APPENDIX C TO SUBPART C—RELATIVE NEED DISTRIBUTION FACTOR

The Relative Need Distribution Factor (RNDF) is a mathematical formula for distributing the IRR Program construction funds using the following three factors: Cost to Construct (CTC), Vehicle Miles Traveled (VMT), and Population (POP).

The Relative Need Distribution Factor is as follows:

\[ A = \alpha \times \{\text{CTC} + \text{Total C}\} + \beta \times \{\text{VMT} + \text{Total VMT}\} + \delta \times \{\text{POP} + \text{Total POP}\} \]

Where:
- \( A \) = percent Relative Need for an individual tribe
- CTC = Total Cost to Construct calculated for an individual tribe
- Total C = Total Cost to Construct calculated for all tribes shown in the IRR Inventory
- VMT = Total vehicle miles traveled for all routes in the IRR Inventory for a given tribe
- Total VMT = Total vehicle miles traveled for all routes for all tribes in the IRR Inventory
- POP = Population of an individual tribe
- Total POP = Total population for all tribes
- \( \alpha, \beta, \delta = 0.50, 0.30, 0.20 \) respectively = Coefficients reflecting relative weight given to each formula factor

Example: Tribe X has the following data:

- CTC = $51,583,000
- VMT = 45,680
- POP = 4,637

\[ A = 0.50 \times \{51,583,000 + 10,654,171,742\} + 0.30 \times \{45,680 + 10,605,298\} + 0.20 \times \{4,637 + 1,010,236\} = 0.00463 \text{ or } 0.463 \text{ percent} \]

If IRR Program construction funds available for the fiscal year are $226,065,139

Then the allocation amount would be: $226,065,139 \times 0.00463 = $1,046,682.

2. How Does BIA Estimate Construction Costs?

The methodology for calculating the Cost to Construct is explained in Appendix D of this subpart.

3. What Is the Cost to Construct for an Individual Tribe?

The Cost to Construct for an individual tribe is the sum of all eligible and approved project costs from the tribe’s IRR Inventory.

4. What Is the Cost to Construct Component in the RNDF?

The Cost to Construct component is the total estimated cost of a tribe’s transportation projects as a percentage of the total estimated cost nationally of all tribes’ transportation facilities. Costs are derived from the IRR inventory of eligible IRR transportation facilities developed and approved by BIA and tribal governments through Long-Range Transportation Planning.

5. May the Cost to Construct Component of the RNDF Be Modified?

Yes, BIA and FHWA, with input and recommendations provided by the IRR Program Coordinating Committee, may consider revisions to the data elements used in calculating the Cost to Construct component.

6. What Is the Source of the Construction Cost Used To Generate the CTC?

(a) The construction cost will be derived from the average of the following three project bid tabulation sources:

- Tribal bid tabulations or local BIA bid tabulations;
- State bid tabulations for the region of the State in which the tribe’s project will be constructed;
Appendix D to Subpart C—Cost To Construct

Cost To Construct

(Appendix D includes Tables 1-8 which BIA Division of Transportation developed based on internal IRR data and the negotiated rulemaking process.) This method utilizes the concepts of the Bureau of Indian Affairs’ “Simplified Approach to Compute the Cost to Construct”. The concept has been modified to include computing costs for High Capacity Roads (multi-lane roads), non-road projects (snowmobile trails, boardwalks, footpaths, etc.) and other eligible transportation facility projects.

The theory behind this concept is based on the procedure that information gathered during any inventory update can be used to compare the existing conditions to defined Adequate Standard Characteristics. This comparison can then be used to determine the total cost required to bring the transportation facility road up to a necessary Adequate Standard. The IRR Inventory database is used to determine the costs of a new transportation facility or in the case of an existing facility, the costs that will be necessary to improve the facility from it’s existing condition to an adequate standard. Therefore, the Cost to Construct for a particular facility is the cost required to improve the facility’s existing condition to a condition that would meet the Adequate Standard Characteristics (see Table 1). For roadways, the recommended design of the geometrics and surface type vary based on the road’s functional classification and average daily traffic and will use four categories of cost. The four categories are Grade and Drain Costs, Aggregate Costs, Pavement Costs, and Incidental Costs. For bridges, costs are derived from costs in the National Bridge Inventory as well as the National Bridge Construction unit cost data developed by FHWA. For other transportation IRR transportation facilities, an inventory of needs must be developed with associated costs for new and existing IRR transportation facilities based on long range transportation planning. The BIA Regions and tribes must ensure the IRR Inventory is sufficiently updated to provide all the necessary information indicating the need, the condition and the construction cost data to compute the cost to construct of any proposed or existing facility.

Basic Procedures

The IRR Inventory, based on transportation planning must be developed for those tribes without data and updated for those tribes that have an existing IRR Inventory. Once the IRR Inventory database is current and all IRR transportation facilities needs