DKS Associates
TRANSPORTATION SOLUTIONS

TECHNICAL MEMORANDUM

TO:	Rob Jensen and Scott Gandler		
FROM:	Mike Mauch and Dave Tokarski		
DATE:	March 8, 2011		
SUBJECT:	Transportation Development Fee Update For the City of Roseville	P/A No.	10028-000

The City of Roseville's traffic mitigation fees (TMF) were last updated in 2006. The City updates its TMF program periodically to respond to changing conditions and to assure that fees support the transportation improvements necessary to accommodate new development. Due to periods of rapid growth over the past decade and the anticipated annexation of the Sierra Vista Specific Plan, the City has undertaken the task of updating their TMF program.

This memorandum documents the technical analysis for the City's TMF update.

The basic fee structure and allocation methodology in the current fees remains largely unchanged for this TMF Update (with only a few changes.) This 2011 update to the Roseville traffic mitigation fees follows an update to the City's Capital Improvement Program (CIP) and uses revised land use forecasts for the City and the region and an updated version of the City's Travel Demand Model. Furthermore, the fees are now using a 2025 horizon year instead of the previously used 2020 horizon year.

This TMF update involved the following:

- Compiling a comprehensive and updated CIP project list that incorporates roadway, intersection and signal improvements identified as mitigation measures in environmental documents since the adoption of the current fees (prepared by the City)

- Updating the construction cost estimates and the construction cost index (prepared by the City)

- Updating the estimates of "dwelling unit equivalences" (DUEs) and "roadway usage" estimates to reflect the latest development estimates based on approved developments.

Table 1 summarizes the calculations for the 2011 TMF Update. The major components of this calculation are discussed in the following sections.

Development Assumptions

The existing (current) fee structure is based on a 1997 base year and forecast of year 2020 development levels. For the 2011 Fee Update, a "base" month/year for calculating the fees of July 01, 2008 was used. The July 01, 2008 estimates include projects that had building permits, but were yet to be constructed and/or occupied. Additionally, the 2025 development levels were updated to reflect approved developments. The 2008 and updated 2025 development estimates by plan area in the City are shown in **Table 2**.

Needs and Costs

The roadway and intersection improvements in the 2011 Fee Update are based on the current CIP project list that includes improvements identified in the West Roseville Specific Plan, Sierra Vista Specific Plan and other recent development projects. The roadway, intersection, and signal improvements and their associated costs for the CIP projects were updated by the City staff to reflect current CIP projects and construction unit costs.

Fee Allocation Methodology

The intent of the fee program is to provide an equitable means of ensuring that future development contributes their fair share of roadway improvements, so that the City's General Plan policies can be maintained. The fee allocation process is designed to draw a clear nexus between the usage of a new or improved roadway/intersection and new development within the City. The fees are calculated on a "district" basis and are differentiated by type of development in relationship to their relative traffic impacts.

As shown in Figure 1, the City was divided into 15 plan areas. For the TMF, some of these plan areas are further divided into subareas for a total of 17 "fee districts", so that fees can be distributed equitably based on the use of each roadway in the CIP project list.

The City's travel demand model was used to estimate the origin and destination of trips using each roadway or intersection improvement project. Trips using intersections were defined as total trips entering each intersection. Since the capacity needs for the roadways and intersections were based on afternoon peak hour traffic volume flows, the origins and destinations of PM peak hour trips (as opposed to daily trips) were used to determine who benefits from each improvement in the allocation process. In defining the usage of a roadway or intersection, the following criteria were used:

- If a trip using an improvement has both its origin and destination within the City, half of the trip was allocated to the origin district and half to the destination district.

- If a trip using an improvement has one end within the City but the other end of the trip outside the City, the trip was allocated to the district in the City where it originated or was destined.

- If a trip has both ends of its trip outside the City, it was classified as a "thru trip".

Although existing development (i.e., development that existed prior to July 01, 2008) will use the roadways and intersections in the project list, funding for the CIP projects focuses on new development for the following reasons:

- The City's TMF program was first adopted in 1988. Fees have already been collected for development that that has occurred between 1988 and July 01, 2008.

