

COUNTY GAS TAX ALLOCATION FACTORS

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May 1994

(Gas Tax values updated July 2010 by Don Zimmer, Road System Inventory Manager)

SYNOPSIS

In the mid-50's, the county fuel (i.e., "gas") tax distribution formula was significantly changed. Since that time, there have been a few minor revisions, however, the basic " 10-30-30-30 " formula has remained unchanged. In short, the counties' share of the state motor vehicle fuel tax (less administrative, island county refunds and special studies deductions) is divided among the 39 counties as follows: 10% shared equally, 30% based on "equivalent" population, 30% based on "road costs" and 30% based on "money needs". More than \$140 million is expected to be distributed to the counties during 2011 based on this "formula". State statute spells out the basic processes and authorities to perform the biennial and annual update calculations. CRAB has the responsibility to do this. Statutory references include RCW 46.68.090, 46.68.100, 46.68.120 thru 124.

BACKGROUND

In the State of Washington, the state motor vehicle fuel tax (currently 37.5 cents/gallon) is shared among the cities, counties and the state department of transportation. Between the Rural Arterial Program (RAP), the County Arterial Preservation Program (CAPP) and the regular distribution formula, counties receive a share approximately equal to 5.96 cents or 15.9 % of the net state fuel tax.

Perhaps the most complicated of the fund distribution processes is the county fuel tax distribution formula or "the gas tax formula" for short. Based upon a 1954 legislative study¹ (and last amended in 1988), a number of component data elements² are collected and used in the overall computation of each county's percentage share of the total amount. The terms "allocation factor" and "percentage share" are one in the same.

Although there have been several attempts to change or simplify the basic formula, none have received sufficient support to warrant any serious requests to change the legislation. Even in

¹ "County Gas Tax Allocation Study", Washington State Council for Highway Research for the Joint Fact-Finding Committee on Highways, Streets and Bridges of the Washington State Legislature, 1954, also known as the Riedesel study.

² The current 30% population factor originally was based on registered motor vehicles; the 30% road cost factor was originally based on only 'trunk' miles (i.e., those used by mail and school busses). The current formula uses population and total miles because of the difficulties and uncertainties in properly ascertaining the city-county split of registered motor vehicles and the certification of the school/mail routes by the school districts and local post offices.

consideration of the relative “age” of this formula, there is still a general perception among the counties that the current process is reasonably fair and equitable³. Perhaps it is a case of “the devil you know versus the devil you don't know”.

AUTHORITY

By statute⁴, the County Road Administration Board (CRAB) has several responsibilities in determining each county's share of the gas tax. Various state agencies (State Office of Financial Management, Department of Revenue, and State Treasurer) are required to provide certain information to CRAB; the Department of Transportation also provides some of the bridge and ferry data. CRAB's specific responsibilities and authorities are as follows:

'RCW 46.68.124] (5) The county road administration board shall compute and provide to the counties the allocation factors of the several counties on or before September 1st of each year based solely upon the sources of information herein before required: PROVIDED, That the allocation factor shall be held to a level not more than five percent above or five percent below the allocation factor in use during the previous calendar year. Upon computation of the actual allocation factors of the several counties, the county road administration board shall provide such factors to the state treasurer to be used in the computation of the counties' fuel tax allocations for the succeeding calendar year. The state treasurer shall adjust the fuel tax allocation of each county on January 1st of each year based solely upon the information provided by the county road administration board.'

With specific reference to the calculation of the 30% “road cost” element:

'RCW 46.68.124] (2) ... The county road administration board shall be responsible for establishing a uniform system of roadway categories for both maintenance and construction and also for establishing a single state-wide cost per mile rate for each roadway category..... The mileage to be used for these computations shall be as shown in the county road log as maintained by the county road administration board as of July 1, 1985, and each two years thereafter. Each county shall be responsible for submitting changes, corrections, and deletions as regards the county road log to the county road administration board. Such changes, corrections and deletions shall be subject to verification and approval by the county road administration board prior to inclusion in the county road log. '

DISTRIBUTION FORMULA FACTORS - GENERAL

The general “10-30-30-30” distribution formula is clearly set forth in RCW 46.68.122:

³ The author has been directly involved in gas tax allocation process from 1978 to 1982 and from 1986 to 1997.

