....	9
Cost Allocation for Fire Protection Infrastructure .....	9
Fire Protection Level of Service and Cost Analysis.....	10
Fire Stations .....	10
Fire Apparatus.....	10
Fire Equipment.....	11
Planned Growth-Related Infrastructure Improvements.....	12
Fire Stations .....	12
Fire Apparatus.....	13
Fire Equipment.....	14
Share of the Development Impact Fee Study.....	15
Fire Impact Fee Credit Analysis .....	15
Input Variables and Maximum Supportable Impact Fees.....	16
Cash Flow Projections for Maximum Supportable Impact Fee.....	17
Capital Improvement Plan .....	19
Funding Sources for Capital Improvements .....	20
Proportionate Share Analysis.....	21
Implementation and Administration .....	22
Appendix A. Land Use Definitions.....	24
Appendix B. Demographic Assumptions.....	25
Population and Housing Characteristics .....	25
Base Year Housing Units and Population.....	26
New Residential Construction Trend .....	26
Housing Unit and Population Projections .....	27
Current Employment and Nonresidential Floor Area .....	28
Employment and Nonresidential Floor Area Projections .....	29
Vehicle Trip Generation .....	30
Residential Vehicle Trips by Housing Type .....	30
Residential Vehicle Trips Adjustment Factors .....	31
Nonresidential Vehicle Trips .....	32
Vehicle Trip Projections .....	33

*[Page intentional blank]*

## EXECUTIVE SUMMARY

The Star Fire Protection District (“The Fire District”) retained TischlerBise to prepare a Capital Improvement Plan and Development Impact Fee Study in order to meet the new demands generated by new development within the district. This report presents the methodology and calculation used to generate current levels of service and updated maximum supportable impact fees. It is intended to serve as supporting documentation for the evaluation and update of the Fire District’s impact fees.

The purpose of this study is to demonstrate the Fire District’s compliance with Idaho Statutes as authorized by the Idaho Legislature. Consistent with the authorization, it is the intent of the Fire District to: (Idaho Code 67-8202(1-4))

1. Collect impact fees to ensure that adequate public facilities are available to serve new growth and development;
2. Promote orderly growth and development by establishing uniform standards by which local governments may require that those who benefit from new growth and development pay a proportionate share of the cost of new public facilities needed to serve new growth and development;
3. Establish minimum standards for the adoption of development impact fee ordinances by government entities;
4. Ensure that those who benefit from new growth and development are required to pay no more than their proportionate share of the cost of public facilities needed to serve new growth and development and to prevent duplicate and ad hoc development requirements;

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 improvements, 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 public facilities, 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 proportional 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 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.

2023 Capital Improvement Plan and Development Impact Fee Study

**FEE METHODOLOGY**

A summary of impact fee components is provided below:

**Figure 1. Summary of Impact Fee Methodologies**

Fee Category	Service Area	Cost Recovery	Incremental Expansion	Plan-Based	Cost Allocation
Fire	Districtwide	Impact Fee Study		Fire Stations, Fire Apparatus, and Fire Equipment	Person & Vehicle Trips

**CAPITAL IMPROVEMENT PLAN**

Below in Figure 2 is the ten-year capital improvement plan the Fire District is anticipating to accommodate future demand. In the Plan, there are facility, fleet, and equipment expansions that are consistent with or below the projected need to serve growth at the current level of service. The capital improvement plan can be updated annually and revised to reflect any shift in demand, market, and costs.

**Figure 2. Growth-Related Capital Improvement Plan**

10-Year Capital Improvement Plan	Need	Time Frame (Yrs)	Current Cost	Growth Related Cost
Station #55: Floating Feather	8,392 square feet	1 to 3	\$3,000,000	\$3,000,000
Station #52: Training Facility & Engine Bay	3,000 square feet	2 to 5	\$250,000	\$250,000
Station #52: Training Facility Prop & Storage Container	1 unit	1 to 3	\$25,000	\$25,000
Station #58: Hwy 16 & Arie	8,392 square feet	3 to 10	\$4,000,000	\$4,000,000
Station #56: Purple Sage (50% split with Middleton)	4,196 square feet	7 to 10	\$3,000,000	\$3,000,000
Station #55 units: New Brush & Engine	2 units	1 to 8	\$1,400,000	\$1,400,000
Station #56 units: New Brush & Engine (50% split with Middleton)	2 units	7 to 10	\$825,000	\$825,000
Station #58 units: New Brush/Engine/Water Tender	3 units	7 to 10	\$2,050,000	\$2,050,000
SCBAs (6) for Station #55	6 units	1 to 3	\$42,000	\$42,000
SCBAs (6) for Station #58	6 units	7 to 10	\$50,000	\$50,000
New UTV for River Rescue	1 unit	2 to 3	\$35,000	\$35,000
Station #51 units: Replace Tender/Ladder/Brush	3 units	7 to 15	\$2,700,000	\$0
Station #52 units: Replace Engines/Brush	3 units	1 to 10	\$2,150,000	\$0
Replace Battalion Command (50% split with Middleton)	1 unit	2 to 3	\$70,000	\$0
Replace Command 2017 Chevy 502	1 unit	3 to 5	\$65,000	\$0
Replace Command 2022 Chevy 501	1 unit	5 to 10	\$80,000	\$0
<b>Total</b>			<b>\$19,742,000</b>	<b>\$14,677,000</b>

**MAXIMUM SUPPORTABLE DEVELOPMENT IMPACT FEES**

Figure 3 provides a schedule of the maximum supportable development impact fees by type of land use for the Fire District. The fees represent the highest supportable amount for each type of applicable land use and represent new growth’s fair share of the cost for capital facilities. The Fire Board 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 based on the person per housing unit factors for single family and multifamily development. For nonresidential development, the fees are assessed per square foot of floor area based on vehicle trip rates. Nonresidential development categories are consistent with the terminology and definitions contained in the reference book, Trip Generation 11<sup>th</sup> Edition, published by the Institute of Transportation Engineers. These definitions are provided in the Appendix A. Land Use Definitions.

**Figure 3. Summary of Maximum Supportable Development Impact Fee**

**Residential**

Housing Type	Persons per Housing Unit	Maximum Supportable Fee	Current Fee	Increase/ (Decrease)
<b>Residential (per housing unit)</b>				
Single Family	2.84	\$2,152	\$809	\$1,343
Multifamily	1.62	\$1,227	\$809	\$418

**Nonresidential**

Development Type	Vehicle Trips per KSF	Maximum Supportable Fee	Current Fee	Increase/ (Decrease)
<b>Nonresidential (per 1,000 square feet)</b>				
Retail	14.06	\$839	\$380	\$459
Office	5.42	\$323	\$380	(\$57)
Industrial	2.44	\$145	\$380	(\$235)
Institutional	9.76	\$582	\$380	\$202

## DEVELOPMENT IMPACT FEE FRAMEWORK

### IDAHO DEVELOPMENT IMPACT FEE ENABLING LEGISLATION

The Enabling Legislation governs how development fees are calculated for municipalities in Idaho. All requirements of the Idaho Development Impact Fee Act have been met in the supporting documentation prepared by TischlerBise. There are four requirements of the Idaho Act that are not common in the development impact fee enabling legislation of other states. This overview offers further clarification of these unique requirements.

First, as specified in 67-8204(2) of the Idaho Act, “development impact fees shall be calculated on the basis of levels of service for public facilities . . . applicable to existing development as well as new growth and development.”

Second, Idaho requires a Capital Improvements Plan (CIP) [see 67-8208]. The CIP requirements are summarized in this report, with detailed documentation provided in the discussion on infrastructure.

