MuniFinancial

# Memorandum

To: Dan Little, Shasta County RTPA

From: Jeff Kay and Robert Spencer, MuniFinancial

Date: REVISED October 10, 2007

Re: **Adjusted Allocation Factors for Commercial Development**

The following is a summary of our initial proposal for re-allocating commercial cost burdens for I-5 improvements based on I-5 usage by use classification.

## Defining the Commercial Categories

Three categories of commercial establishments emerged from our assessment of the varying impacts of commercial development on I-5. These categories have been determined, not on overall trip generation rates, but on the relative share of vehicle miles traveled (VMT) on I-5. The categories are as follows:

**Neighborhood/Convenience Commercial** – Convenience goods are those that are purchased frequently, generally inexpensive, and not distinguished by style. Given these characteristics, it is reasonable to assume that consumers will not travel long distances to convenience commercial establishments. Consequently, a convenience commercial establishment is less likely to impact traffic on I-5 than an establishment selling comparison goods.

According to the Urban Land Institute, typical convenience and neighborhood establishments include dollar stores, small restaurants, hair salons, dry cleaners, and banks. The average gross leasable area for these establishments is about 1,000-6,000 square feet. Neighborhood and convenience retail stores will typically not exceed 10,000 square feet with the exception of supermarkets and drug stores.

**Regional/Comparison Commercial** – Regional and comparison goods are those for which consumers are likely to do some amount of comparison-shopping. These goods tend to be more expensive than convenience goods and purchased less frequently. Examples of regional/comparison retail include department stores, building and lumber stores, electronics superstores, and furniture stores. "Big box" retail will generally fall into the comparison commercial category. Regional commercial businesses tend to be larger than convenience commercial and will generally range from about 20,000 to over 100,000 square feet. Regional commercial businesses also tend to locate near freeways to be conveniently accessible throughout the region.

Given these traits, it is reasonable to assume that consumers will travel greater distances to reach comparison establishments and that they are therefore more likely to use highways to get there. Thus, we assume that, per vehicle mile traveled, comparison establishments have a greater impact on I-5.

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**High-Generation Commercial** – High-generation commercial establishments are generally similar to convenience establishments. This study recommends creating a separate high-generation commercial category for the Fix Five analysis because these types of retail establishments have trip generation rates that vastly exceed most other types of convenience retail. High-generation establishments include convenience markets, gas stations, drive-through banks, and fast-food restaurants.

The per-trip impact of high-generation commercial on I-5 will be largely similar to that of convenience commercial in that consumers are unlikely to travel great distances to reach these establishments. Although high-generation commercial establishments can often be developed as highway-serving developments catering to travelers, trips to these locations will be overwhelmingly either pass-by or diverted trips as parts of trips initiated for some other purpose. The key difference between high-generation commercial and convenience commercial, therefore, is that high-generation commercial developments generate substantially higher numbers of trips per square foot of building space.

## Classifying the Commercial Categories for Impact Fee Collection

Although the categories presented above provide a logical basis for charging impact fees that vary to reflect differential impacts on I-5, it is not reasonable to require city and county building officials to determine the economic nature of each proposed development. To facilitate manageable program implementation, we propose that, for the Fix Five program, the commercial categories be defined as follows:

### Neighborhood/Convenience Commercial:

- Stand-alone commercial establishments up to 10,000 building square feet
- Stand-alone supermarkets and drug stores
- Shopping centers up to 100,000 combined building square feet, with three or more stores [1]

### Regional/Comparison Commercial:

- Stand-alone commercial establishments exceeding 10,000 building square feet
- Shopping centers up to 100,000 combined building square feet with fewer than three stores and shopping centers that exceed 100,000 building square feet[2]

### High-Generation Commercial:

- 24-hour Convenience Markets

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[1] This definition is consistent with the definitions of convenience and neighborhood centers contained in *Dollars and Cents of Shopping Centers,* published in 2006 by the Urban Land Institute. Page 5.

[2] Shopping centers meeting these criteria should be charged such that the entirety of the development is comparison commercial, even if some internal uses are convenience commercial, because the comparison establishments will be the primary cause of trips to the center.

- Gas Stations
- Fast-food, with and Without Drive-throughs
- Banks with Drive-throughs

## Equivalent Dwelling Unit Factors

We are not aware of any studies that quantify the differing impacts of commercial use types on regional highway systems. Consequently, we have estimated this effect through the use of an "I-5 VMT Factor" in the table below. Our reasoning for the I-5 VMT factors:

- Neighborhood commercial will have substantially less impact on I-5 given the shorter trips generated by this use. Neighborhood commercial will still have some impact because some neighborhood commercial stores will have a larger draw due to availability of certain specialty goods. Further, due to the location of some residential development, some consumers will need to use I-5 for virtually all trips to commercial locations.
- For high-generation commercial, the I-5 VMT Factor is estimated at half of the factor for neighborhood commercial because these uses are not likely to draw consumers from non-local locations. Like neighborhood commercial, though, a limited number of consumers may use I-5 for all of their commercial trips. Trips to high-generation commercial developments that do use I-5 are typically pass-by or diverted trips. Due to the sheer volume of trips generated, however, the EDU factor will remain significantly higher than the other categories

The Fix Five Partnership will be able to make use of traffic modeling in Phase Two to further refine this impact by reviewing VMT and trip characteristics by traffic analysis zones that fit predominantly into one of the three commercial categories defined above. At this time, the estimated I-5 VMT factors constitute the highest available level of precision. Furthermore, agencies will be able to track building permit data during Phase One so the Partnership can determine if commercial TIF revenues will meet projections in the funding plan. If not, EDU's will be refined in Phase Two.

