

AHTD DETOUR DESIGN CRITERIA

In order to provide for the safe and economical movement of traffic through detours the Department will use the following criteria:

1. Detour design speed 10 mph less than posted speed for site (normal).
2. Post for detour design speed.
3. Pavement width, Min. 20 feet.
4. Detour surface. If existing roadway is paved, detour to be paved. If existing road unpaved, detour not normally paved.
5. Shoulder width, Min. 2 feet - Normal 4 feet.
6. H15 live load for structures.

This is based on bridge rating experience which indicates that H15 bridges are adequate for legal loads on a limited life basis.

AASHTO policy also allows H15 bridges to remain in place for Local Roads and Streets. It required HS15 for collectors. H15 and HS15 are equal loadings for spans up to 25 feet. Majority of detour spans are in this range.

7. Pavement widths and detour bridge widths of 20 feet for under 2000 ADT.

Pavement widths and detour bridge widths of 24 feet for over 2000 ADT.

This is based on the fact that AASHTO policy allows 20 feet bridges to remain in place for DHV of 200. It requires 24 feet- (2') for DHV of 400, see page 466 (2000 X .15 = 300).

Bridges being replaced are generally 20 feet.

According to "Proposed Guide Specifications for Bridge Railing Design" the Vehicle Impact Index (based on probabilities) is fairly insensitive to traffic volume and speed below 2000 ADT.

(See attached figure 2.7.1.3G).

8. Bridge railing, guard railing, transitions and terminals will be designed for ½ the normal design loads. This is based on $F=MV^2$ and the fact that the design speed will always be 45 mph or less and the normal design loads are based on 65 - 70 mph.

$$\frac{45^2}{70^2} = 0.414$$

$$\frac{45^2}{65^2} = 0.485$$

APPROVED BY _____
Chief Engineer

DATE: _____ 8-10-87