

Appendix D. Intersection Project Development Guide

Lee MPO: Bike/Ped Project Development Guide

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DRAFT

Overview

- The contents of this presentation will help guide the identification of countermeasures for “at-risk” locations
- Process will be similar for intersections and segments
- Detailed examples currently only exist for:
 - Retroreflective Backplates
 - High Emphasis Crosswalks

Intersection Screening

4/3-Stars present

212 Signalized

6 Unsignalized

List of Intersection Countermeasures

- Retroreflective Backplates
- High Emphasis Crosswalks
- Addition of Signal Heads
- Prohibit Right-Turn-On-Red
- Protected Left-Turn Phasing
- Leading Pedestrian Interval (LPI)
- Street Lighting
- Refuge Island
- Countdown Timers
- Signal Timing Improvements
- Span Wire to Mast Arm Conversion

Signal Head Assemblies

Condition #1



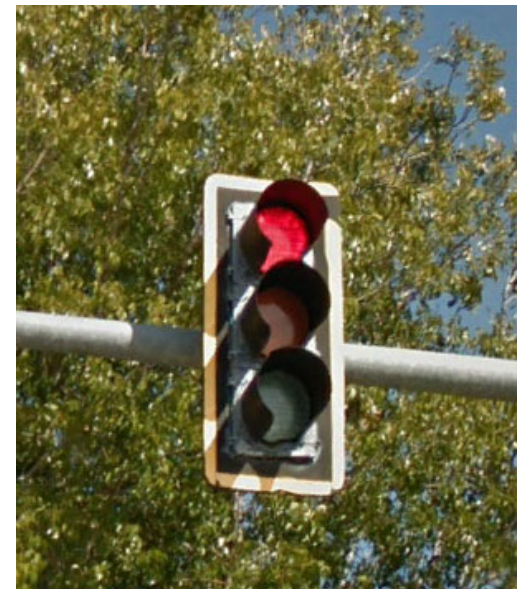
No Backplate

Condition #2



Backplate Present
No retroreflective sheeting

Condition #3



Backplate with
retroreflective sheeting

Retroreflective Backplate Identification

- In Google Earth, drop into Streetview at the intersection of interest
- Quickly review *every* signal head for *all* approaches
- Count signal heads that correspond to Conditions #1 & #2
- Record that *total* number in spreadsheet
- **Reminder: we want all signal heads to match Condition #3**
 - i.e. Backplates *with* Retroreflective sheeting

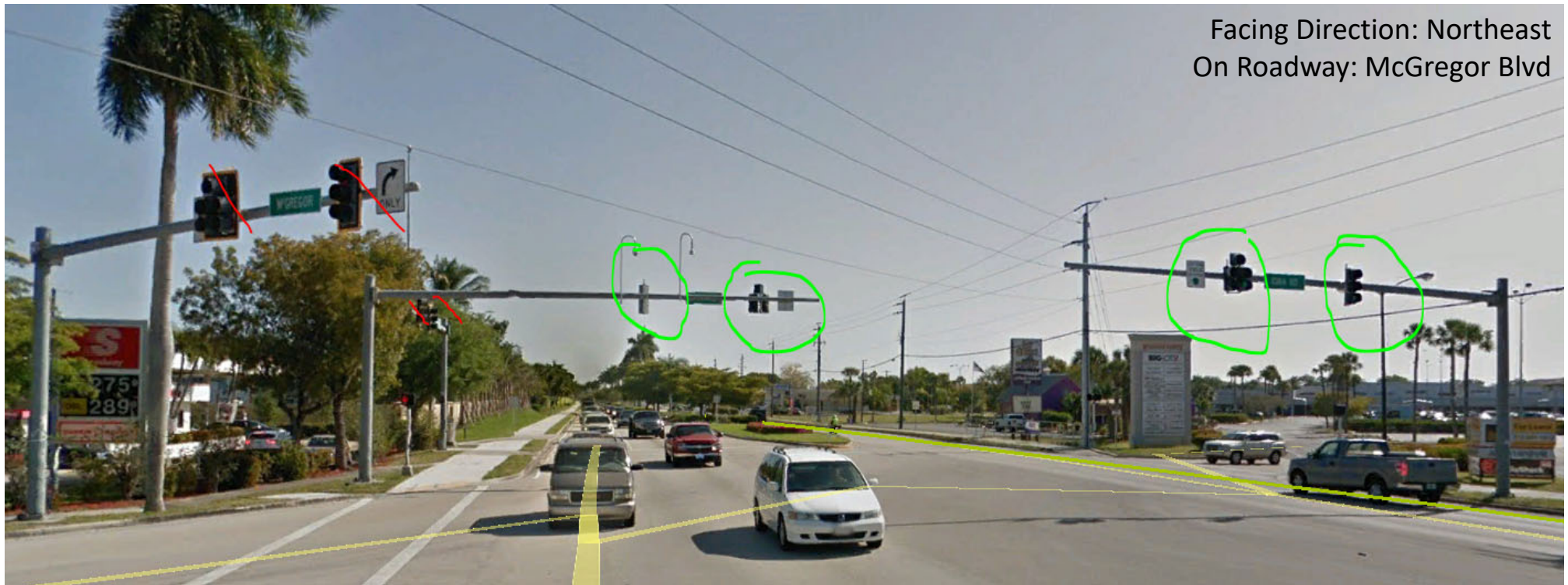
Example Intersection: 12_156^{McGregor Blvd. & Iona Rd} Retroreflective Backplate Identification (1)

