

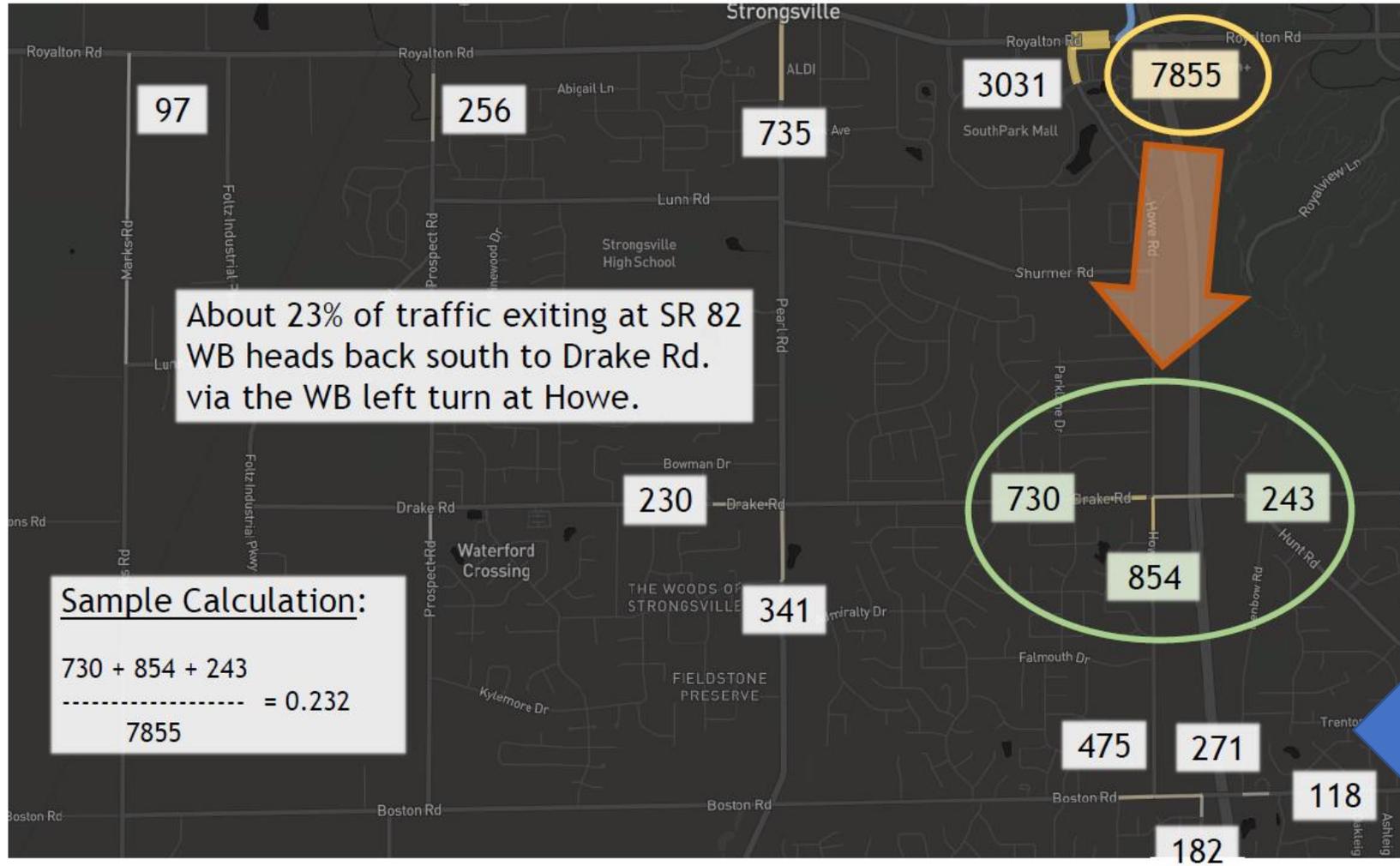
STREETLIGHT ESTIMATES

Confirm Analysis Details		X
Analysis Name:	11 6069 OD SR 82 SB-WB Exit	
Unit of Measurement:	Miles	
Country:	US	
Mode of Travel:	All Vehicles LBS+	
Analysis Type:	Origin-Destination	
Zone Kinds:	Custom Zone OSM	
Origin Zones:	SB Exit to SR 82 WB / 18714877 / 1	
Destination Zones:	Royalton Road / 371687006 / 1, Howe Road / 651621827 / 2, Drake Road / 651621824 / 1, Drake Road / 651621826 / 6, Boston Road / 281233735 / 16, North Carpenter Road / 19153547 / 18, Boston Road / 281233735 / 17, Boston Road / 38900244 / 2, Grafton Road / 732289700 / 14, North Carpenter Road / 19153547 / 13, Grafton Road / 732289700 / 15, Pearl Road / 651621823 / 4, Drake Road / 651621824 / 11	
Data Periods:	04/01/2021 – 05/31/2021, 09/01/2021 – 10/31/2021, 03/01/2022 – 04/30/2022	

• Streetlight OD Analysis

- Looked at March-April 2022
- Only Tue/Wed/Thu, 3PM-7PM
- Considered Exit Ramps as “Origins”
- Evaluated percentage of trips in downstream links likely to be shorter using Boston Rd SB exit to be “Destinations”
- *Assumed* fractions for “peak period” would hold up for “peak hour” as well
- Most recent 2-month period available
- **THESE ARE NOT TRAFFIC VOLUMES!!**

SR 82 WB Destinations in PM Period, 3P-7P



Assuming half of traffic turning from Howe Rd onto Boston Rd is from Brunswick
 (475+271+118 = 864/2 = 432)
 432+182 = 614

614/7855 = 7.8% is Brunswick traffic

No Build

