

**MoDOT PROJECTS
2008 APPLICATION FORM**
(required for each entry)

Job No. J7P0699 **Route** 71 **County** Jasper

STIP Description (Scoping or Construction, state which STIP) Grading and paving to construct ramps for interchange at Fairview Avenue in Carthage. 2007 Construction program.

Is the submittal for the entire project or just a portion of the project? Please explain: Yes (entire)

Project Manager (could have both) **MoDOT** Sean Matlock **Consultant** _____

Key core team members as approved by the MoDOT PM (may include consultants) (limit of 9)

<u>Patrick Whitaker</u>	<u>August (Skip) Schaller</u>	<u>Jim Conley</u>
<u>Mike Middleton</u>	<u>Bob Dykens (retired)</u>	<u>Tom Short (City of Carthage)</u>
<u>Charles Pursley</u>	<u>Daryl Weinkein</u>	_____

Project Contacts: **District** Sean Matlock **Consultant** n/a

Project Budget (includes Right of Way cost):

Conceptual budget	\$ <u>4,134,000</u>	Initial STIP Budget	\$ <u>2,969,000</u>
Final STIP budget	\$ <u>3,065,000</u>	Award amount	\$ <u>2,506,998.51</u>
Other :	_____		

Value Engineering study during design? yes no (if yes) **Project Stage** _____

Total VE savings implemented \$ _____ **VE Contact Person** _____

Construction-stage VE (VECP)? yes no (if yes) **Explain** _____

Total VECP savings \$ _____ **VECP Contact Person** _____

What would make this entry stand out from the rest of the entries when considering MoDOT's practical design philosophy? (In layman's terms - 100 words or fewer) This project was changed from a typical interchange to one that included a slip ramp in one quadrant. The project exhibits the qualities of practical design by showing that you can achieve access to a freeway system by using a different configuration than the typical diamond interchange. The need was fulfilled and the project saved valuable funds and fit well into the context of its surroundings.

Send entries to: MoDOT Design Division, ATTN: Jay Bestgen
1320 Creek Trail Dr., Jefferson City, Missouri 65109

ALL ENTRIES MUST BE RECEIVED NO LATER THAN CLOSE OF BUSINESS ON DECEMBER 15, 2007.



**MoDOT
District 7
Route 71, Jasper County
Job No. J7P0699**

Project Summary and Historical Background

Historical Background:

Location of Project: At Fairview Avenue in Carthage.

Length: 0.5 miles

This project included adding ramps to an existing grade separation to create a diamond interchange. The bridge for the overpass was built during the initial construction of the Carthage Bypass during the 1980s. This project was supported by the City of Carthage and gathered even more support when a new plant at the industrial park was proposed and eventually constructed.

Purpose and Need:

The purpose and need of the project was to provide direct access to an industrial park thus eliminating the truck traffic that used city streets in Carthage to get to the industrial park.

Scope Comparison:

The original concept of the project was to add ramps to the existing overpass to create a diamond interchange. However, when placing the ramps a conflict arose between the location of Ramp 4 and Chapel Road. Ramp 4 needed to connect to Fairview Ave. at the same location that Chapel Road connected. To place a standard diamond interchange at Fairview Ave. required the relocation of Chapel Road further to the west. This significantly increased the anticipated cost of this project through additional paving and grading costs as well as right of way and relocation costs. In discussions between MoDOT and the City of Carthage to bring down the cost of this project, a suggestion was made to use a slip ramp and connect Ramp 4 to Chapel Road. This option eliminated the right of way and construction costs associated with the relocation of Chapel Road in this quadrant.

New Techniques, method and non-traditional design:

Although slip ramps are not new, they have been a non-traditional design in recent years. Since Ramp 4 serves as an on-ramp there is little concern that a motorist could go the wrong way on Route 71. This design presented an opportunity to use a unique design to fit the existing conditions very well and still serve the need to provide a functional interchange.

