

- 3) WSI is calculated by following formula, $WSI = (41 \times K) + (4 \times GI) + (1 \times MI)$
- 4) Locations having WSI above 40 are termed as accident black spots.
- 5) Criteria for choosing limit of WSI

In the WSI formula a fatal accident has been given 10.02 times more weightage than grievous accident ($4 \ll 41$) also minor accident has been given a unit coefficient. ($1 \ll 41$). For grievous and minor accidents to be comparable with fatal accidents while calculating WSI more data is required and hence in this specific research limit of WSI is chosen as 41 i.e. coefficient of K.

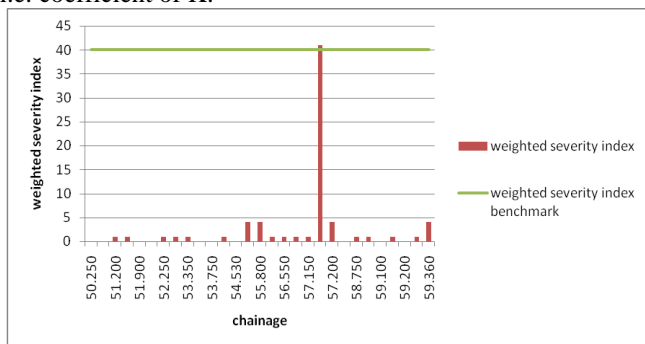


Figure 5: Weighted Severity Index

7. Result and Discussions

The reading taken on Pune-Solapur National Highway then analyzed by method of ranking. According to importance of the parameter. The most important parameter because of which more number of accidents are occurred had given top rank and maximum weightage. The percentages after giving rank and weightage were calculated and on the basis of value of percentage the accidental black spot was identified.

1. From figure 1,2,3 it has been cleared total **12,14,16 spots** are above the datum of severity index with nature of accident, classification of accidents and causes of accidents respectively which clearly indicate that the presence of accidental black spot.
2. Graph 4 shows the comparison between accident densities at different chainages. X-axis shows the actual chainage whereas Y-axis shows accident density per 1000 m chainage. Red line is the limit line. Accident density per 1000 m more than 2.9 is considered as very high.
3. Graph 5 shows the variation of WSI along the study area. WSI exceeding 40 is considered as very high .

It has been concluded that by considering all these parameters the accidental black spots can be identified by 3 methods. More number of accidents are occurred due to causes of accidents followed by classification of accidents and least number of accidents are occurred due to nature of accidents.

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