HCM 2010 Signalized Intersection Capacity Analysis
3: Sam Freeman Rd/SR 60 & SR 124

4/23/2018

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R				T+R		R
Lanes in Grp	0	1	0	0	0	1	0	1
Grp Vol (v), veh/h	0	292	0	0	0	1589	0	0
Grp Sat Flow (s), veh/h/ln	0	1583	0	0	0	1861	0	1583
Q Serve Time (g_s), s	0.0	9.4	0.0	0.0	0.0	108.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	9.4	0.0	0.0	0.0	108.5	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.06	0.00	0.01	0.00	1.00
Lane Grp Cap (c), veh/h	0	1145	0	0	0	1346	0	343
V/C Ratio (X)	0.00	0.25	0.00	0.00	0.00	1.18	0.00	0.00
Avail Cap (c_a), veh/h	0	1145	0	0	0	1346	0	343
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	7.0	0.0	0.0	0.0	20.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	89.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	7.2	0.0	0.0	0.0	109.9	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	4.1	0.0	0.0	0.0	55.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	33.3	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.1	0.0	0.0	0.0	88.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.52	0.00	0.00	0.00	4.37	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	60.7	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
Intersection Summary								
HCM 2010 Ctrl Delay		148.6						
HCM 2010 LOS		F						

HCM 2010 Signalized Intersection Summary
3: Sam Freeman Rd/SR 60 & SR 124

4/23/2018

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	166	1454	8	2	699	269	2	25	2	305	27	152
Future Volume (veh/h)	166	1454	8	2	699	269	2	25	2	305	27	152
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1863	1900	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	180	1580	9	2	760	292	2	27	2	332	29	0
Adj No. of Lanes	1	1	0	0	1	1	0	1	0	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	48	1338	8	24	1137	1145	36	364	26	331	25	343
Arrive On Green	0.72	0.72	0.72	0.72	0.72	0.72	0.22	0.22	0.22	0.22	0.22	0.00
Sat Flow, veh/h	534	1850	11	0	1571	1583	49	1678	119	1313	115	1583
Grp Volume(v), veh/h	180	0	1589	762	0	292	31	0	0	361	0	0
Grp Sat Flow(s),veh/h/ln	534	0	1861	1571	0	1583	1846	0	0	1428	0	1583
Q Serve(g_s), s	0.0	0.0	108.5	0.0	0.0	9.4	0.0	0.0	0.0	30.5	0.0	0.0
Cycle Q Clear(g_c), s	108.5	0.0	108.5	108.5	0.0	9.4	2.0	0.0	0.0	32.5	0.0	0.0
Prop In Lane	1.00		0.01	0.00		1.00	0.06		0.06	0.92		1.00
Lane Grp Cap(c), veh/h	48	0	1346	1161	0	1145	426	0	0	355	0	343
V/C Ratio(X)	3.75	0.00	1.18	0.66	0.00	0.25	0.07	0.00	0.00	1.02	0.00	0.00
Avail Cap(c_a), veh/h	48	0	1346	1161	0	1145	426	0	0	355	0	343
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	75.0	0.0	20.8	16.7	0.0	7.0	46.8	0.0	0.0	60.6	0.0	0.0
Incr Delay (d2), s/veh	1286.7	0.0	89.2	1.4	0.0	0.1	0.1	0.0	0.0	51.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.1	0.0	88.3	19.5	0.0	4.1	1.0	0.0	0.0	19.8	0.0	0.0
LnGrp Delay(d),s/veh	1361.7	0.0	109.9	18.1	0.0	7.2	46.9	0.0	0.0	112.4	0.0	0.0
LnGrp LOS	F		F	B		A	D			F		
Approach Vol, veh/h		1769			1054			31			361	
Approach Delay, s/veh		237.3			15.1			46.9			112.4	
Approach LOS		F			B			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		113.0		37.0		113.0		37.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		108.5		32.5		108.5		32.5
Max Q Clear Time (g_c+I1), s		110.5		4.0		110.5		34.5
Green Ext Time (p_c), s		0.0		2.6		0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	148.6
HCM 2010 LOS	F

Appendix K: Traffic Signal Warrant Analyses

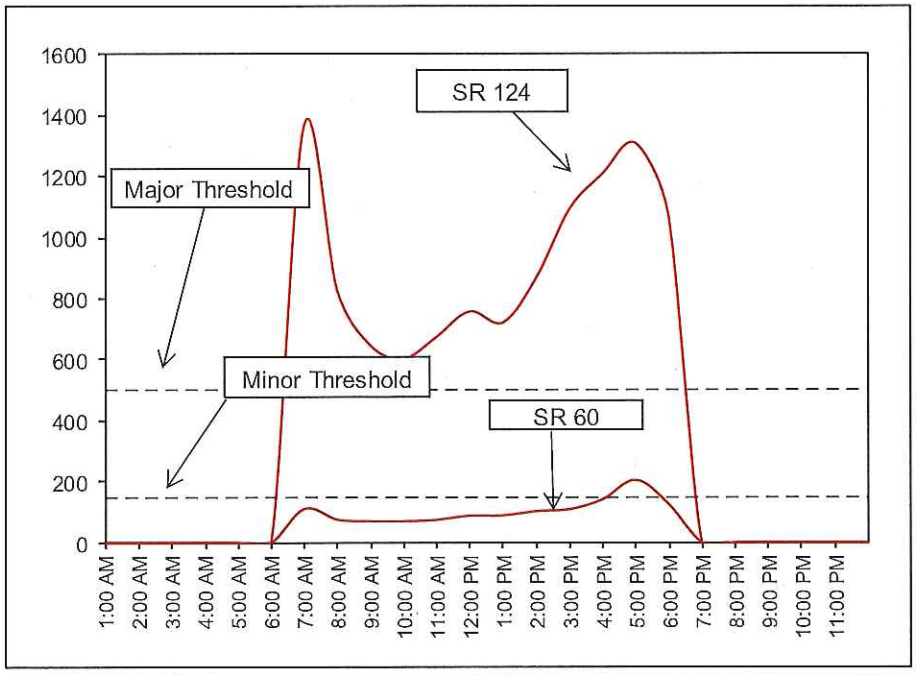
SR 124 @ SR 60/Sam Freeman Road

Warrant 1A 100% Check: 1 lanes major, 1 lanes minor

Testing normal warrant requirements:

