

Introduction - Methodology

The Ada County Highway District has prepared a Traffic Impact Fee (TIF) methodology to meet the requirements of the Idaho Development Impact Fee Act, which states that an Impact Fee Ordinance must provide a detailed description of the methodology by which the costs per Service Unit are determined (Idaho Code, section 67-8204(16)). The Ordinance sets out such a methodology and formula. This Exhibit ‘B’ provides additional explanation of that methodology, and calculates the maximum Impact Fees that may be charged by ACHD in the Service Area in accordance with the Idaho Development Impact Fee Act.

The TIF methodology was developed with consideration of the ACHD Capital Improvements Plan (CIP), as further described in Exhibit ‘C’. The CIP and TIF are based on an analysis of future transportation system deficiencies, employing the Regional Travel Demand Model to consistently summarize and identify where future traffic volumes exceed the capacity of ACHD’s roadway System. The model was also used to consistently estimate the average travel conditions generated by new development within the Ada County Service Area, including:

- Land use assumptions
- Trip generation
- Vehicle miles traveled (VMT)
- Adjustment factors (including average trip length and network adjustment factors)

The methodology used to calculate maximum Impact Fees determines the cost per *Service Unit* for System Improvements. The cost per Service Unit can then be multiplied by the Service Units produced by a Development to determine the maximum Impact Fee that can be charged per Development Unit.

Service Units - Necessitated and Attributable to New Development

Future travel demand estimates in Ada County are based on regional population, housing and employment forecasts (see Section D). These demographic forecasts are developed by COMPASS and based on the Comprehensive Plans from each jurisdiction within and including Ada County. All of this data are assimilated by COMPASS in the Regional Travel Demand Model used to prepare the *Communities In Motion 2040 – Regional Long-Range Transportation Plan (RTP)*. The Comprehensive Plan-based, socio-economic input data (households and employment by employment class) for the base-year and 20-year planning horizon are shown in **Table B-1**.

Table B-1: COMPASS Travel Model Socio-Economic Data Input and Trip Estimates in Ada County							
Year	P.M. Peak Hour Trips (1)	Population	Households	Employment			
				Retail	Office	Industrial	Government
2016	103,400	425,583	160,327	56,695	96,075	28,912	16,503
2035	150,109	606,089	238,126	86,702	145,901	43,926	20,469

SOURCE: Regional Travel Demand Model, 2015.
(1) Excluding Canyon County and “external-external” trips (eg. Oregon to Twin Falls) on the Ada County roadway system.

A summary of ACHD System vehicle miles traveled is provided in **Table B-2**.

Table B-2: Ada County Net New System VMT	
	ACHD System Vehicle Miles Traveled (VMT) – PM Peak Hour
<i>Service Area: Ada County</i>	Total:
2016	293,641
2035	511,612
Net New System VMT Total:	217,971
SOURCE: Regional Travel Demand Model, 2015.	Excluding Canyon County and “external-external” trips (e.g. Oregon to Twin Falls) on the Ada County roadway system.

The peak hour trip and VMT estimates for 2016 and 2035 were derived from the Regional Travel Demand Model to meet the Development Impact Fee Act requirements. The Act specifies that projected demand for System Improvement requirements (by the new “Service Unit”) not exceed 20 years.

The traffic impact fee *Service Unit*, to be consistent with the Development Impact Fee Act requirement of “Proportionate Share,” must relate to the ACHD CIP list of projects, which is based exclusively on ACHD *Arterial* street improvements within Ada County – otherwise known as “System” improvements (including all assumptions of TIF-eligibility). The new traffic generated by growth over the next 20 years, measured as VMT to account for the number and length of trips, should also be accounted for exclusively on ACHD *Arterial* streets. The *Service Unit* thus consists of the net new “System” VMT generated by growth on ACHD’s *Arterial* streets in Ada County. The net new “System” VMT in Ada County is 217,971.

Methodology Components

Peak Hour Trip Rate

A trip rate is a measurement of traffic volume over time. More specifically, as used in this ordinance, it is the number of vehicle trips calculated to be generated during the peak hour from a specified land use. ACHD uses rates from the 9th edition of the Institute of Transportation Engineers (ITE) *Trip Generation Manual* unless more competent local data are available.