⁴ RCW 46.68.124

'46.68.122 Distribution of amount to counties - Factors of distribution formula. Funds to be paid to the several counties pursuant to RCW 46.68.120(4) shall be allocated among them upon the basis of a distribution formula consisting of the following four factors:

- (1) An equal distribution factor of 10 percent of such funds shall be paid to each county;
- (2) A population factor of 30 percent of such funds shall be paid to each county in direct proportion that the county's total equivalent population, as computed pursuant to RCW 46.68.124(l), is to the total equivalent population of all counties;
- (3) A road cost factor of thirty percent of such funds shall be paid to each county in direct proportion that the county's total annual road cost, as computed pursuant to RCW 46.68.124(2), is to the total annual road costs of all counties;
- (4) A money need factor of thirty percent of such funds shall be paid to each county in direct proportion that the county's money need factor, as computed pursuant to RCW 46.687.124(3), is to the total of money need factors of all counties. '

The actual allocation factor or percentage share for each county is the sum of each county's prorata portion of the 10% equal, the 30% population, the 30% road cost and the 30% money need factors. For example, if a county had 5% of the statewide total road costs, its 30% road cost factor would be 30% of the 5% or 1.5 %. In like manner the rest of the factors are calculated⁵.

DISTRIBUTION FORMULA FACTORS - THE "EQUAL" FACTOR

This is the simplest component; each county's share of the 10% "equal" factor is $10\%/39 = 0.2564\%$ (adding 0.2564 39 times equals 10)⁶. The "equal" factor is designed to address minimum fixed overhead and other non-project costs incurred by all counties.

DISTRIBUTION FORMULA FACTORS - THE "POPULATION" FACTOR

The 30% "population" factor is designed to reflect the relative intensities of road use among the counties. By including a portion of the incorporated cities population in the calculation, the formula recognizes that city populations also use county roads but to a lesser degree on a per-person basis. The details for computing the "population" factor are contained in RCW 46.68.124(l):

"The equivalent population for each county shall be computed as the sum of the population residing in the county's unincorporated area plus twenty-five percent of the population residing in the county's incorporated area. Population figures required for the computations in this subsection shall be certified by the director of the office of financial management [OFM] on or before July 1st of each odd-numbered year."

For the biennial recalculation, CRAB uses the official annual values from OFM which are published in April. The tabulation and calculations are quite straightforward.

⁵ The process of taking a "percent of a percentage" can be confusing. This concept, however, is essential in understanding how all the various factors come together to generate each county's allocation factor.

⁶ Computing the proportional shares of all factors, even carrying the calculations to four decimal places, will generate small rounding errors. At four decimal places, the effect of a +/- .0001 is about \$120 per year.

DISTRIBUTION FORMULA FACTORS - THE "ROAD COST" FACTOR

The 30% “road cost” factor is undoubtedly the most complicated and controversial factor in the entire formula. This factor is included to represent consideration of each county's need to maintain and periodically reconstruct their road system. The statute (RCW 46.68.124(2)) sets out only the basic procedures or processes to be followed. The exact statutory text is:

“The total annual road cost for each county shall be computed as the sum of one twenty-fifth of the total estimated county road replacement cost, plus the total estimated annual maintenance cost. Appropriate costs for bridges and ferries shall be included. The county road administration board shall be responsible for establishing a uniform system of roadway categories for both maintenance and construction and also for establishing a single state-wide cost per mile rate for each category. The total annual costs for each county will be based on the established state-wide cost per mile and associated mileage for each category. The mileage to be used for these computations shall be as shown in the county road log as maintained by the county road administration board....”