hour	major st volume	minor st volume	major st criteria	minor st criteria	test
1:00 AM	0	0	500	150	0
2:00 AM	0	0	500	150	0
3:00 AM	0	0	500	150	0
4:00 AM	0	0	500	150	0
5:00 AM	0	0	500	150	0
6:00 AM	0	0	500	150	0
7:00 AM	1369	110	500	150	0
8:00 AM	830	75	500	150	0
9:00 AM	648	69	500	150	0
10:00 AM	605	69	500	150	0
11:00 AM	675	73	500	150	0
12:00 PM	759	87	500	150	0
1:00 PM	722	88	500	150	0
2:00 PM	867	102	500	150	0
3:00 PM	1094	107	500	150	0
4:00 PM	1210	140	500	150	0
5:00 PM	1310	204	500	150	1
6:00 PM	1069	124	500	150	0
7:00 PM	0	0	500	150	0
8:00 PM	0	0	500	150	0
9:00 PM	0	0	500	150	0
10:00 PM	0	0	500	150	0
11:00 PM	0	0	500	150	0
12:00 AM	0	0	500	150	0

Conclusion: Signal is Not Warranted SUM= 1

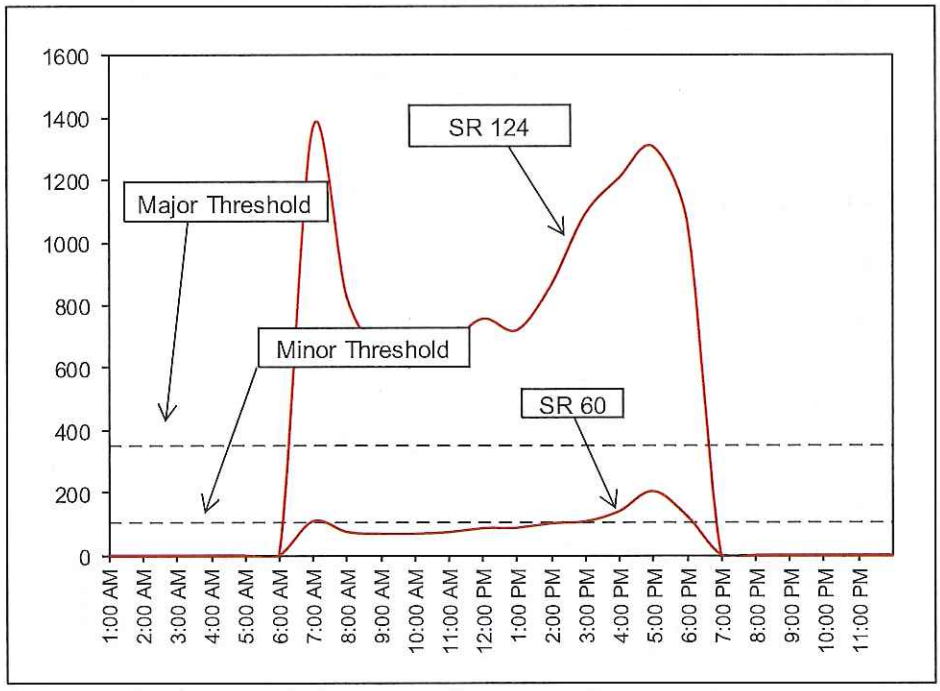


SR 124 @ SR 60/Sam Freeman Road
Warrant 1A 70% Check: 1 lanes major, 1 lanes minor

Testing normal warrant requirements:

hour	major st volume	minor st volume	major st criteria	minor st criteria	test
1:00 AM	0	0	350	105	0
2:00 AM	0	0	350	105	0
3:00 AM	0	0	350	105	0
4:00 AM	0	0	350	105	0
5:00 AM	0	0	350	105	0
6:00 AM	0	0	350	105	0
7:00 AM	1369	110	350	105	1
8:00 AM	830	75	350	105	0
9:00 AM	648	69	350	105	0
10:00 AM	605	69	350	105	0
11:00 AM	675	73	350	105	0
12:00 PM	759	87	350	105	0
1:00 PM	722	88	350	105	0
2:00 PM	867	102	350	105	0
3:00 PM	1094	107	350	105	1
4:00 PM	1210	140	350	105	1
5:00 PM	1310	204	350	105	1
6:00 PM	1069	124	350	105	1
7:00 PM	0	0	350	105	0
8:00 PM	0	0	350	105	0
9:00 PM	0	0	350	105	0
10:00 PM	0	0	350	105	0
11:00 PM	0	0	350	105	0
12:00 AM	0	0	350	105	0

Conclusion: Signal is Not Warranted SUM= 5

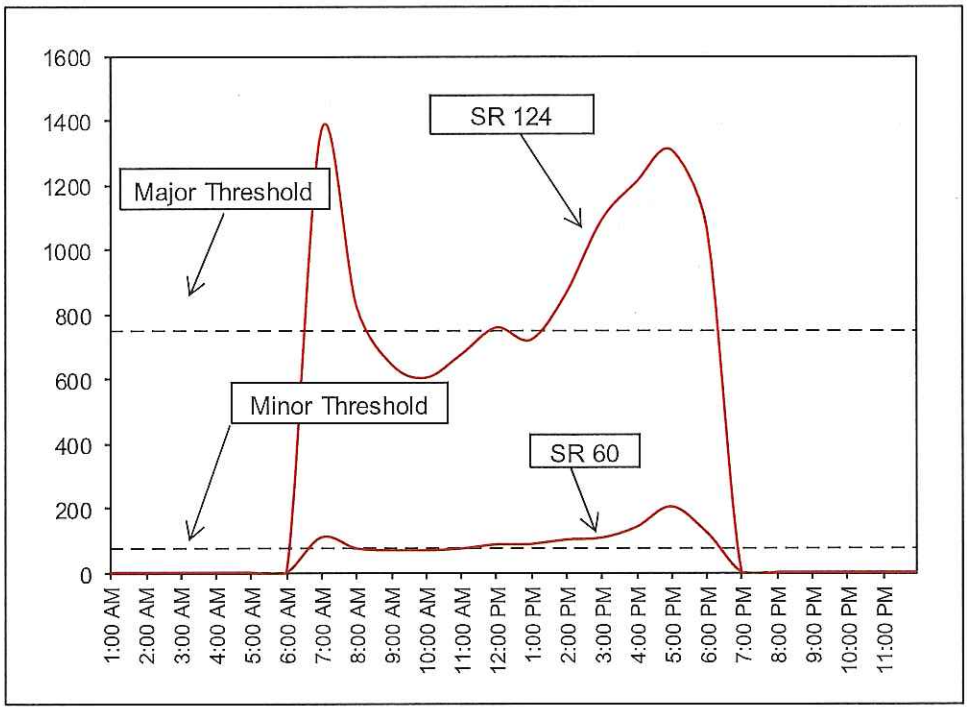


SR 124 @ SR 60/Sam Freeman Road
Warrant 1B 100% Check: 1 lanes major, 1 lanes minor

