



MEMORANDUM: TROPICANA EXIT RAMP INTERIM SIGNING

INTRODUCTION

NDOT requested that CA group review the existing configuration of the northbound Tropicana Exit ramp, and identify possible improvements that could potentially enhance lane use on the ramp. This memo presents a brief discussion of the existing conditions and an interim signing concept that modifies the existing signing for the Tropicana Exit ramp.

EXISTING CONDITIONS

The existing exit ramp consists of the termination of the northbound I-15 Collector-Distributor (CD) road, and splits between the Frank Sinatra and Tropicana exits approximately 900 feet south of the Tropicana ramp intersection with Tropicana Avenue. See FIGURE 1.

The two northbound CD lanes transition through an unstriped widening area to three lanes for Tropicana and one lane for Frank Sinatra.

The existing signal at Tropicana Avenue is configured such that the center lane of the northbound exit ramp can choose to turn either left or right during the green cycle. This center lane is not expressly identified as an option lane until vehicles approach the signal location, where pavement markings provide information via white left/right turn arrow legends.

Approximately half-way up the ramp towards the Tropicana intersection, two directional signs are placed, one on each edge of the ramp pavement, to provide lane use information. With traffic utilizing, both the left and right lanes, the visibility of these signs from the center lane is obstructed and the sign's effectiveness is diminished.



At the Frank Sinatra ramp split, an existing overhead sign directs traffic to either the Tropicana exit ramp terminal and signal, or to the Frank Sinatra ramp terminal and signal. The information provided does not specify lane use or designation.

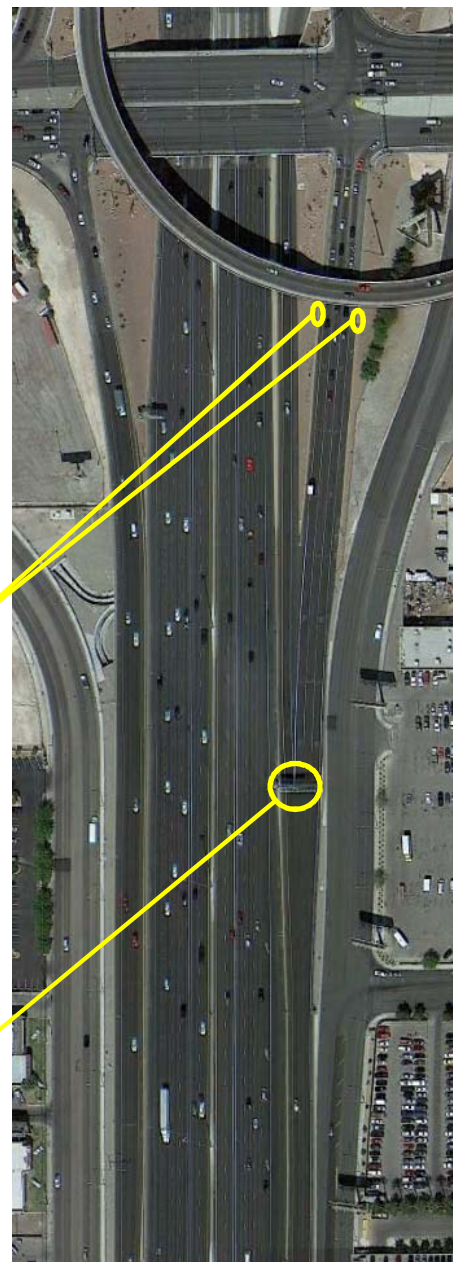


FIGURE 1 – Existing Tropicana Ramp

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ALTERNATIVE CONCEPT IDENTIFICATION

In an attempt to optimize lane storage use from the northbound exit signal to the Tropicana/Frank Sinatra exit split, modification to the existing overhead sign is recommended to provide lane designation information in lieu of destination information. New sign panels replacing the existing are to be provided to give advance notification of lane assignment on the Tropicana Exit ramp.

Two options were considered. Option 1 uses destination type signage, with down arrows pointing to the specific lanes available and adds “EAST” and “WEST” legends to designate lane destinations. It also adds a lane directional sign on the post of the overhead sign to aid in informing drivers. Option 2 utilizes directional arrows for the Tropicana exit sign. Option 1 could be implemented on the existing sign structure, while additional analysis is required by structures to determine whether or not the existing structure could support the sign panel sizes required for Option 2. If the additional sign panel area is more than the existing structure can support, a new structure would be required. Since the difference in information is minimal, and the directional sign provided in Option 1 gives drivers a good representation of the lane assignments, Option 1 is preferred. If desired, NDOT may choose to evaluate these or other options further.

Geometrically, no revision is recommended. As the I-15/Tropicana Interchange Feasibility Study progresses, this signing concept will be utilized in the recommended alternatives.

CONCEPT PRESENTATION

Before:



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After:
OPTION 1



After:
OPTION 2



CLOSING AND SUMMARY

This memo addresses NDOT's request to evaluate alternatives for improving lane use on the I-15 to Tropicana exit ramp.

CA Group has performed a geometric and visual evaluation of alternatives and selected an approach utilizing modification of the existing signing.

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CA Group recommends that NDOT consider replacing the sign panels on the overhead sign structure prior to the Tropicana/Frank Sinatra ramp split utilizing signing Option 1. The estimated cost to replace the panels is approximately \$30,000.00, including incidentals and traffic control. The new sign panels could be installed at any point once they are fabricated as there are no geometric changes recommended.