- The improvement projects in the CIP were not needed in 1988, and thus are not needed to accommodate development that existed prior to 1988.

Consequently, existing development should not have to pay for the CIP roadway improvements. However, the City decided that accommodating the growth in "thru trips" (that have both ends of the trip outside the City) is the responsibility of both existing and future development. The following procedures were used to allocate fees based on the estimated percentage of use:

- The **growth** in "thru trips" using a roadway or intersection in the project list was allocated to a plan area based on the percentage use of the project by that plan area, including trips from both existing and new developments.

- The **growth** in local trips (those having at least one end of the trip within the City) was allocated to a plan area based on the percentage use of a project by new development only.

Using these procedures, most of the cost for the roadways and intersections in the project list would be paid by new development. The City, however, would have to pay a portion of the total cost reflecting existing development's share of the growth in "thru trips".

Fee Calculation Methodology

A Microsoft Excel spreadsheet contains the calculation of Roseville's Traffic Impact Fee that is maintained by the City of Roseville's Public Works Department. This fee estimation model (in the spreadsheet) contains three general sections; Funding Obligations, Funding Contributions, and Fee Calculations. These three sections are described next. **Table 1** summarizes the updated fees, as well as other key data from the master spreadsheet.

<u>Funding Obligations</u>

Roadway Obligation. This is the total cost of roadway projects allocated to each fee district for the entire program. The percentage of trips allocated to a fee district for each roadway improvement project is determined using the City's travel demand model. The appropriate proportion of the total project cost are used to identify the districts funding obligation for each roadway project in the roadway project listing.

Intersection Obligation. This is the total cost of intersection projects allocated to each fee district for the entire program. The percentage of trips allocated to a fee district for each intersection improvement project is estimated using the City's travel demand model. The appropriate proportion of the total intersection project cost are used to identify the fee districts funding obligation for each intersection project in the intersection project listing.

Signal/ITS Obligation. This is the total cost of signal improvements, ITS improvements, and future fee updates. Unlike the allocation of roadway and intersection improvements identified above, the cost of these improvements are shared equally City-wide on a per DUE basis since they provide city-wide benefits.

Total Obligation. This is the sum of the fee districts obligation for roadway, intersection, signal and ITS improvements.

Funding Contributions

TMF Fees Paid. This is the total Traffic Mitigation Fees paid by each fee district thru July 01, 2008, which corresponds with the land use data used in this update.

Construction Surcharge Paid. This is the Total Construction Surcharge paid by each fee district thru July 01, 2008. The construction surcharge represents fees that were paid as a building permit fee prior to the City's adoption of its current fee program in 1988.

Offsets Received. This is the total funding offset provided by the City to each fee district thru July 01, 2008 to reduce the total obligation of a fee district. The City has accepted the obligation to fund the offset provided to individual fee districts.

Remaining Plan Area Obligation. This is the total remaining fee district obligation and is reflective of the Total Obligation less TMF fees Paid, Construction Surcharge Paid, and Offsets received.

Fee Calculations

Growth in DUE's. This is the total growth in DUE's per fee district based on forecast development from July 01, 2008 thru 2025. The 2008, 2025 and the growth in DUE's is shown in **Table 2**. The July 01, 2008 and Year 2025 DUE's and the associated Growth in DUEs were calculated by applying the DUE rates shown in **Table 3** to the Roseville land use estimates and forecasts shown in the appendix in Tables A-1 and A-2.

Gross Fee Per DUE. This is the fee district's gross funding obligation to the Capital Improvement program. It is calculated by dividing the Remaining Plan Area Obligation by the Growth In DUE's.

Plan Area Contribution. This reflects the cost of Capital Improvement Projects included within the Fee Program that were constructed as a condition of development of a fee district. This advance construction is reflected as a fee credit to the individual fee district to reduce the district's funding obligation.