Facing Direction: Southwest
On Roadway: McGregor Blvd



8/23/2019

Example Intersection: 12_156 *McGregor Blvd. & Iona Rd* Retroreflective Backplate Identification (2)



Example Intersection: *12_156* *McGregor Blvd. & Iona Rd*

Retroreflective Backplate Identification (3)

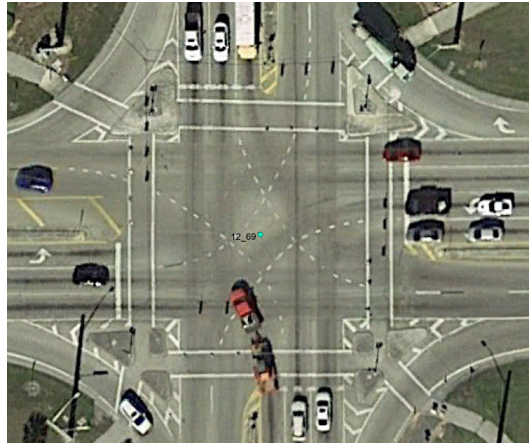
- The previous two slides show Streetview from two different directions at the intersection of McGregor Blvd & Iona Rd
- Eight (8) individual signal heads were identified
 - Four (4) signal heads had backplates with retroreflective sheeting
 - Four (4) signal heads did not have backplates
- Record **4** in spreadsheet for retroreflective backplate countermeasure