Third, the Idaho Act also requires documentation of any existing deficiencies in the types of infrastructure to be funded by development impact fees [see 67-8208(1)(a)]. The intent of this requirement is to prevent charging new development to cure existing deficiencies. In the context of development impact fees for the Fire District, the term “deficiencies” means a shortage or inadequacy of current system improvements when measured against the levels of service to be applied to new development. It does not mean a shortage or inadequacy when measured against some “hoped for” level of service.

TischlerBise used the current infrastructure cost per service unit (i.e., existing standards), or future levels of service where appropriate, multiplied by the projected increase in service units over an appropriate planning timeframe, to yield the cost of growth-related system improvements. The relationship between these three variables can be reduced to a mathematical formula, expressed as  $A \times B = C$ . In section 67-8204(16), the Idaho Act simply reorganizes this formula, stating the cost per service unit (i.e., development impact fee) may not exceed the cost of growth-related system improvements divided by the number of projected service units attributable to new development (i.e.,  $A = C \div B$ ). By using existing infrastructure standards to determine the need for growth-related capital improvements, the Fire District ensures the same level-of-service standards are applicable to existing and new development. Using existing infrastructure standards also means there are no existing deficiencies in the current system that must be corrected from non-development impact fee funding.

Fourth, Idaho requires a proportionate share determination [see 67-8207]. Basically, local government must consider various types of applicable credits and/or other revenues that may reduce the capital costs attributable to new development. The development impact fee methodologies and the cash flow analysis have addressed the need for credits to avoid potential double payment for growth-related infrastructure.



## SUMMARY OF CAPITAL IMPROVEMENT PLANS AND DEVELOPMENT IMPACT FEES

---

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, though, 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.

- **Cost Recovery.** 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.** 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 park land acres per 1,000 residents). 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. 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.
- **Plan-Based.** 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).
- **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.

**FIRE PROTECTION DEVELOPMENT IMPACT FEES**

The Fire District’s development impact fee includes three components: station space, vehicles/apparatus, and equipment. TischlerBise recommends a *plan-based* approach, based on current capital expansion plans. Per the Idaho Act, capital improvements are limited to those improvements that have a certain lifespan. As specified in 67-8203(3) of the Idaho Act, “Capital improvements’ means improvements with a useful life of ten (10) years or more, by new construction or other action, which increase the service capacity of a public facility.” The residential portion of the fee is derived from the product of persons per housing unit (by type of unit) multiplied by the net capital cost per person. The nonresidential portion is derived from the product of nonresidential vehicle trips per 1,000 square feet of nonresidential space multiplied by the net capital cost per vehicle trip.

**COST ALLOCATION FOR FIRE PROTECTION INFRASTRUCTURE**

Both residential and nonresidential developments increase the demand for fire services and facilities. To calculate the proportional share between residential and nonresidential demand on service and facilities, calls for service data is analyzed. Shown at the top of Figure 4, 68 percent of calls are to residential locations, 6 percent to nonresidential locations, and 27 percent are classified as traffic calls.

Base year vehicle trips are used to assign traffic calls to residential and nonresidential land uses. This results in 273 additional residential calls (51,939 residential vehicle trips / 58,532 total vehicle trips x 308 traffic calls for service) and 35 additional nonresidential calls (6,583 nonresidential vehicle trips / 58,532 total vehicle trips x 308 traffic calls for service).

After this adjustment 91 percent of calls are attributed to residential development and 9 percent are attributed to nonresidential development. These percentages are used to attribute facilities to respective demand units.

**Figure 4. Calls for Service**

Land Use	Annual Calls for Service	% of Total
Residential	783	68%
Nonresidential	64	6%
Traffic	308	27%
<b>Total</b>	<b>1,155</b>	<b>100%</b>

Land Use	Base Year Vehicle Trips	% of Total
Residential	51,939	89%
Nonresidential	6,593	11%
<b>Total</b>	<b>58,532</b>	<b>100%</b>

Land Use	Adj. Calls for Service	% of Total
Residential	1,056	91%
Nonresidential	99	9%
<b>Total</b>	<b>1,155</b>	<b>100%</b>

Source: Star Fire Protection District & Ada County

**FIRE PROTECTION LEVEL OF SERVICE AND COST ANALYSIS**

The following section details the current level of service calculations and capital cost for each infrastructure category.

**FIRE STATIONS**

Listed in Figure 5, the Fire District currently operates two stations, which total 44,000 square feet. The existing level of service for residential development is 1,903 square feet per 1,000 persons. The nonresidential level of service is 570 square feet per 1,000 vehicle trips. This is determined by multiplying the total square footage by the proportionate share factors (91 percent for residential development and 9 percent for nonresidential development), and then dividing the respective totals by the current service units (21,150 persons and 6,593 nonresidential vehicle trips) and multiplying by 1,000.

**Figure 5. Existing Fire Station Level of Service**

Fire Stations	Square Feet
Station #51: State St	37,000
Station #52: Kingsbury	7,000
<b>Total</b>	<b>44,000</b>

<i>Level-of-Service Standards</i>	Residential	Nonresidential
Proportionate Share	91%	9%
Share of Square Feet	40,240	3,760
2023 Population/Nonres. Vehicle Trips	21,150	6,593
<b>Square Feet per 1,000 Persons/Vehicle Trips</b>	<b>1,903</b>	<b>570</b>

**FIRE APPARATUS**

Shown in Figure 6, the Fire District currently has 15 pieces of apparatus. The existing level of service for residential development is 0.65 pieces of apparatus for every 1,000 persons. The nonresidential level of service is 0.19 pieces of apparatus per 1,000 vehicle trips. This is determined by multiplying the total apparatus inventory by the proportionate share factors (91 percent for residential development and 9 percent for nonresidential development), and then dividing the respective totals by the current service units (21,150 persons for residential and 6,593 nonresidential vehicle trips) and multiplying by 1,000.

Figure 6. Existing Fire Apparatus Level of Service

Apparatus	Units
Fire Engine	3
Water Tender	1
Brush Truck	2
Command Vehicle	6
Water Rescue Boat	1
Trailers	2
<b>Total</b>	<b>15</b>

Level-of-Service Standards	Residential	Nonresidential
Proportionate Share	91%	9%
Share of Units	13.7	1.3
2023 Population/Nonres. Vehicle Trips	21,150	6,593
<b>Units per 1,000 Persons/Vehicle Trips</b>	<b>0.65</b>	<b>0.19</b>

**FIRE EQUIPMENT**

Shown in Figure 7, the Fire District currently has 54 pieces of equipment with a useful life of 10 years or longer. The existing level of service for residential development is 2.34 pieces of equipment for every 1,000 persons. The nonresidential level of service is 0.70 pieces of equipment per 1,000 vehicle trips. This is determined by multiplying the total equipment inventory by the proportionate share factors (91 percent for residential development and 9 percent for nonresidential development), and then dividing the respective totals by the current service units (21,150 persons for residential and 6,593 nonresidential vehicle trips) and multiplying by 1,000.

Figure 7. Existing Fire Equipment Level of Service

Equipment Type	Units
Handheld Radios	21
SCBAs	15
Generators	2
Extrication Equipment	5
Printer/Copier	2
Thermal Imaging Equipment	5
Extractor	1
Air Compressor	1
Power Column Lift	1
Respirator Testing System	1
<b>Total</b>	<b>54</b>

Level-of-Service Standards	Residential	Nonresidential
Proportionate Share	91%	9%
Share of Units	49.4	4.6
2023 Population/Nonres. Vehicle Trips	21,150	6,593
<b>Units per 1,000 Persons/Vehicle Trips</b>	<b>2.34</b>	<b>0.70</b>

**PLANNED GROWTH-RELATED INFRASTRUCTURE IMPROVEMENTS**

The following section details the future capital plans to accommodate growth.