Credit. This is a reduction to a fee districts funding obligation and is calculated by dividing the Plan Area contribution by the growth in DUE's.

Future City Offset. Since the inception of the City's Capital Improvement Program, the City has contributed funds in excess of the City's obligation to the program. The funding sources for these contributions include gas tax funds, and State and Federal Funds. Because of this contribution, in the past the City has reduced plan area fees through a City provided offset. Currently, the City has chosen to offset the fees in the infill and redevelopment areas of the City to provide an incentive to reinvest in these fee districts.

Net Fee Per DUE. This is the total fee to be paid at issuance of a building permit. It is calculated by subtracting the Credit and Future Offset amounts from the Remaining Plan Area Obligation. As discussed below, the net fee per DUE must be multiplied by the appropriate DUE factor to determine the fee for each land use type.

Dwelling Unit Equivalents

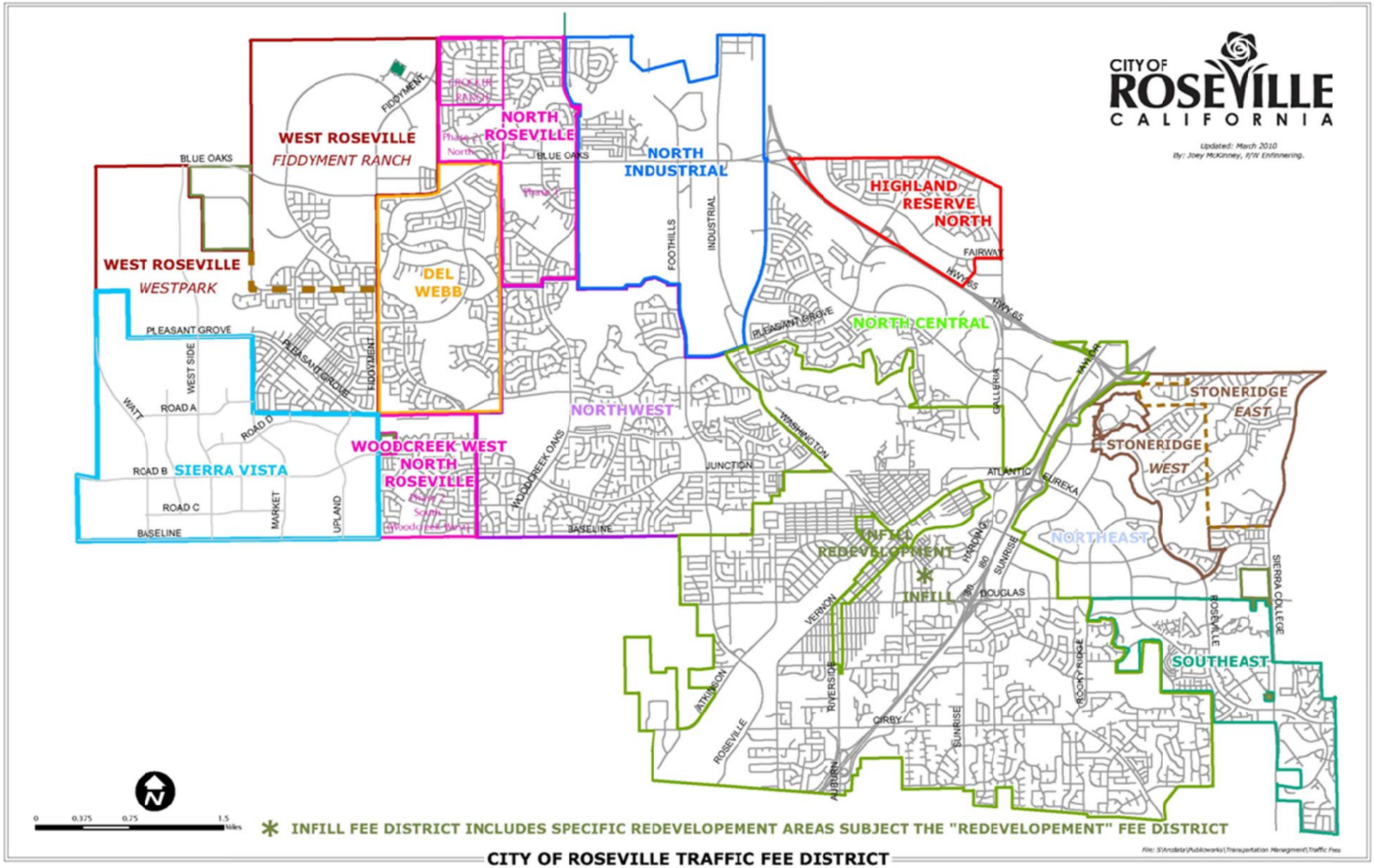
Once each district's share of the cost of the improvement projects is established, the actual fees are calculated based on a specific development's trip generation expressed in "dwelling unit equivalents" or DUEs.

