

Signal Timing

Civil Engineering

Webster's method, end to end.

Saturation flow first, cycle time last.

1

Measure saturation flow

The discharge rate of a queue once it is moving freely.

2

Find each flow ratio

Demand flow divided by saturation flow, approach by approach.

3

Take the critical ratios

One per stage: the worst approach running in that stage.

4

Add up the lost time

Start-up and clearance losses per stage, plus the intergreens.

5

Compute the cycle time

Webster: $C = (1.5L + 5) \text{ divided by } (1 - Y)$.

6

Split the green

Share effective green in proportion to the critical ratios.

Educational reference. Real signal design also covers pedestrians and safety, under the highway authority's standards.