**FIRE STATIONS**

The Fire District currently plans on constructing three new stations, one at a 50 percent split with Middleton Rural Fire Protection District and expanding one existing station. Shown in Figure 8, the Fire District estimates adding approximately 23,980 square feet, with an estimated cost of \$10,275,000, would be sufficient through the year 2033.

The cost per residential and nonresidential service unit is determined by multiplying the planned square footage by the proportionate share factors (91 percent for residential and 9 percent for nonresidential), and then dividing the respective totals by the projected increase in service units through the year 2033 (14,929 persons and 17,108 nonresidential vehicle trips). When the resulting residential and nonresidential levels of service (1,469 square feet per 1,000 persons and 120 square feet per 1,000 nonresidential trips) are compared to the cost per square foot (\$428), the resulting cost per service units are \$629 per person and \$51 per nonresidential vehicle trip.

Based on development trends, market needs, and projections the demand on fire services is going to shift further towards housing development compared to commercial development.

**Figure 8. Planned Fire Station Level of Service & Cost Analysis**

Fire Stations	Square Feet	Replacement Cost
Station #55: Floating Feather	8,392	\$3,000,000
Station #52: Training Facility & Engine Bay	3,000	\$250,000
Station #52: Prop & Storage Container	-	\$25,000
Station #58: Hwy 16 & Arie	8,392	\$4,000,000
Station #56: Purple Sage (50% split)	4,196	\$3,000,000
<b>Total</b>	<b>23,980</b>	<b>\$10,275,000</b>

  

<i>Level-of-Service Standards</i>	Residential	Nonresidential
Proportionate Share	91%	9%
Share of Square Feet	21,931	2,049
10-Year Population/Nonres. Vehicle Trips Increase	14,929	17,108
<b>Square Feet per 1,000 Persons/Vehicle Trips</b>	<b>1,469</b>	<b>120</b>

  

<i>Cost Analysis</i>	Residential	Nonresidential
Square Feet per 1,000 Persons/Vehicle Trips	1,469	120
Average Cost per Square Foot	\$428	\$428
<b>Capital Cost per Person/Vehicle Trip</b>	<b>\$629</b>	<b>\$51</b>

**FIRE APPARATUS**

To compliment the planned additional stations, the Fire District plans on purchasing seven additional pieces of apparatus. Shown in Figure 9, the estimated cost of the apparatus is \$4,275,000. Similar to the planned station, the Fire District estimates the apparatus will be sufficient through the year 2033.

In Figure 9, the cost per residential and nonresidential service unit is determined by multiplying the planned apparatus by the proportionate share factors (91 percent for residential and 9 percent for nonresidential), and then dividing the respective totals by the projected increase in service units through the year 2033 (14,929 persons and 17,108 nonresidential vehicle trips). When the resulting residential and nonresidential levels of service (0.43 units per 1,000 persons and 0.03 units per 1,000 nonresidential trips) are compared to the cost for the apparatus (\$611,000), the resulting cost per service units are \$263 per person and \$18 per nonresidential vehicle trip.

Based on development trends, market needs, and projections the demand on fire services is going to shift further towards housing development compared to commercial development.

**Figure 9. Planned Fire Apparatus Level of Service & Cost Analysis**

Apparatus	Units	Replacement Cost
Fire Engine	2	\$1,950,000
Water Tender	1	\$500,000
Brush Truck	2	\$1,000,000
Engine & Brush (50% split)	2	\$825,000
<b>Total</b>	<b>7</b>	<b>\$4,275,000</b>

<i>Level-of-Service Standards</i>	Residential	Nonresidential
Proportionate Share	91%	9%
Share of Units	6.4	0.6
10-Year Population/Nonres. Vehicle Trips Increase	14,929	17,108
<b>Units per 1,000 Persons/Vehicle Trips</b>	<b>0.43</b>	<b>0.03</b>

<i>Cost Analysis</i>	Residential	Nonresidential
Units per 1,000 Persons/Vehicle Trips	0.43	0.03
Average Cost per Unit	\$611,000	\$611,000
<b>Capital Cost per Person/Vehicle Trip</b>	<b>\$263</b>	<b>\$18</b>

**FIRE EQUIPMENT**

To facilitate the addition of growth-related personnel, the Fire District plans on purchasing 13 additional pieces of equipment: 12 self-contained breathing apparatus (SCBA) and 1 additional UTV. Shown in Figure 10, the estimated cost of the equipment is \$127,000. Similar to the planned station, the Fire District estimates the equipment will be sufficient through the year 2033.

In Figure 10 the cost per residential and nonresidential service unit is determined by multiplying the planned equipment by the proportionate share factors (91 percent for residential and 9 percent for nonresidential), and then dividing the respective totals by the projected increase in service units through the year 2032 (14,929 persons and 17,108 nonresidential vehicle trips). When the resulting residential and nonresidential levels of service (0.80 equipment units per 1,000 persons and 0.06 equipment units per 1,000 nonresidential trip) are compared to the average cost per piece of equipment (\$10,000), the resulting cost per service units are \$8 per person and \$1 per nonresidential vehicle trip.

**Figure 10. Planned Equipment Level of Service & Cost Analysis**

Equipment Type	Units	Replacement Cost
SCBAs	12	\$92,000
UTV - River Rescue	1	\$35,000
<b>Total</b>	<b>13</b>	<b>\$127,000</b>

  

<i>Level-of-Service Standards</i>	Residential	Nonresidential
Proportionate Share	91%	9%
Share of Units	11.9	1.1
10-Year Population/Nonres. Vehicle Trips I	14,929	17,108
<b>Units per 1,000 Persons/Vehicle Trips</b>	<b>0.80</b>	<b>0.06</b>

  

<i>Cost Analysis</i>	Residential	Nonresidential
Units per 1,000 Persons/Vehicle Trips	0.80	0.06
Average Cost per Unit	\$10,000	\$10,000
<b>Capital Cost per Person/Vehicle Trip</b>	<b>\$8</b>	<b>\$1</b>

**SHARE OF THE DEVELOPMENT IMPACT FEE STUDY**

Under the Idaho enabling legislation, the Fire District is able to recover the cost of the study through the collection of future fees. An impact fee study must be completed every five years, so the study cost is compared to the five-year projected increase in population and nonresidential vehicle trips. As a result, the cost per person is \$2 and the cost per vehicle trip is \$1.

**Figure 11. Share of the Development Impact Fee Study**

Share of Study Cost	Residential Share	Nonresidential Share
\$19,720	91%	9%

  

Residential Growth Share	Five-Year Population Increase	Capital Cost per Person
100%	10,208	\$2

  

Nonresidential Growth Share	Five-Year Veh. Trip Increase	Capital Cost per Trip
100%	9,240	\$1

**FIRE IMPACT FEE CREDIT ANALYSIS**

The district currently has an impact fee fund balance of \$2,390,184, which requires consideration of a credit. As shown below in Figure 12, this balance accounts for 16 percent of the ten-year projected growth expenditures, resulting in a 16 percent credit of the impact fee.

**Figure 12. Fire Impact Fee Credit Analysis**

Fire Impact Fee Credit	
Available Fund Balance	\$2,390,184
10-Year Capital Plan	\$14,677,000
<b>Available Fund Balance % of Plan</b>	<b>16%</b>



**INPUT VARIABLES AND MAXIMUM SUPPORTABLE IMPACT FEES**

Figure 13 provides a summary of the input variables (described in the chapter sections above) used to calculate the net cost per person and vehicle trip. The residential Fire Development Impact Fees are the product of persons per housing unit by type multiplied by the total net capital cost per person. For example, the single family maximum impact fee is \$2,152 per unit (\$758 per person x 2.84 persons per housing unit = \$2,152, rounded). The nonresidential fees are the product of vehicle trips per 1,000 square feet multiplied by the net capital cost per nonresidential vehicle trip.

The Fire District Board 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.