Trip generation rates contained in the ITE *Trip Generation Manual*, and sometimes those obtained from local data; include both production (going) and attraction (coming) trips. For example, consider the case of a single-family resident leaving home, going to a store, and then returning home. According to the methodology used by the ITE *Trip Generation Manual*, this two-way shopping trip is counted as four trip ends: a production and attraction trip for the single-family home, and a production and attraction trip for the retail store. When this methodology is used to determine trip generation rates, the rates are divided by two to avoid double counting.

Peak hour trip rates are typically used in analyzing the vehicular capacity of urban classified streets and highways. Peak hour trips are sufficient to measure the proportionate share of the new trip generation potential for any one development as compared to other new developments in Ada County. Hence, peak hour trip generation rates are used in determining the traffic impact fee formula.

New Trip Factor

The Impact Fee methodology includes a factor to reduce the trip rates for certain land uses by considering their pass-by trips. Pass-by trips are not new to the system, as the intermediate stop at certain land uses is not the primary trip destination. ACHD uses the ITE *Trip Generation Handbook, third edition* to establish the New Trip Factor for each land use. Non-pass-by trips include primary trips and diverted linked trips. ACHD acknowledges the definition and recommended practice of treating diverted linked trips as primary trips, unless otherwise defined through a local, site-specific individual assessment.

Average Trip Length

The impact of new development on the ACHD “System” depends on both the number of vehicle trips it will generate and on the travel distance or length of the trips. COMPASS has compiled data that has enabled ACHD to calculate Average Trip Lengths (see **Table B-3**) for all trips with origins or destinations in the Ada County Service Area.

While the average trip length should be representative for most commercial land uses, ACHD recognizes that a lower figure is more accurate for certain convenience retail and service uses. The Urban Land Institute estimates that neighborhood centers typically have an average trip length radius of about 2 miles in urban areas. Convenience stores are determined to have even shorter average trip lengths.

In the methodology for Ada County, the average trip length was reduced for selected neighborhood land uses that capture trips within the same neighborhood. The reductions amount to 10, 25, 50 or 75 percent of the average trip length.

Table B-3: Average Trip Length and Network Adjustment Factor		
Service Area	Average Trip Length (miles)	Network Adjustment Factor
Ada County	5.66	.445
Source: Regional Travel Demand Model, 2015.		

Network Adjustment Factor

Many trips will use both the ACHD roadway System and State/Federal highways. The Impact Fee is based on charging each development unit its Proportionate Share of System Improvement costs of expanding only those *Arterial* streets that are under ACHD’s jurisdiction. ACHD calculated a network adjustment factor that accounts for the “System” VMT on ACHD’s arterials as a percent of the total “Regional Roadway Network” VMT (includes VMT on all ACHD arterials, collectors, and State/Federal highways). These data were also compiled from the Regional Travel Demand Model. **Table B-3** lists the network adjustment factor for the Ada County Service Area.

Vehicle Miles Traveled (VMT) Cost

A major component of the impact fee formula involves determining a cost measure linking the cost of constructing new capacity improvements on ACHD’s *Arterial* street system (that portion determined as impact fee-eligible), by proportionate share, to the relative impact of new development. The impact fee-eligible portion of new highway construction as identified in ACHD’s CIP (see **Exhibit C**), defined as the cost of designing and constructing System capacity

improvements to accommodate new development, measured by *service unit* – “System” VMT. This is determined by dividing the adjusted TIF-eligible costs by the net new “System” VMT generated by new development. The TIF-eligible costs identified in the CIP are adjusted to take into consideration the existing* Service Area fund balance. The determination of the adjusted TIF-eligible costs for the Ada County Service Area is detailed on Figure B-1.

