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Innovative roadside design curve of lateral clearance: roadway reverse horizontal curves

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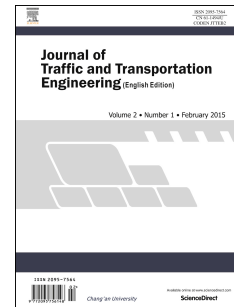
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1 Original research paper

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3 **Innovative roadside design curve of lateral**
4 **clearance: roadway reverse horizontal**
5 **curves**

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11 **Highlights**

- 12 • A concept of a spiraled roadside curve to satisfy sight distance was proposed.
- 13 • In the first time the study evaluated lateral offsets using a roadway plan view.
- 14 • The required offsets were 34% to 66% of those recommended by AASHTO.
- 15 • The required offsets for a reverse curve were 41% to 79% of those for a simple curve.
- 16 • The engineering implications of the proposed spiraled roadside curve are multifold.

17 **Abstract**

18 This paper presents a proposed concept of a spiraled roadside curve for determining the
19 required lateral clearance that satisfies sight distance needs on a roadway reverse
20 horizontal curve. The spiraled roadside curve was evaluated in the context of roadway
21 plan view. The characteristics of its corresponding lateral offsets were analyzed. It was
22 found that the ratio of the radii for the two reversing circular curves was the major factor
23 that impacted the ratio of the required offset to the maximum offset of a circular curve. A
24 single design chart and a design table were developed. The required offsets at alignment
25 reversing sections were far less than those recommended by the American Association of
26 State Highways and Transportation Officials (AASHTO) and those required at the

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