

**Greater Eureka Area  
Interim Traffic Impact Fee  
(GEATIF)**

**For the County of  
Humboldt**

February 5, 2016

DRAFT





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## Chapter 1. Introduction and Summary

### Introduction

This analysis provides the technical basis for establishing the required nexus between anticipated future development in the Greater Eureka Area and the need for certain improvements to the local transportation facilities.



Transportation impact fees are one-time fees typically paid prior to the issuance of a building permit and imposed on development projects by local agencies responsible for regulating land use (cities and counties). To guide the widespread imposition of public facilities fees, the State Legislature adopted the Mitigation Fee Act (the Act) with Assembly Bill 1600 in 1987 and subsequent amendments. The Act, contained in California Government Code §§66000-66025, establishes requirements on local agencies for the imposition and administration of fee programs.



The specific tasks performed in preparing this analysis and their results are summarized in this section. The County of Humboldt and the City of Eureka (Agencies) have joined together to consider the adoption of the Greater Eureka Area Traffic Impact Fee (GEATIF). This report recommends the adoption of an Interim Fee, specifically to take advantage of previous studies and to enact such a program on a timely basis. The Agencies retained TJKM to establish the technical aspects of this interim program and the forthcoming Final Fee. The GEATIF program encompasses the entirety of the City of Eureka and the surrounding developed area in unincorporated Humboldt County. The proposed fee area is shown in Figure 1. The fee area was selected as the area where development is likely to occur. The fee boundaries include the Eureka city limits, the City of Eureka Planning Area, the Humboldt Community Services District boundary, the Humboldt Community Services District sphere, and the Eureka Community Plan boundary. If any portion of a property is within the fee boundary area, then the entire parcel is subject to the fee.



The development of the GEATIF program involved the major tasks described below.



1. The existing deficiencies on the Greater Eureka Area streets and intersections were determined. This involved a comprehensive evaluation of the Greater Eureka Area by evaluating 46 intersections. The vast majority of the existing street segments and intersections are not currently deficient, when measured against local existing level of service standards. The Eureka Community Plan (ECP) and local staff recommendations were utilized for determining study locations.
2. Future deficiencies on the street system were determined based on findings of the ECP. TJKM utilized the Humboldt County Traffic Model, which includes future land use conditions, to determine traffic volumes in 2035. A follow up level of service analysis was conducted to determine locations that required mitigation measures to correct future deficiencies and to bring the future deficient intersections and roadway segments to an acceptable Level of Service.





3. A list of projects needed to accommodate future traffic was determined. Initially, 12 projects have been developed based on future deficiencies. Later when the Final fee is adopted, it is expected that additional projects will be included. After review by local staff, the 12 projects have been determined to be appropriate candidates for the Interim Fee.



4. The cost of each project was determined and subsequently adjusted to reflect 2016 costs. The costs were further adjusted to include future costs to cover preliminary engineering, design and construction of each project.



5. An estimate was prepared of the p.m. peak hour trip generation that will result from development of the expected future land uses within the Fee area. The trips are based on development of single family homes, multi-family homes, and various categories of office, commercial and industrial uses within the Fee area. Trip generation rates from the Institute of Transportation Engineers *Trip Generation, 9th Edition*, were utilized. The p.m. peak hour was determined to be the most appropriate for the primary analysis period.



6. A cost per trip was calculated along with the corresponding GEATIF schedule of fees. The Schedule of Fees includes fee categories for residential, commercial, office and other standard land uses.