* Source: ACHD Fiscal Year 2016 2nd quarter balance

Traffic Impact Fee Methodology

The summary of the traffic Impact Fee formula, as shown in **Figure B-1**, is expressed as:

$$\text{Traffic Impact Fee per Development Unit} = \text{Peak Hour Trip Rate (one-way)} \times \text{New Trip Factor} \times \text{Average Trip Length} \times \text{Network Adjustment Factor} \times \text{VMT Cost}$$

Inflation Index

The impact fee schedule (Exhibit “A”) shall be adjusted annually and effective on the first day of the ACHD fiscal year (October 1st) by using the five (5) year rolling average percentage increase in the Consumer Price Index for the West Urban region as published by the U.S. Department of Labor. The fee schedule shall be automatically adjusted by operation of law unless the ACHD Board of Commissioners adopts a Resolution or Ordinance by September 1st suspending the inflation index adjustment for the next fiscal year. The adjusted fee schedule shall be calculated by multiplying the VMT Cost for the service area by the multiplier of one (1) plus the five (5) year rolling average percentage increase in the Consumer Price Index for the West Urban region.

FIGURE B-1: 2017 Traffic Impact Fee Formula

ORDINANCE #231

Service Area : Ada County

Step 1 - Estimating Traffic Impact Fee (TIF)-Eligible Improvement Costs

ACHD Capital Improvements Plan, 2016-2035:

Total Project Costs*	-	Non TIF-Eligible Costs*	=	TIF-Eligible Costs*	-	Service Area Balance**	=	Adjusted TIF-Eligible Costs
\$804,150,000		\$326,000,000		\$478,150,000		(\$24,520,000)		\$502,670,000

*SOURCE: ACHD 2016 CIP

** SOURCE: ACHD Fiscal Year 2016 3rd quarter balance

Step 2 - Estimating Cost Per Peak Hour, Vehicle Miles Traveled (VMT)

ACHD CIP TIF-Eligible Costs	/	Net New Ada County "System" VMT (Peak Hour)	=	2016 VMT Cost			
\$502,670,000		217,971		\$2,306 <i>(rounded)</i>			

Step 3 - Estimating Trip Adjustment Factors

AVERAGE TRIP LENGTH		NETWORK ADJUSTMENT FACTOR
Service Area	Average Trip Length (miles)	Network Adjustment Factor (VMT on ACHD System)
Ada County	5.66	0.445

LAND USE TRIP LENGTH ADJUSTMENTS	
	Land Use Category
0.90	Shopping Center, Specialty Retail
0.75	Mobile Home Park, Movie Theater, Car Sales
0.50	Auto Parts & Service, Church, Public Park, High Turnover Restaurant
0.25	Bank, Convenience Market, Day Care, Pharmacy, Fast Food Restaurant, Supermarket, Car Wash, Quick Lube

Step 4 - Estimating Traffic Impact Fee

Example: Ada County Service Area

Sample Land Use Type	ITE (9th Edition) Trip Rate (1-Way) PM Peak Hr.	x	New Trip Factor	x	Average Trip Length	x	Network Adjustment Factor	x	VMT Cost	=	Traffic Impact Fee (rounded)
Per Dwelling Unit											
Single Family Dwelling Unit	0.500	x	1.00	x	5.66	x	0.445	x	\$2,306	=	\$2,904
Per 1,000 Sq. Ft.											
Restaurant - Fast Food w/ Drive-Thru	16.325	x	0.50	x	1.42	x	0.445	x	\$2,306	=	\$11,894
Shopping Center	1.855	x	0.66	x	5.09	x	0.445	x	\$2,306	=	\$6,395
Light Industrial	0.485	x	1.00	x	5.66	x	0.445	x	\$2,306	=	\$2,817
General Office	0.745	x	1.00	x	5.66	x	0.445	x	\$2,306	=	\$4,327
Per Fueling Position											
Gas Station w/ Convenience Market	6.755	x	0.44	x	1.42	x	0.445	x	\$2,306	=	\$4,331

Notes:

- (A) Source: ITE Trip Generation, 9th Edition.
- (B) Source: ITE Trip Generation Handbook, 3rd Edition, August 2014 - Based on Pass-by Trip Rates only.
- (C) Source: Regional Travel Demand Model, 2015 - Service Area: Ada County