



MEMORANDUM

To: Lorie Maiorana
From: Christopher W. Heggen, P.E.
Kimley-Horn and Associates, Inc.
Date: February 22, 2018

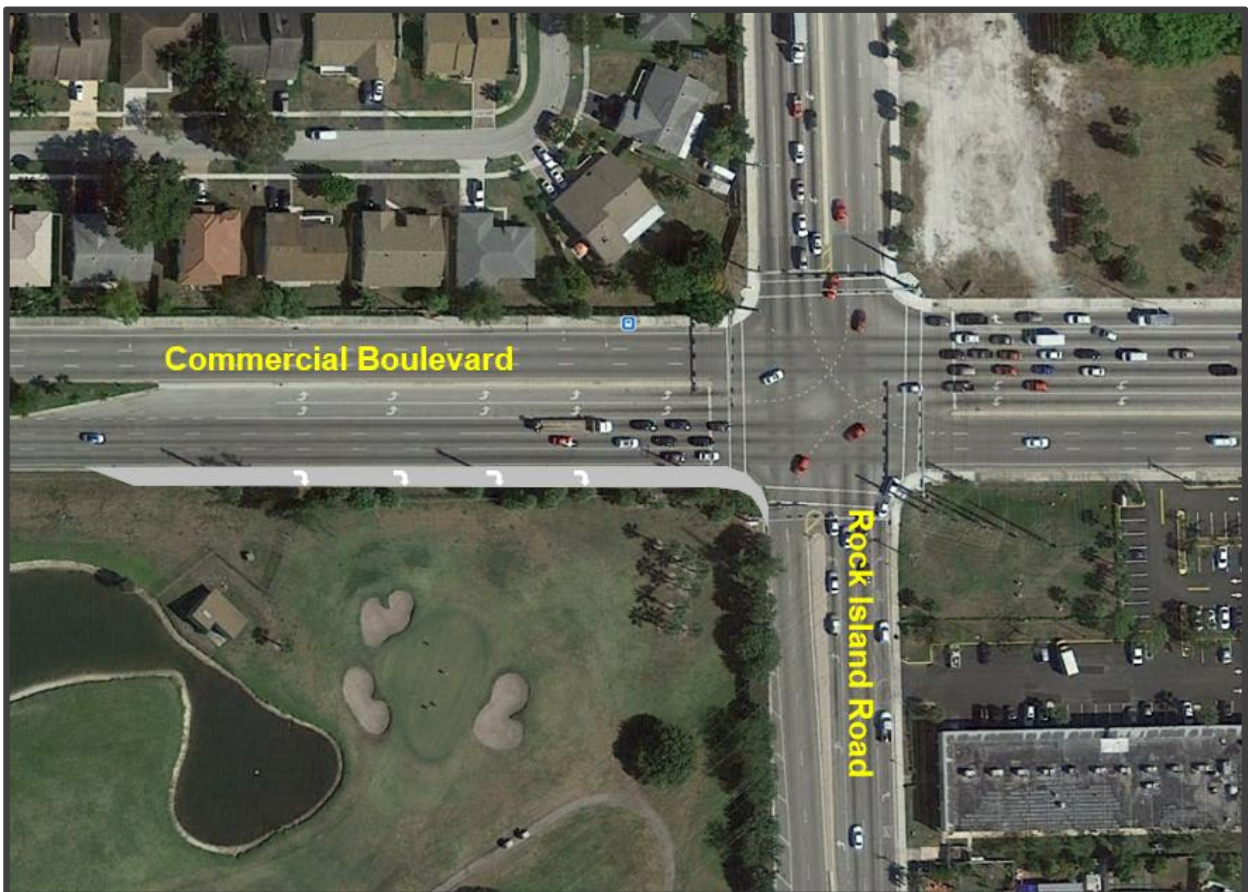
**Subject: *Woodlands Residential
Potential Traffic Mitigation Measures
Kimley-Horn # 140248005***

Kimley-Horn and Associates, Inc. has conducted a review of potential off-site roadway improvements that theoretically could be constructed to provide additional capacity and reduce congestion in the vicinity of the project. This review does not consider cost or the approval process involved. Of the following options that have been identified, there is a significant variation in cost and potential timetable that may be required to implement, if pursued.