Crosswalk Examples

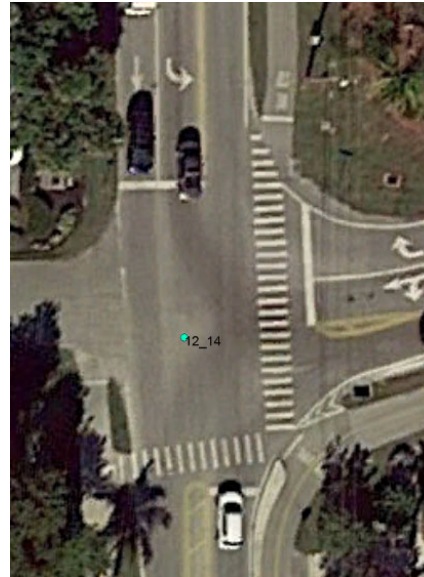
None



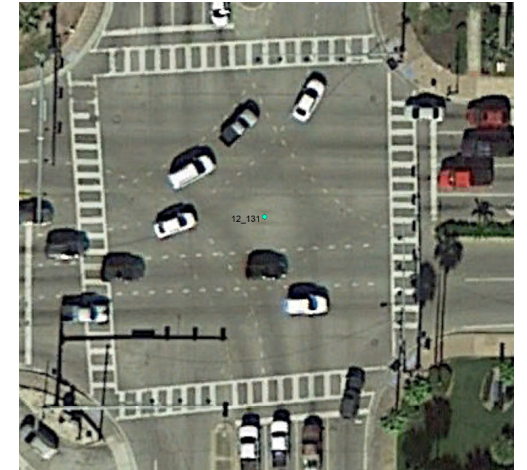
Standard



Continental



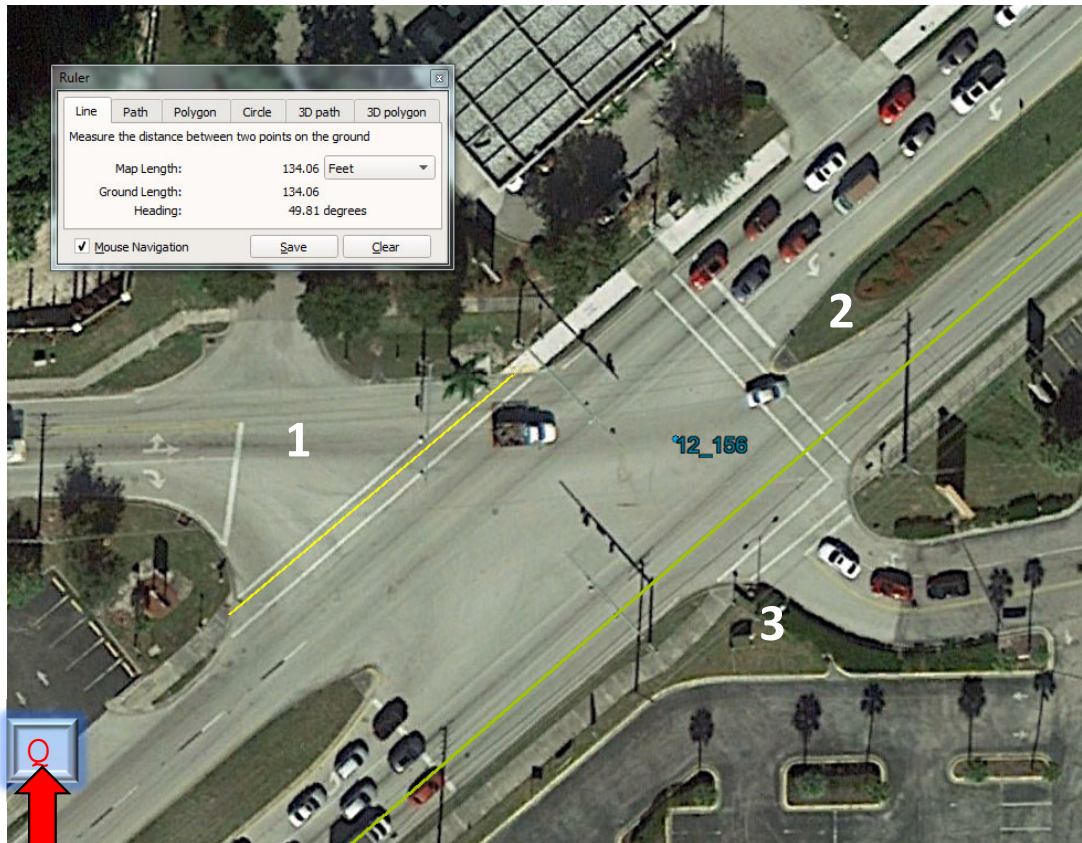
Special Emphasis



High Emphasis Crosswalk Notes

- Only measure the distance of existing crosswalks
- If aerial imagery shows high emphasis crosswalk with severely worn pavement markings, include as part of suggested improvement
- We are not suggesting placement of any new crosswalks
- If intersection has high emphasis crosswalks that are in good condition (use judgement) record 0 feet in spreadsheet