The LOS for opening year 2027 and design year 2047 peak hours for the study intersection was calculated. These LOS values are used to identify capacity and or operational deficiencies in current conditions.

SR 82 - With the exception of the SR 82-Howe Road intersection, all intersections along SR 82 result in acceptable delays and LOS for both opening year 2027 and design year 2047. Results ranged from LOS A to LOS C. The I-71 SB ramp intersection and West 130th Street intersection resulted in LOS D during the 2047 PM period.

The SR 82/Howe Road intersection typically resulted in LOS D for the AM periods and LOS E for PM periods for both opening year 2027 and design year 2047.

The SR 82/Howe Road intersection typically resulted in poor/failing level of service throughout each scenario, including No Build conditions. The results at this location should be appraised for degree of improvement.

Boston Road - All intersections along Boston Road result in acceptable delays and LOS for both opening year 2027 and design year 2047. Results ranged from LOS A to LOS D.

SR 303 - All intersections along SR 303 result in acceptable delays and LOS for both opening year 2027 and design year 2047. Results ranged from LOS A to LOS C.

Drake & Grafton - The Drake Road-Howe Road intersection results in LOS C or D. The Drake Road-Hunt Road intersection is stop controlled with a LOS B for AM periods and LOS D and E for PM periods. The North Carpenter Road-Grafton Road intersection results in LOS B in all periods.

Build - No Interchange (referred to as "No Int. - Build" in Table 5 below)