Testing normal warrant requirements:

hour	major st volume	minor st volume	major st criteria	minor st criteria	test
1:00 AM	0	0	750	75	0
2:00 AM	0	0	750	75	0
3:00 AM	0	0	750	75	0
4:00 AM	0	0	750	75	0
5:00 AM	0	0	750	75	0
6:00 AM	0	0	750	75	0
7:00 AM	1369	110	750	75	1
8:00 AM	830	75	750	75	1
9:00 AM	648	69	750	75	0
10:00 AM	605	69	750	75	0
11:00 AM	675	73	750	75	0
12:00 PM	759	87	750	75	1
1:00 PM	722	88	750	75	0
2:00 PM	867	102	750	75	1
3:00 PM	1094	107	750	75	1
4:00 PM	1210	140	750	75	1
5:00 PM	1310	204	750	75	1
6:00 PM	1069	124	750	75	1
7:00 PM	0	0	750	75	0
8:00 PM	0	0	750	75	0
9:00 PM	0	0	750	75	0
10:00 PM	0	0	750	75	0
11:00 PM	0	0	750	75	0
12:00 AM	0	0	750	75	0

Conclusion: Signal is Warranted SUM= **8**

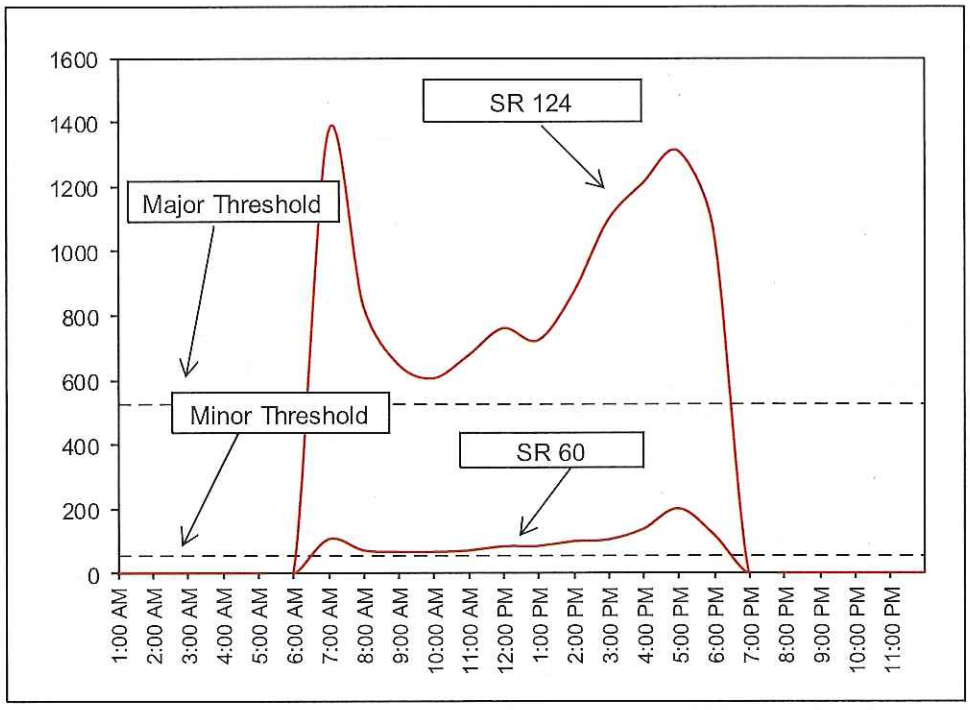


SR 124 @ SR 60/Sam Freeman Road
Warrant 1B 70% Check: 1 lanes major, 1 lanes minor

Testing normal warrant requirements:

hour	major st volume	minor st volume	major st criteria	minor st criteria	test
1:00 AM	0	0	525	53	0
2:00 AM	0	0	525	53	0
3:00 AM	0	0	525	53	0
4:00 AM	0	0	525	53	0
5:00 AM	0	0	525	53	0
6:00 AM	0	0	525	53	0
7:00 AM	1369	110	525	53	1
8:00 AM	830	75	525	53	1
9:00 AM	648	69	525	53	1
10:00 AM	605	69	525	53	1
11:00 AM	675	73	525	53	1
12:00 PM	759	87	525	53	1
1:00 PM	722	88	525	53	1
2:00 PM	867	102	525	53	1
3:00 PM	1094	107	525	53	1
4:00 PM	1210	140	525	53	1
5:00 PM	1310	204	525	53	1
6:00 PM	1069	124	525	53	1
7:00 PM	0	0	525	53	0
8:00 PM	0	0	525	53	0
9:00 PM	0	0	525	53	0
10:00 PM	0	0	525	53	0
11:00 PM	0	0	525	53	0
12:00 AM	0	0	525	53	0