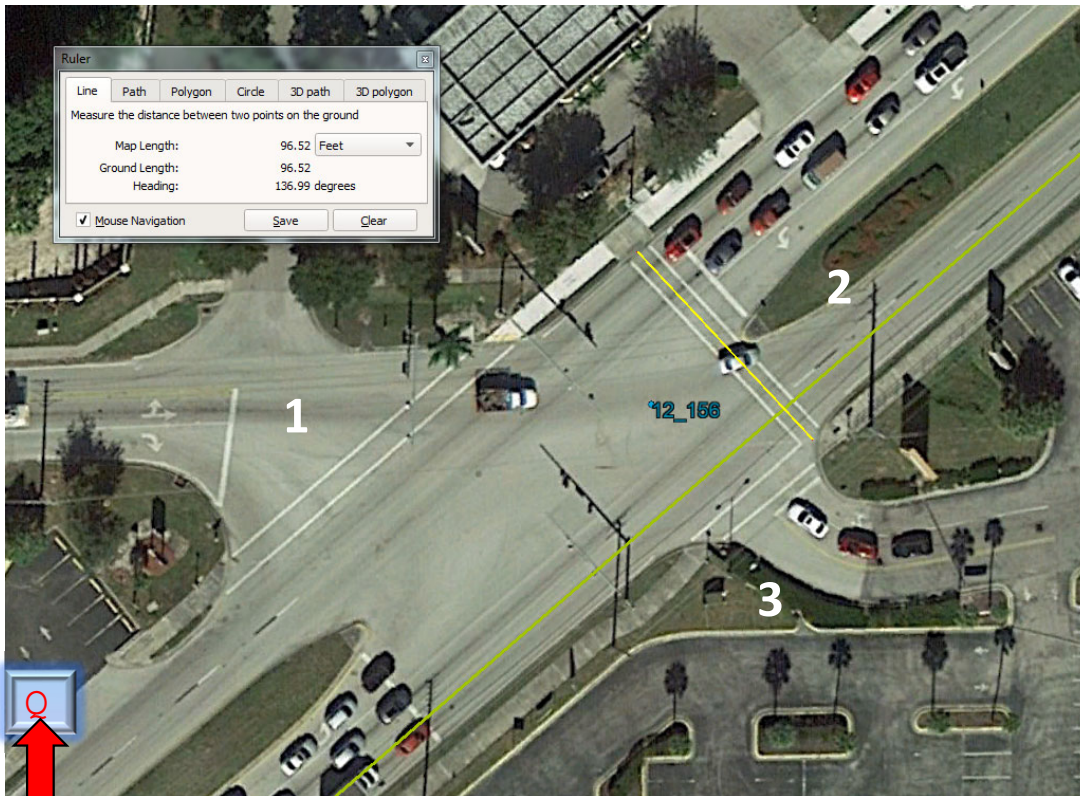
Example Intersection: 12_156^{McGregor Blvd & Iona Rd} Measuring Crosswalk Distance (1)



- Start with the North West most crosswalk – proceed **clockwise** around intersection
- Measure distance between curb ramps
- Round to the nearest 5-foot increment
- Recorded Measurement: 135 feet