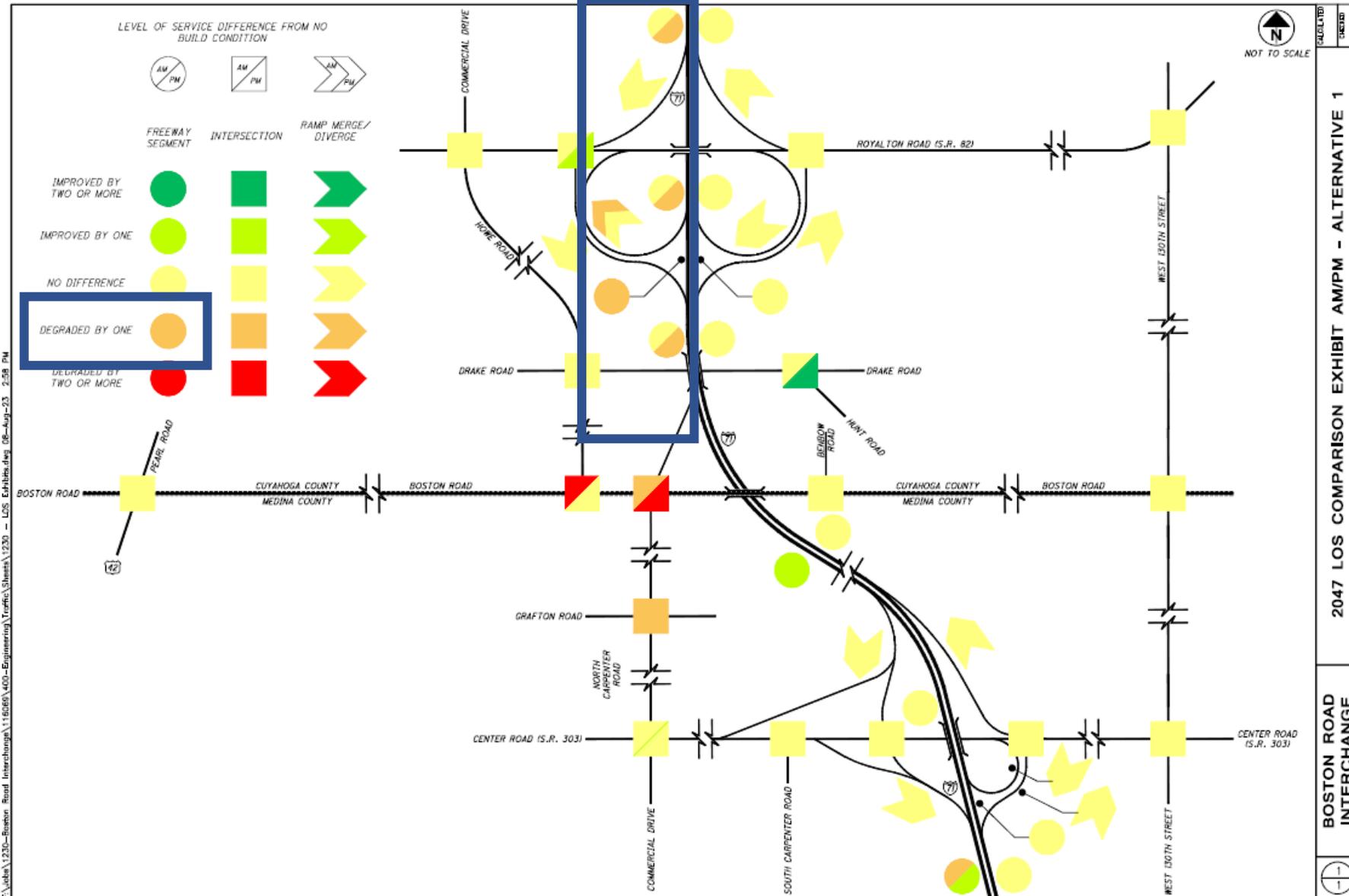
A build scenario with no interchange has been provided for the Boston Road area intersections that were determined to have a failing level of service for the No Build condition.

There were no intersections that failed for the 2027 No Build conditions. It was determined that the intersection of Drake Road-Hunt Road would not meet the capacity needs for the 2047 PM peak No Build conditions. This intersection was then analyzed with an improved roadway configuration to achieve acceptable results. A build alternative was analyzed with this configuration to estimate which improvements may be driven by the project. For the Drake Road and Hunt Road intersection, an eastbound right turn lane is necessary for the No Build condition and that satisfies the build conditions. Therefore, no improvements are driven by the project for this intersection. The intersection of Boston Road and US 42 has an acceptable level of service for the no build condition but has a large queue storage ratio. Therefore, a no interchange build condition was included in the analysis.

