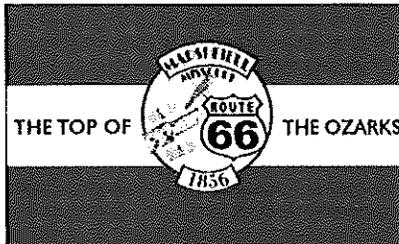


# I-44 Interchange Location Study



## Final Report

City of Marshfield, Missouri



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## **Executive Summary**

This location study seeks to find the most advantageous location for a new interchange on Interstate 44 in or near Marshfield, Missouri. The Purpose and Need for this interchange include: increasing roadway connectivity, reducing roadway congestion, enhancing roadway safety, encouraging economic growth, reducing emergency response times and finding a solution to these needs that is consistent with local and regional planning.

Four final build alternatives were selected through discussions with the City of Marshfield and Webster County, Missouri. Input from the public was gathered through an open house meeting, social media, e-mails and phone calls.

The four final build alternatives include an interchange near mile marker 99.4 (West Corridor), near mile marker 102.2 (Buffalo Street Corridor), near mile marker 103.0 (Marshall Street Corridor) and near mile marker 104.2 (Plank School Road Corridor).

To determine which of the final alternatives is most advantageous for a new interchange, the report looks at how well each alternative performs in the following categories:

- Improving Roadway Connectivity
- Reducing Roadway Congestion
- Enhancing Roadway Safety
- Encouraging Economic Growth
- Reducing Emergency Response Times
- Consistency with Local and Regional Planning
- Physical Feasibility
- Construction Impacts
- New Right-of-Way Required
- Residential Impacts
- Residential Displacements
- Commercial Disruption
- Impact to Natural Resources
- Disruption of Sensitive Properties
- Cost
- Public Support

The impacts of the four build alternatives can be summarized as:

#### West Corridor

- Interchange is less than 2 miles from existing interchange, does not meet standards
- Least expensive of build alternatives
- Smallest decrease in congestion at existing interchange
- Does not decrease traffic at Route OO / Spur Drive intersection
- Located near curve in Interstate 44 with substandard sight distance
- Creates least area available for development, but second most within or adjacent to city limits
- Fulfills one transportation priority in Comprehensive Transportation Plan
- Large decrease in emergency response time
- Requires least amount of new right-of-way
- Fewest parcels impacted

#### Buffalo Street Corridor

- Interchange is less than 2 miles from existing interchange, does not meet standards and is unlikely to be approved
- Largest increase in roadway connectivity
- Largest decrease in congestion at existing interchange
- Located near horizontal curve on I-44 with cross slope that is near the threshold of acceptability
- Increases trips through the Banning / Route CC intersection
- Creates most area for development within or adjacent to city limits
- Fulfills three transportation priorities in Comprehensive Transportation Plan
- Large decrease in emergency response time
- Most favored corridor by public

#### Marshall Street Corridor

- Splits traffic equally between existing and proposed interchanges
- Located near horizontal curve on I-44 with cross slope that is near the threshold of acceptability
- Location near vertical curve on I-44 with substandard stopping sight distance
- Reduces east-west traffic through the Banning / Route CC intersection
- Creates second most area available for development, third most within or adjacent to city limits
- Fulfills two transportation priorities in Comprehensive Transportation Plan

- Moderate decrease in emergency response time
- No residential displacements

#### Plank School Road Corridor

- Most expensive of build alternatives
- Minor improvement to connectivity
- Location near deficient horizontal curve on I-44 that requires greater than 1.5% cross slope correction
- Interchange location makes most land available for development, very little in or adjacent to city limits
- Fulfills one transportation priority in Comprehensive Transportation Plan
- No improvement in emergency response times
- Least favored corridor by public
- Requires most amount of new right-of-way
- Largest number of parcels impacted

Each alternative was rated for how well it fulfilled the purpose and need of the project and its impacts on the other criteria. These ratings were compiled into an Interchange Location Score. The Marshall Street Interchange near mile marker 103.0 scored the highest of the build alternatives and is recommended as the most advantageous location for a new interchange in or near Marshfield, Missouri.

The Marshall Street Corridor is recommended because it;

- Provides a large improvement in traffic conditions at the existing Missouri Route 38 interchange,
- Meets MoDOT requirements for interchange spacing,
- Received the second highest score in public support,
- Does not impact parks or recreational lands,
- Opens a large amount of land for development,
- Can be constructed at a reasonable cost,
- Improves safety at the existing interchange and in the City of Marshfield, and
- The corridor satisfies all purposes and needs of the project.

The construction of the Marshall Street Corridor can be phased to reduce construction costs. One possible means of phasing the improvements is to:

1. Widen and overlay Marshall Street
2. Widen, overlay and realign Brinkley Road near the interchange (North Outer Road)
3. Build overpass to connect Brinkley Road and Marshall Street

4. Build interchange ramps
5. Build portions connecting interchange to Route CC and Route W as development warrants.

A more detailed study of this corridor can be conducted to refine the design of the interchange and connect roadways within this corridor. Additional aerial mapping would be obtained for this corridor for use in refinement of the design.