

U.S. Department
of Transportation

400 Seventh St., S.W.
Washington, D.C. 20590

**Federal Highway
Administration**

August 22, 2003

Refer to: HOTO-1

Mr. Greg Owens
Traffic Operation Engineer
Missouri Department of Transportation
1590 Woodlake Drive
Chesterfield, MO 63017-5712

Dear Mr. Owens

Thank you for your July 18 request to experiment with "No Turn On Red" blank-out signs at two signalized ends of the interchange at Interstate 44 and Elm Avenue in St. Louis County, Missouri. Your request to experiment is approved. We have assigned the following official ruling number to our request: "2-538(E)-No Turn on Red Blank-Out Signs." Please refer to this official ruling number in any future correspondence.

In your evaluation we were not clear about how you will determine the effectiveness of the blank-out sign. Somehow you will need to establish a control or baseline to measure the differences achieved by installing the blank-out sign. Things such as reduction incident counts and increase in vehicles coming to full stop are a few measures of effectiveness for you to consider. Please fax this additional information to Ms. Linda L. Brown, Transportation Specialist at 202-366-3225.

We look forward to receiving the semiannual progress and final reports. If you have other questions, you can call Ms. Brown at 202-366-2192.

Sincerely yours,



Vincent P. Pearce
Acting Director, Office of Transportation
Operations

cc: Jim Baron, ATSSA

Missouri
Department of
Transportation



Ed Hassinger, District Engineer

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July 18, 2003

Federal Highway Administration
Office of Transportation Operations
400 Seventh Street SW, HOTO
Washington, DC 20590

To Whom It May Concern:

We are submitting a "Request for Experimentation" to analyze the use of two blank-out "No Turn On Red" signs at two signalized ends of the interchange at I-44 and Elm Avenue in St. Louis County, MO.

Statement indicating the nature of the problem

On the southeast quadrant of this interchange sits Hixson Middle School of the Webster School District. Approximately 100 students walk to the school from north of I-44 using Elm Avenue. As they make this trip, they must cross the two ramps on the east side of the interchange, which have pedestrian signals and pushbuttons at all 3 points of crossing. We have gone so far as to provide signalize control at a yielding right turn, but the school remains steadfast in insisting the setup is not "safe enough".

In response to the school complaints, we have come up with a signal plan which allows for a pedestrian-only phase on the south end, while the north end crossings have no green turning conflicts as their pedestrian signal is on with the northbound thru phase. However, there is still a potential conflict with the legal right-turn on red drivers at both ends. Given the high volume of vehicles using these movements legally on red, we cannot place a permanent "No Turn on Red" restriction and expect any compliance. And also given the sporadic nature of the pedestrian usage, drivers will only see pedestrians for a short amount of time during the AM and PM on school days.

Description of the application of the traffic control device, the manner in which it deviates from the standard, and how it is expected to be an improvement over existing standards.

To restrict turns on red only when pedestrians are present, we propose to use a blank-out "No Turn On Red" sign posted for the right turn vehicles in potential conflict with the pedestrians. This sign will remain blank until the pedestrian phase (either "Walk" or flashing "Don't Walk") is active, during which time it will illuminate the "No Turn on Red" message.

Our mission is to reserve and improve Missouri's transportation system to enhance safety and encourage prosperity.

Quoting the MUTCD:

"Standard:

The NO TURN ON RED sign (1110-11a, R10-11b) shall be used to prohibit a right turn on red (or a left turn on red from a one-way street to a one-way street).

Guidance:

If used, the NO TURN ON RED sign should be installed near the appropriate signal head.

A NO TURN ON RED sign should be considered when an engineering study finds the following conditions exist:

- A. Inadequate sight distance to vehicles approaching from the left (or right, if applicable);
- B. Geometrics or operational characteristics of the intersection that might result in unexpected conflicts;
- C. An exclusive pedestrian phase;
- D. An unacceptable number of pedestrian conflicts with right-turn-on-red maneuvers, especially involving children, older pedestrians, or persons with disabilities
- E. More than three right-turn-on-red accidents reported in a 12-month period for the particular approach.

When right turn on red is permitted and pedestrian crosswalks are marked, the word message "TURNING TRAFFIC MUST YIELD TO PEDESTRIANS" should be used.

Standards for this sign do not indicate a variable message can be used. We have demonstrated conditions C and D exist, and the "TURNING TRAFFIC MUST YIELD TO PEDESTRIANS" sign does not carry the same weight as the "No Turn on Red" message. And given the restriction will be on only when pedestrians are present, we expect driver respect and compliance for the blank-out message will be much greater than a static sign.

Illustration that would be helpful to understand the traffic control device or use of the traffic control device.