Before 1985, the Washington State Department of Transportation (WSDOT), State Aid Division (subsequently called “Local Programs” and now called “Highways and Local Programs”) was responsible for all the gas tax calculations (with the "advice and assistance of the county road administration board"). A major component was the periodic updating of what has been called 'the cost factors'.

Cost Factors

Important elements in the computation of the “road cost” factor are the relative costs ("cost factors") for county road maintenance and replacement (i.e., reconstruction). These cost factors are derived from estimates of the annual replacement costs and annual maintenance costs for an "average mile" in each county. Originally these were the "trunk miles" and individual costs per truck mile for each county were used in calculating the road cost factors. This was changed in 1982 to address the categorization of all county road mileage and provide for the development of statewide average category costs.

The evolution (and occasional bloody battles) of the cost factor process is an interesting bit of history in its own right. As these cost factors can have an appreciable impact on any county's final allocation, interest has characteristically been high when the subject arises. During the late '70s and early '80s, the Washington State Association of Counties (WSAC) formed the WSAC Joint Gas Tax Committee to guide the efforts of WSDOT (and CRAB) in the cost factor updating process.

The first major cost factor update study was done in 1980⁷ (in response to some very unacceptable results in the 1978 one⁸). This study resulted in a basic categorization of the entire county road

⁷“1980 Cost Factor Study”, 1980, State Aid Organization (WSDOT) for the Washington State Association of Counties

⁸ “Washington Counties Gas Tax Allocation Cost Factor Study”, 1978, Hollis Goff for the Washington State Association of Counties.
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system into a series of maintenance and reconstruction groupings rather than the continued use of “trunk miles”. In 1982, the statute was changed to recognize the road categorization and the single statewide cost per mile process.

The currently used maintenance and reconstruction road categories were defined in the last, in-depth study done in 1984⁹. Both the maintenance and reconstruction groupings are based on a stratification of Rural/Urban, Federal functional class, and current pavement/surface type¹⁰. There are 15 reconstruction groupings ranging from *Rural-Local Access-Gravel* to *Urban-Principal Arterial-ACP/PCC*, there are also 13 maintenance groupings ranging from *Rural-All functional classes-Unimproved* to *Urban-All Arterials-ACP/PCC-5000+ADT*. For convenience's sake, the maintenance groups have been designated M-1 through M-13 and the reconstruction groups R-1 through R-15.

The 1984 study results, both in terms of categories and the single, state-wide cost per mile for each, were used for the 1984 thru 1987 updates¹¹.

In 1988 the Road Jurisdiction Study¹² (RJS) was completed. This landmark effort provided much additional and updated information regarding road (and bridge) construction and maintenance costs. After an in-depth review and analysis, the Washington State Association of County Engineer/Public Works Directors (WSACE/PWD) recommended that the costs as identified in the RJS be used (and the 1984 categories be retained) by CRAB in the next gas tax update calculations. Since 1988, these categories and basic costs have been used in the biennial recalculation of the gas tax allocation factors.

The RJS-derived costs are in the form of various unit costs to perform road and bridge works. These include such items as the annual cost to resurface (\$/mile/ft of width) by functional class and pavement type, unpaved road surface maintenance and rehabilitation (\$/lane mile) by traffic volume and surface type, reconstruction costs (\$/lane mile) by functional class, number of lanes and pavement type, and annual bridge maintenance costs (\$/square foot) by bridge type.

Expansion of RJS Work Costs to Single, Statewide Category Costs Per Mile and the Development of the Annual Road Cost for Each County.

As part of CRAB's biennial gas tax recalculation process, the following steps are performed:

⁹ “1984 Cost Factor Study”, 1984, State Aid Organization (WSDOT) for the Washington Association of Counties

¹⁰ The highest two maintenance categories are split on over or under 5,000 ADT. All other categories are ADT-independent.