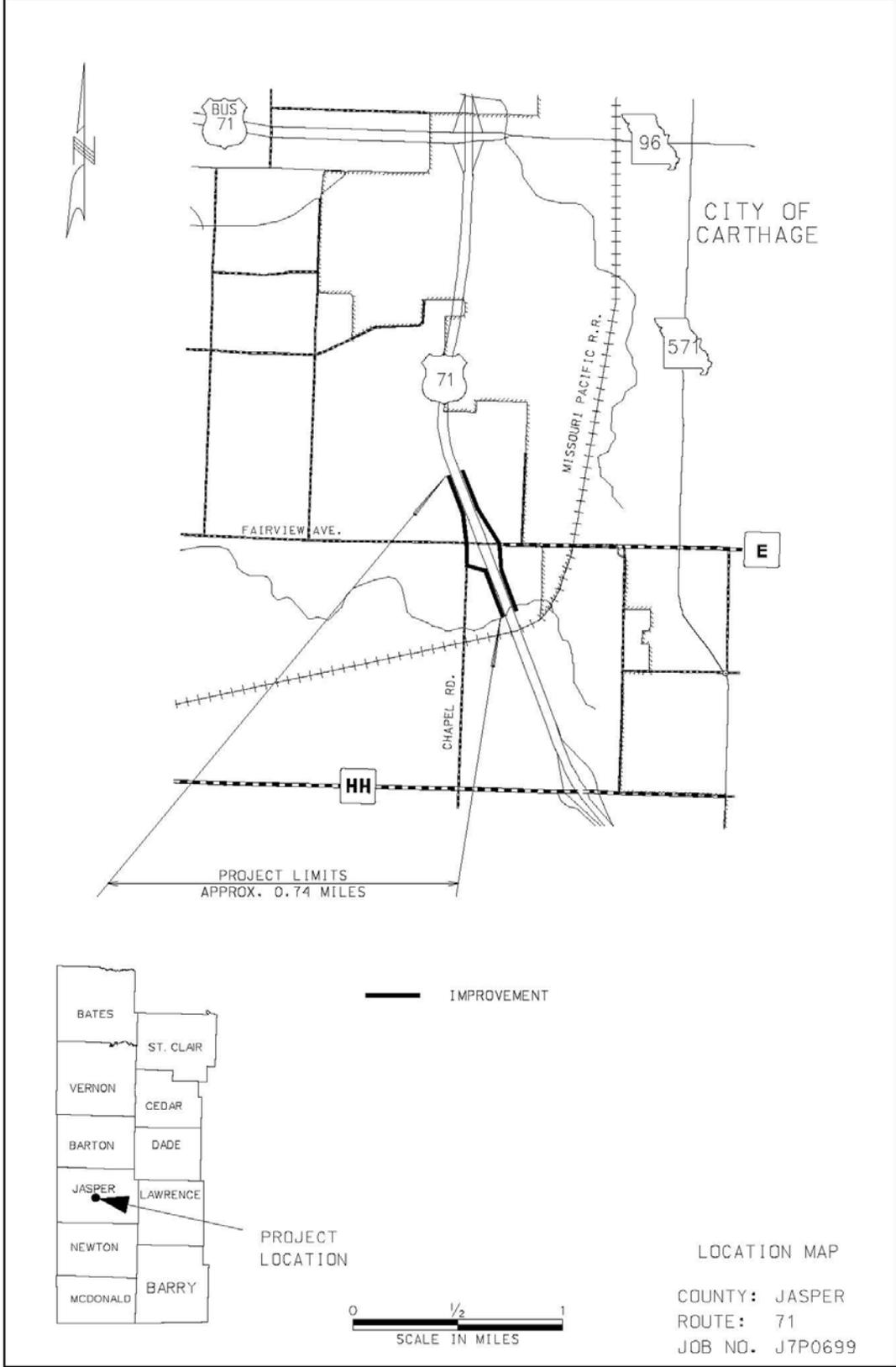
Cost Savings

This project was a cost share project with the City of Carthage, \$1 million of federal funding was earmarked for the construction of this interchange. The project was initially programmed at \$2,969,000 for construction and right of way, but when a conceptual plan came in with a detailed estimate the cost jumped to \$4,134,000. The redesigned project was estimated at \$3,065,000 and the project was awarded and construction and right of cost totaled \$2,506,998.51. The cost savings from the original conceptual plans was a 39% savings.