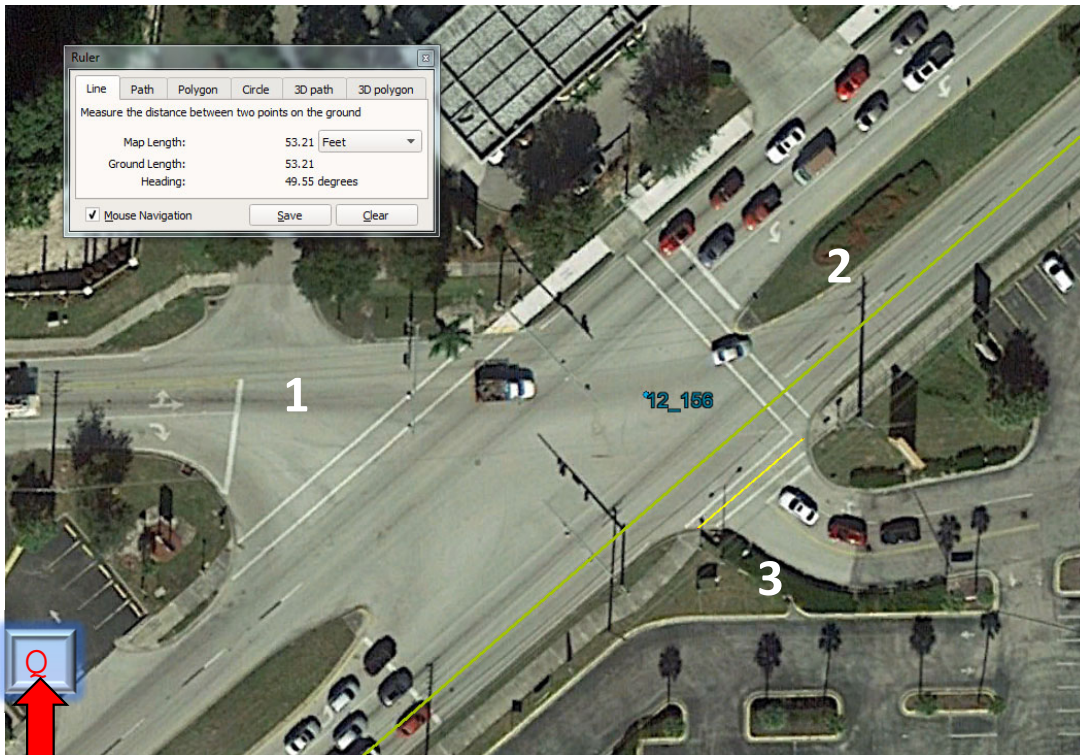
Example Intersection: 12_156 *McGregor Blvd & Iona Rd*

Measuring Crosswalk Distance (2)



- Measure distance between curb ramps
- Round to the nearest 5-foot increment
- Recorded measurement: 95 feet

Example Intersection: 12_156 *McGregor Blvd & Iona Rd* Measuring Crosswalk Distance (3)



- Measure distance between curb ramps
- Round to the nearest 5-foot increment
- Recorded measurement: 55 feet

Project Development Spreadsheet (1)

Crash_Intersection_350ft_v3.xlsx - Excel

Paquin, Robert/TPA

File Home Insert Page Layout Formulas Data Review View Developer Help ACROBAT Power Pivot Tell me what you want to do

Normal Page Break Page Custom Ruler Formula Bar Zoom 100% Zoom to Selection New Arrange Freeze Hide View Side by Side Synchronous Scrolling Switch Windows Macros