Conclusion: Signal is Warranted SUM= **12**

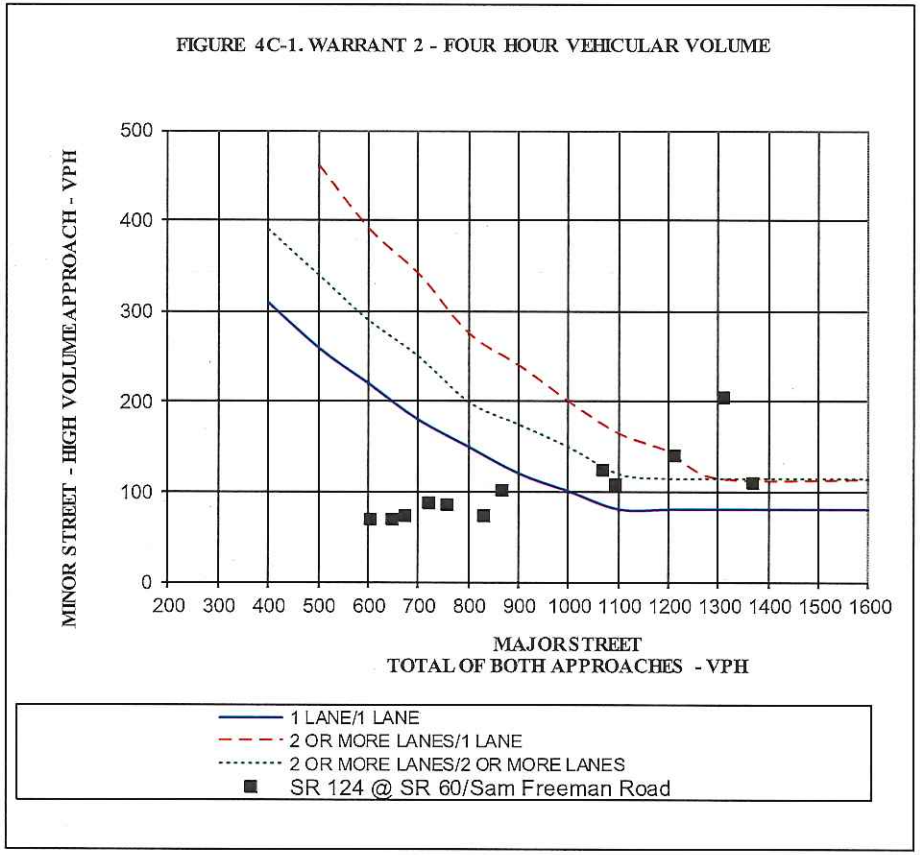


SR 124 @ SR 60/Sam Freeman Road
Warrant 2 100% Check: 1 lanes major, 1 lanes minor

Hour	Major Street Volume*	Minor Street Approach	Minor Approach Criteria**	Criteria Satisfied
1:00 AM	0	0	80	No
2:00 AM	0	0	80	No
3:00 AM	0	0	80	No
4:00 AM	0	0	80	No
5:00 AM	0	0	80	No
6:00 AM	0	0	80	No
7:00 AM	1369	110	80	Yes
8:00 AM	830	75	80	No
9:00 AM	648	69	80	No
10:00 AM	605	69	80	No
11:00 AM	675	73	80	No
12:00 PM	759	87	80	No
1:00 PM	722	88	80	No
2:00 PM	867	102	80	No
3:00 PM	1094	107	80	Yes
4:00 PM	1210	140	80	Yes
5:00 PM	1310	204	80	Yes
6:00 PM	1069	124	80	Yes
7:00 PM	0	0	80	No
8:00 PM	0	0	80	No
9:00 PM	0	0	80	No
10:00 PM	0	0	80	No
11:00 PM	0	0	80	No
12:00 AM	0	0	80	No

Conclusion: Signal is ***Warranted*** ***5***

Warrant is Satisfied when any Four Hours of an Average Day Exceed the Threshold



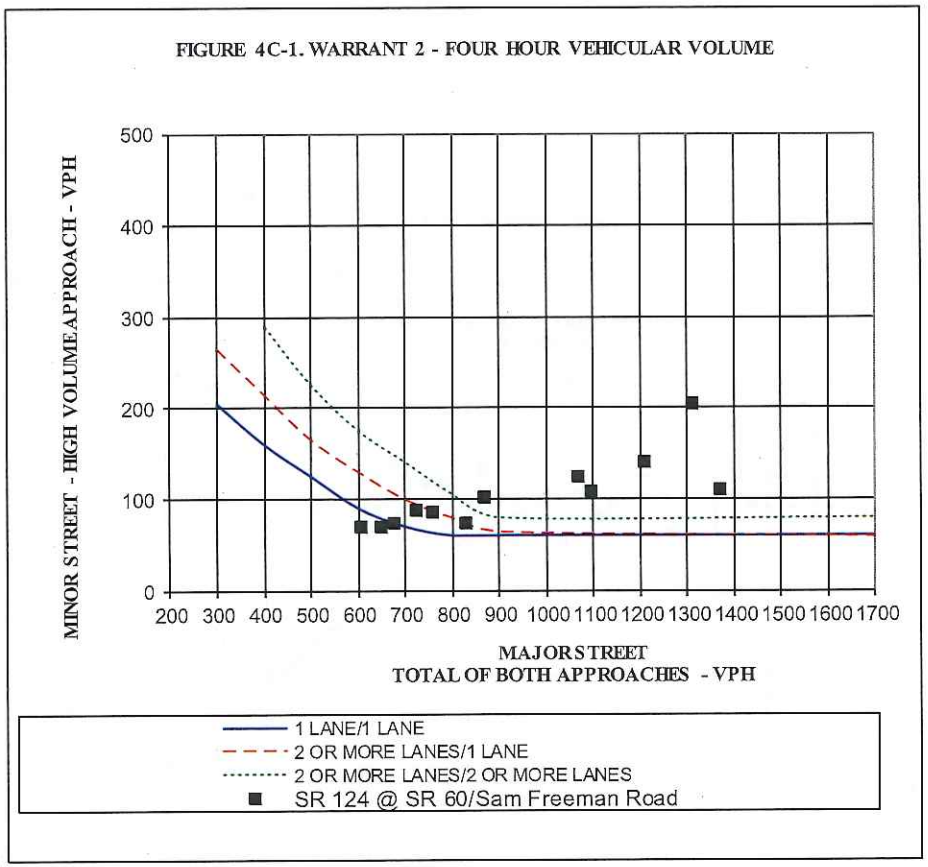
* Major Street Volume is Total for Both Approaches
** From MUTCD Figure 4C-1

SR 124 @ SR 60/Sam Freeman Road
Warrant 2 70% Check: 1 lanes major, 1 lanes minor