Dwelling unit equivalency rates were developed by comparing the trip generation and trip length characteristics of various development types to those of a typical single-family dwelling unit. Peak hour trip generation rates were adjusted to discount for "pass-by" trips. Average trip lengths for the remaining "primary" trips generated by a development were then utilized to better reflect overall impact of longer trips on the City's roadway system. The DUE rates were thus based on estimates of the average vehicle-miles of travel (VMT) generated during the PM peak hour for each general land use type. The general DUE rates used to estimate the fees are shown in **Table 3**. To illustrate the functionality of DUEs, 1,000 square feet of office development is estimated to have on average the same peak hour impact on the City's roadway system as 1.580 single family dwelling units.

These rates were used to calculate the average fee per DUE for each district in the City. When implementing the fees, however, a more detailed fee structure would be used. That is, a fast food restaurant has a different DUE rate than a shopping center or most other types of retail development. The detailed DUE rates are updated periodically and are available on the City's website:

http://www.roseville.ca.us/pw/engineering/transportation_planning/traffic_fee_programs/tmf_program.asp

The detailed DUE rate table provides adequate information to define the DUE rate for most development types in the City. However, there will be special cases that will require professional judgments and/or collection of new data. For such cases the City staff would determine the appropriate DUE rates based on available data and/or acceptable data provided by a developer. **Table 2** shows the resultant DUEs by fee districts (i.e., Plan Areas). Tables A-1 and A-2 list the City's land use estimates used for DUE estimation for the existing conditions (July 01, 2008) and for the future horizon year (2025).