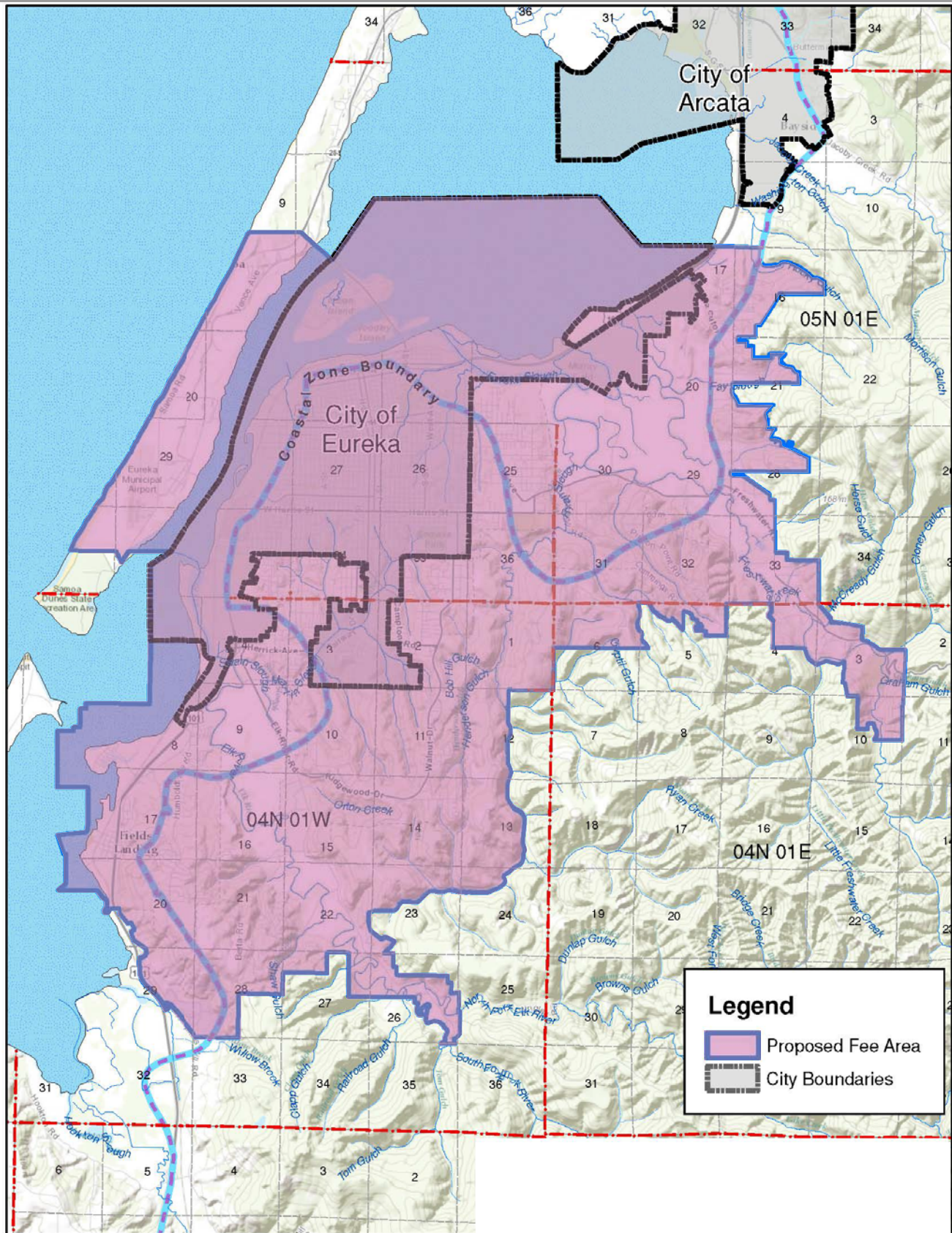
### The Interim Fee



As noted above, this Interim Fee report was prepared so that the Agencies could enact a developer impact fee on a timely basis by taking advantage of available studies of the impacts associated with the buildout of the Eureka Community Plan. This report relies heavily on information already published. When the final fee is recommended it will include enhanced evaluation of growth information, an increased number of projects to be funded by the fee, current project cost estimates, more recent available traffic information and relevant feedback from the Interim Fee adoption process. Recommendations for the final fee are expected to be available for consideration by mid-2016. The Fee Area will be the same for both the interim and final fees.



# Fee Area





## Summary

### **Chapter 1 – Introduction and Summary**

### **Chapter 2 – Existing and Future Deficiencies and Peak Hour Trips**

The first step required for the GEATIF is the determination of existing and future deficiencies on streets and intersections within the study area. Developer fees cannot be used to correct existing deficiencies. Existing deficiencies were determined by evaluating if the level of service on the intersection or roadway meets the level of service standards. The intersection levels of service from the buildout of the Eureka Community Plan were used as a basis to determine existing and future deficiencies and anticipated improvements required to achieve level of service standards.



The trip generation portion of the GEATIF program is based on the proposed changes in land use between 2015 and 2035. Land use files from the Greater Eureka Area Traffic Forecasting Model were used to determine the changes in land use and to determine the growth in trips over the 20-year period. It was calculated that there will be 4,564 new p.m. peak hour trips generated by 20-year growth.



### **Chapter 3 – Project List and Priorities**

The recommended list of new transportation improvements to serve the Fee area was developed based on previous detailed studies conducted for the buildout of the Eureka Community Plan as described in Chapter 2. Projects were selected by initially determining deficient locations in 2035 and then comparing the same locations with existing conditions to determine what portion of the needed project could be financed with a development impact fee. Many of the improvements needed lie within the City of Eureka. The recommend list of new projects is shown below. Costs and details of the individual projects are described in Chapter 3 of this report. The cost of the projects were first determined in 2008 but were updated to 2015 by use of the Consumer Price Index. Most of the projects are to install new traffic signals.



1. Broadway and Bayshore Mall (N)
2. Broadway and Bayshore Mall (S)
3. Fairway Drive and Lundblade Drive
4. Hemlock Street and Walnut Drive
5. Herrick Avenue and Elk River Road
6. Herrick Avenue and US 101 NB Ramps
7. Herrick Avenue and US 101 SB Ramps
8. Ridgewood Drive and Elk River Road
9. Walnut Drive and Campton Road





10. Hodgson Street and F Street

11. Harris Street and G Street

12. Harris Street and I Street

The 12 projects have a total program cost of \$5,448,585.



#### **Chapter 4 – Program Costs and Fee Calculation**

The basic fee per peak hour trip is calculated by dividing the total cost of the TIF program, \$5,448,585 by the total projected 4,564 new p.m. peak hour trips. The TIF requirement calculates to a cost of \$1,194 per p.m. peak hour trip. The proposed Interim GEATIF fee schedule is as follows:

#### **Proposed Fee Schedule**

Land Use Category	Unit	Fee Amount
Single-Family Residential	Dwelling Unit	\$1,194
Multi-Family Residential	Dwelling Unit	740
Senior/Assisted Living	Room	298
General Retail	KSF <sup>1</sup>	4,430
Hotel	Room	740
Gasoline Service Station	Fueling Position	6,624
General Office	KSF	1,779
Medical/Dental Office	KSF	4,262
Government Office	KSF	1,445
Industrial/Service Commercial	KSF	1,158
Warehouse/Distribution < 100 KSF	KSF	370
Warehouse/Distribution > 100 KSF	KSF	143
Mini-Storage	KSF	310
School	Student	179
Church	KSF	657
Other uses	P.M. Trip	1,194

<sup>1</sup> KSF = Thousand square feet

#### **Chapter 5 – Nexus Findings**

California legislation requires that charges on new developments bear a reasonable relationship to the needs created by, and the benefits accruing to, that development. California courts have long used that reasonableness standard or nexus to test to evaluate the constitutionality of exactions, including development fees. Based on the analysis included in the body of this report, it can be concluded that the future development and the need for their associated improvements meet or exceed the basic requirements set forth in Government Code sections beginning with 66000 to govern development fees.