Hour	Major Street Volume*	Minor Street Approach	Minor Approach Criteria**	Criteria Satisfied
1:00 AM	0	0	60	No
2:00 AM	0	0	60	No
3:00 AM	0	0	60	No
4:00 AM	0	0	60	No
5:00 AM	0	0	60	No
6:00 AM	0	0	60	No
7:00 AM	1369	110	60	Yes
8:00 AM	830	75	60	Yes
9:00 AM	648	69	60	No
10:00 AM	605	69	60	No
11:00 AM	675	73	60	No
12:00 PM	759	87	60	Yes
1:00 PM	722	88	60	Yes
2:00 PM	867	102	60	Yes
3:00 PM	1094	107	60	Yes
4:00 PM	1210	140	60	Yes
5:00 PM	1310	204	60	Yes
6:00 PM	1069	124	60	Yes
7:00 PM	0	0	60	No
8:00 PM	0	0	60	No
9:00 PM	0	0	60	No
10:00 PM	0	0	60	No
11:00 PM	0	0	60	No
12:00 AM	0	0	60	No

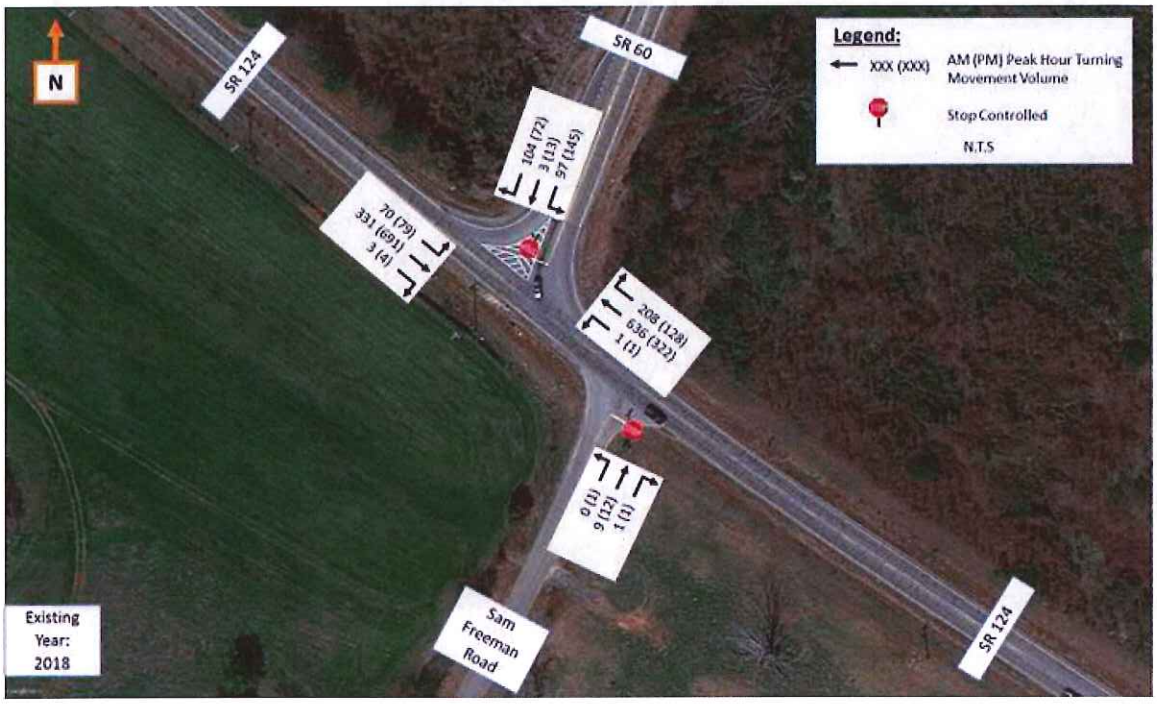
Conclusion: Signal is ***Warranted*** ***9***

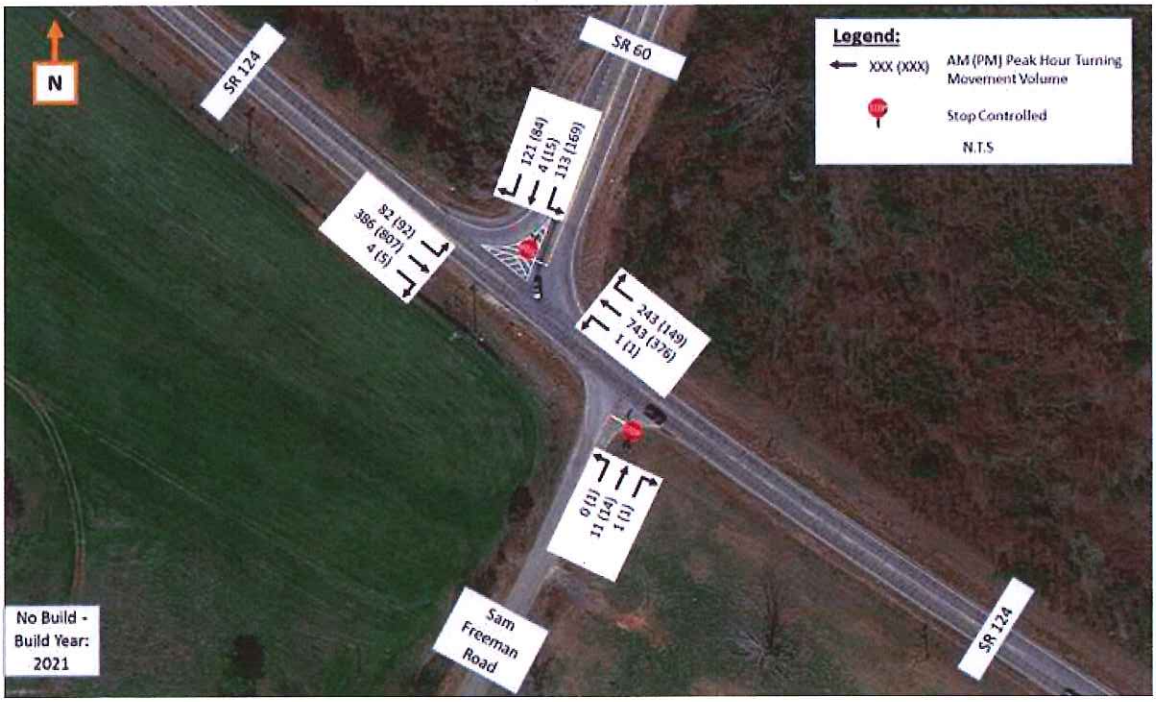
Warrant is Satisfied when any Four Hours of an Average Day Exceed the Threshold