**Figure 13. Star Fire Protection District Maximum Supportable Impact Fees**

Fee Component	Cost per Person	Cost per Vehicle Trip
Fire Stations	\$629	\$51
Fire Apparatus	\$263	\$18
Fire Equipment	\$8	\$1
Impact Fee Study	\$2	\$1
<b>Gross Total</b>	<b>\$902</b>	<b>\$71</b>
<b>Credit for Fund Balance (16%)</b>	<b>(\$144)</b>	<b>(\$11)</b>
<b>Net Total</b>	<b>\$758</b>	<b>\$60</b>

**Residential**

Housing Type	Persons per Housing Unit	Maximum Supportable Fee	Current Fee	Increase/ (Decrease)
<b>Residential (per housing unit)</b>				
Single Family	2.84	\$2,152	\$809	\$1,343
Multifamily	1.62	\$1,227	\$809	\$418

**Nonresidential**

Development Type	Vehicle Trips per KSF	Maximum Supportable Fee	Current Fee	Increase/ (Decrease)
<b>Nonresidential (per 1,000 square feet)</b>				
Retail	14.06	\$839	\$380	\$459
Office	5.42	\$323	\$380	(\$57)
Industrial	2.44	\$145	\$380	(\$235)
Institutional	9.76	\$582	\$380	\$202

**CASH FLOW PROJECTIONS FOR MAXIMUM SUPPORTABLE IMPACT FEE**

This section summarizes the potential cash flow to the Fire District if the development impact fees are implemented at the maximum supportable amounts. The cash flow projections are based on the assumptions detailed in this chapter and the development projections discussed in Appendix B. Demographic Assumptions.

The summary provides an indication of the impact fee revenue generated by new development. Shown at the bottom of the figure, the maximum supportable fire impact fee is estimated to generate \$12.5 million in revenue while there is a growth-related cost of \$14.7 million. The revenue is able to mitigate 85 percent of growth-related costs. The remaining funding gap is the result of the credit for the existing impact fee fund balance and the impact fee program will be made whole with those funds.

**Figure 14. Projected Revenue from Maximum Supportable Impact Fees**

**Infrastructure Costs for Fire Facilities**

	Total Cost	Growth Cost
Fire Stations	\$10,275,000	\$10,275,000
Fire Apparatus	\$4,275,000	\$4,275,000
Fire Equipment	\$127,000	\$127,000
Impact Fee Study	\$39,440	\$39,440
<b>Total Expenditures</b>	<b>\$14,716,440</b>	<b>\$14,716,440</b>

**Projected Development Impact Fee Revenue**

		Single Family \$2,152 per unit	Multifamily \$1,227 per unit	Retail \$839 per KSF	Office \$323 per KSF	Industrial \$145 per KSF	Institutional \$582 per KSF
Year		Housing Units	Housing Units	KSF	KSF	KSF	KSF
Base	2023	6,494	556	223	102	204	246
1	2024	6,994	601	351	148	204	368
2	2025	7,494	646	416	176	253	438
3	2026	7,994	691	481	205	302	508
4	2027	8,494	736	546	233	351	577
5	2028	8,994	781	611	262	400	647
6	2029	9,494	826	676	290	449	717
7	2030	9,994	871	741	319	497	787
8	2031	10,494	916	806	347	546	857
9	2032	10,994	961	871	375	595	927
10	2033	11,494	1,006	936	404	644	997
Ten-Year Increase		5,000	450	713	302	439	750
Projected Revenue		\$10,760,385	\$551,931	\$597,885	\$97,644	\$63,695	\$436,652
<b>Projected Revenue =&gt;</b>							<b>\$12,508,000</b>
<b>Projected Expenditures =&gt;</b>							<b>\$14,716,000</b>
<b>Non-Impact Fee Funding =&gt;</b>							<b>\$2,208,000</b>

2023 Capital Improvement Plan and Development Impact Fee Study

In Figure 15, the summary provides an indication of the impact fee revenue generated by new development if the City of Eagle does not collect the fire impact fee on the behalf of Star Fire Protection District. In this scenario, due to the estimate development to occur in the City of Eagle that will be serviced by Star Far a significant funding gap occurs for needed capital expansion. Shown at the bottom of the figure, the maximum supportable fire impact fee is estimated to generate \$8.2 million in revenue while there is a growth-related cost of \$14.7 million. Based on the revenue potential, there would be \$4.2 million in missed revenue if the impact fees are not collected in Eagle.

**Figure 15. Projected Revenue from Maximum Supportable Impact Fees without Eagle Collection**

**Infrastructure Costs for Fire Facilities**

	Total Cost	Growth Cost
Fire Stations	\$10,275,000	\$10,275,000
Fire Apparatus	\$4,275,000	\$4,275,000
Fire Equipment	\$127,000	\$127,000
Impact Fee Study	\$39,440	\$39,440
<b>Total Expenditures</b>	<b>\$14,716,440</b>	<b>\$14,716,440</b>

**Projected Development Impact Fee Revenue**

		Single Family \$2,152 per unit	Multifamily \$1,227 per unit	Retail \$839 per KSF	Office \$323 per KSF	Industrial \$145 per KSF	Institutional \$582 per KSF
Year		Housing Units	Housing Units	KSF	KSF	KSF	KSF
Base	2023	4,045	346	223	102	204	246
1	2024	4,356	374	351	148	204	368
2	2025	4,668	402	416	176	253	438
3	2026	4,979	430	481	205	302	508
4	2027	5,291	458	546	233	351	577
5	2028	5,602	486	611	262	400	647
6	2029	5,914	515	676	290	449	717
7	2030	6,225	543	741	319	497	787
8	2031	6,537	571	806	347	546	857
9	2032	6,848	599	871	375	595	927
10	2033	7,160	627	936	404	644	997
Ten-Year Increase		3,115	280	713	302	439	750
Projected Revenue		\$6,702,542	\$343,792	\$597,885	\$97,644	\$63,695	\$436,652
						<b>Projected Revenue =&gt;</b>	<b>\$8,242,000</b>
						<b>Projected Expenditures =&gt;</b>	<b>\$14,716,000</b>
						<b>Non-Impact Fee Funding =&gt;</b>	<b>\$6,474,000</b>

## CAPITAL IMPROVEMENT PLAN

The following section provides a summary of the Capital Improvement Plans depicting growth-related capital demands. First, Figure 16 lists the projected growth over the next ten years in the Fire District. Overall, there is an estimated 71 percent increase in population (14,929 new residents) a 77 percent increase in housing development (5,450 new housing units) and a 251 percent increase in nonresidential development (3,398 new jobs and 1,935,000 square feet of development). Further details on the growth projections can be found in Appendix B. Demographic Assumptions

**Figure 16. Ten-Year Growth Projections**

	Base Year	<i>5-Year Increment</i>						Total
	2023	1 2024	2 2025	3 2026	4 2027	5 2028	10 2033	Increase
Population [1]	21,150	22,643	24,136	25,629	27,122	28,615	36,079	<b>14,929</b>
<b>Housing Units by Type [1]</b>								
Single Family	6,494	6,994	7,494	7,994	8,494	8,994	11,494	<b>5,000</b>
Multifamily	556	601	646	691	736	781	1,006	<b>450</b>
Total Housing Units	7,050	7,595	8,140	8,685	9,230	9,775	12,500	<b>5,450</b>
<b>Jobs [1]</b>								
Retail	474	721	834	948	1,061	1,174	1,740	<b>1,266</b>
Office	331	468	547	626	705	784	1,179	<b>848</b>
Industrial	321	321	398	474	551	627	1,011	<b>690</b>
Institutional	229	332	386	441	496	550	824	<b>595</b>
Total Jobs	1,355	1,842	2,165	2,489	2,812	3,136	4,753	<b>3,398</b>
<b>Nonresidential Floor Area (1,000 sq. ft.) [2]</b>								
Retail	223	340	393	446	500	553	819	<b>596</b>
Office	102	144	168	192	216	241	362	<b>260</b>
Industrial	204	204	253	302	351	400	644	<b>439</b>
Institutional	246	357	416	474	533	592	886	<b>640</b>
Total Floor Area	776	1,045	1,230	1,415	1,600	1,785	2,711	<b>1,935</b>
<b>Vehicle Trips [2]</b>								
<i>Residential Subtotal</i>	<i>51,939</i>	<i>55,948</i>	<i>59,957</i>	<i>63,966</i>	<i>67,975</i>	<i>71,984</i>	<i>92,027</i>	<b>40,088</b>
<i>Nonresidential Subtotal</i>	<i>6,593</i>	<i>9,538</i>	<i>11,111</i>	<i>12,685</i>	<i>14,259</i>	<i>15,832</i>	<i>23,701</i>	<b>17,108</b>
Total Vehicle Trips	58,532	65,486	71,068	76,651	82,234	87,816	115,729	<b>57,197</b>