The methodology of this report ensured that only the portions of the projects included in the GEATIF project list are necessitated by the growth in traffic between 2015 conditions





and 2035 conditions. Thus, there is a reasonable relationship between the proposed use of the GEATIF and the proposed land use development projects on which the fee will be imposed. In the same manner there is a reasonable relationship between the need for facilities included in the GEATIF and the proposed land use development projects.



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## Chapter 2. Existing and Future Deficiencies and Peak Hour Trips

### Existing and Future Deficiencies

The intersection and roadway levels of service from the buildout of the Eureka Community Plan (ECP) update were used as a basis for this determination. Where future deficiencies are anticipated, a determination of the improvements required to achieving proper levels of service was conducted. These improvements potentially consist of upgrading signalized intersections, installing new traffic signals, or improving roadway segments. The intersection levels of service from the ECP buildout were used as a basis for this determination. Table 1 shows the existing and future levels of service for the study intersections within the Fee area. In addition, Figure 2 shows the locations analyzed for existing and future deficiencies.



**Table I: Existing and Future Levels of Service**

ID	Intersection	Control	Existing Conditions (2008)				2035 Conditions			
			A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour	
			Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	Broadway and Bayshore Mall (North)	Signalized	7.4	A	20.6	C	52.6	D	30.3	C
2	Broadway and Harris	Unsignalized	14.5	B	14.5	B	24.9	C	26.7	D
3	Broadway and Bayshore Mall (South)	Signalized	7.3	A	14.9	B	<b>123.0</b>	<b>F</b>	21.2	C
4	Fairway Drive and Lundblade Drive	Unsignalized	16.0	C	14.0	B	28.2	D	27.3	D
5	Harris Street and Dolbeer Street	Unsignalized	<b>30.4</b>	<b>D</b>	<b>68.0</b>	<b>F</b>	<b>&gt;120.0</b>	<b>F</b>	<b>&gt;120.0</b>	<b>F</b>
6	Harris Street and Harrison Avenue	Signalized	15.0	B	17.2	B	17.8	B	25.6	C
7	Fourth Street and 'H' Street	Signalized	5.8	A	9.3	A	7.3	A	11.5	B
8	Herrick Avenue and Elk River Road	Unsignalized	<b>50.3</b>	<b>F</b>	<b>34.1</b>	<b>D</b>	<b>&gt;120.0</b>	<b>F</b>	<b>&gt;120.0</b>	<b>F</b>
9	Herrick Avenue and US 101 NB Ramps	Unsignalized	10.7	B	13.5	B	21.5	C	<b>43.8</b>	<b>E</b>
10	Herrick Avenue and US 101 SB Ramps	Unsignalized	<b>29.7</b>	<b>D</b>	<b>102.1</b>	<b>F</b>	<b>&gt;120.0</b>	<b>F</b>	<b>&gt;120.0</b>	<b>F</b>
11	Myrtle Avenue and Hall Lane	Unsignalized	12.9	B	12.6	B	21.3	C	<b>42.6</b>	<b>E</b>
13	Ridgewood Drive and Westgate Drive	Unsignalized	9.8	A	9.4	A	13.3	B	14.2	B
13	Ridgewood Drive and Elk River Road	Unsignalized	11.6	B	11.1	B	23.7	C	27.7	D
14	Walnut Drive, Avalon Drive and Landreth Lane	Unsignalized	24.4	C	13.6	B	<b>88.2</b>	<b>F</b>	<b>58.9</b>	<b>F</b>
15	Walnut Drive and Campton Road	Unsignalized	<b>37.2</b>	<b>E</b>	17.6	C	<b>69.3</b>	<b>F</b>	<b>77.8</b>	<b>F</b>
16	Fourth Street and 'I' Street	Signalized	7.1	A	7.8	A	16.3	B	11.4	B
17	Walnut Drive and Hemlock Street	Unsignalized	13.1	B	12.8	B	<b>50.7</b>	<b>F</b>	<b>&gt;120.0</b>	<b>F</b>