Photographs and plans are attached.

Supporting data explaining how the traffic control device was developed, if it has been tried, and how this choice of device or application was derived.

The device is readily available from multiple suppliers, so we assume its development is ongoing and has been tried elsewhere. This choice was derived from elimination of all other possible traffic control options, and the realization that this device would provide the best possible obedience to the needed restriction.

A legally binding statement certifying that the traffic control device is not protected by a patent or copyright.

Given the devices being purchased from a vendor and not developed by our department, we make no claim on any copyright standards.

The time period and location(s) of the experiment.

The location shall be at both ends of the I-44 interchange. Time period for beginning the experiment shall be the start of school for the upcoming year (around Sept. 1, 2003), and will conclude 1 year later.

Evaluation plan that must provide for close monitoring of the experimentation, especially in the early stages of its field implementation.

We will use observations (with filming of both approaches) along with counts of both pedestrians and vehicles at the crossings. We will count the pedestrian usage and pedestrian violations of the crosswalks, along with vehicle obedience and violations of the blank-out sign for an hour in the AM and PM centered around the school start and end times.

Given the light usage of pedestrians for times other than school periods, we cannot provide quantitative data for a “before” condition that will allow for ideal comparison. It is also worth noting the school will not allow the existing setup to remain in place for the start of the school year. Therefore, any “before” conditions will have to rely on observations from school officials that there are turning violations within the crosswalks.

Observations and counts (dependent on weather favorable for pedestrian activity) will take place in the AM and PM school start and end times:

- 1) Within 1 week of installation
- 2) 6 weeks after installation (around mid-October)
- 3) 10-12 weeks after installation (warm day before end of year)
- 4) A warm February - early March Day, 2004
- 5) Early May 2004
- 6) Late June, 2004 (midday observation to view the non-school pedestrian usage).

MoDOT agrees to restore the site of this experiment to a condition that complies with the provisions of the MUTCD within 3 months following the end of the time period of the experiment (September 1, 2004). We also agree the experimentation will terminate at any time we determine significant safety concerns are directly or indirectly attributable to the experimentation. MoDOT understands the FHWA's Office of Transportation Operations has the right to terminate approval of the experimentation at any time if there is an indication of safety concerns. If, as a result of the experimentation, a request is made that the MUTCD be changed to include the device being experimented with, the device will be permitted to remain in place until an official rulemaking action has occurred.

MoDOT also agrees to provide semiannual progress reports for the duration of the experimentation, and agree to provide a copy of the final results of the experimentation to the FHWA's Office of Transportation Operations within 3 months following completion of the experimentation. We understand the FHWA's Office of Transportation Operations has the right to terminate approval of the experimentation if reports are not provided in accordance with this schedule.

We look forward to a quick approval of this experimentation, as we would like to have the complete setup installed in time for the start of school in early September. If you have any further questions or comments, please feel free to call me at 314-340-4535 or e-mail me at owensgl@mail.modot.state.mo.us.