¹¹ In 1985, CRAB was assigned the sole responsibility of dealing with the county gas tax [Laws of 1985, Chapter 120].

¹² “Washington Road Jurisdiction Study: Phase II, Analysis of Roadway Needs and Funding”, 1988, Price Waterhouse for the Legislative Transportation Committee. Published in three volumes.

1. From the most current county road log submitted by each county (and approved by CRAB), each of the road segments is evaluated and assigned a unique maintenance category (one of the 13 "M" numbers) and reconstruction category (one of the 15 "R" numbers).
2. Each of the road segments is also "costed out" for both RJS maintenance and reconstruction by means of a CRAB-developed computer program (named Mobility).
3. For each of the "R" and "M" categories, the costs of reconstruction and maintenance of all the applicable road segments are accumulated. (After dividing by the accumulated mileage, that county's average reconstruction and maintenance costs are generated.)
4. After steps 1 through 3 are performed on each county's road log, all of the "R" and "M" costs (and individual county mileages for each) are aggregated into a statewide total for each category. These statewide totals are divided by the statewide accumulated mileages yielding the statutorily required "single state-wide cost per mile and associated mileage for each category."¹³
5. The statewide category cost per mile figures are then applied to each county's miles in each category miles, and totaled for all categories by county. This yields the total maintenance and total reconstruction cost for each county based on the single, state-wide values.
6. By a similar process and using the current State of Washington Inventory of Bridges and Structures (SWIBS) data, the reconstruction and maintenance costs for each county's bridges are also calculated.
7. For the four counties that own/operate ferries, the annual maintenance costs are provided by WSDOT (such data is required to be provided to WSDOT as part of WSDOT's fare-setting and subsidy oversight role¹⁴) and the reconstruction costs for the ferries and their terminals are extracted from the required 14-year plans.¹⁵
8. The data from steps 5 through 7 are totaled for each county and totaled statewide to generate both each county's and the statewide total annual road cost. As required by statute, the reconstruction costs are first divided by 25 to create the "annualized" amount of reconstruction. The statewide total is divided by each county's total to generate each county's proportionate (i.e., percentage) share. These shares are then multiplied by 30% for the "30% annual road cost".

DISTRIBUTION FORMULA FACTORS - THE "MONEY NEED" FACTOR

¹³ RCW 46.68.124 (2)

¹⁴ see RCW 47.04.140 and RCW 47.56.720-725

¹⁵ see RCW 36.54.015

Once the 30% “road cost” factor process is determined, the remaining 30% “money need” factor becomes relatively simple. The “money need” factor is included to represent consideration of the relative amounts of cost-offsetting dedicated funds (i.e., resources) each county has available to address its “annual road costs”. The larger the difference between the costs and resources, the larger the “money need”. The statute (RCW 46.68.12(3)) sets forth the specific “resources” that are considered. The exact statutory text is:

“The money need factor for each county shall be the county's total annual road cost less the following four amounts:

(a) One-half the sum of the actual county road tax levied upon the valuation of all taxable property within the county road districts pursuant to RCW 36.82.040 for the two calendar years next preceding the year of computation of the allocation amounts as certified by the department of revenue;

(b) One-half the sum of all funds received by the county road fund from the federal forest reserve fund pursuant to RCW 28A. 520. 01 0 and 28A. 520.020 during the two calendar years next preceding the year of computation of the allocation amounts as certified by the state treasurer,-

(c) One-half the sum of timber excise taxes received by the county road fund pursuant to chapter 84.33 RCW in the two calendar years next preceding the year of computation of the allocation amounts as certified by the state treasurer;

(d) One half the sum of motor vehicle license fees and motor vehicle and special fuel taxes refunded to the county, pursuant to RCW 46.68.080 during the two calendar years preceding the year of computation of the allocation amounts as certified by the state treasurer.

