Figure 60. Resource Allocation Procedure Field Verification Worksheet

This worksheet provides a format and instructions for use in field evaluation of crossing to determine if initial recommendations for warning device installations from the Resource Allocation Procedure should be revised. Steps 1 through 5, described below, should be followed in making the determination. In Steps 1 and 3, the initial information (left column) is obtained from office inventory data prior to the field inspection. In Step 4, the decision criteria values are obtained from the Resource Allocation Model printout.

STEP I: Validate Data used in Calculating Predicted Accidents:

Crossing Characteristic	Initial Information	Revised Information
Crossing Number		
Location		
Existing Warning Device		
Total Trains per Day		
Annual Average Daily Highway Traffic (c)		
Day thru Trains (d)		
Number of Main Tracks (mt)		
Is Highway Paved? (hp)		
Maximum Timetable Speed, mph (ms)		
Highway Type (ht)		
Number of Highway Lanes (hl)		
Number of Years of Accident History (T)		
Number of Accidents in T Years (N)		
Predicted Accident Rate (A)		

STEP 2: Calculate Revised Accident Prediction from DOT Formula if any Data in Step 1 has been Revised.

Revised Predicted Accidents (A) = _____

STEP 3: Validate Cost and Effectiveness Data for Recommended Warning Device

Assumed Effectiveness of Recommended Warning Device (E) _____ Assumed

Cost of Recommended Warning Device (C)
Recommended Warning Device Installation

STEP 4: Determine if Recommended Warning Device should be Revised if A, E, or C has Changed.

1. Obtain Decision Criteria Values from Resource Allocation Model. Output:

$DC_1 =$ ____ $DC_2 =$ ____ $DC_3 =$ ____ $DC_4 =$ ____

2. Calculate: $R = \dfrac{\text{Revised A}}{\text{Previous A}} \diamondsuit \dfrac{\text{Revised B}}{\text{Previous B}} \diamondsuit \dfrac{\text{Revised C}}{\text{Previous C}}$

3. Compare R with Appropriate Decision Criteria as shown Below:

Existing Passive Crossing (Classes 1, 2, 3, 4) Single Track		Existing Passive Crossing (Classes 1, 2, 3, 4) Multiple Tracks		Existing Flashing Light. Crossing (Classes 5, 6, 7)	
Comparison	Decision	Comparison	Decision	Comparison	Decision
$DC_2 < R$	Gates	$DC3 < R$	Gates	$DC4 < R$	Gates
$DC_3 < R < DC_2$	Flashing Lights	$R < DC_3$	No Installation	$R < DC_4$	No Installation
$R < DC_1$	No Installation				

4. Revised Recommended Warning Device Installation* _____

STEP 5: Determine other Characteristics that may Influence Warning Device Installation Decisions

Multiple tracks where one train/locomotive may obscure vision of another train?	Either, or any combination of, high vehicular traffic volumes, high numbers of train
Percent trucks	movements, substantial numbers of school
Passenger train operations over crossing	buses or trucks carrying hazardous
High speed trains with limited sight distance**	materials, unusually restricted sight.
Combination of high speeds & moderately high volumes of highway & railroad traffic **	distance or continuing accident occurrences**

*The cost and effectiveness values for the revised warning device are assumed to change by an amount proportional to the change in these values for the initial recommended warning device as determined in Step 3.

**Gates with flashing lights are the only recommended warning device per 23CFR 646.214(b)(3)(i).

Source: Railroad-Highway Grade Crossing Handbook, Second Edition. *Washington, DC: U.S. Department of Transportation, Federal Highway Administration, 1986.*