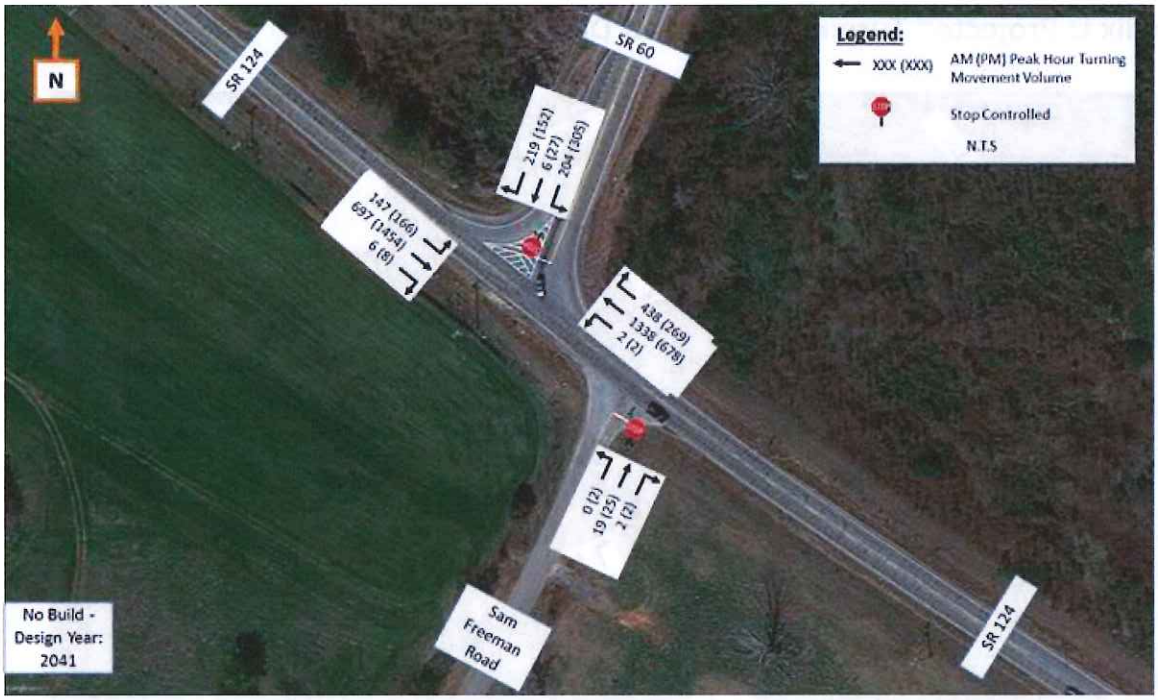


* Major Street Volume is Total for Both Approaches
** From MUTCD Figure 4C-1

Appendix L: Projected Turning Movement Diagrams






N
SR 124
SR 60
Legend:
XXX (XXX) AM (PM) Peak Hour Turning Movement Volume
Stop Controlled
N.T.S
219 (152)
6 (27)
204 (305)
147 (166)
697 (1454)
6 (8)
438 (269)
1338 (678)
2 (2)
0 (2)
19 (25)
2 (2)
No Build - Design Year: 2041
Sam Freeman Road
SR 124

Appendix M: Intersection Control Evaluation (ICE)

GDOT INTERSECTION CONTROL EVALUATION (ICE) TOOL

GDOT PI # (or N/A): N/A | Request By: District Engineer

County: Jackson | GDOT District: 1 - Gainesville

Major (State) Road: SR 124 | Speed Limit: 55 mph

Minor (Crossing) ST: SR 60 | Speed Limit: 55 mph

Major ST Direction: East/West | Area Type: Rural

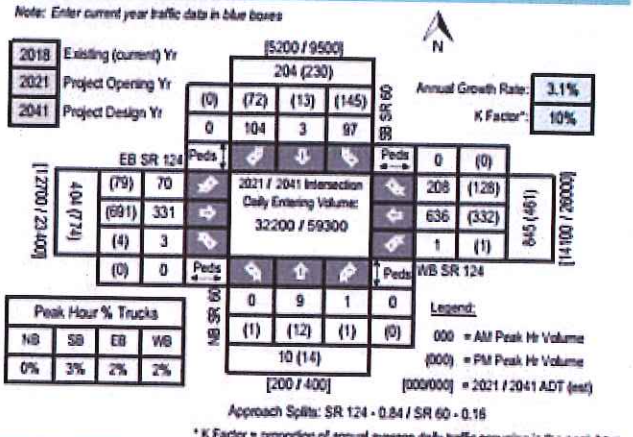
Intersection Control: Conventional (Minor Stop)

Prepared By: Atkins | Analyst: T. Brewer

Date: 4/18/2018 | Project ID: 5114

Proj Purpose: To improve safety at a minor stop control intersection

Note: Enter current year traffic data in blue boxes



Introduction: In 2005, SAFETEA-LU established the Highway Safety Improvement Program (HSIP) and mandated that each state prepare a Strategic Highway Safety Plan (SHSP) to prioritize safety funding investments. Intersections quickly became a common component of most states' SHSP emphasis areas and HSIP project lists, including Georgia's SHSP. Intersection Control Evaluation (ICE) policies and procedures represent a traceable and transparent procedure to streamline the evaluation of intersection control alternatives, and further leverage safety advancements for intersection improvements beyond just the safety program. Approximately one-third of all traffic fatalities and roughly seventy five percent of all traffic crashes in Georgia occur at or adjacent to intersections. Accordingly, the Georgia SHSP includes an emphasis on enhancing intersection safety to advance the *Toward Zero Deaths* vision embraced by the Georgia Governor's Office of Highway Safety (GOHS). This ICE tool was developed to support the ICE policy, developed and adopted to help ensure that intersection investments across the entire Georgia highway system are selected, prioritized and implemented with defensible benefits for safety towards those ends.