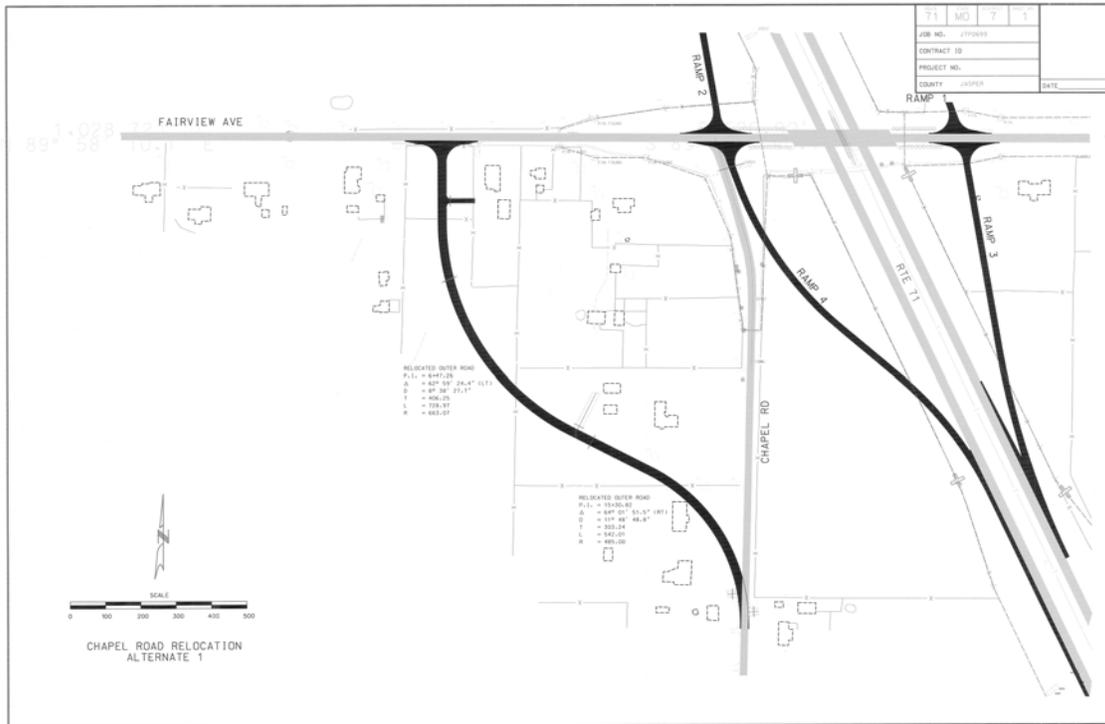
Roadway User Expectations

Roadway users in this area expect interchanges to be diamond interchanges for the most part. Anything else requires special signing for the driving public. Extra signing is provided on Fairview Ave. and Chapel Road to provide the motorist the direction that is needed. The slip ramp is approximately 525' from the intersection with Chapel Road. This helps the motorist to see exactly where they have to go to get on Route 71.

