



Montana Department of Transportation  
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**Memorandum**

To: Distribution

From: Loran Frazier, P.E., Chief Engineer  
Highways and Engineering Division 

Date: October 14, 2005

Subject: Quantity Splits

We are revising the guidelines for quantity splits on plans. This memo replaces the one distributed in July 2000. These revisions do not apply to projects that have already been turned in to the Contract Plans Bureau.

Splits are used for gathering costs for billing FHWA and local governments as well as providing cost information for counties, financial districts and cost benefit analysis.

Projects require that costs be split for numerous reasons:

- Portions of the project are in different counties
- The project is inside and outside of an urbanized boundary
- The functional classification of the route changes within the project limits
- A portion of the project is inside a reservation boundary
- Different funding sources are utilized
- The project has local government involvement/funding
- The project is located in more than one financial district

Two types of project splits will now be utilized: a hard split, which is a detailed separation of quantities, and a soft split, which splits the final costs using a ratio based on the major cost items on a project.

**Hard Splits**

Hard splits are required for the following:

Requirement	Reason/Benefit
Safety activities (STPHS funding)	Cost – Benefit analysis
Bridge – new structures (split by structure no.)	Federal requirement
Local government involvement	Precise billing to local government
Project work crosses reservation boundaries	Participation considerations
Phase of work (PE, RW, IC, CE, CN, other)	Federal requirement
Financial district for secondary funds	State requirement

Show subtotals in the plan summaries for all hard splits. If more than one hard split applies to a specific item, show subtotals for the split that encompasses the greatest quantity of that item. Provide station callouts on the plan sheets at the locations of the hard splits.

**Soft Splits**

Quantity subtotals are not required for soft splits and no changes to the plans are necessary. The ratio for the soft split will be provided to Fiscal Programming for their use in determining the actual costs for the various splits upon completion of the project.

Soft splits are utilized for the following:

- Portions of the project are in different counties
- Major and minor bridge rehabilitation
- The project is inside and outside of an urbanized boundary
- The functional classification of the route changes within the project limits
- The improvement type changes within the project limits

To determine the ratio for a soft split, calculate the cost of major items on a project. These typically include surfacing (plant mix and base, seal and cover), grading (including unclassified borrow), major structures (excluding bridges), and lump sum items. The ratio is then determined based on the cost in each portion of the project.

**Example:**

Project Length = 10 miles: 8 miles in County A, 2 miles in County B. The dollar amounts shown for County A & B were obtained from the plans summaries

<u>Item</u>	<u>\$ Amount in County A</u>	<u>\$ Amount in County B</u>
Unclassified Excavation	\$1,100,000	\$400,000
Crushed Aggregate Course	400,000	100,000
Plant Mix Surfacing	480,000	120,000
PG 64-28 Seal (CRS-2P)	460,000	115,000
Bridge Removal		50,000
Detour		75,000
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TOTALS =	\$ 2,440,000	\$ 860,000
The ratio =	$\frac{2,440,000}{3,300,000}$	to $\frac{860,000}{3,300,000}$ 0.74 to 0.26 or 74% to 26%

For this example the quantity split would be 74% for County A and 26% for County B.

The split ratio would be included in the transmittal memo when the project is submitted to the Contract Plans Bureau, who would submit the information to Fiscal Programming. Each area needs to identify needed soft splits with their transmittal memo to the Contract Plans Bureau. If the soft splits are needed due to bridge rehabilitation, the soft splits need to be identified by NBI number for the total bridge costs, not the project costs.

The new quantity split process should be applied to projects that will be sent to the Contract Plans bureau in November 2005.

Change orders will be analyzed for any impacts on split (category) funding percentages using the criteria established by Preconstruction, Bridge and Safety. Any identified changes to the funding percentages will be submitted to Fiscal Programming through the modification process.

If you have questions concerning this, please contact Paul Ferry at 444-6244 or Jeff Kirby at 444-6021. For questions regarding Bridge contact Kent Barnes at 444-6260, or for Safety related questions contact Duane Williams at 444-7312.

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