Sincerely,



Greg Owens, P.E
Traffic Operations Engineer

Kp-tr

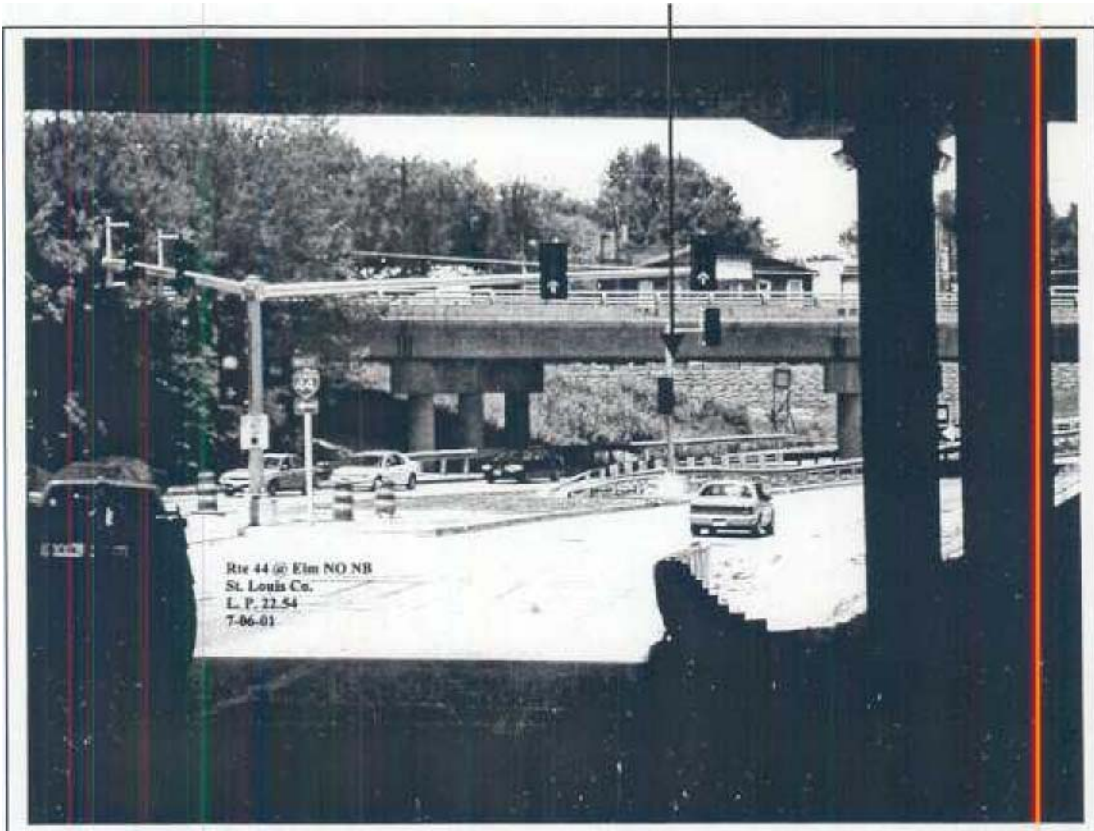
Attachment

Copy: Tom Ryan-ao6
Mary Ridgeway - FHWA, Missouri Division

T/SIG/096/I-44 ~t Elm

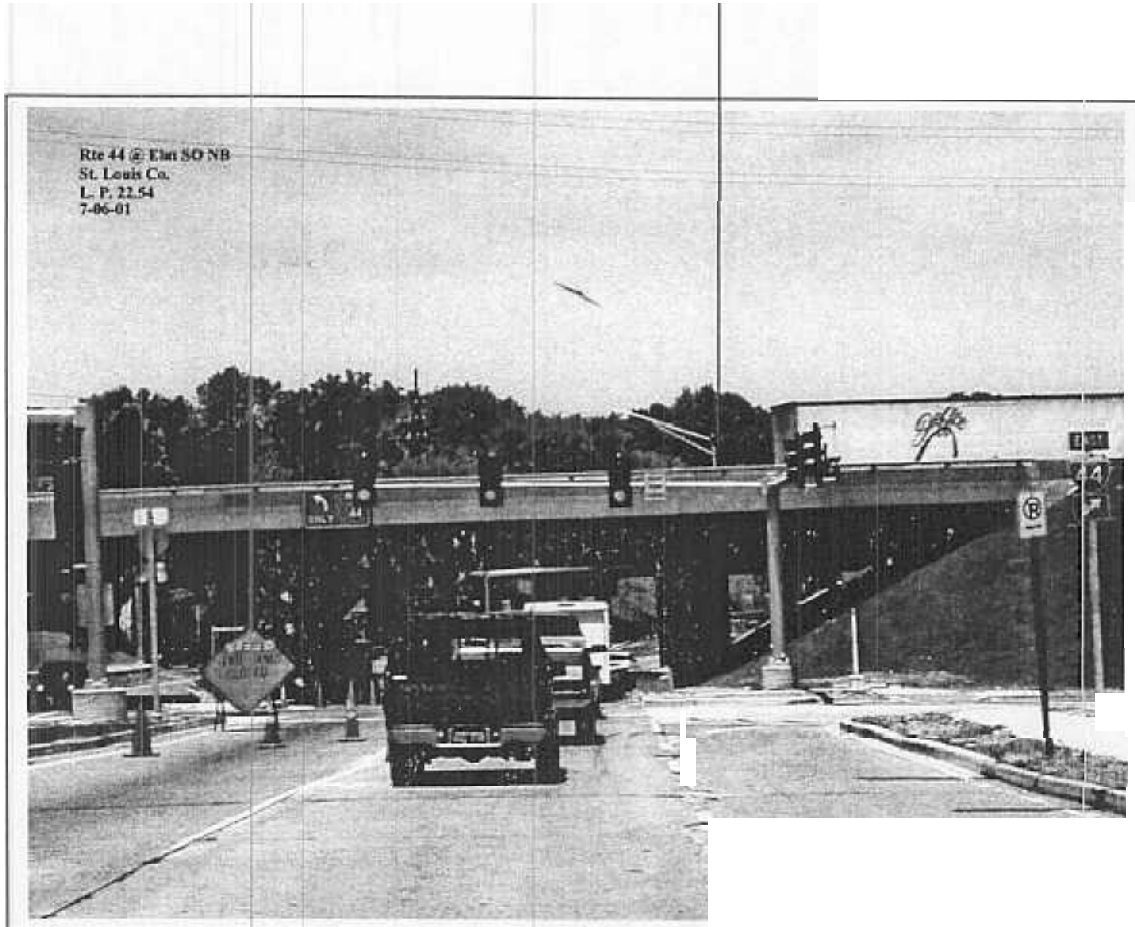
ATTACHMENT 1: Location of blank-out sign for North End.

