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<b>Maximum Impact</b>	<b>240'</b>	<b>220'</b>	<b>180'</b>	<b>140'</b>	<b>120'</b>	<b>100'</b>	<b>80'</b>	<b>40'</b>	<b>20'</b>
<b>Readable Distance</b>	<b>1000'</b>	<b>875'</b>	<b>750'</b>	<b>600'</b>	<b>525'</b>	<b>450'</b>	<b>350'</b>	<b>150'</b>	<b>70'</b>

The distances will vary approximately 10% with various color combinations. Maximum distance is in color with RED or BLACK on a WHITE background.

## MAXIMUM IMPACT READING TIME

(Length of Time Letters are Reading when Moving)

	<b>30 MPH</b>	<b>40 MPH</b>	<b>60 MPH</b>	<b>80 MPH</b>
<b>6" LETTERS</b>	1.4 Seconds	1 Second	0.7 Second	0.5 Second
<b>8" LETTERS</b>	1.8 Seconds	1.4 Seconds	0.9 Seconds	0.7 Seconds
<b>12" LETTERS</b>	3 Seconds	2 Seconds	1.5 Seconds	1 Second
<b>18" LETTERS</b>	4 Seconds	3 Seconds	2 Seconds	1.5 Seconds
<b>24" LETTERS</b>	5.5 Seconds	4 Seconds	2.75 Seconds	2 Seconds
<b>36" LETTERS</b>	8 Seconds	6 Seconds	4 Seconds	3 Seconds

## Color Frequency And Vibration

Like sound waves, light rays have varying wave lengths or frequencies. The lighter the color, the higher the frequency. These wave lengths determine perception of color. Some pigments absorb certain light frequencies and reflect others. We see the reflected frequencies as color. Complementary colors such as red and green are not readily legible.

They have similar black and white value, so their wave lengths set up a vibration. Any combination of colors of similar value, even without vibrating, will have low visibility. However, although yellow and purple are complementary colors, they have strong contrast in value and therefore little vibration. They provide maximum visibility

**CONTRAST**

**VIBRATION**

**LOW  
VISIBILITY**

**HIGH  
VISIBILITY**

# Comparative Visibility Of Full Value Color Combinations

These 14 color combinations for lettering were tested using only primary and secondary colors of full hue and value. Tests for readability at a distance were conducted on different groups under the sponsorship of the OAAA.

The results averaged out in the sequence shown, with #1 the most legible moving to #14 as the least legible. It is interesting to note that negative letters (3,4,6,8,10,12 and 14) appear to have a broader stroke than their positive counterparts.



1



2



3



4



5



6



7



8



9



10



11



12



13



14

Arial

Spectrum

**Futura Bold**

**Spectrum**

Helvetica

**Spectrum**

Optima

Spectrum

**Standard Block**

**Spectrum**

Times New Roman

Spectrum

Verdana

**Spectrum**

Century

Spectrum

Georga

Spectrum