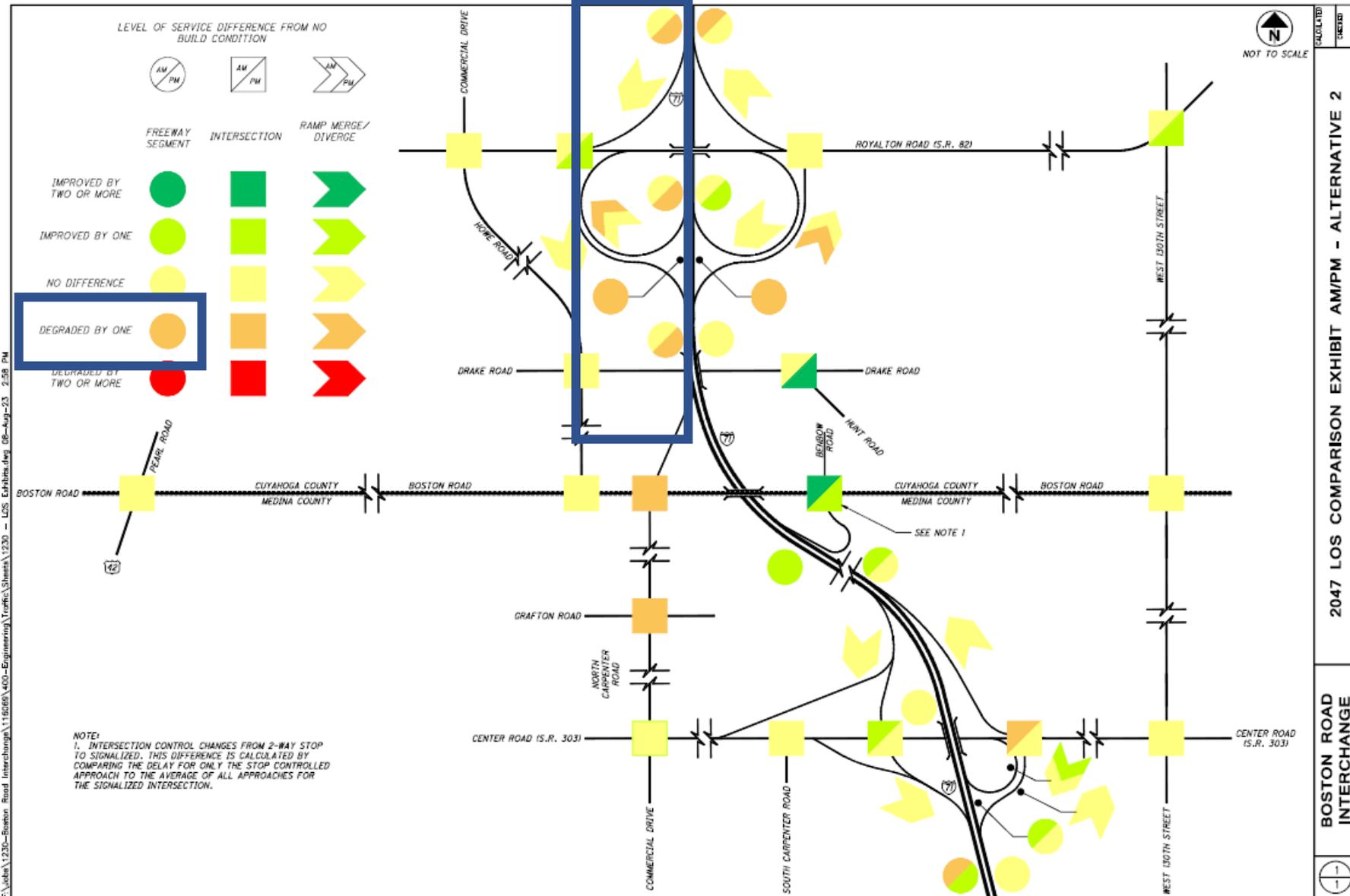
Alternative 1

SR 82 - Delay and LOS along SR 82 are mixed with some having an increase in delay and some having a decrease in delay. The LOS range from LOS A to LOS E. Generally, as the decrease in delay is moderate at each individual intersection, the LOS is unchanged over No Build scenario. However, the I-71 SB ramp intersection decreased from LOS C to LOS D for 2027 PM period and improved from LOS D to LOS C for the 2047 PM period.