Tool Goal: The goal of this ICE tool is to provide a simplified and consistent way of importing traffic, safety, cost, environmental impact and stakeholder posture data to assess and quantify intersection control improvement benefits. The tool supports the ICE policy and procedures to provide traceability, transparency, consistency and accountability when identifying and selecting an intersection control solution that both meets project purpose and reflects overall best value in terms of specific performance-based criteria.

Requirements: An ICE is required for any intersection improvement (e.g. new or modified intersection, widening/reconstruction or corridor project, or work accomplished through a driveway or encroachment permit that affects an intersection) where: **1)** the intersection includes at least one roadway designated as a State Route (State Highway System) or as part of the National Highway System, or **2)** the intersection will be designed or constructed using State or Federal funding. In certain circumstances where an ICE would otherwise be required, the requirement may be waived based on appropriate evidence presented with a written request. (See the **"Waiver"** tab to review criteria that may make a project waiver eligible and for instructions to submit a waiver request to the Department). An ICE is not required when the proposed work does not include any changes to the intersection design, involves only routine traffic signal timing and equipment maintenance, or for driveway permits where the driveway is not a new leg to an already existing intersection on either 1) a divided, multi-lane highway with a closed median and only right-in/right-out access or 2) an undivided roadway where the development is not required to construct left and/or right turn lanes (as per the Driveway Manual and District Traffic Engineer).

Two-Stage Process: A complete ICE process consists of two (2) distinct stages, and it is expected that the respective level of effort for completing both stages of ICE will correspond to the magnitude and complexity of the intersection. Prior to starting an ICE, the District Traffic Engineer and/or State Traffic Engineer should be consulted for advice on an appropriate level of effort. The Stage 1 and Stage 2 ICE forms are designed minimize required data inputs using drop-down menu choices and limiting text entry. All fields shaded grey include drop down menu choices and all fields shaded blue require data entry. All other cells in the worksheet are locked.

Stage 1: Screening Decision Record Stage 1 should be conducted as early in the project development process as possible and is intended to inform which alternatives are worthy of further evaluation in Stage 2. Stage 1 serves as a screening effort meant to *eliminate* non-competitive options and identify which alternatives merit further considerations based on their practical feasibility. Users should use good engineering judgement in responding to the seven policy questions by selecting "Yes" or "No" in the drop-down boxes. Alternatives should not be summarily eliminated without due consideration, and reasons for eliminating or advancing an alternative should be documented in the "Screening Decision Justification" column.

Stage 2: Alternative Selection Decision Record Stage 2 involves a more detailed and familiar evaluation of the alternatives identified in Stage 1 in order to support the selection of a preferred alternative that may be advanced to detailed design. Stage 2 data entry may require the use of external analysis tools to determine costs, operations and/or safety data that, combined with environmental and stakeholder posture data, form the basis of the ICE evaluation. A separate "CostEst" worksheet tab helps users develop pre-planning-level cost estimates for each Stage 2 alternative evaluated, and a separate Users Guide has been prepared to give guidance on Stage 1 and Stage 2 data entry. Once all data is entered, each alternative is scored and ranked, with the results reported at the bottom of the Stage 2 worksheet to inform on the best of the intersection controls evaluated for project recommendation.

Documentation: A complete ICE document consists of the combination of the outputs from either a completed and signed waiver form or both Stage 1 and Stage 2 worksheets (along with supporting costing and/or environmental documentation), to be included in the approved project Concept Report (or equivalent) or as a stand-alone document.

GDOT ICE STAGE 1: SCREENING DECISION RECORD

ICE Version 2.13 | Revised 03/12/2018

GDOT PI #	N/A
Project Location:	SR 124 @ SR 60
Prepared by:	Atkins
Analyst:	T. Brewer
Date:	4/18/2018

Answer "Yes" or "No" to each policy question for each control type to identify which alternatives should be evaluated in the Stage 2 Decision Record; enter justification in the rightmost column

Note: Up to 5 alternatives may be selected and evaluated; Use this ICE Stage 1 to screen 5 or fewer alternatives to evaluate in Stage 2

	Intersection Alternative (see "Intersections" tab for detailed description of intersection/interchange type)	1. Does alternative address the project need in a balanced manner and in scale with the project?	2. Does alternative improve safety performance in terms of reducing severe crashes?	3. Does alternative incorporate safety, convenience and accessibility for pedestrians and/or bicyclists?	4. Does alternative improve (or preserve) traffic operations (congestion, delay, reliability, etc.)?	5. Does alternative appear feasible given the site characteristics, constrains & location context?	6. Does alternative appear feasible with respect to other project factors?	7. Overall feasible alternative (select alternative for further evaluation in Stage 2)?	Screening Decision Justification:
Unsignalized Intersections	Conventional (Minor Stop)	No	No	No	No	No	No	No	Existing Condition
	Conventional (All-Way Stop)	No	No	No	No	No	No	No	Heavy volumes on mainline would create significant delay
	Mini Roundabout	No	No	No	No	No	No	No	Not feasible on a roadway with speeds >35mph
	Single Lane Roundabout	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Potential Alternative to Evaluate**
	Multilane Roundabout	**Yes**	**Yes**	**Yes**	**Yes**	**No**	**Yes**	**Yes**	**Potential Alternative to Evaluate**
	RCUT (stop control)	No	No	No	No	No	No	No	No median for U-turns. Would require significant ROW costs to expand road
	RTRO w/down stream U-Turn	No	No	No	No	No	No	No	No median for U-turns. Would require significant ROW costs to expand road
	High-T (unsignalized)	No	No	No	No	No	No	No	Not a T intersection
	Offset-T Intersections	**Yes**	No	No	No	**Yes**	No	No	Does not address the issues from the SR 60 SB approach
	Diamond Interch (Stop Control)	No	No	No	No	No	No	No	N/A - not an interchange
	Diamond Interch (RAB Control)	No	No	No	No	No	No	No	N/A - not an interchange
	Add One LT Lane Add One RT Lane No Median Improvements	**Yes**	**No**	**No**	**Yes**	**Yes**	**Yes**	**Yes**	**Potential Alternative to Evaluate**
	Other Unsignalized (provide description):	No	No	No	No	No	No	No	N/A
Signalized Intersections	Traffic Signal	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Potential Alternative to Evaluate**
	Median U-Turn (Indirect Left)	No	No	No	No	No	No	No	No median for U-turns. Would require significant ROW costs to expand road
	RCUT (signalized)	No	No	No	No	No	No	No	No median for U-turns. Would require significant ROW costs to expand road
	Displaced Left Turn (CFI)	No	No	No	No	No	No	No	Volumes and context not to scale
	Continuous Green-T	No	No	No	No	No	No	No	Not a T intersection
	Jughandle	No	No	No	No	No	No	No	Volumes and context not to scale
	Quadrant Roadway	No	No	No	No	No	No	No	Volumes and context not to scale
	Diamond Interch (Signal Control)	No	No	No	No	No	No	No	N/A - not an interchange
	Diverging Diamond	No	No	No	No	No	No	No	N/A - not an interchange
	Single Point Interchange	No	No	No	No	No	No	No	N/A - not an interchange
	No LT Lane Improvements No RT Lane Improvements No Median Improvements	No	No	No	No	No	No	No	N/A
	Other Signalized (provide description):	No	No	No	No	No	No	No	N/A

