Screening "Many to Some"

Screening Criteria Category: Engineering-Fundamentals

Screening Criteria Name: Location and Size of Piers

Brief Description of Importance:

Bridge alternatives considered have different number of piers in water; piers also vary in size and some piers are located in shallow water, defined as water depth of less than 20-ft and may have some environmental impact.

Some bridge alternatives also contemplate piers on land near the water. This may be considered important near shore or riparian habitat that would be impacted by piers in this location. However, this impact may be more easily mitigated that impacts to shallow water.

If all other factors were considered equal, bridges with the smallest pier footprint, and the least footprint near the waters' edge, either in-water or on land, would be considered the best. For bridges with piers near the waters' edge, those with piers on land (vs. in shallow water), are better.

Bridges with piers having the least footprint located in water depth less than 20-ft are considered the best.

Metrics:

A. Size of piers
B. Location/footprint away from shallow water
C. Location/footprint away from riparian zone

Evaluation Methodology:

Best Score = Smallest pier footprint in shallow water
Intermediate Scores= ranges of pier footprints in riparian zone
Worse score= largest pier footprints in shallow water

Scoring:

Blended numeric score from 1-15. 15 = best, 1 = worst

Scoring is based on comparative ranking of the 15 bridge types considered.