CITY OF ROSEVILLE TRAFFIC FEE DISTRICT

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Table 1
Summary of Fees

	Plan Area	Roadway Obligation	Intersection Obligation	Signal/ITS Obligation	TMF Fees Paid	Plan Area Contribution	Growth DUEs	Future City Offset	Transportation Mitigation Fee per DUE
1	Del Webb	$ 1,411,686	$ 92,239	$ 216,641	$ 2,249,875	-	183	-	$ 1,183
2	Highland Reserve North	$ 6,010,177	$ 789,349	$ 774,351	$ 9,525,944	-	655	-	$ 1,183
3a	Infill	$ 39,901,838	$ 20,140,478	$ 6,146,521	$ 16,651,697	-	5,197	-	$ 6,163
3b	Redevelopment Area	$ 4,760,091	$ 2,402,659	$ 733,249	$ 1,986,465	-	620	$3,080	$ 4,333
4	North Central	$ 40,208,550	$ 7,812,309	$ 7,312,555	$ 35,244,014	$ 5,359,561	6,183	$4,910	$ 2,345
5	Northeast	$ 27,986,244	$ 11,186,760	$ 3,238,747	$ 16,409,100	$ 12,567,843	2,738	-	$ 3,334
6	North Industrial	$ 39,945,543	$ 5,229,330	$ 10,679,648	$ 12,478,803	-	9,030	-	$ 4,679
7	North Roseville - Phase 1	$ 3,200,565	$ 281,477	$ 821,736	$ 6,154,915	-	695	-	$ 1,183
8	North Roseville - Phase 2N	$ 144,688	$ 12,782	$ 40,212	$ 1,057,229	-	34	-	$ 1,183
9	North Roseville - Phase 2S	$ 2,093,634	$ 203,189	$ 397,586	$ 5,652,563	-	336	-	$ 1,183
10	North Roseville - Phase 3	$ 1,533,683	$ 149,470	$ 479,000	$ 992,783	-	405	-	$ 2,887
11	Northwest	$ 6,891,526	$ 1,454,907	$ 599,320	$ 18,053,475	$ 2,376,272	507	-	$ 1,183
12	Southeast	$ 5,940,313	$ 4,977,077	$ 662,971	$ 7,878,279	-	561	-	$ 5,259
13	Stoneridge East	$ 4,043,944	$ 840,356	$ 575,983	$ 1,798,314	$ 2,324,611	487	-	$ 2,333
14	Stoneridge West	$ 5,487,317	$ 1,140,297	$ 933,281	$ 2,010,493	$ 818,255	789	-	$ 5,610
15	WRSP-N (Fiddyment)	$ 24,161,739	$ 1,315,441	$ 7,416,795	$ 611,422	$ 14,690,992	6,271	-	$ 2,805
16	WRSP-S (Westpark)	$ 17,752,260	$ 1,462,195	$ 4,827,790	$ 4,866,366	$ 7,970,459	4,082	-	$ 2,745
17	Sierra Vista	$ 31,257,327	$ 3,535,889	$ 11,194,972	-	-	9,465	-	$ 4,859
	Existing City	$ (1,052,331)	$ (632,679)				-	$ (1,415,393)	
	Total	**$ 261,678,795**	**$ 62,393,525**	**$ 57,051,358**	**$ 143,621,737**	**$ 70,412,184**	**48,238**		

Source: DKS Associates, 2010

Table 2
Estimated DUEs by Plan Area

Plan Area		Total July 01, 2008 DUEs	Total Year 2025 DUEs	Growth In DUEs	Percent Growth (of 2025 DUEs)
1	Del Webb	1,398	1,581	183	11.6%
2	Highland Reserve North	3,277	3,932	655	16.7%
3	Infill / Redevelopment	27,492	33,309	5,817	17.5%
4	North Central	11,134	17,317	6,183	35.7%
5	Northeast	12,455	15,194	2,738	18.0%
6	North Industrial	8,213	17,243	9,030	52.4%
7	North Roseville Phase 1	2,064	2,759	695	25.2%
8	North Roseville Phase 2N	353	387	34	8.8%
9	North Roseville Phase 2S	1,723	2,059	336	16.3%
10	North Roseville Phase 3	351	756	405	53.6%
11	Northwest	9,674	10,180	507	5.0%
12	Southeast	5,323	5,884	561	9.5%
13	Stoneridge East	935	1,422	487	34.3%
14	Stoneridge West	1,140	1,929	789	40.9%
15	Fiddyment Ranch	110	6,381	6,271	98.3%
16	WestPark	1,260	5,342	4,082	76.4%
17	Sierra Vista	-	9,465	9,465	100.0%
Total		**86,903**	**135,141**	**48,238**	**35.7%**

Source: DKS Associates, 2010

Table 3
General DUE Rates

Land Use Category	Unit	DUE Rate
Singe Family	Dwelling Unit	1.000
Multi-Family	Dwelling Unit	0.657
Age Restricted	Dwelling Unit	0.350
Retail	1,000 Square Feet	1.427
Regional Mall	1,000 Square Feet	1.639
Office	1,000 Square Feet	1.580
Industrial	1,000 Square Feet	0.730
High Tech	1,000 Square Feet	1.240
Medical Office	1,000 Square Feet	3.001
Hospital	1,000 Square Feet	1.194
Convalescent	1,000 Square Feet	0.177
Hotel Rooms	Rooms	0.918
Public/Quasi-Public	1,000 Square Feet	1.712

Source: DKS Associates, 2010