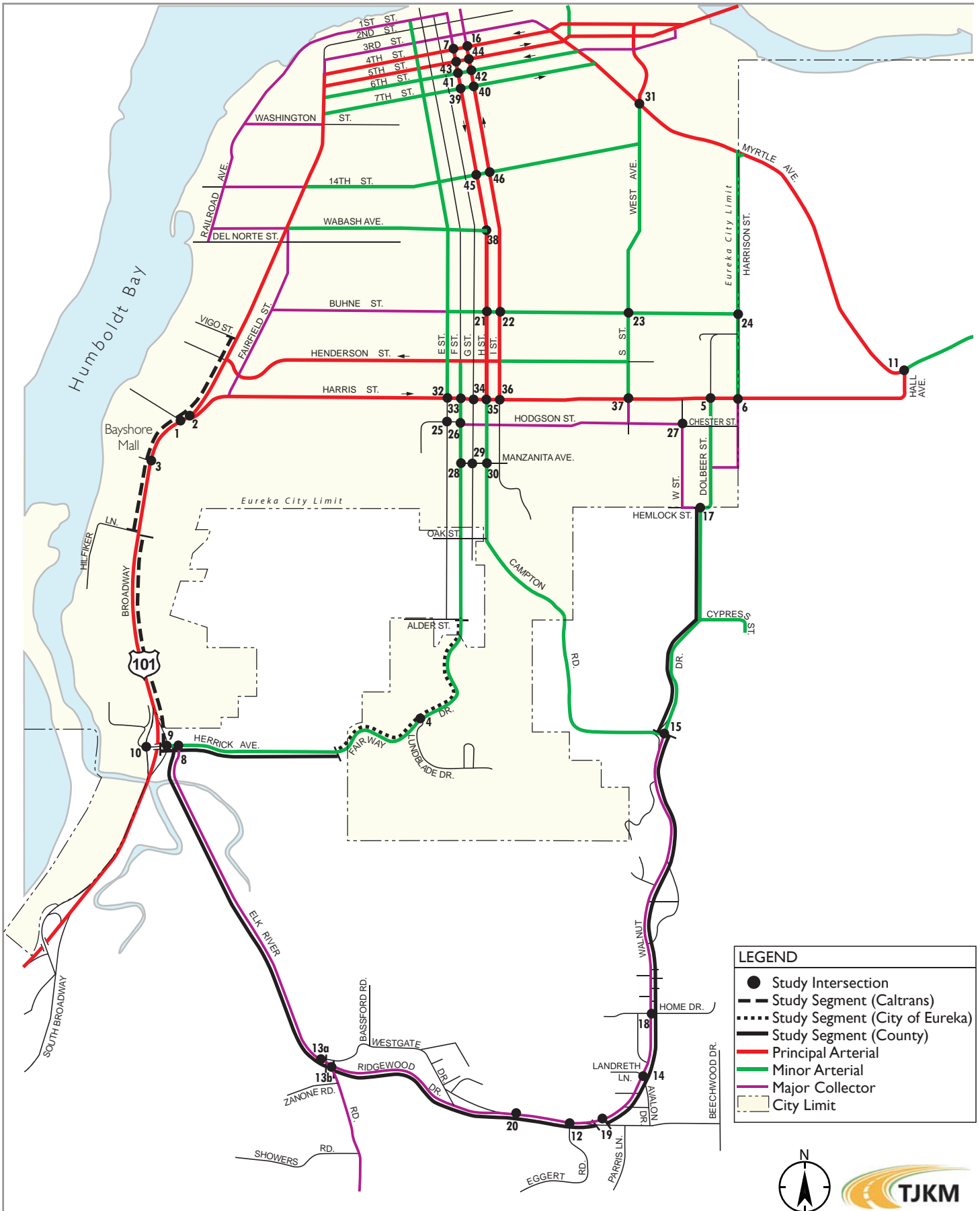




ID	Intersection	Control	Existing Conditions (2008)				2035 Conditions			
			A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour	
			Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
21	Buhne Street and 'H' Street	Signalized	6.5	A	7.9	A	7.4	A	8.3	A
22	Buhne Street and 'I' Street	Signalized	8.0	A	7.0	A	8.5	A	8.6	A
23	Buhne Street and 'S' Street	Signalized	12.7	B	11.8	B	17.7	B	27.7	C
24	Buhne Street and Harrison Street	Signalized	10.4	B	10.6	B	26.5	C	31.3	C
25	Hodgson Street and 'E' Street	Unsignalized	10.8	B	10.0	A	11.4	B	10.4	B
26	Hodgson Street and 'F' Street	Unsignalized	<b>29.4</b>	<b>D</b>	22.8	C	<b>87.9</b>	<b>F</b>	<b>&gt;120.0</b>	<b>F</b>
27	Hodgson Street and 'W' Street/Chester Street	Unsignalized	13.0	B	11.1	B	13.4	B	17.2	C
28	Manzanita Street and 'F' Street	Unsignalized	17.2	C	18.8	C	16.8	C	21.5	C
29	Manzanita Street and 'G' Street	Unsignalized	9.4	A	9.2	A	11.3	B	15.8	C
30	Manzanita Street and 'H' Street	Unsignalized	18.4	C	17.6	C	<b>51.2</b>	<b>F</b>	<b>44.2</b>	<b>E</b>
31	Myrtle Avenue and West Avenue	Signalized	25.2	C	31.7	C	25.0	C	28.9	C
32	Harris Street and 'E' Street	Signalized	7.6	A	7.6	A	7.6	A	8.0	A
33	Harris Street and 'F' Street	Signalized	8.2	A	7.4	A	10.9	B	9.0	A
34	Harris Street and 'G' Street	Unsignalized	23.2	C	17.7	C	<b>35.3</b>	<b>E</b>	<b>&gt;120.0</b>	<b>F</b>
35	Harris Street and 'H' Street	Signalized	8.9	A	8.3	A	9.4	A	8.6	A
36	Harris Street and 'I' Street	Unsignalized	<b>&gt;120.0</b>	<b>F</b>	<b>&gt;120.0</b>	<b>F</b>	<b>&gt;120.0</b>	<b>F</b>	<b>&gt;120.0</b>	<b>F</b>
37	Harris Street and 'S' Street	Signalized	21.1	C	18.3	B	25.6	C	22.8	C
38	Wabash Avenue and 'H' Street	No Control	-	-	-	-	-	-	-	-
39	Seventh Street and 'H' Street	Signalized	6.7	A	8.0	A	7.0	A	8.0	A
40	Seventh Street and 'I' Street	Signalized	7.1	A	7.4	A	7.8	A	7.6	A
41	Sixth Street and 'H' Street	Signalized	6.6	A	7.6	A	7.0	A	8.2	A
42	Sixth Street and 'I' Street	Signalized	6.8	A	7.0	A	7.2	A	7.5	A
43	Fifth Street and 'H' Street	Signalized	7.3	A	7.8	A	9.0	A	10.4	B
44	Fifth Street and 'I' Street	Signalized	7.3	A	8.1	A	8.7	A	10.3	B
45	Fourteenth Street and 'H' Street	Signalized	6.6	A	9.0	A	8.3	A	8.8	A
46	Fourteenth Street and 'I' Street	Signalized	7.8	A	7.3	A	8.9	A	8.5	A