(1) Rock Island Road & Commercial Boulevard

Improvement 1.1: Install exclusive eastbound right turn lane

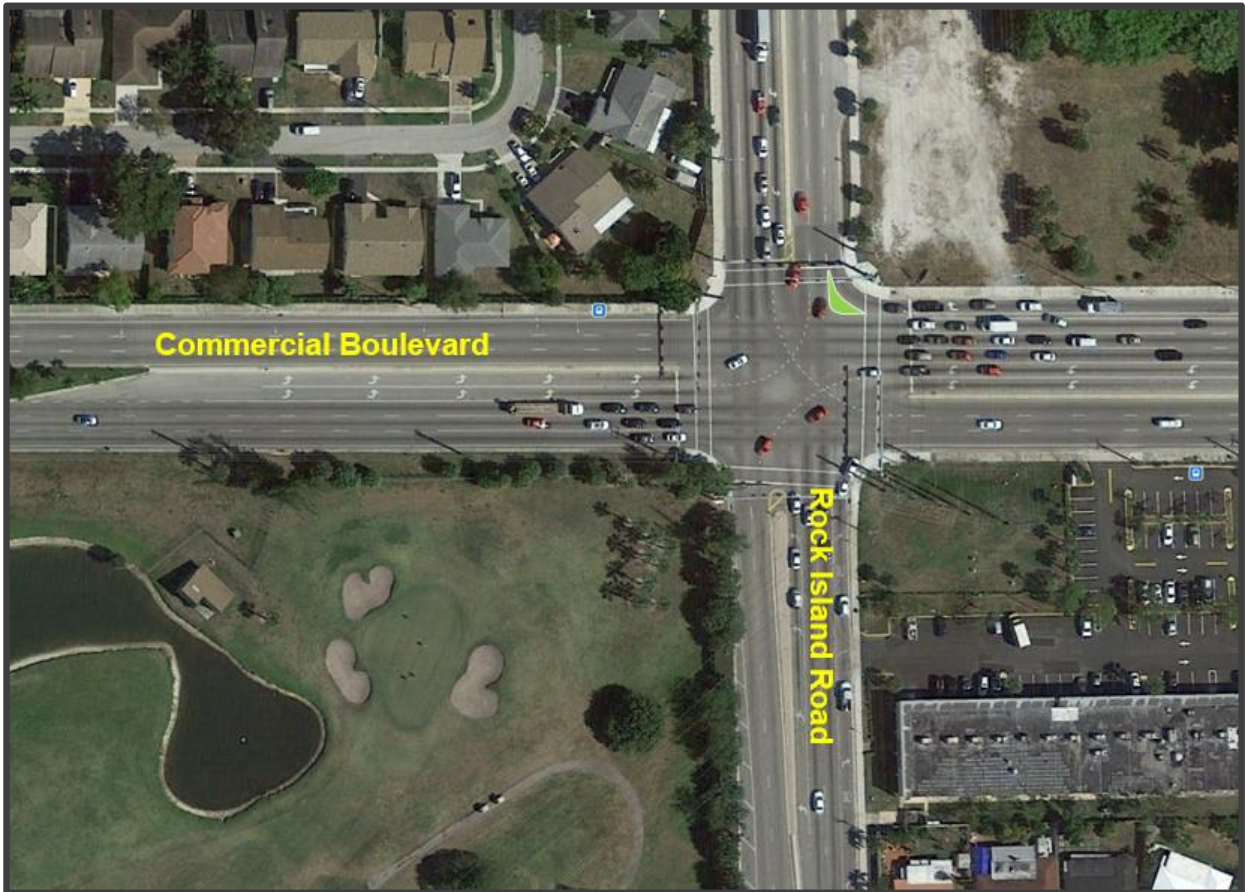
An eastbound-to-southbound right turn lane could be installed in the southwest quadrant of the intersection. The turn lane would improve eastbound capacity and separate eastbound right turns from the through traffic in the outside through lane. There are existing power lines that would need to be relocated. However, it does appear that the turn lane could be designed to avoid impacts to the existing signal mast arm in the southwest quadrant of the intersection.



Improvement 1.1: Eastbound-to-southbound right turn lane

Improvement 1.2: Install channelization for the existing exclusive westbound right turn lane to create free-flow right turn lane

South of the intersection, there are two northbound right turn lanes, and there are two westbound-to-northbound left turn lanes. North of the intersection, there are three through lanes. This improvement would channelize the westbound right turn lane to funnel into the eastern through lane. Some minor widening may be needed to ensure that there is sufficient width for the remaining two through lanes heading north from the intersection to accommodate the eastbound-to-northbound left turns.