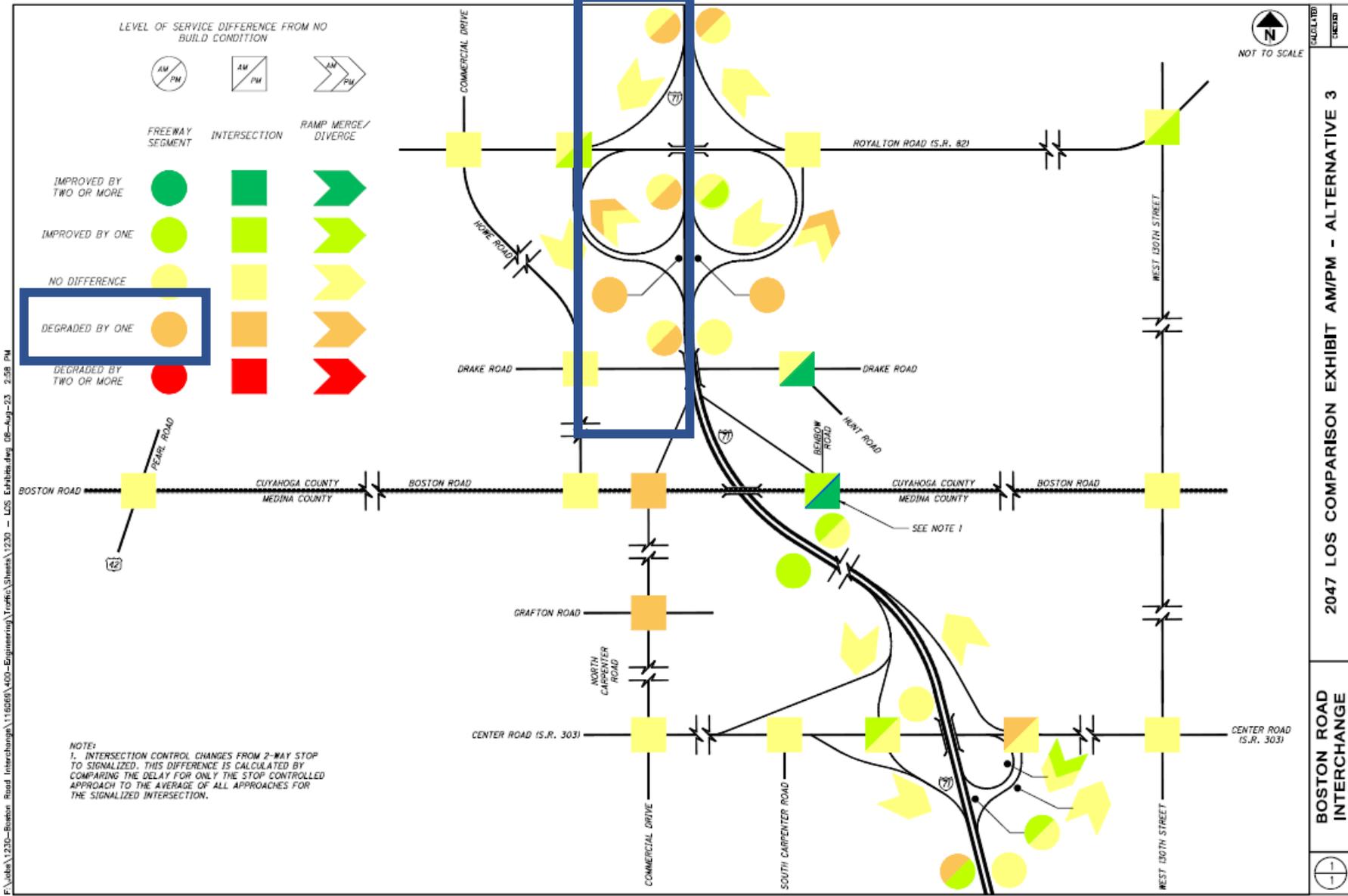
Appendix K – Levels of Service Alternative 1