Notes: Delay = Control Delay in Seconds/Vehicle, LOS = Level of Service  
 X.X (X.X) = Average Intersection Delay in seconds per vehicle (signalized)  
 Average Delay in seconds per vehicle for the worst minor approach (unsignalized)  
**BOLD** denotes unacceptable levels of service

# Study Intersections





### Trip Generation

A key step in the fee development process is to determine the number of trips that will be generated over a 20-year period by the growth in local development within the fee area. To determine the land use growth, TJKM utilized the land use tables contained in the Humboldt County Traffic Model. The main purpose and use of this model is to develop future traffic volumes on all important streets within the area. The model evaluates trip generation by land use category including the existing and future number of households in hundreds of traffic analysis zones (TAZs) and the existing and future number of employees in the same TAZs. TJKM selected the TAZs that constitute the study area (Fee Area) for this report. The table below summarizes the land use growth, expressed in households and employees, within the Fee Area by the various land use categories. It also lists the growth in trips in each category after applying a p.m. peak hour trip rate factor based on the Institute of Transportation Engineers publication *Trip Generation, 9<sup>th</sup> Edition*.



**Table 2: Determination of 20-Year Trips**

Land Use Category	Employment, Jobs				Trips	
	2010	2040	30-Year Growth	20-Year Growth <sup>1</sup>	P.M. Peak Hour Trip Rate <sup>2</sup>	20-Year Trips
Retail	4,546	4,964	418	279	3.5	977
Service	8,723	9,452	729	486	2.0	972
Manufacturing	445	481	36	24	0.5	12
Government	1,925	2,042	117	77	2.5	193
Finance	1,061	1,123	62	41	5.4	221
Wholesale	741	779	38	25	0.5	13
Agriculture	326	326	0	0	-	-
Other	1,365	1,365	0	0	-	-
Healthcare	3,970	4,234	264	176	1.0	176
Sub Total	23,102	24,766	1,664	1,108	-	2,564
Households	20,035	22,064	2,029	2,000	1.0	2,000
Total growth in trips, 2015 to 2035						4,564

<sup>1</sup> 30 year employment x 0.667

<sup>2</sup> Based on ITE's Trip Generation, 9th Edition

The Humboldt County Traffic Model has land use forecasts for 2010 and 2040. Since these are not the exact years needed for development of the GEATIF, TJKM assumed that there would be lineal growth during this 30-year time period. That information is contained in the column, "30-Year Growth." To obtain the growth that could be expected in the 20-year period between 2015 and 2035, two-thirds of the 30-year growth was utilized. In the table, the column "20-Year Growth" was used in this study. Note that 1,108 new jobs are expected in the 20-year period, along with 2,000 new dwelling units. By applying the trip generation rates to these jobs and homes, it was calculated that there would be 4,564 new p.m. peak hour trips each day.





### Chapter 3. Selection and Cost of Projects

In this project, levels of service (LOS) conditions were evaluated at 46 intersections. At 17 of the intersections, the future LOS will be at an unacceptable D, E or F, after anticipated future growth has been added to the roadway network. Twelve locations were selected to be included in the Interim fee program. Those that were not selected usually involved locations that could be mitigated with low cost solutions or with measures that were not suitable for a development traffic impact fee.



**Table 3: Project List and Costs**

Project Location	Project Description	Cost	Deficiency Factor*	Adjusted Cost
1. Broadway & Bayshore Mall (N)	Add third SB through lane	\$467,000	1	\$467,000
2. Broadway & Bayshore Mall (S)	Add third SB through lane	\$467,000	1	\$467,000
3. Fairway Drive & Lundblade Drive	New signal	\$880,000	1	\$880,000
4. Hemlock Street & Walnut Drive	New signal	\$330,000	1	\$330,000
5. Herrick Avenue & Elk River Road	New signal	\$330,000	1	\$330,000
6. Herrick Avenue & US 101 NB Ramps	New signal	\$330,000	1	\$330,000
7. Herrick Avenue & US 101 SB Ramps	New signal	\$330,000	0.09	\$29,700
8. Ridgewood Drive & Elk River Road	New signal	\$385,000	1	\$365,000
9. Walnut Drive & Campton Road	New signal	\$385,000	1	\$385,000
10. Hodgson Street & F Street	New signal & lanes	\$330,000	1	\$330,000
11. Harris Street & G Street	New signal	\$330,000	1	\$330,000
12. Harris Street & I Street	New signal	\$330,000	0.09	\$29,700
<b>Subtotal</b>		<b>\$4,894,000</b>		<b>\$4,273,400</b>
Soft Costs @ 25%				\$1,068,350
<b>Total Program Costs</b>				<b>\$5,341,750</b>

\* Locations that are currently deficient are factored to reflect 20 year percent growth



Developer fees cannot be used to fund existing deficiencies. However, the fee can be used to pay for the proportionate share of *increased* deficiencies, which are generally reflected by the growth in traffic volumes. Table 3 includes a “Deficiency Factor” to cover those intersections that are already deficient. A word of explanation: several of the locations proposed for new signals were rated as deficient in both the existing and future conditions yet are rated with a deficiency factor of 1 meaning the fee pays for the full price of the traffic signal. This is because at unsignalized intersections, only the traffic on the side street, usually controlled by a stop is evaluated for delay. Under this methodology a small amount of traffic can experience a lengthy delays. For example 10 cars on a stop-sign controlled approach might each experience long delays of, say, two minutes. In this case, the delay is long but traffic signals are not needed because the traffic is light. It is not until traffic builds





up high enough to justify traffic signals that they are considered. Since the fee covers the cost of signals, it is appropriate for the fee to pay the entire amount.