[1] Source: Star Fire Protection District Population and Housing Estimates; ESRI Business Analyst; TischlerBise analysis

[2] Source: Institute of Transportation Engineers, Trip Generation, 2021

**2023 Capital Improvement Plan and Development Impact Fee Study**

The Idaho Development Fee Act requires Capital Improvement Plans to be updated regularly, at least once every five years (Idaho Code 67-8208(2)). This report projects revenue and fees based on ten-year forecast in an effort to provide the public and elected officials with illustrative guidance of probable growth demands based on current trends however, per Idaho Code, it is expected that an update to all Capital Improvement Plans included in this study will occur within five years.

The development impact fee is based on capital improvement plans to accommodate future growth. To serve projected growth over the next ten years, the following infrastructure is planned:

- 23,980 square feet of new station space
- 7 new fleet units
- 13 new equipment units
- 2 updates to impact fee study (once every five years)
- \$14.7 million growth-related costs

Additionally, there are replacement plans in the CIP that are not growth-related, thus not included in the impact fee study and not eligible for impact fee funding.

**Figure 17. Capital Improvement Plan**

10-Year Capital Improvement Plan	Need	Time Frame (Yrs)	Current Cost	Growth Related Cost
Station #55: Floating Feather	8,392 square feet	1 to 3	\$3,000,000	\$3,000,000
Station #52: Training Facility & Engine Bay	3,000 square feet	2 to 5	\$250,000	\$250,000
Station #52: Training Facility Prop & Storage Container	1 unit	1 to 3	\$25,000	\$25,000
Station #58: Hwy 16 & Arie	8,392 square feet	3 to 10	\$4,000,000	\$4,000,000
Station #56: Purple Sage (50% split with Middleton)	4,196 square feet	7 to 10	\$3,000,000	\$3,000,000
Station #55 units: New Brush & Engine	2 units	1 to 8	\$1,400,000	\$1,400,000
Station #56 units: New Brush & Engine (50% split with Middleton)	2 units	7 to 10	\$825,000	\$825,000
Station #58 units: New Brush/Engine/Water Tender	3 units	7 to 10	\$2,050,000	\$2,050,000
SCBAs (6) for Station #55	6 units	1 to 3	\$42,000	\$42,000
SCBAs (6) for Station #58	6 units	7 to 10	\$50,000	\$50,000
New UTV for River Rescue	1 unit	2 to 3	\$35,000	\$35,000
Station #51 units: Replace Tender/Ladder/Brush	3 units	7 to 15	\$2,700,000	\$0
Station #52 units: Replace Engines/Brush	3 units	1 to 10	\$2,150,000	\$0
Replace Battalion Command (50% split with Middleton)	1 unit	2 to 3	\$70,000	\$0
Replace Command 2017 Chevy 502	1 unit	3 to 5	\$65,000	\$0
Replace Command 2022 Chevy 501	1 unit	5 to 10	\$80,000	\$0
<b>Total</b>			<b>\$19,742,000</b>	<b>\$14,677,000</b>

**FUNDING SOURCES FOR CAPITAL IMPROVEMENTS**

In determining the proportionate share of capital costs attributable to new development, the Idaho Development Fee Act states that local governments must consider historical, available, and alternative sources of funding for system improvements (Idaho Code 67-8209(2)). Currently, there are no other dedicated revenues being collected by the Fire District to fund growth-related projects. However, there is an existing balance in the Fire District’s impact fee fund which has been set aside for future expansions in the CIP. A credit is included in the impact fee analysis to account for the balance’s share of the future CIP.

## PROPORTIONATE SHARE ANALYSIS

Development impact fees for Star Fire Protection District are based on reasonable and fair formulas or methods. The fees do not exceed a proportionate share of the costs incurred or to be incurred by the District in the provision of system improvements to serve new development. The District will fund non-growth-related improvements with non-development impact fee funds as it has in the past. Specified in the Idaho Development Impact Fee Act (Idaho Code 67-8207), several factors must be evaluated in the development impact fee study and are discussed below.

- 1) The development impact fees for Star Fire Protection District are based on new growth's share of the costs of previously built projects along with planned public facilities as provided by the Fire District. Projects are included in the District's capital improvements plan and will be included in annual capital budgets.
- 2) TischlerBise estimated development impact fee revenue based on the maximum supportable development impact fees for the one, districtwide service area; results are shown in the cash flow analyses in this report. Existing and future development impact fee revenue will entirely fund growth-related improvements.
- 3) TischlerBise has evaluated the extent to which new development may contribute to the cost of public facilities.
- 4) The relative extent to which properties will make future contributions to the cost of existing public facilities has also been evaluated in regards to existing debt.
- 5) The District will evaluate the extent to which newly developed properties are entitled to a credit for system improvements that have been provided by property owners or developers. These "site-specific" credits will be available for system improvements identified in the annual capital budget and long-term Capital Improvement Plans. Administrative procedures for site-specific credits should be addressed in the development impact fee ordinance.
- 6) Extraordinary costs, if any, in servicing newly developed properties should be addressed through administrative procedures that allow independent studies to be submitted to the District. These procedures should be addressed in the development impact fee ordinance.
- 7) The time-price differential inherent in fair comparisons of amounts paid at different times has been addressed. All costs in the development impact fee calculations are given in current dollars with no assumed inflation rate over time. Necessary cost adjustments can be made as part of the annual evaluation and update of development impact fees.

## IMPLEMENTATION AND ADMINISTRATION

The Idaho Development Impact Fee Act (hereafter referred to as the Idaho Act) requires jurisdictions to form a Development Impact Fee Advisory Committee (DIFAC). The committee must have at least five members with a minimum of two members active in the business of real estate, building, or development. The committee acts in an advisory capacity and is tasked to do the following:

- Assist the governmental entity in adopting land use assumptions;
- Review the capital improvements plan, and proposed amendments, and file written comments;
- Monitor and evaluate implementation of the capital improvements plan;
- File periodic reports, at least annually, with respect to the capital improvements plan and report to the governmental entity any perceived inequities in implementing the plan or imposing the development impact fees; and
- Advise the governmental entity of the need to update or revise land use assumptions, the capital improvements plan, and development impact fees.

Furthermore, it is the collecting jurisdiction that is required to form the DIFAC. In this case, Star Fire Protection Impact Fees will be collected by the City of Star, City of Middleton, Canyon County, Gem County, and Ada County. Thus, those jurisdictions will form separate DIFACs.

Per the above, each jurisdiction has formed a DIFAC. TischlerBise has met with each DIFAC during the process and provided information on land use assumptions, level of service and cost assumptions, and draft development impact fee schedules. This report reflects comments and feedback received from the DIFACs.