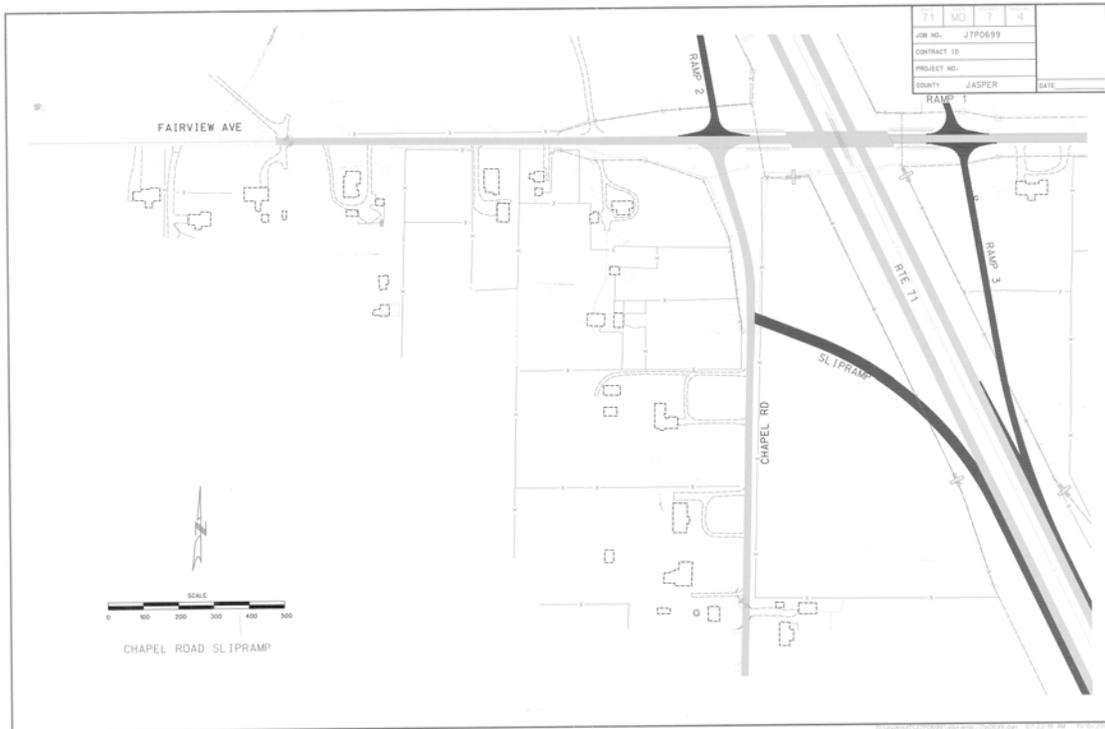
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