As specified, the county road tax levied amounts are provided by the department of revenue, and the federal forest fund distribution data is provided by the state treasurer. Since the recent major revisions to RCW 84.33, the amount of state timber excise taxes that go to the road fund are not known by the state treasurer; each county must divide up the receipts according to a combination of taxing districts and bonded indebtedness. The amount dedicated to the road fund comes from the annual Report to the Secretary of Transportation on road revenues and expenditures".

The license fees, regular and special fuel taxes refunds as specified in RCW 46.68.080 are commonly called the "island county refunds" as they only apply to Island and San Juan counties. The refunds are computed and distributed by the state treasurer; the amounts are then subdivided, based on assessed valuation, between the counties and their respective cities. Figures from both the state treasurer and the department of revenue are used by CRAB for this computation.

After all the specified “resource” amounts are determined for each county, they are subtracted from the “annual road cost” figures previously calculated to arrive at the net “money need”. These amounts are added up to arrive at the statewide “money need” total. The statewide total is divided by each county's “money need” amount to generate each county's proportional (i.e., percentage) share. These shares are then multiplied by 30% for the “30% money need” factor.

COMBINING OF COMPONENTS TO ARRIVE AT THE TOTAL ALLOCATION FACTOR (UNADJUSTED)

Once all four of the individual factors are calculated and weighted depending upon their share of the final total allocation factor, it is an easy task to sum them for each county. The total factor for each county, when added up statewide, should total 100%. These are called the “unadjusted allocation factors”.

ADJUSTING THE ALLOCATION FACTORS

To insure that changes in the component factors do not result in large swings in a county's fuel tax allocation, RCW 46.68.124(5) contains language that limits the swings. The allocation factor (not the dollar amount!) for any one county cannot change more than plus or minus five percent from the previous year's allocation factor. Obviously, the larger a county's allocation factor is, the larger the amount of swing permitted¹⁶. CRAB compares each county's unadjusted allocation factor with the previous year's one. If any county (or counties) would have an increase or decrease in excess of the 5 %, the change is limited to the 5% with any residual spread proportionally among the rest of the counties.

As the gas tax allocation factors are recomputed from all new input data once every two years, and CRAB must furnish the factors to the state treasurer each year, there are normally what is called “odd year” adjustments. These “odd year” adjustments are only necessary if, in the first year, there are counties which have their allocation factor limited to +/- 5%. Typically, in the “odd year” any remaining increases or decreases for any county which did hit its limit are further adjusted in the same manner as the initial year adjustment. For example, if in the first year the new calculations show a county should go from 6% to 6.5%, they would be limited to a five percent increase on the 6% resulting in a new adjusted allocation factor of 6.30%. In the second (or “odd”) year, they would receive another 5% based on the 6.30% bringing them to a maximum of 6.615%. As this exceeds the unadjusted 6.5%, their second year allocation factor would be the 6.5%. If their target figure was greater than the 6.615%, they would not reach the target figure before the next biennial recalculation is done.

NOTIFYING COUNTIES AND THE STATE TREASURER

Statute provides that CRAB complete its allocations and provide them to the counties on or before September 1 of each year. CRAB has always met that schedule and, in addition, provides an estimate of the total revenue generated based upon the current state fuel tax quarterly projection.

There is no particular statutory date for notification to the state treasurer, however, CRAB typically provides this to them concurrent with the notification to the counties.

QUESTIONS??

¹⁶ Five percent of a relatively large allocation factor such as 8% will allow a much larger swing than the same five percent of a smaller allocation factor such as 3%. Five percent of 8% is +/- 0.40; five percent of 3% is +/- 0.15

The obvious one is: is this still the way the Gas Tax is allocated to the Counties? Yes, there have been no changes since this has been written.

Any questions on the county fuel tax allocation process should be directed to Don Zimmer at the CRAB office, County Road Administration Board, 2404 Chandler Court SW, Suite 240, Olympia, WA 98504-0913, or by phone (360)753-5989 or fax (360) 586-0386, or by email at don@crab.wa.gov, or by the CRAB website at "www.crab.wa.gov"