The following information provides more details on the specific projects. The project costs were originally estimated in 2008; the costs that are listed were escalated by the 2008-2015 change in the Consumer Price Index, roughly a 10 percent increase.



**1 & 2. *Broadway at Bayshore Mall (North and South) – Cost \$934,000:***

Traffic studies have shown that mitigation on Broadway could be achieved through the provision of three southbound lanes on Broadway through these signalized intersections at the Bayshore Mall. Additionally the coordination of the signals on this segment of Broadway could maintain LOS D with the expected traffic volumes.



**3. *Fairway Drive and Lundblade Drive – Cost \$880,000:***

Even though this intersection is compromised by the narrow, sharply-curved approach on Lundblade Drive, it appears that a traffic signal will operate acceptably. The westbound left turn lane should have a protected left turn phase due to limited sight distance, which would result in LOS B.



**4. *Walnut Drive and Hemlock Street – Cost \$330,000:***

The problem at this intersection at the present is the heavy northbound right turn movement that has to stop and therefore is being delayed. An alternative to this is to redirect the traffic to Harris Street via the S Street signal, which would reduce right turn volumes, and this is in conjunction with the strategy proposed for mitigating the poor LOS at Harris and Dolbeer. With the redirection of traffic, northbound left turns then become problematic. A signal is warranted with the changes. The change would reduce eastbound lanes to one shared through/right turn, and westbound would have a separate left turn lane and a through lane. Northbound right turns would operate as an overlap with westbound left turns. Pedestrian phases would be provided for crossing both Walnut Drive and Hemlock Street. Northbound and eastbound right turn movements on red would be prohibited, and pedestrians would receive an advance "Walk" five seconds before vehicular traffic. These measures will work to minimize the potential right turn conflicts between vehicular and pedestrian traffic.



**5. *Herrick Avenue and Elk River Road – Cost \$330,000:***

Installation of a traffic signal will be warranted to accommodate growth. Initially, a simple two-phase signal with a westbound left turn lane will result in an improved LOS B. Signalization of this intersection should be done in conjunction with signalization of Herrick Avenue and US 101 Northbound and Southbound ramps, as described below. A westbound left turn lane already exists on Herrick Avenue at Elk River Road. However, the following improvement is recommended to accommodate future traffic demand. In the future, the northbound Elk River Road approach should be widened to two lanes, with one right turn lane to the east and one left turn lane to the west. Additionally, an eastbound right turn lane from Herrick Avenue onto southbound Elk River Road should be constructed,





necessitating widening on the south half of Herrick Avenue. The ultimate signal operation will have eastbound right turn movement running as an overlap with northbound left turn movement and eastbound through movement. Additional improvements are needed on the northbound off ramp from US 101 at Herrick Avenue



**6 & 7. Herrick Avenue and US 101 Northbound and Southbound Ramps – Cost \$660,000:**

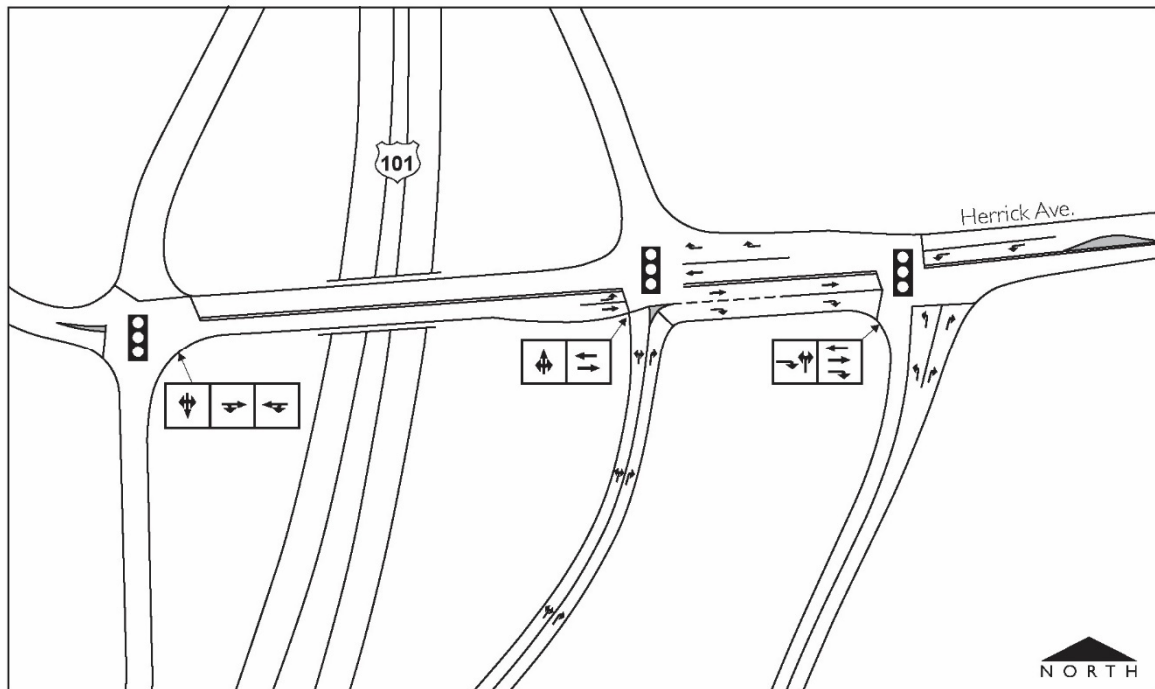
A signal is not warranted for the northbound ramp in the near term. However, because of the proximity of the three Herrick Avenue intersections, all signals should be installed at the same time and coordinated. The two ramps being approximately 500 feet apart, and the northbound ramp being approximately 250 feet from Elk River Road require coordination of the signals.