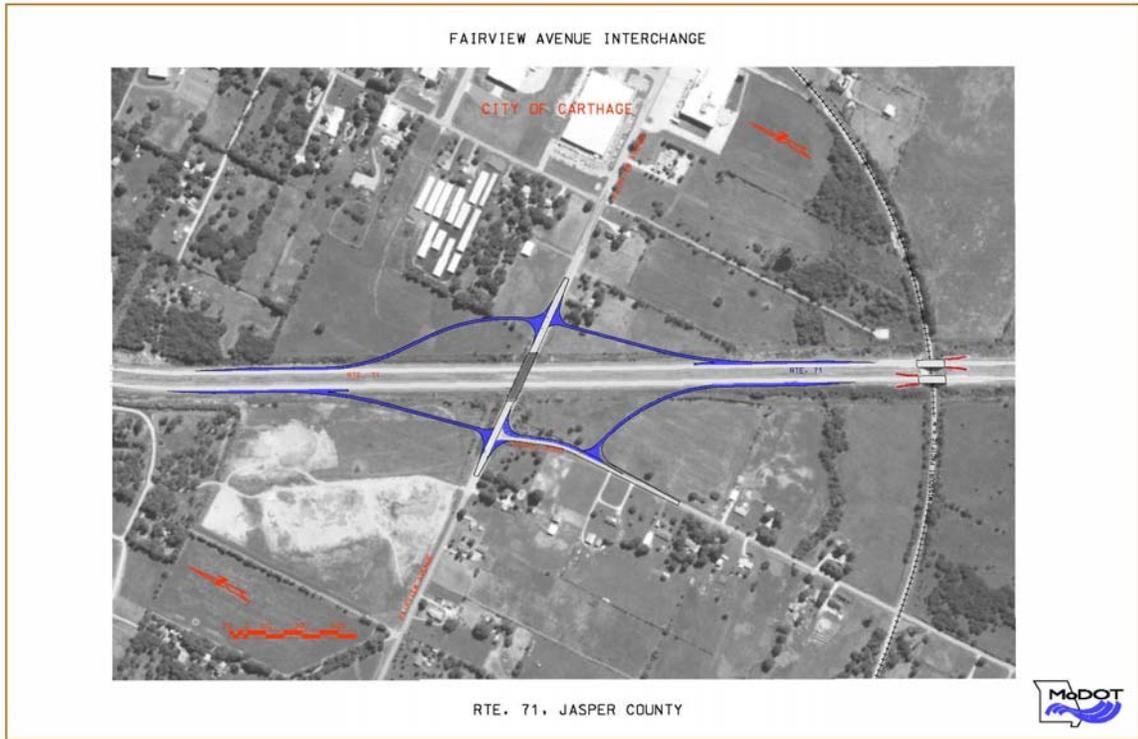
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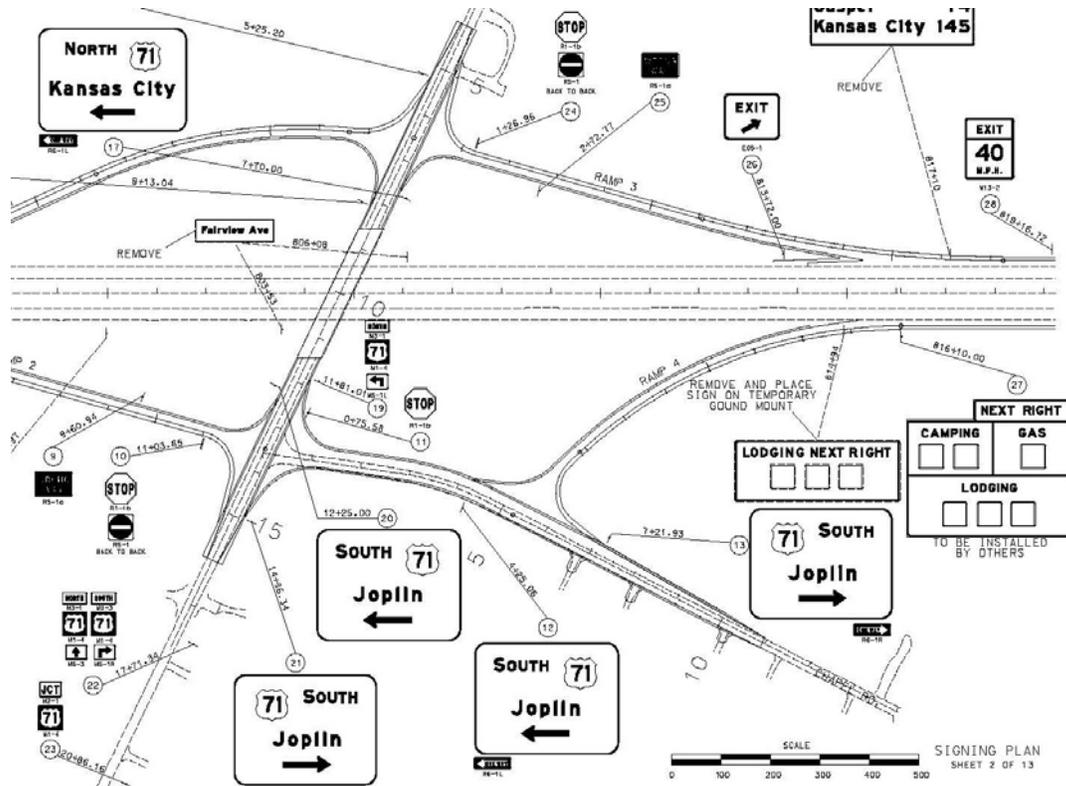
Relocation of Chapel Road per Access Management Standard



As constructed



Aerial photo of proposed interchange



Signing to help with user expectations