The Fire District must develop and adopt a capital improvements plan (CIP) that includes those improvements for which fees were developed. The Idaho Act defines a capital improvement as an “improvement with a useful life of ten years or more, by new construction or other action, which increases the service capacity of a public facility.” Requirements for the CIP are outlined in Idaho Code 67-8208. Certain procedural requirements must be followed for adoption of the CIP and the development impact fee ordinance. Requirements are described in detail in Idaho Code 67-8206. The Fire District has a CIP that meets the above requirements.

TischlerBise recommends that development impact fees be updated annually to reflect recent data. One approach is to adjust for inflation in construction costs by means of an index like the RSMeans or Engineering News Record (ENR). This index can be applied against the calculated development impact fee. If cost estimates change significantly the Fire District should evaluate an adjustment to the CIP and development impact fees.

Idaho's enabling legislation requires an annual development impact fees report that accounts for fees collected and spent during the preceding year (Idaho Code 67-8210). Development impact fees must be deposited in interest-bearing accounts earmarked for the associated capital facilities as outlined in capital improvements plans. Also, fees must be spent within eight years of when they are collected (on a first in, first out basis) unless the local governmental entity identifies in writing (a) a reasonable cause why the fees should be held longer than eight years; and (b) an anticipated date by which the fees will be expended but in no event greater than eleven years from the date they were collected.

Credits must be provided for in accordance with Idaho Code Section 67-8209 regarding site-specific credits or developer reimbursements for system improvements that have been included in the development impact fee calculations. Project improvements normally required as part of the development approval process are not eligible for credits against development impact fees. Specific policies and procedures related to site-specific credits or developer reimbursements for system improvements should be addressed in the ordinance that establishes the fees.

The general concept is that developers may be eligible for site-specific credits or reimbursements only if they provide system improvements that have been included in CIP and development impact fee calculations. If a developer constructs a system improvement that was included in the fee calculations, it is necessary to either reimburse the developer or provide a credit against the fees in the area that benefits from the system improvement. The latter option is more difficult to administer because it creates unique fees for specific geographic areas. Based on TischlerBise's experience, it is better for a reimbursement agreement to be established with the developer that constructs a system improvement. For example, if a developer elects to construct a system improvement, then a reimbursement agreement can be established to payback the developer from future development impact fee revenue. The reimbursement agreement should be based on the actual documented cost of the system improvement, if less than the amount shown in the CIP. However, the reimbursement should not exceed the CIP amount that has been used in the development impact fee calculations.



## APPENDIX A. LAND USE DEFINITIONS

- **Single Family:**
  1. Single family detached is a one-unit structure detached from any other house, that is, with open space on all four sides. Such structures are considered detached even if they have an adjoining shed or garage. A one-family house that contains a business is considered detached as long as the building has open space on all four sides.
  2. Single family attached (townhouse) is a one-unit structure that has one or more walls extending from ground to roof separating it from adjoining structures. In row houses (sometimes called townhouses), double houses, or houses attached to nonresidential structures, each house is a separate, attached structure if the dividing or common wall goes from ground to roof.
  3. Mobile home includes both occupied and vacant mobile homes, to which no permanent rooms have been added. Mobile homes used only for business purposes or for extra sleeping space and mobile homes for sale on a dealer's lot, at the factory, or in storage are not counted in the housing inventory.
- **Multifamily:**
  1. 2+ units (duplexes and apartments) are units in structures containing two or more housing units, further categorized as units in structures with “2 or more units.”
  2. Boat, RV, Van, etc. includes any living quarters occupied as a housing unit that does not fit the other categories (e.g., houseboats, railroad cars, campers, and vans). RVs, boats, vans, and the like are included only if they are occupied as a current place of residence.

Nonresidential development categories used throughout this study are based on land use classifications from the book *Trip Generation* (ITE, 2021). A summary description of each development category is provided below.

- **Retail:** Establishments primarily selling merchandise, eating/drinking places, and entertainment uses. By way of example, *Retail* includes shopping centers, supermarkets, pharmacies, restaurants, bars, nightclubs, automobile dealerships, movie theaters, and lodging (hotel/motel).
- **Office:** Establishments providing management, administrative, professional, or business services. By way of example, *Office* includes banks, business offices.
- **Industrial:** Establishments primarily engaged in the production and transportation of goods. By way of example, *Industrial* includes manufacturing plants, trucking companies, warehousing facilities, utility substations, power generation facilities, and telecommunications buildings.
- **Institutional:** Public and quasi-public buildings providing educational, social assistance, or religious services. By way of example, *Institutional* includes schools, universities, churches, daycare facilities, hospitals, health care facilities, and government buildings.

## APPENDIX B. DEMOGRAPHIC ASSUMPTIONS

### POPULATION AND HOUSING CHARACTERISTICS

Impact fees often use per capita standards and persons per housing unit or persons per household to derive proportionate share fee amounts. Housing types have varying household sizes and, consequently, a varying demand on District infrastructure and services. Thus, it is important to differentiate between housing types and size.

When persons per housing unit (PPHU) is used in the development impact fee calculations, infrastructure standards are derived using year-round population. In contrast, when persons per household (PPHH) is used in the development impact fee calculations, the fee methodology assumes all housing units will be occupied, thus requiring seasonal or peak population to be used when deriving infrastructure standards. TischlerBise recommends that fees for residential development in Star Fire Protection District be imposed according to persons per housing unit.

Based on housing characteristics, TischlerBise recommends using two housing unit categories for the Impact Fee study: (1) Single Family and (2) Multifamily. Each housing type has different characteristics which results in a different demand on District facilities and services.

The boundaries of the Fire District are not contiguous with available US Census geographies. In this case, geographies have been chosen that best represent the demographics of each area. The estimates in Figure 18 are for PPHU calculations for Star Fire District. Base year population and housing units are estimated with another, more recent data source.

The U.S Census Tracts comprising Star Fire Protection District were selected for estimates to provide a better sample of demographics in the Star Fire Protection District. As a result, single family units have a household size of 2.84 persons and multifamily units have a household size of 1.62 persons. Additionally, there is a housing mix of 92 percent single family and 8 percent multifamily.

**Figure 18. Persons per Housing Unit – Star Fire Protection District**

Housing Type	Persons	Housing Units	Persons per Housing Unit	Households	Persons per Household	Housing Unit Mix
Single Family [1]	17,007	5,978	2.84	5,899	2.88	92%
Multifamily [2]	831	512	1.62	368	2.26	8%
Total	17,838	6,490	2.75	6,267	2.85	

[1] Includes attached and detached Single Family homes and mobile homes

[2] Includes all other types

Source: U.S. Census Bureau, 2021 American Community Survey 5-Year Estimates

## BASE YEAR HOUSING UNITS AND POPULATION

Base year population is derived from Star Fire Protection District Population and Housing Growth estimate data provided by the district. Based off of this data, the base year population estimate for Star Fire Protection District is 21,150. PPHU data shown in Figure 18 is used to convert the district provided housing unit estimate of 7,050 units into single family and multifamily housing units.

**Figure 19. Base Year Housing Units and Population**

Star Fire Protection District	Base Year 2023
Population [1]	21,150
<b>Housing Units [2]</b>	
Single Family	6,494
Multifamily	556
Total Housing Units	7,050

[1] Star Fire Protection District Population Estimate

[2] Star Fire Protection District Housing Estimate, TischlerBise analysis

## NEW RESIDENTIAL CONSTRUCTION TREND

To illustrate residential development trends in the district, Figure 20 lists the past five years of new construction in Star Fire Protection District. The Fire District provides service to areas in Canyon County, Gem County, and Ada County. Housing growth estimates provided by the Fire District were analyzed to calculate the annual totals.

As seen in Figure 20, over the past five years in the Star Fire Protection District there has been a total of 2,723 housing units added with 2,500 being single family homes and 223 being multifamily homes. This leads to a five-year average of 545 housing units added annually.