The table below presents proposed EDU factors for the three commercial classifications. Convenience and high-generation commercial are calculated relative to the 2.51 EDU factor for regional commercial. That factor constitutes an average rate for all commercial and was derived in the Phase One Fix Five Nexus Study (Table 5).

## Commercial Equivalent Dwelling Unit Factors

| | A | B | C=A x B | D | E=C x D | |
|---|---|---|---|---|---|---|
| | **Primary Trips[1]** | **I-5 VMT Factor[2]** | **Adjust-ment Factor** | **Average Daily Trips[3]** | **Trip Demand Factor** | **Equivalent Dwelling Units (EDUs)[4]** |
| Neighborhood Commercial | 45% | 0.30 | 0.14 | 63.92 | 8.63 | 1.05 |
| Regional Commercial | 54% | 1.00 | 0.54 | 38.21 | 20.63 | 2.51 |
| High-Generation Commercial | 45% | 0.15 | 0.07 | 528.23 | 35.66 | 4.34 |

[1] Share of total trips generated that are neither diverted or pass-by.

[2] Estimate of the impact of vehicle miles traveled for each land use on Interstate 5, relative to regional, or comparison, commercial establishments. Neighborhood commercial establishments are assumed to have a higher share of local trips and therefore a lower impact, per trip, on the highway system. For high-generation commercial establishments, the I-5 VMT factor is based on the assumption that the overwhelming majority of I-5 trips will be diverted or pass-by trips.

[3] Per thousand square feet of building space. Neighborhood Commercial is based on ITE categories 850, 854, 880, 881, 814, 815, 816, 820, 843, 848, and 911. Regional Commercial is based on ITE categories 812, 813, 817, 823, 841, 849, 861, 862, 863, 890, 931, 720. High-generation Commercial is based on 851, 853, 912, 932, 933, 934.

[4] EDUs per thousand building square feet. EDU factors are calculated relative to the regional commercial factor of 2.51 (see Table 5).

Source: Institute of Transportation Engineers; San Diego Association of Governments; MuniFinancial.

The table below shows the derivation of the average daily trip rates shown above. We categorized all available retail uses contained in the ITE Trip Generation manual based on retail characteristics for convenience and comparison establishments. High-generation uses are those with an average daily trip rate of over 200 per thousand building square feet.

## Trip Rates by Commercial Land Use Category

| ITE # | Land Use | ADT/KSF | F5 Class |
|---|---|---|---|
| 812 | Building Materials and Lumber Store | 45.16 | Comparison |
| 813 | Free-Standing Discount Superstore | 49.21 | Comparison |
| 817 | Nursery/Garden Center | 36.08 | Comparison |
| 823 | Factory Outlet Center | 26.59 | Comparison |
| 841 | New Car Sales | 33.34 | Comparison |
| 849 | Tire Superstore | 20.36 | Comparison |
| 861 | Discount Club | 41.80 | Comparison |
| 862 | Home Improvement Superstore | 29.80 | Comparison |
| 863 | Electronic Superstore | 45.04 | Comparison |
| 890 | Furniture Store | 5.06 | Comparison |
| 931 | Quality Restaurant | 89.95 | Comparison |
| 720 | Medical-Dental Office | 36.13 | Comparison |
| 850 | Supermarket | 102.24 | Convenience |
| 854 | Discount Supermarket | 96.82 | Convenience |
| 880 | Pharmacy/Dugstore (w/o Drive-Through) | 90.06 | Convenience |
| 881 | Pharmacy/Dugstore (w/ Drive-Through) | 88.16 | Convenience |
| 814 | Specialty Retail Center | 44.32 | Convenience |
| 815 | Free-Standing Discount Store | 56.02 | Convenience |
| 816 | Hardware/Paint Store | 51.29 | Convenience |
| 820 | Shopping Center | 42.94 | Convenience |
| 843 | Automobile Parts Sales | 61.91 | Convenience |
| 848 | Tire Store | 24.87 | Convenience |
| 911 | Walk-in Bank | 44.47 | Convenience |
| 851 | Convenience Market (24 hours) | 737.99 | High-Generation |
| 853 | Convenience Market (w/ Gas) | 845.60 | High-Generation |
| 912 | Drive-in bank | 246.49 | High-Generation |
| 932 | High-Turnover Restaurant | 127.15 | High-Generation |
| 933 | Fast-Food Restaurant (w/o Drive-Through) | 716.00 | High-Generation |
| 934 | Fast-Food Restaurant (w/ Drive-Through) | 496.12 | High-Generation |
| | **Average by Category** | | |
| | | 38.21 | Comparison |
| | | 63.92 | Convenience |
| | | 528.23 | High Generation |

Source: Institute of Transportation Engineers, *Trip Generation* , 7th Edition.