

Table 4-4 Decision Matrix

Weighting Factor	Category & Criteria	Raw Alternatives			Weighted Alternatives		
		2-lane 2-slip raw score	2-lane 1-slip raw score	1-lane 2-slip raw score	2-lane 2-slip weighted score	2-lane 1-slip weighted score	1-lane 2-slip weighted score
0.6	Level of Service (LOS)	3	3	1	1.8	1.8	0.6
0.2	Construction Costs	1	2	2	0.2	0.4	0.4
0.2	Maintenance Costs	2	3	3	0.4	0.6	0.6
	Total				2.4	2.8	1.6

A decision matrix was developed to evaluate each design alternative and select the best one. Weighting factors and valuing scores were used to rank each alternative.

Weighting was established for each criteria category. The following weighting factors were assigned:

- Level of service (LOS) = 60
- Construction costs = 20
- Maintenance costs = 20

The reason for the 60-20-20 breakdown is because LOS plays a key role in determining whether the selected roundabout is suitable for current and future traffic volumes. LOS is the most important factor for the design; whereas, construction and maintenance costs are of less importance.

According to the final scores of the three alternatives, the recommended design alternative is alternative 2, the 2-lane, 1-slip lane alternative. Because it has a maximum score of 2.8 points. This alternative preserves the auxiliary road from N Lake Powell Boulevard to NB US 89 and uses it as a slip lane for the roundabout.