**Figure 20. Annual New Construction Estimates by Housing Type – Star Fire Protection District**

Housing Type	2018	2019	2020	2021	2022	Total	5-Year Average
Single Family	265	314	599	757	565	2,500	500
Multifamily	0	24	0	199	0	223	45
Total	265	338	599	956	565	2,723	545

Source: Star Fire Protection District Growth Projections; Ada County Assessor

[1] Includes attached and detached single family homes and mobile homes

[2] Includes all other types

## HOUSING UNIT AND POPULATION PROJECTIONS

Past housing construction trends are assumed to continue through the next ten years. The five-year annual average totals are included in the projections to estimate housing growth in the Fire District. Population growth is estimated based on housing development and PPHU by housing type. As a result, there are 5,450 new housing units projected in the Fire District over the next ten years, 5,000 units single family and 450 units multifamily. Based on the housing development, the population in the Fire District is estimated to grow by 14,929 residents or 70.6 percent.

**Figure 21. Residential Development Projections**

Star Fire Protection District	Base Year 2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total Increase
Population [1]	21,150	22,643	24,136	25,629	27,122	28,615	30,108	31,601	33,093	34,586	36,079	14,929
<i>Percent Increase</i>		7.1%	6.6%	6.2%	5.8%	5.5%	5.2%	5.0%	4.7%	4.5%	4.3%	70.6%
<b>Housing Units [2]</b>												
Single Family	6,494	6,994	7,494	7,994	8,494	8,994	9,494	9,994	10,494	10,994	11,494	5,000
Multifamily	556	601	646	691	736	781	826	871	916	961	1,006	450
Total Housing Units	7,050	7,595	8,140	8,685	9,230	9,775	10,320	10,865	11,410	11,955	12,500	5,450

[1] Population projections are based on housing growth and PPHU factors

[2] Housing projections are based on building permit trends

**CURRENT EMPLOYMENT AND NONRESIDENTIAL FLOOR AREA**

The impact fee study will include nonresidential development as well. Utilizing ESRI Business Analyst data, 2023 total employment in the district is estimated at 1,355 jobs. ESRI Business Analyst profile data is used to breakdown this job total. Listed in Figure 22, there are an estimated 474 retail jobs, 331 office jobs, 321 industrial jobs, and 229 institutional jobs located in the district.

To estimate the nonresidential floor area, employee density factors from the Institute of Transportation Engineers (ITE) *Trip Generation* Manual (2021) are applied to job estimates. Figure 23 lists the land use type and density factors that are included in the analysis. Overall, there are 775,711 square feet estimated in the district. Institutional and retail development make up the majority of this with a combined 61 percent of the total floor area.

Figure 24 lists the average nonresidential construction in square feet over the last 5 years. This average will be used for employment and floor area projections after 2024. Currently approved is an estimated 269,000 square feet of nonresidential floor area which will be applied to the year 2024 projections.

**Figure 22. Base Year Employment and Nonresidential Floor Area**

Employment Industries	Base Year Jobs [1]	Sq. Ft. per job [2]	Floor Area (sq. ft.)	Percent of Total
Retail	474	471	223,254	29%
Office	331	307	101,617	13%
Industrial	321	637	204,477	26%
Institutional	229	1,076	246,363	32%
<b>Total</b>	<b>1,355</b>		<b>775,711</b>	<b>100%</b>

[1] ESRI Business Analyst

[2] Source: *Trip Generation*, Institute of Transportation Engineers, 11th Edition (2021)

**Figure 23. Institute of Transportation Engineers (ITE) Employment Density Factors**

Employment Industry	ITE Code	Land Use	Demand Unit	Emp per Dmd Unit	Sq. Ft. per Emp
Retail	820	Shopping Center	1,000 Sq Ft	2.12	471
Office	710	General Office	1,000 Sq Ft	3.26	307
Industrial	110	Light Industrial	1,000 Sq Ft	1.57	637
Institutional	520	Elementary School	1,000 Sq Ft	0.93	1076

Source: *Trip Generation*, Institute of Transportation Engineers, 11th Edition (2021)

**Figure 24. Annual Nonresidential Construction Estimates**

Non-residential Construction	2019	2020	2021	2022	2023 est.	Total	5-Year Average
Total Sq. Ft.	16,781	187,993	215,400	236,637	269,000	925,811	185,162

Source: Star Fire Protection District Growth Projections

## EMPLOYMENT AND NONRESIDENTIAL FLOOR AREA PROJECTIONS

Job and nonresidential floor area projections for the next ten years are provided in Figure 25. Job growth is projected using commercial building permit data provided by the Fire District. Over the next ten years there is a projected increase of 3,398 jobs in the district, a 251 percent increase from the base year. Retail and institutional developments account for the greatest share of the increase.

Job growth is converted into nonresidential floor area using the ITE square feet per employee averages shown in Figure 23. Over the next ten years, the nonresidential floor area is projected to increase by approximately 1.9 million square feet, a 249 percent increase from the base year.

**Figure 25. Employment and Nonresidential Floor Area Projections**

Star Fire Protection District	Base Year 2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total Increase
<b>Jobs [1]</b>												
Retail	474	721	834	948	1,061	1,174	1,287	1,400	1,513	1,626	1,740	<b>1,266</b>
Office	331	468	547	626	705	784	863	942	1,021	1,100	1,179	<b>848</b>
Industrial	321	321	398	474	551	627	704	781	857	934	1,011	<b>690</b>
Institutional	229	332	386	441	496	550	605	660	714	769	824	<b>595</b>
<b>Total</b>	<b>1,355</b>	<b>1,842</b>	<b>2,165</b>	<b>2,489</b>	<b>2,812</b>	<b>3,136</b>	<b>3,459</b>	<b>3,782</b>	<b>4,106</b>	<b>4,429</b>	<b>4,753</b>	<b>3,398</b>
<b>Nonresidential Floor Area (1,000 sq. ft.) [2]</b>												
Retail	223	340	393	446	500	553	606	659	713	766	819	<b>596</b>
Office	102	144	168	192	216	241	265	289	313	338	362	<b>260</b>
Industrial	204	204	253	302	351	400	449	497	546	595	644	<b>439</b>
Institutional	246	357	416	474	533	592	651	710	769	827	886	<b>640</b>
<b>Total</b>	<b>776</b>	<b>1,045</b>	<b>1,230</b>	<b>1,415</b>	<b>1,600</b>	<b>1,785</b>	<b>1,971</b>	<b>2,156</b>	<b>2,341</b>	<b>2,526</b>	<b>2,711</b>	<b>1,935</b>

[1] ESRI Business Analyst; TischlerBise analysis

[2] Source: Institute of Transportation Engineers, *Trip Generation*, 2021; Star Commercial Building Permit Data

**VEHICLE TRIP GENERATION**

**RESIDENTIAL VEHICLE TRIPS BY HOUSING TYPE**

A customized trip rate is calculated for the single family and multifamily units in the Star Fire Protection District. In Figure 26, the most recent data from the US Census American Community Survey is inputted into equations provided by the ITE to calculate the trip ends per housing unit factor. A single family unit is estimated to generate 11.72 trip ends and a multifamily unit is estimated to generate 6.83 trip ends on an average weekday.

