NMRA RECOMMENDED PRACTICES	
CAR WEIGHT	
RP-20.1	Revised : Jan. 1990

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Carefully documented tests, show a decided advantage in performance past obstructions in the track for cars weighted to an optimum weight. Since the radial forces tending to cause derailments are greater in longer cars, this optimum weight will vary with car length.

While cars of less than optimum weight will often perform satisfactorily on good track work, increasing weight to the optimum will improve the safety factor with which rougher track will be negotiated. Mixing light weight cars into a train of heavier cars is not recommended because of the possibility that the lighter weight cars may be pulled off the track in sharp curves.

Weight in excess of the optimum will seldom add to the ability of a car to roll down a given grade since the additional weight is almost exactly balanced by the increased friction of the axles in their journals. Extra weight simply adds to the drag of a train and adds more weight to be lifted to the summit of a grade.

Cars should be constructed to keep the lowest possible center of gravity. Supplementary weight added to bring the car to optimum weight should be kept as low as possible.

To find the optimum weight of a given car enter the Table below in the desired scale and find the "Initial Weight". Then find the "Additional Weight" and multiply this by the number of actual inches in the length of the particular car body. Add this weight to the "Initial Weight" for the total Optimum Weight of the car.

SCALE	INITIAL WEIGHT (ounces)	+	ADDITIONAL WEIGHT per inch of car body length (Ounces)
O	5	+	1
On3	1-1/2	+	3/4
S	2	+	1/2
Sn3	1	+	1/2
HO	1	+	1/2
HOn3	3/4	+	3/8
TT	3/4	+	3/8
N	1/2	+	.15

Note: Many factors besides car weight affect car performance:

Track Railhead should be smooth and without obstructions. and should conform to **STANDARD S-3** (Use the GAGE of **RP-2**).

Wheels should run freely and truly in free-swivelling trucks. should be of good contour (See **RP-25**) and conform to **STANDARD S-4** (See **RP-2**).

Weight on each wheel should be approximately equal - springing, if used, should permit free equalization of the trucks for the car weight used.

Coupler and diaphragm bind due to uneased and reverse curves should be eliminated.