Install "No Turn
on Red" blank
out panel.

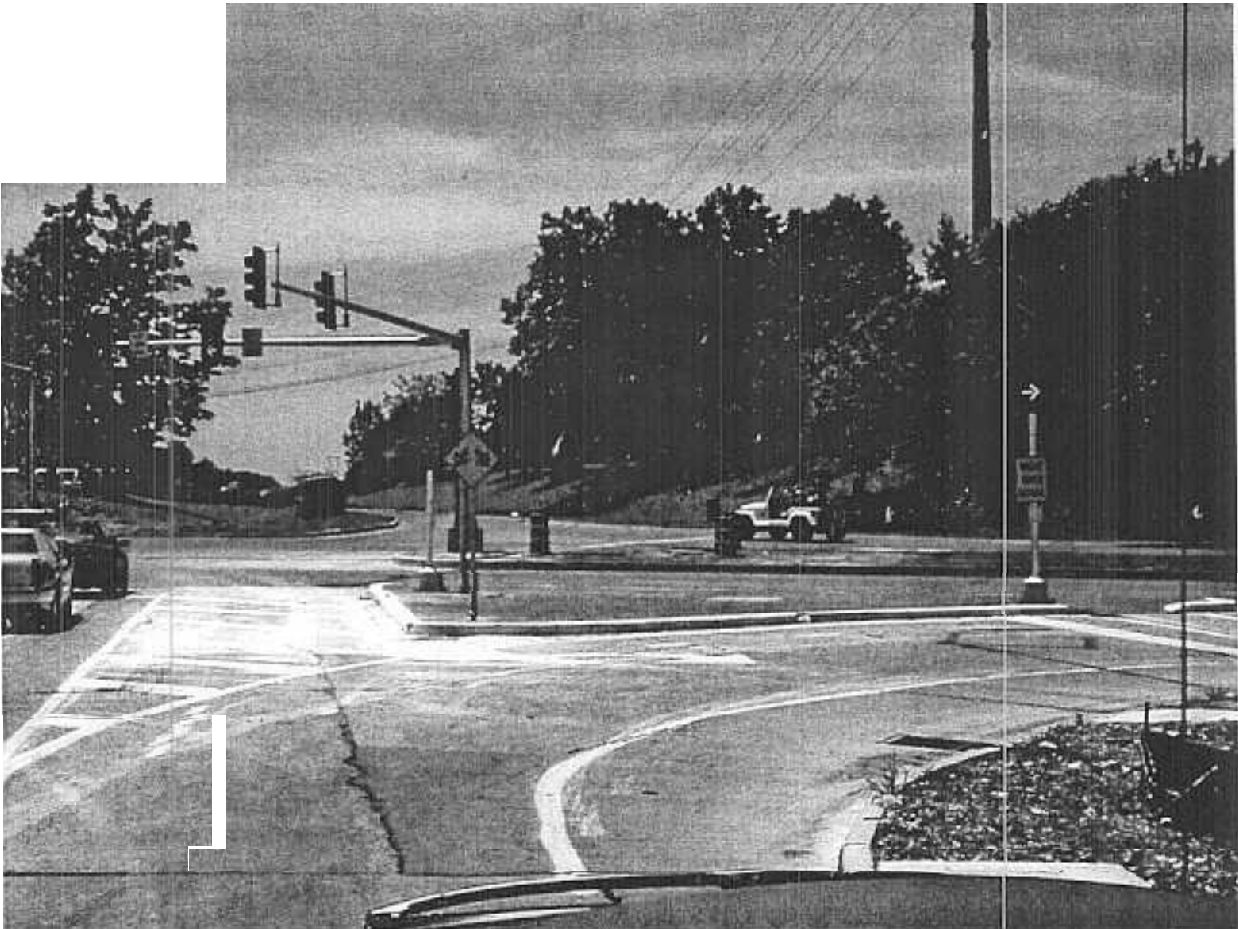


ATTACHMEN~ 2: Location of blank-out sign on south end.

Install "No Turn
on Red" blank
out panel.



ATTACHMENT 3: North End WB Off-Ramp Approach Showing Signalized RT Crossing



ATTACHMENT 4: Blank-out sign (30" x 36") inactive and active.