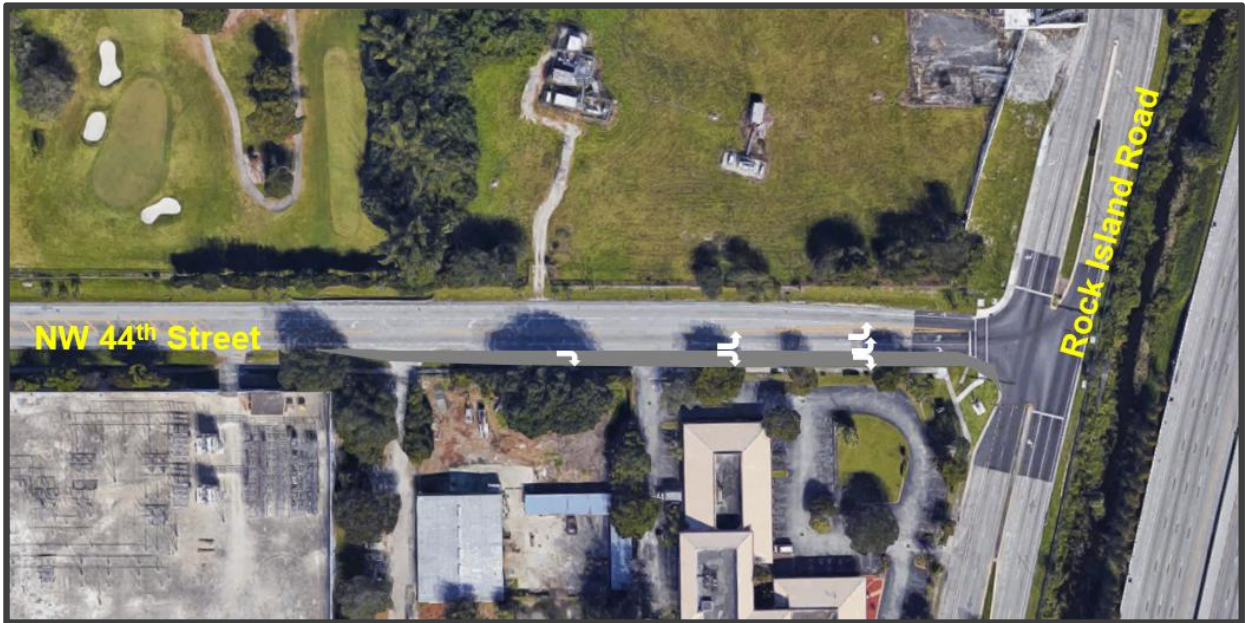


Improvement 1.2: Westbound-to-northbound conversion to free-flow

(3) Rock Island Road & NW 44th Street

Improvement 3.1: Install dual eastbound right turn lanes

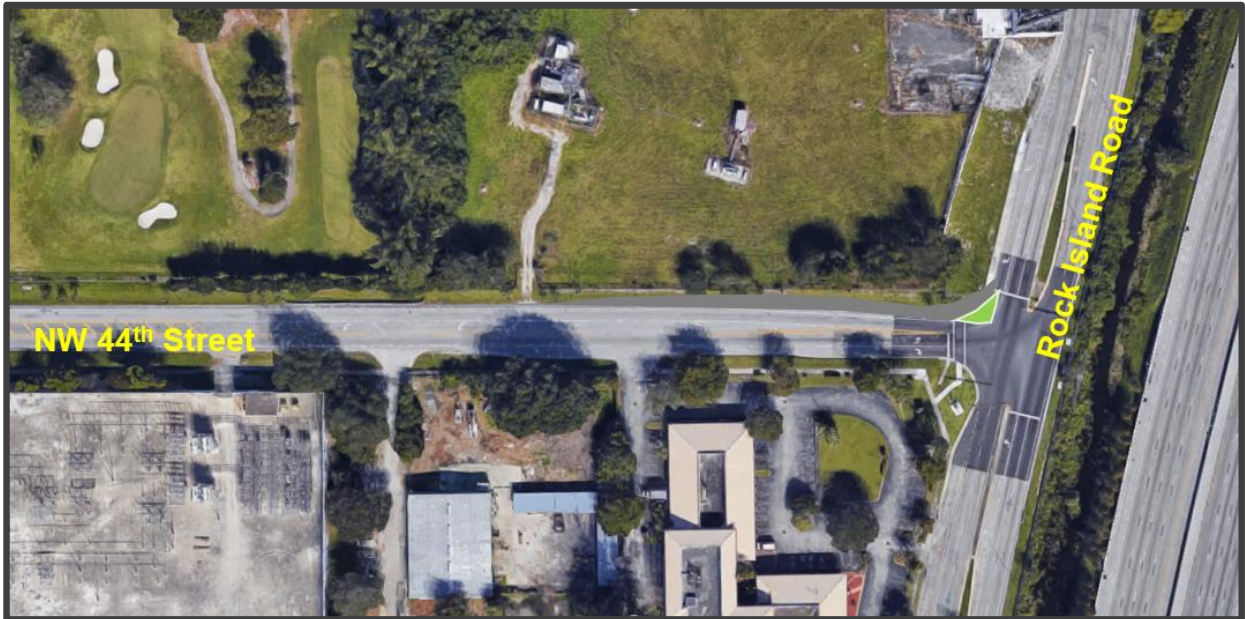
There appears to be sufficient right-of-way on NW 44th Street to add pavement to shift the right turn lane to the south and convert the existing right-turn lane to an eastbound left turn lane. This would increase operations for the eastbound left turn movement as it would increase the number of vehicles that turn left during the green time.