= Intersection type selected for more detailed analysis in Stage 2 Alternative Selection Decision Record

GDOT ICE STAGE 2: ALTERNATIVE SELECTION DECISION RECORD

ICE Version 2.11 | Revised 03/12/2018

GDOT PI # (or N/A): N/A
County: Jackson
Project Location: SR 124 @ SR 60
Existing Intersection Control: Conventional (Minor Stop)

GDOT District: 1 - Gainesville
Area Type: Rural

Date: 4/18/2018
Agency/Firm: Atkins
Analyst: T. Brewer
Type of Analysis: Safety Funded Project

Opening / Design Year Traffic Operations

Intersection meets signal/AWS warrants?	Meets Signal Warrants	
Traffic Analysis Measure of Effectiveness	Intersection Delay	
Traffic Analysis Software Used	Synchro 9	
Analysis Time Period	AM Peak Hr	PM Peak Hr
2021 Opening Yr No-Build Peak Hr Intersection Delay	115.5 sec	242.1 sec
2021 Opening Yr No-Build Peak Hr Intersection V/C	0.45	0.75
2041 Design Yr No-Build Peak Hr Intersection Delay	########	########
2041 Design Yr No-Build Peak Hr Intersection V/C	5.00	5.00

Complete Streets Warrants Met?
- [ ] PEDESTRIANS
- [ ] BICYCLES
- [ ] TRANSIT

Crash Data: Enter 5 most recent years of intersection crash data	Crash Severity			
Crash Type	PDO	Injury Crash*	Fatal Crash*	
Angle	6	4	0	25%
Head-On	0	0	0	0%
Rear End	10	4	0	35%
Sideswipe - same	0	0	0	0%
Sideswipe - opposite	2	0	0	5%
Not Collision w/Motor Veh	13	1	0	35%
TOTALS	31	9	0	40

* Number of crashes resulting in injuries / fatalities, not number of persons

Alternatives Analysis:	Alternative 1		Alternative 2		Alternative 3		Alternative 4		Alternative 5
Proposed Control Type/Improvement	Single Lane Roundabout		Multilane Roundabout		Add LT and RT Lanes		Traffic Signal		
Project Cost: (From Cost Est Worksheet)	Additional description here		Additional description here		Additional description here		Add LT bays all approaches		
Construction Cost	$1,249,000		$1,796,000		$199,000		$276,000		
ROW Cost	$267,000		$451,000		$115,000		$173,000		
Environmental Cost	$0		$0		$0		$0		
Reimbursable Utility Cost	$39,000		$57,000		$7,000		$13,000		
Design & Contingency Cost	$371,000		$534,000		$51,000		$96,000		
Cost Adjustment (justification req'd)	0%		0%		0%		0%		
Total Cost	$1,926,000		$2,838,000		$372,000		$558,000		
Traffic Operations:									
Traffic Analysis Software Used	GDOT RND Tool 4.1		GDOT RND Tool 4.1		Synchro 9		Synchro 9		
Analysis Period	AM Peak Hr	PM Peak Hr	AM Peak Hr	PM Peak Hr	AM Peak Hr	PM Peak Hr	AM Peak Hr	PM Peak Hr	
2041 Design Yr Build Intersection Delay	267.4 sec	255.0 sec	41.4 sec	24.7 sec	########	########	60.3 sec	76.6 sec	
2041 Design Yr Build Intersection V/C	1.52	1.49	0.79	0.76	5.00	5.00	1.01	1.20	
Safety Analysis:									
Predefined CRF: PDO	71%		63%		0%		44%		
Predefined CRF: Fatal/Inj	87%		63%		0%		40%		
Predefined CRF Source	FHWA Clearinghouse #s 229 / 230		FHWA Clearinghouse #s 4927 / 4927		N/A		FHWA Clearinghouse #s 7982 / 7984		
User Defined CRF: PDO					38%				
User Defined CRF: Fatal/Inj					50%				
User Defined CRF Source (write in if applicable)					CMF IDs: 260/264/ 285/287				
Environmental Impacts: [1]									
Historic District/Property	None		None		None		None		
Archaeology Resources	None		None		None		None		
Graveyard	None		None		None		None		
Stream	None		None		None		None		
Underground Tank/Hazmat	None		None		None		None		
Park Land	None		None		None		None		
EJ Community	None		None		None		None		
Wooded Area	None		None		None		None		
Wetland	None		None		None		None		
Stakeholder Posture:	Note: If environmental impact is significant (RED), provide justification impact won't jeopardize project delivery using "Env" worksheet [1] Environmental impacts are only preliminary estimates, detailed environmental impact documentation will be included with project concept report								
Local Community Support	Unknown		Unknown		Unknown		Unknown		
GDOT Support	Unknown		Unknown		Unknown		Unknown		
Final ICE Stage 2 Score:	3.1		4.9		-4.6		4.8		
Rank of Control Type Alternatives	3		1		4		2		

Note: Stage 2 score is not given (shown as "-") if signal or AWS is selected as control type but respective warrants are not met

Provide additional comments and/or explain any unique analysis inputs, or results (as necessary): Synchro Simulations for the 2041 design years for the existing condition and addition of turn lanes both produced delay times that produced errors in the model.