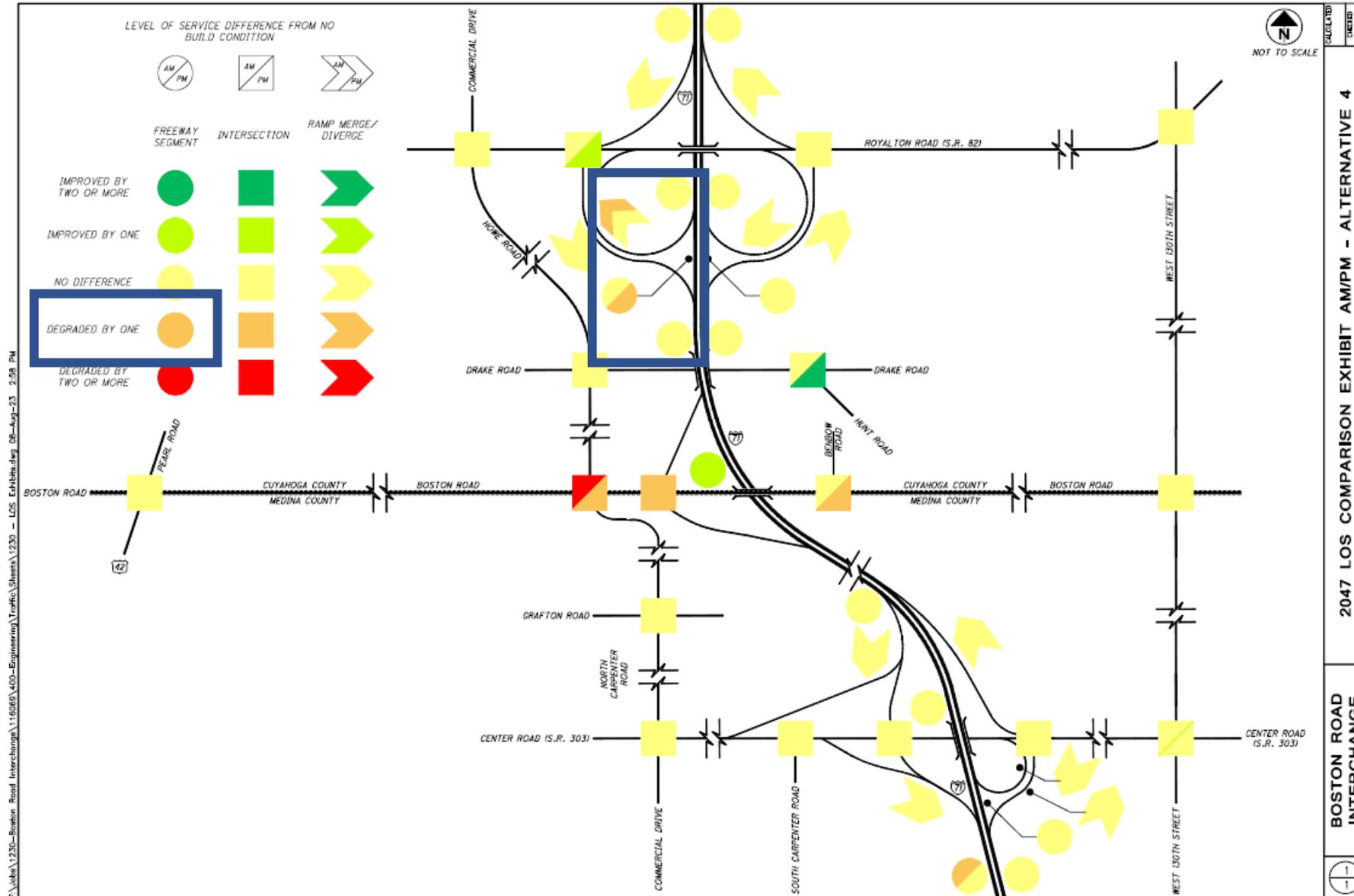
Appendix K – Levels of Service Alternative 2