Improvement 3.1: Eastbound dual left turns

Improvement 3.2: Install a second westbound receiving lane and make the southbound right lane free flow

There appears to be sufficient right of way to create channelization and second westbound receiving lane. Currently, there is only one westbound receiving lane for both the southbound right and northbound left turn movements. This additional lane would create a scenario where the northbound left would have its own exclusive receiving lane, and the southbound right turn would have its own exclusive receiving lane. This could improve operations at this intersection by reducing the amount of green time needed for these movements.

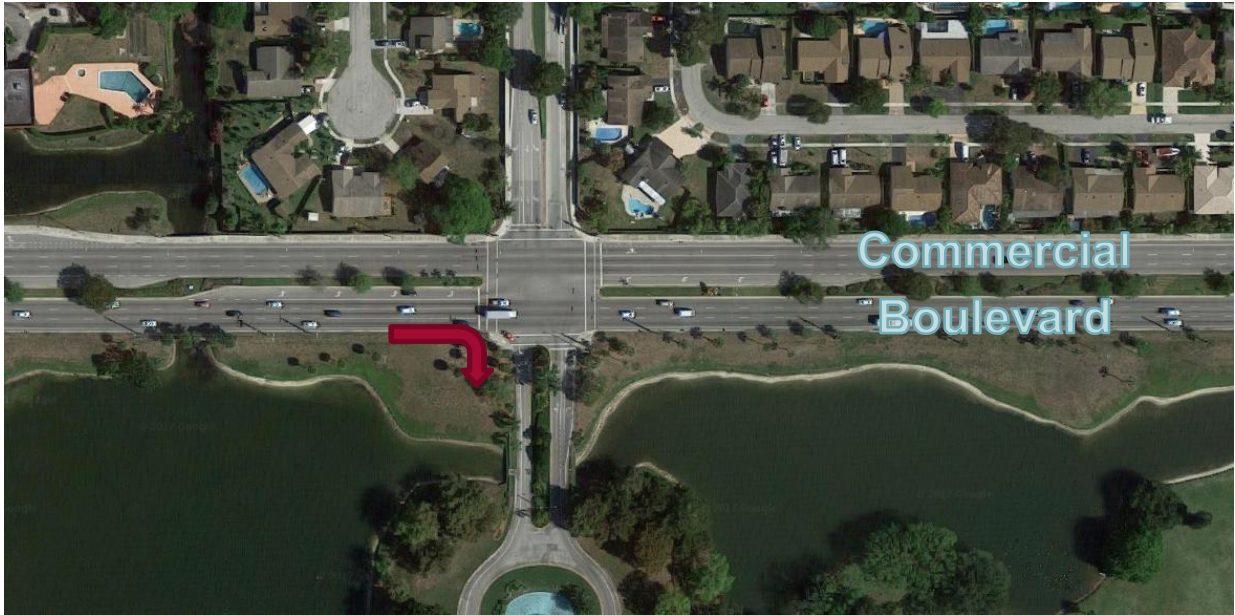


Improvement 3.2: Southbound-to-westbound free-flow

(4) COMMERCIAL BOULEVARD & WOODLANDS BOULEVARD

Improvement 4.1: Install exclusive eastbound right turn lane

There appears to be sufficient right-of-way in the southwest quadrant of the intersection to install the right-turn lane. The addition of this right turn lane would increase the number of eastbound through lanes. This would reduce the amount of green time needed for the eastbound through movement, which would allow more green time for other movements. One possible issue is the existing power line.



Improvement 4.1: Southbound-to-westbound free-flow

Should you have any questions regarding this information, please contact me via telephone at (561) 840-0248 or via e-mail at chris.heggen@kimley-horn.com.

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