There is no apparent need for widening of Herrick Avenue at the over crossing, although it appears that a short eastbound left turn lane can be striped at the northbound ramp, expecting short queues of one vehicle only. There will not be any westbound left turn lane at the southbound ramp. For the northbound ramp there is a need to add a second northbound right turn lane that connects directly with the eastbound right turn lane to Elk River Road. Overhead signing on the off-ramp would advise motorists which lane to be in at the intersection; the exclusive right lane for the immediate right turn onto southbound Elk River Road, and right/through/left lane for right turn to eastbound Herrick Avenue, as well as left and through movements.



Additionally, a westbound right turn lane on Herrick Avenue, from Elk River Road approaching the northbound ramps should be provided. This may require minor widening





of the north side of Herrick Avenue between Elk River Road and the northbound on-ramp. A conceptual diagram below shows the relationship of these improvements at the three intersections, including diagrams regarding signal operations and coordination. A relatively moderate cycle length of 80 seconds should suffice for all three intersections and they are expected to operate at LOS C or better under all future scenarios. Prior to 2035 the cycle lengths could be reduced to only 60 seconds to further minimize delay and improve LOS. The graphic shows all three intersections, lane requirements and signal operations.



**8. Ridgewood Drive/Elk River Road – Cost \$385,000:**

Due to the 45 mph speeds and use of the rural warrant, a signal will be warranted at this intersection in the future. A left turn lane is needed for the main road on both Elk River Road and for Westgate Drive, which will not be part of the signal operation.



**9. Walnut Drive and Campton Road – Cost \$385,000:**

This intersection will meet warrants for signalization in the future.



**10. Hodgson Street and 'F' Street – Cost \$330,000:**

This is an off-set intersection with the east leg of Hodgson Street intersecting 'F' Street approximately 80 feet south of the west leg of Hodgson Street. A signal is not warranted in the immediate future; simply striping westbound narrow (10 foot) right and left turn lanes would reduce the delay to LOS E. This is the most cost-effective near-term mitigation. When a signal is warranted, if operating as split phase for Hodgson Street, acceptable levels of service will be provided. A split phase signal is needed due to the offset intersections.



**11. Harris Street and 'G' Street – Cost \$330,000:**

A signal will be warranted in the near future. A two-phase signal is adequate for this intersection, with no need for revising the existing lane configuration. A signal will result in acceptable levels of service at all times of the day.



**12. Harris Street and 'I' Street – Cost \$330,000:**

A signal will be warranted at this intersection in the near future. The intersection currently operates at LOS F with existing volumes. Operation of the intersection is expected to improve to LOS A with installation of the traffic signal.





## Chapter 4. Program Costs and Fee Calculation

### Cost per Trip Estimate

Table 4 presents a summary of the TIF improvement project costs; the projected future trips to be added by new development, and the resulting estimated TIF improvement cost per trip. The total cost of the TIF projects to be included is \$5,448,585.



The fee calculation is based on trip generation estimates in Table 2 and the cost estimates of the TIF improvement projects. The cost per p.m. peak hour trip is calculated to be \$1,194, using a total TIF project cost of \$5,448,585 including the cost for administering the program, and 4,564 new p.m. peak hour trips. The TIF improvement project costs as well as the calculated new TIF cost per trip are shown in Table 4. TJKM is not aware of any other dedicated funding sources for any of the 12 projects, so no adjustment has been made for other funding sources.



Table 5 presents the new schedule of fees. The land use categories in this fee schedule have been determined based on a range of expected development land use types.



**Table 4: 2016 Cost per Trip Estimate**

GEATIF Improvement Projects	2016 TIF Costs
All Projects	\$5,341,750
<b>Subtotal</b>	<b>\$5,341,750</b>
Plus Administrative Costs (2%)	\$106,835
<b>Total TIF Funding</b>	<b>\$5,448,585</b>
Total Peak Hour Trips Added by New Development	4,564
<b>TIF Cost Per Trip</b>	<b>\$1,194</b>





**Table 5: Calculation of Fees (per KSF unless noted)**

Land Use Category	ITE Reference	Trip Rate <sup>1</sup>	Cost Per Trip	Fee Rate
Single Family/unit	Single Family Detached Housing (210)	1	1,194	\$1,194
Multi-family/unit	Apartment (220)	0.62	1,194	740
Senior/Assisted/unit	Senior Adult Housing - Attached (252)	0.25	1,194	298
General Retail	Shopping Center (820)	3.71	1,194	4,430
Hotel/Motel (per room)	Business Hotel (312)	0.62	1,194	740
Gasoline/Service Station (per fueling position)	Gasoline/Service Station	5.552	1,194	6,624
General Office	General Office Building (710)	1.49	1,194	1,779
Medical/Dental Office	Medical-Dental Office Building (720)	3.57	1,194	4,262
Government Office	Government Office Building (730)	1.21	1,194	1,445
Industrial/Service Commercial	Light Industrial (110)	0.97	1,194	1,158
Warehouse/Distribution (< 100 KSF)	Warehousing (150)	0.31	1,194	370
Distribution (> 100 KSF)	High Cube Warehouse (152)	0.12	1,194	143
Mini-Storage	Mini-warehouse (151)	0.26	1,194	310
School	Schools /student (520)	0.15	1,194	179
Church	Church (560)	0.55	1,194	657

<sup>1</sup> P.M. peak hour trip rate, based on ITE's *Trip Generation, 9<sup>th</sup> Edition*

<sup>2</sup> Based on 60% pass-by trips

**Other Factors in TIF**

Establishment of Final TIF Fee The Agencies may decide not to levy the full fee that has been established as a part of this study. If so, the results will be reflected in an adjustment to this study.

