



Washington State
Department of Transportation

DEVIATION # 1

Intersection Skew Angle at US 12/Humorist Road Intersection (MP 296.5)

US 12/SR 124 to McNary Pool - Add Lanes

MP 295.3 to MP 299.3

XL-2024 PIN-501204C

This **Deviation Request** has been evaluated and documented in accordance with Washington State Department of Transportation manuals and current design standards and procedures.

Troy A. Suing, P.E., Development Branch Project Engineer



5-25-04

Date

EXPIRES 8/08/ 2005

Deviation Approval Recommended

Deviation Approved

Assistant Regional Administrator for Development - South Central Region

5/25/04

Date

Deviation Approved

Assistant State Design Engineer for South Central & Southwest Regions

6/1/04

Date

Project Overview:

This “Nickel” project will construct two new lanes for eastbound US 12 from SR 124 Intersection to McNary Pool (MP 295.3 to MP 299.3) on the west side of the existing alignment. This is an I-1 project in Walla Walla County that will improve safety and reduce congestion.

The Design Matrix that applies to this project is Design Matrix 3, “NHS Routes (Main line)”. Line 3-6, column 22 requires full design level for Intersection Angle. (See attached Design Manual Figure 325-5.) The projected construction year (2005) ADT of US 12 is 11,000 vpd with 12% trucks. The route has posted speeds of 50 mph from MP 295.30 to MP 296.91, and of 60 mph from MP 296.91 to MP 299.30. The Humorist Road intersection at MP 296.52 falls within the 50 mph zone. The design speed approved by the Assistant Regional Administrator for Development for this project is 70 mph.

Existing Conditions:

The intersection of US 12 and Humorist Road was constructed at a 45° angle. Existing US 12 is a two-lane, two-way ACP road that consists of two 12 ft. lanes and 10 ft. paved shoulders. The entire section from MP 295.3 to MP 299.3 is in a tangent section in level terrain (Grades 3% or less).

**Proposed Project**

The existing two lanes of US 12 will become the westbound lanes. This will create a 4-lane, limited access highway. The work will consist of constructing two new 12-foot HMA lanes, frontage roads for abutting property access, and other work associated with new road construction and paving. See attached design visualization for configuration of completed US 12/Humorist Road intersection.

Deviation Description

Section 910.04(2) states that the allowable intersection angles are 75° to 105° for new, reconstructed, or realigned intersections. Existing intersections with an angle between 60° and 120° may remain.

The proposed deviation will be to maintain the existing intersection angle.

Alternatives:

There were two alternatives considered for the intersection angle.

Alternative 1.

Buy the property required to realign Humorist Road to create a 75° minimum intersection angle with US 12 and construct a new signal. A few realignment options were looked at based on AASHTO design guidelines as per Walla Walla County. The alignment chosen for this alternative has the least impacts.

Alternative 2.

Leave intersection angle as it exists and construct a new signal.

Justification

- **Accident History/Potential**
 1. There were eleven accidents at the intersection between 1999 and 2003, of which maybe three could be contributed in some way to the intersection angle. A driver under the influence of alcohol caused one accident, three were caused by drivers failing to obey the signal, and four were typical rear end accidents that occur at signalized intersections. The remaining three accidents were caused by failure to yield right of way when turning which the angle may have contributed.
 2. US 12 is entirely a horizontal tangent section and centerline grades are less than 3%. Sight distance is not a problem.
 3. The intersection is controlled by a signal, which allows for the turning movements to be made with protection of the signal.
- **Relationship of Future Improvements**

The Port of Walla Walla and the U.S. Highway 12 Coalition has secured funding to perform an interchange study for the area from the SR 124 Intersection to the Humorist Road Intersection. This may lead to funding in the future for an interchange at or near the US 12/SR 124 intersection. The Humorist Road intersection will then likely have an over crossing that would eliminate the intersection. The existing alignment would be the best for an over crossing.
- **Cost to Build to Standards**

The most feasible realignment option was estimated to cost \$500,000 for the right of way and realignment construction.
- **Property Impacts**

Even alternative 1, chosen because it causes the least impacts to adjacent properties, does affect a business, a parcel with pending commercial development, and other properties.

The business is currently facing the existing Humorist Road and is located directly off the road. With Alternative 1, the realigned Humorist Road would pass on the opposite side of the property. This would affect access and the positioning of the business, since the back of it would then be facing this alternative route and, therefore, be facing potential patrons.

Alternative 1 would bisect the parcel with pending commercial development. This would leave some small, likely uneconomical remainders.

Mitigation

The Humorist Road intersection angle does not meet standards but the following mitigation efforts will be used: the intersection will be signalized with right and left turn channelization for US 12 traffic, illumination will be installed at all intersections, and high visibility signal ahead signs (flashing beacons or high level warning device flags) will also be installed.

Recommendation:

Based on the above justifications and proposed mitigation, the region recommends the approval to perpetuate the existing intersection angle.

Attachments

Vicinity Map

Existing Configuration

Proposed Configuration

TS/JT/rpw

Attachments

cc: XL-2024 file



SR 124

By others

Frontage Road 1

Roadway removed

Maple Street

Cul-de-sac

North

APPLE LANE

HUMORIST RD.

Roadway removed

Frontage Road 2

US 12

PRELIMINARY US 12 / HUMORIST ROAD INTERSECTION



EXISTING US 12 / HUMORIST ROAD INTERSECTION