Workbook Views Show Zoom Window

H11

Intersection Information					Project Development													Total (ft)		Signa
Intersection ID	On Roadway	Intersecting Road	Total Stars	Crash Cost	Reflective Backplates	Crosswalk 1 Length (ft)	Crosswalk 2 Length (ft)	Crosswalk 3 Length (ft)	Crosswalk 4 Length (ft)	Crosswalk 5 Length (ft)	Crosswalk 6 Length (ft)	Crosswalk 7 Length (ft)	Crosswalk 8 Length (ft)	Crosswalk 9 Length (ft)	Crosswalk 10 Length (ft)	Crosswalk 11 Length (ft)	Crosswalk 12 Length (ft)	Total (ft)	Signa	
1	12_156	MCGREGOR BLVD	IONA RD	****	\$11,542,615	4	135	95											285	
2	12_226	HANCOCK BRIDGE PKY W	US 41	****	\$11,132,054	15	100	125	95										320	
3	12_131	CAPE CORAL PKY E	CORONADO PKY	****	\$10,890,130	0	0	0	0										0	
4	12_330	US 41	CONSTITUTION BLVD	****	\$10,670,000	10	85	110	95	130									400	
5	12_105	CR-884	SANTA BARBARA BLVD	****	\$1,853,145	8	25	75	35										585	
6	12_37	CAPE CORAL PKY W	PELICAN BLVD	****	\$1,851,445					20		100		25	60		75	35	100	
7	12_298	SR 739	WINKLER AVE	****	\$1,745,230														0	
8	12_266	WINKLER AVE	SOLDIERS BLVD	****	\$1,085,045														0	
9	12_247	CLEVELAND AVE	AIRPORT RD N	****	\$1,046,833														0	
10	12_140	ANDALUSIA BLVD	SR 78	****	\$1,046,833														0	
11	12_218	COLLEGE PKY	WINKLER RD	****	\$1,046,833														0	
12	12_367	WILLIAMS RD	US 41	****	\$978,830														0	
13	12_254	SIX MILE CYPRESS PKY W	US 41	****	\$978,830														0	
14	12_366	GRIZ AVE	SR 82	****	\$890,315														0	
15	12_149	SR 865	CR 867	****	\$872,615														0	
16	12_168	PINE ISLAND RD	PONDELLA RD	****	\$872,615														0	
17	12_84	CR-884	SKYLINE BLVD	****	\$872,615														0	
18	12_253	US 41	DANIELS PKY W	****	\$872,615														0	
19	12_108	HANCOCK BRIDGE PKY E	SANTA BARBARA BLVD	****	\$872,615														0	
20	12_371	CR 650	SR 45	****	\$872,615														0	
21	12_109	SR 78	SANTA BARBARA BLVD	****	\$348,036														0	
22	12_251	CLEVELAND AVE	COLONIAL BLVD	****	\$280,233														0	
23	12_391	DANIELS PKY	FIDDLESTICKS BLVD	****	\$280,233														0	
24	12_392	COLONIAL BLVD	I 75	****	\$212,430														0	
25	12_393	COLONIAL BLVD	I 75	****	\$174,018														0	
26	12_203	COLLEGE PKY	POINTE BLVD	****	\$174,018														0	
27	12_317	V S SHOEMAKER BLVD	COLONIAL BLVD	****	\$174,018														0	
28	12_432	DANIELS PKY	TREELINE AVE	****	\$174,018														0	
29	12_150	SAN CARLOS BLVD	KELLY RD	****	\$174,018														0	
30	12_75	CAPE CORAL PKY W	CHIQUITA BLVD S	****	\$174,018														0	
31	12_384	US 41	CR 865	****	\$106,215														0	
32	12_224	CR 78A	SR 45	****	\$106,215														0	
33	12_418	ALICO RD	128	****	\$106,215														0	
34	12_148	CAPE CORAL PKY E	DEL PRADO BLVD S	****	\$15,400														0	
35	12_368	COLONIAL BLVD	SIX MILE CYPRESS PKY W	****	\$7,700														0	
36	12_158	SR 78	CR 867A	****	\$7,700														0	
37	12_377	SR 45	TEPPY ST W	****	\$7,700														0	
38	12_275	WINKLER AVE	FOWLER ST	****	\$0														0	
39	12_445	I 75	CORKSCREW RD	****	\$0														0	
40	12_336	I 75	SR 82	****	\$0														0	
41	12_71	GLEASON PKY	CHIQUITA BLVD S	****	\$0														0	
42	12_372	COLONIAL BLVD	US 41	****	\$0														0	
43	12_270	COLONIAL BLVD	FOWLER ST	****	\$0														0	
44	12_347	COLONIAL BLVD	WINKLER AVE	****	\$0														0	
45	12_32	NICHOLAS PKY W	SR 78	****	\$0														0	
46	12_232	COLONIAL BLVD	SOMMERSET DR	****	\$0														0	