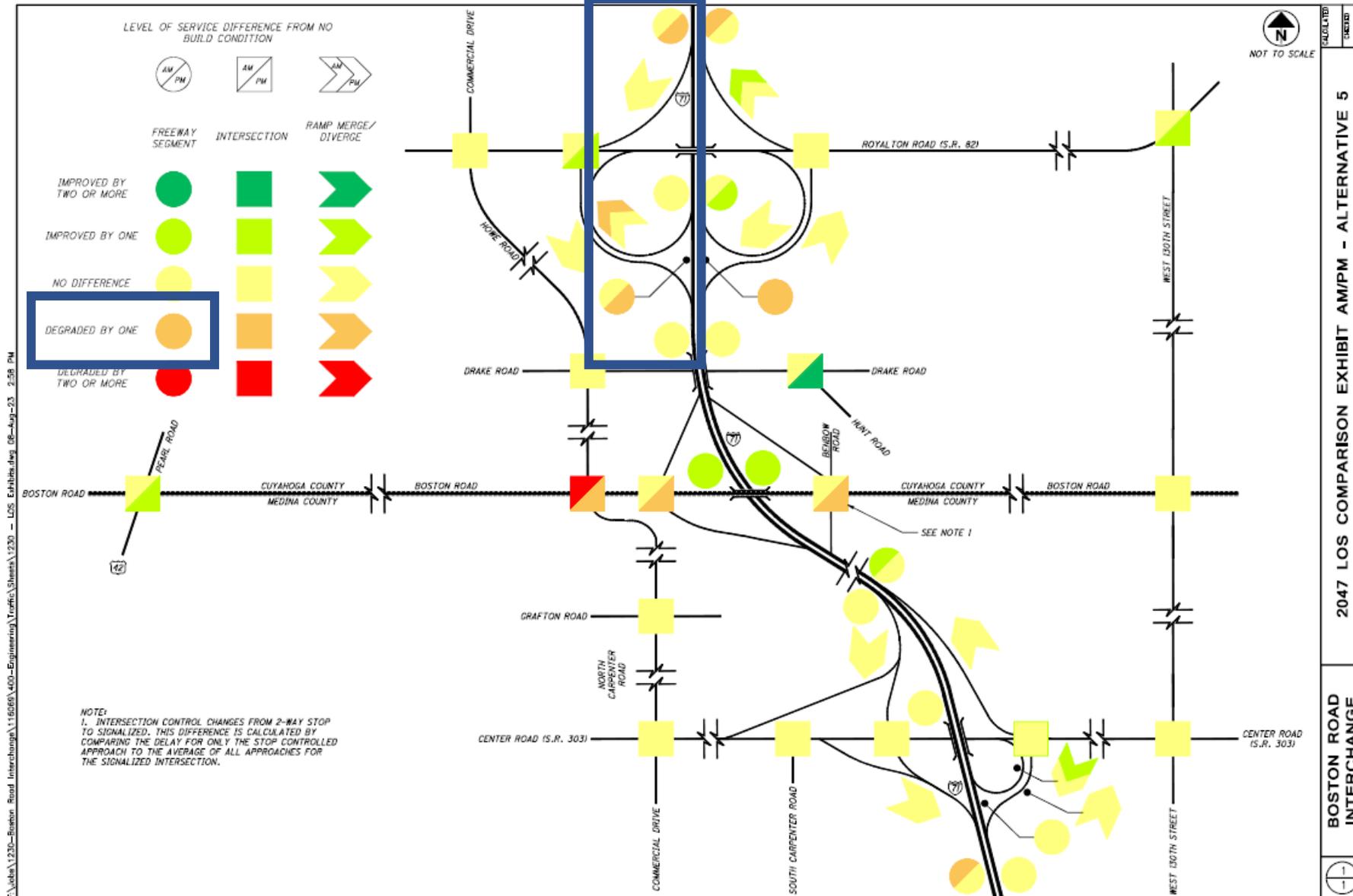
Appendix K – Levels of Service Alternative 3



Appendix K – Levels of Service Alternative 4



Appendix K – Levels of Service Alternative 5



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