Other Land Uses The Agencies may decide to use the \$1,194 cost per p.m. peak hour trip rate to apply to other specific land uses not covered by Table 4. The latest edition of the Institute of Transportation Engineer's *Trip Generation* should be used as a source for p.m. peak hour trip rates.



## Chapter 5. Nexus Findings

Transportation impact fees are one-time fees typically paid prior to the issuance of a building permit and imposed on development projects by local agencies responsible for regulating land use (cities and counties). To guide the widespread imposition of public facilities fees, the State Legislature adopted the Mitigation Fee Act (the Act) with Assembly Bill 1600 in 1987 and subsequent amendments. The Act, contained in California Government Code §§66000-66025, establishes requirements on local agencies for the imposition and administration of fee programs. The Act requires local agencies to document five findings when adopting a fee.



The five statutory findings required for adoption of the maximum justified fee documented in this report are presented in this chapter and supported in detail by this report. All statutory references are to the Act.



### Purpose of the Fee

For the first finding, the Agencies must:

*Identify the purpose of the fee. (§66001(a)(1))*



This fee would be charged under the authority of proposed Section 3211-1 Purpose, of the County Code of Humboldt County, which establishes a GEATIF. According to the Code,



*"The County of Humboldt and the City of Eureka (Agencies) find that the cumulative impact of all new development in the Greater Eureka Area (Area) will result in increased traffic. This increase in traffic may result in traffic volumes which exceed the capacity of the existing circulation system to provide acceptable levels of service. To prevent these undesirable consequences, traffic improvements must be provided at a rate which will accommodate the expected growth in the area. This anticipated development, including development currently approved or submitted for approval, cumulatively will generate a substantial increase over existing levels of traffic within the Area. In accordance with Sections 66000 through 66008 of the California Government Code the Greater Eureka Traffic Impact Fee (GEATIF) is established.*



*The Agencies also find that, in the absence of this chapter imposing a traffic impact fee, existing and future sources of revenue will be inadequate to fund a substantial portion of the circulation system improvements identified in various traffic studies. Accordingly, it is the intent of the Agencies to adopt by this chapter a fair and equitable method of securing some of the revenues necessary to fund the construction and implementation of improvements to the Area's circulation system sufficient to accommodate the traffic volumes generated by new development and preserve acceptable levels of service.*



*The proposed traffic development fee apportions the cost of the necessary traffic improvements and reconstruction among the different categories of new and existing users*



*according to the reasonably estimated peak hour trip demand that each group of users places upon traffic improvements."*

This fee will further that policy by charging new development the fair share cost of transportation improvements needed to mitigate the transportation impacts created by that development.



### **Use of Fee Revenues**

For the second finding the Agencies must:

*Identify the use to which the fee is to be put.*



If the use is financing public facilities, the facilities shall be identified. That identification may, but need not, be made by reference to a capital improvement plan as specified in Section 65403 or 66002, may be made in applicable general or specific plan requirements, or may be made in other public documents that identify the public facilities for which the fee is charged. (§66001(a)(2))



Detail on planned uses of fee revenues is contained in Chapter 3 of this report.

### **Benefit Relationship**

For the third finding, the Agencies must:

*Determine how there is a reasonable relationship between the fee's use and the type of development project on which the fee is imposed. (§66001(a)(3))*



The Agencies have determined that the improvements listed in the report are necessary to support projected development in the Greater Eureka Area. Public facilities funded by the fee will provide a network of transportation infrastructure accessible to the additional residents and workers associated with new development. The benefit from planned improvements and facilities will result from the maintenance of acceptable levels of congestion. Thus, there is a reasonable relationship between the use of fee revenues and the residential and nonresidential types of new development that will pay the fee.



### **Burden Relationship**

For the fourth finding, the Agencies must:

*Determine how there is a reasonable relationship between the need for the public facility and the type of development project on which the fee is imposed. (§66001(a)(4))*



Residential dwelling units and building square footage are indicators of the demand for transportation facilities needed to accommodate growth. As new building square footage is created, the occupants of the new structures will place additional burdens on the transportation facilities. The need for the fee is based on traffic engineering studies assessing the impact of additional vehicle trips from new development as well as City and County policies governing the design of a transportation system needed to serve new growth areas.





Traffic engineering and related data were also used to inform the scope of improvements included in the fee program. For transportation improvements needed to accommodate the development anticipated in the near term, the cost burden is fully allocated based on development anticipated in the near term. For transportation improvements that are not immediately needed to accommodate near term development, but that will be needed to accommodate development in the longer term, the cost burden is allocated based on projections of new development. Thus, there is a reasonable relationship between the need for the planned improvements, the scope of the improvements, and the parcels that will pay the fee.



### **Proportionality**

For the fifth finding, the Agency must:

*Determine how there is a reasonable relationship between the amount of the fee and the cost of the public facility or portion of the public facility attributable to the development on which the fee is imposed. (§66001(b))*



There is a reasonable relationship between the transportation impact fee for a specific development project and the cost of the facilities attributable to that development based on the estimated vehicle trip demand the development will generate in the Greater Eureka Area. The total fee for a specific development is based on its planned square footage for nonresidential uses and the number of dwelling units for residential. Larger projects of a certain land use type will have a higher trip generation and pay a higher fee than smaller projects of the same land use type. Thus, the fee schedule ensures a reasonable relationship between the transportation impact fee for a specific development project and the cost of the facilities attributable to that project.





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