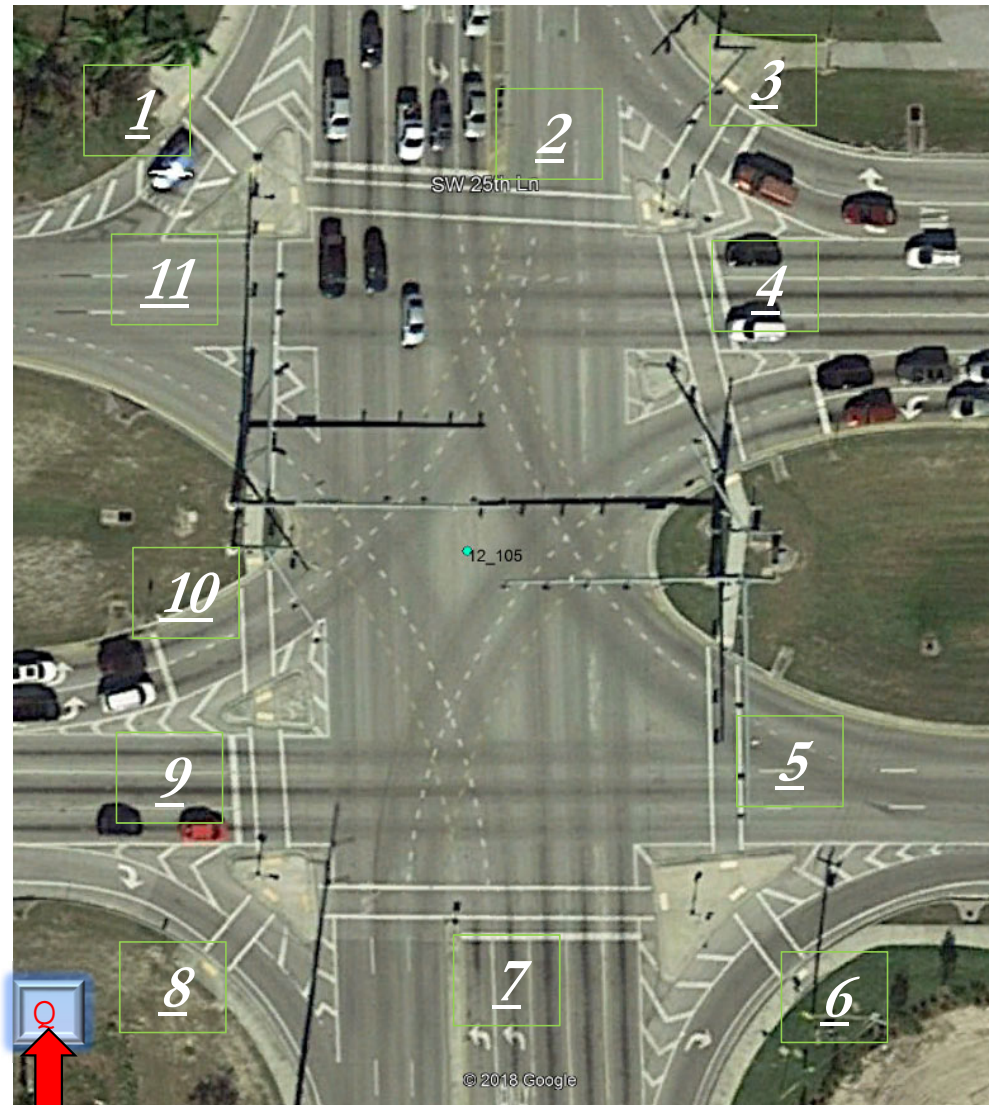
Ready

Project Development Spreadsheet (2)

- Intersection IDs are located in Column B
- Verify descriptions of “On Roadway” & “Intersecting Road”
 - (Columns C & D respectively)
- Enter Total Number of Retroreflective Backplates in Column H
- Enter measured distance on crosswalks in applicable Columns I thru T (when applicable)
- Add notes/comments in Column T that might:
 - Cause confusion
 - Data is not representative
 - Intersection Point Misplaced
 - Descriptions are wildly inaccurate
 - Issues with Spreadsheet
 - Other
- Complete as many 4-Star locations first, then move on to 3-Star locations

Example Intersection: 12_105

- Start with the North West most crosswalk
- 11 different crosswalk lengths to measure
- Various combinations of signal head configurations
- 8 retroreflective backplate upgrades identified



Other

- Feel free to ask as many questions as you want
- Email/Phone call/Carrier pigeon
- Use the first 5 intersections as reference examples
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