**Figure 26. Customized Residential Trip Ends by Housing Type**

Tenure by Units in Structure	Vehicles Available <sup>1</sup>	Households by Structure Type <sup>2</sup>			Vehicles per HH by Tenure
		Single Family	Multifamily	Total	
Owner-Occupied	13,222	5,524	0	5,524	2.39
Renter-Occupied	1,490	375	368	743	2.01
Total	14,713	5,899	368	6,267	2.35
	Housing Units <sup>3</sup>	5,978	512	6,490	

Housing Type	Persons in Households <sup>4</sup>	Trip Ends <sup>5</sup>	Vehicles by Type of Unit	Trip Ends <sup>6</sup>	Average Trip Ends	Local Trip Ends per HH	National Trip Ends per Unit <sup>7</sup>
Single Family	17,007	47,286	13,956	90,956	69,121	11.72	9.43
Multifamily	831	1,822	740	3,208	2,515	6.83	4.54
Total	17,838	49,108	14,696	94,163	71,635	11.43	

1. Vehicles available by tenure from Table B25046, 2020 American Community Survey 5-Year Estimates.
2. Households by tenure and units in structure from Table B25032, 2020 American Community Survey 5-Year Estimates.
3. Housing units from Table B25024, 2020 American Community Survey 5-Year Estimates.
4. Total population in households from Table B25033, 2020 American Community Survey 5-Year Estimates.
5. Vehicle trips ends based on persons using formulas from Trip Generation (ITE 2021). For single-family housing (ITE 210), the fitted curve equation is  $EXP(0.89 * LN(persons) + 1.72)$ . To approximate the average population of the ITE studies, persons were divided by 30 and the equation result multiplied by 30. For multi-family housing (ITE 221), the fitted curve equation is  $(2.29 * persons) - 81.02$  (ITE 2017).
6. Vehicle trip ends based on vehicles available using formulas from ITE Trip Generation. For single-family housing (ITE 210), the fitted curve equation is  $EXP(0.99 * LN(vehicles) + 1.93)$  [ITE 2017]. To approximate the average number of vehicles in the ITE studies, vehicles available were divided by 54 and the equation result multiplied by 54. For multifamily housing (ITE 220), the fitted curve equation is  $(3.94 * vehicles) + 293.58$  [ITE 2012].
7. Trip Generation, Institute of Transportation Engineers, 11th Edition (2021).

**RESIDENTIAL VEHICLE TRIPS ADJUSTMENT FACTORS**

A vehicle trip end is the out-bound or in-bound leg of a vehicle trip. As a result, so to not double count trips, a standard 50 percent adjustment is applied to trip ends to calculate a vehicle trip. For example, the out-bound trip from a person’s home to work is attributed to the housing unit and the trip from work back home is attributed to the employer.

However, an additional adjustment is necessary to capture District residents’ work bound trips that are outside of the district. The trip adjustment factor includes two components. According to the National Household Travel Survey, home-based work trips are typically 31 percent of out-bound trips (which are 50 percent of all trip ends). Also, utilizing the most recent data from the Census Bureau's web application "OnTheMap", 95 percent of Star workers travel outside the district for work. In combination, these factors account for 15 percent of additional production trips ( $0.31 \times 0.50 \times 0.95 = 0.15$ ). Shown in Figure 27, the total adjustment factor for residential housing units includes attraction trips (50 percent of trip ends) plus the journey-to-work commuting adjustment (15 percent of production trips) for a total of 65 percent.

**Figure 27. Residential Trip Adjustment Factor for Commuters**

Employed Star Residents (2020)	4,369
Residents Working in Star (2020)	199
Residents Commuting Outside of Star for Work	4,170
Percent Commuting Out of Star	95%
<b>Additional Production Trips</b>	<b>15%</b>
<b>Standard Trip Adjustment Factor</b>	<b>50%</b>
<b>Residential Trip Adjustment Factor</b>	<b>65%</b>

Source: U.S. Census, OnTheMap Application, 2020



**NONRESIDENTIAL VEHICLE TRIPS**

Vehicle trip generation for nonresidential land uses are calculated by using ITE’s average daily trip end rates and adjustment factors found in their recently published 11<sup>th</sup> edition of *Trip Generation*. To estimate the trip generation in the Star Fire Protection District, the weekday trip end per 1,000 square feet factors listed in Figure 28 are used.

**Figure 28. Institute of Transportation Engineers Nonresidential Factors**

Employment Industry	ITE Code	Land Use	Demand Unit	Wkdy Trip Ends per Dmd Unit	Wkdy Trip Ends per Employee
Retail	820	Shopping Center	1,000 Sq Ft	37.01	17.42
Office	710	General Office	1,000 Sq Ft	10.84	3.33
Industrial	110	Light Industrial	1,000 Sq Ft	4.87	3.10
Institutional	520	Elementary School	1,000 Sq Ft	19.52	21.00

Source: *Trip Generation* , Institute of Transportation Engineers, 11th Edition (2021)

For nonresidential land uses, the standard 50 percent adjustment is applied to office, industrial, and institutional. A lower vehicle trip adjustment factor is used for retail because this type of development attracts vehicles as they pass-by on arterial and collector roads. For example, when someone stops at a convenience store on their way home from work, the convenience store is not their primary destination.

In Figure 29, the Institute for Transportation Engineers’ land use code, daily vehicle trip end rate, and trip adjustment factor is listed for each land use.

**Figure 29. Daily Vehicle Trip Factors**

Land Use	ITE Codes	Daily Vehicle Trip Ends	Trip Adj. Factor	Daily Vehicle Trips
<b>Residential (per housing unit)</b>				
Single Family	210	11.72	65%	7.62
Multifamily	220	6.83	65%	4.44
<b>Nonresidential (per 1,000 square feet)</b>				
Retail	820	37.01	38%	14.06
Office	710	10.84	50%	5.42
Industrial	110	4.87	50%	2.44
Institutional	520	19.52	50%	9.76

Source: *Trip Generation* , Institute of Transportation Engineers, 11th Edition (2021); 'National Household Travel Survey, 2009

## VEHICLE TRIP PROJECTIONS

The base year vehicle trip totals and vehicle trip projections are calculated by combining the vehicle trip end factors, the trip adjustment factors, and the residential and nonresidential assumptions for housing stock and floor area. Districtwide, residential land uses account for 51,939 vehicle trips and nonresidential land uses account for 6,593 vehicle trips in the base year (Figure 30).

Through 2033, it is projected that daily vehicle trips will increase by 57,196 trips with the majority of the growth being generated by single family (67 percent) and retail (15 percent) development which leads to a 98 percent increase in vehicle trips from the base year through 2033.

**Figure 30. Star Fire Protection District Vehicle Trip Projections**

Star Fire Protection District	Base Year 2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total Increase
<b>Residential Trips</b>												
Single Family	49,470	53,280	57,089	60,898	64,707	68,516	72,325	76,134	79,943	83,752	87,561	<b>38,091</b>
Multifamily	2,469	2,668	2,868	3,068	3,267	3,467	3,667	3,867	4,067	4,266	4,466	<b>1,997</b>
Subtotal	51,939	55,948	59,957	63,966	67,975	71,984	75,992	80,001	84,010	88,019	92,027	<b>40,088</b>
<b>Nonresidential Trips</b>												
Retail	3,140	4,778	5,528	6,277	7,027	7,776	8,526	9,275	10,025	10,774	11,523	<b>8,384</b>
Office	551	778	910	1,041	1,173	1,304	1,436	1,567	1,699	1,830	1,962	<b>1,411</b>
Industrial	498	498	617	736	854	973	1,092	1,211	1,330	1,449	1,568	<b>1,070</b>
Institutional	2,405	3,483	4,057	4,631	5,205	5,779	6,353	6,927	7,501	8,075	8,649	<b>6,244</b>
Subtotal	6,593	9,538	11,111	12,685	14,259	15,832	17,406	18,980	20,554	22,127	23,701	<b>17,108</b>
<b>Vehicle Trips</b>												
Grand Total	58,532	65,486	71,068	76,651	82,234	87,816	93,399	98,981	104,564	110,146	115,729	<b>57,196</b>

Source: Institute of Transportation Engineers, *Trip Generation*, 11th Edition (2021)