



# MEMORANDUM

**TO:** Jonathan Stathis, P.E.  
City Engineer, Cedar City

**FROM:** Aron Baker, P.E.  
Horrocks Engineers

**DATE:** May 5, 2022

**SUBJECT:** Airport Road and Kitty Hawk Drive Traffic Signal Warrant Study



## PURPOSE

The purpose of this memo is to describe the methodology and results in performing an intersection and signal warrant analysis for the intersection of Airport Road and Kitty Hawk Drive in Cedar City, Utah, as shown in Figure 1.

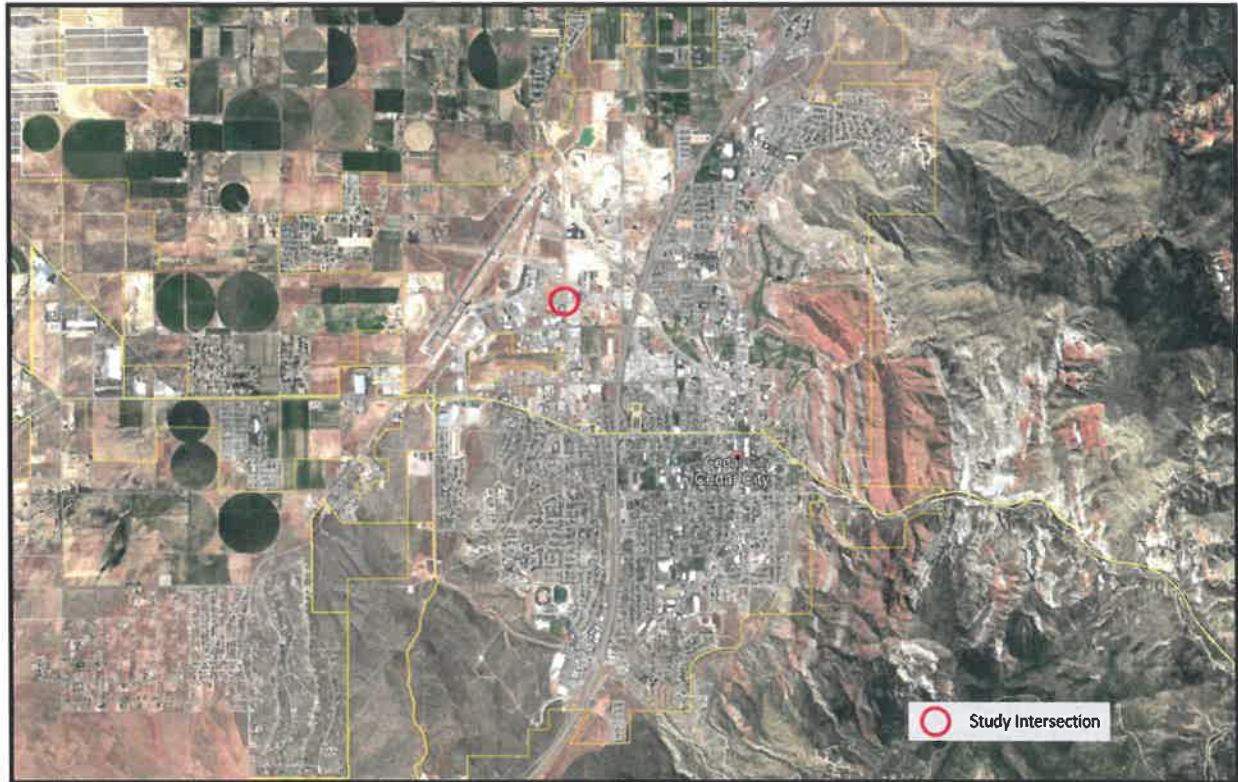
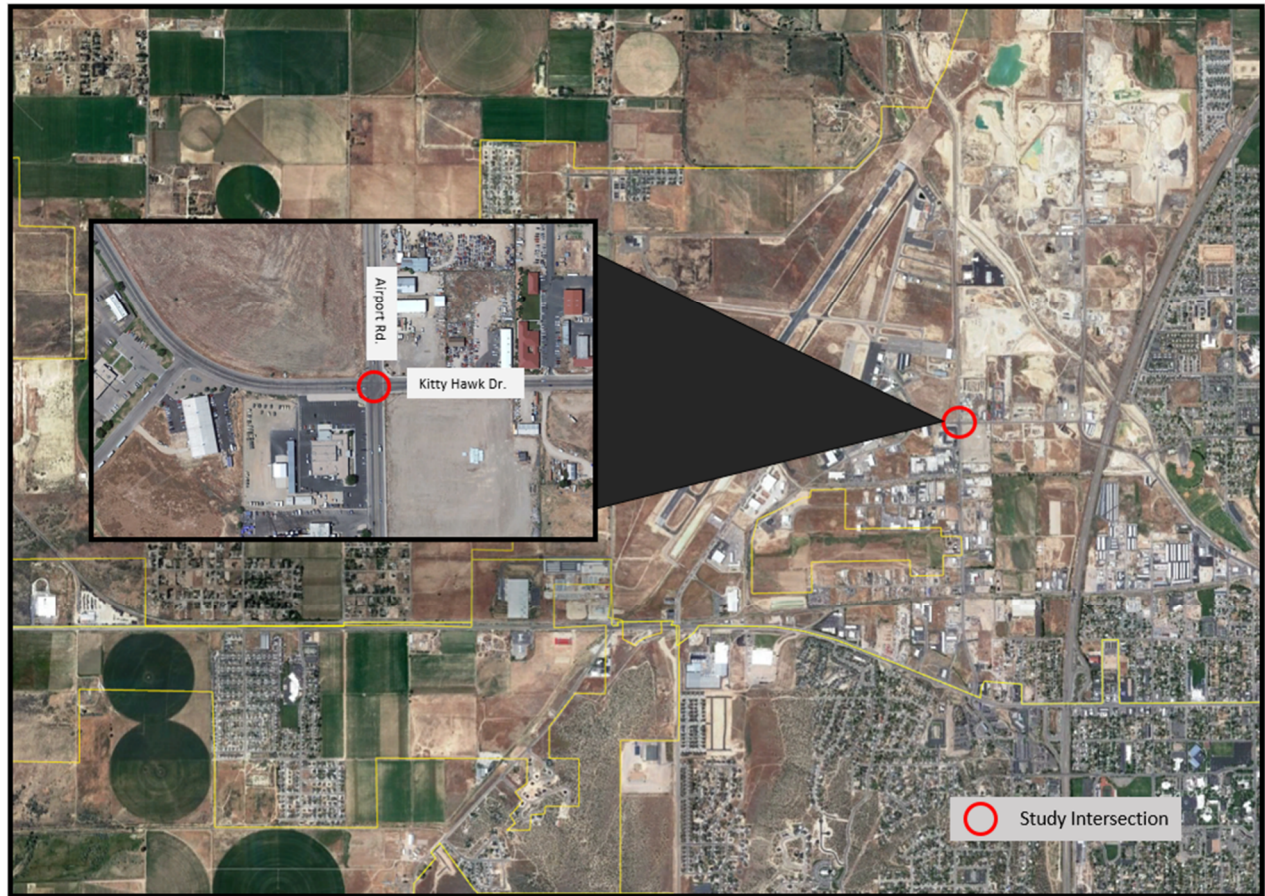


Figure 1- Study Intersection in Cedar City, Utah



The intersection of Airport Road and Kitty Hawk Drive is located in the northwest section of the city. Figure 2 shows the location of the intersection. The intersection functions as a main connection point for traffic traveling within the industrial area. Airport Road is a 100-foot wide, three-lane Minor Arterial that is posted at 40 miles-per-hour (mph). Kitty Hawk Drive is a 40 mph, 66-foot Major Collector. It is striped as a two-lane road. The intersection is fully developed with asphalt, curb, gutter, and sidewalk on all corners.



**Figure 2- Airport Road & Kitty Hawk Drive Vicinity Map**

This intersection is located in an industrial zone with traffic containing higher-than-usual percentage of trucks. Kitty Hawk Drive has recently experienced traffic coming from the east side of I-15 that can now go over the freeway to this intersection. High school students use this route as a connection from the west side of the freeway to the east side heading to school, and vice versa in the afternoon after school. Cedar City Regional Airport also uses this intersection as a primary way to access the terminal, various airport hangars and other industrial property.

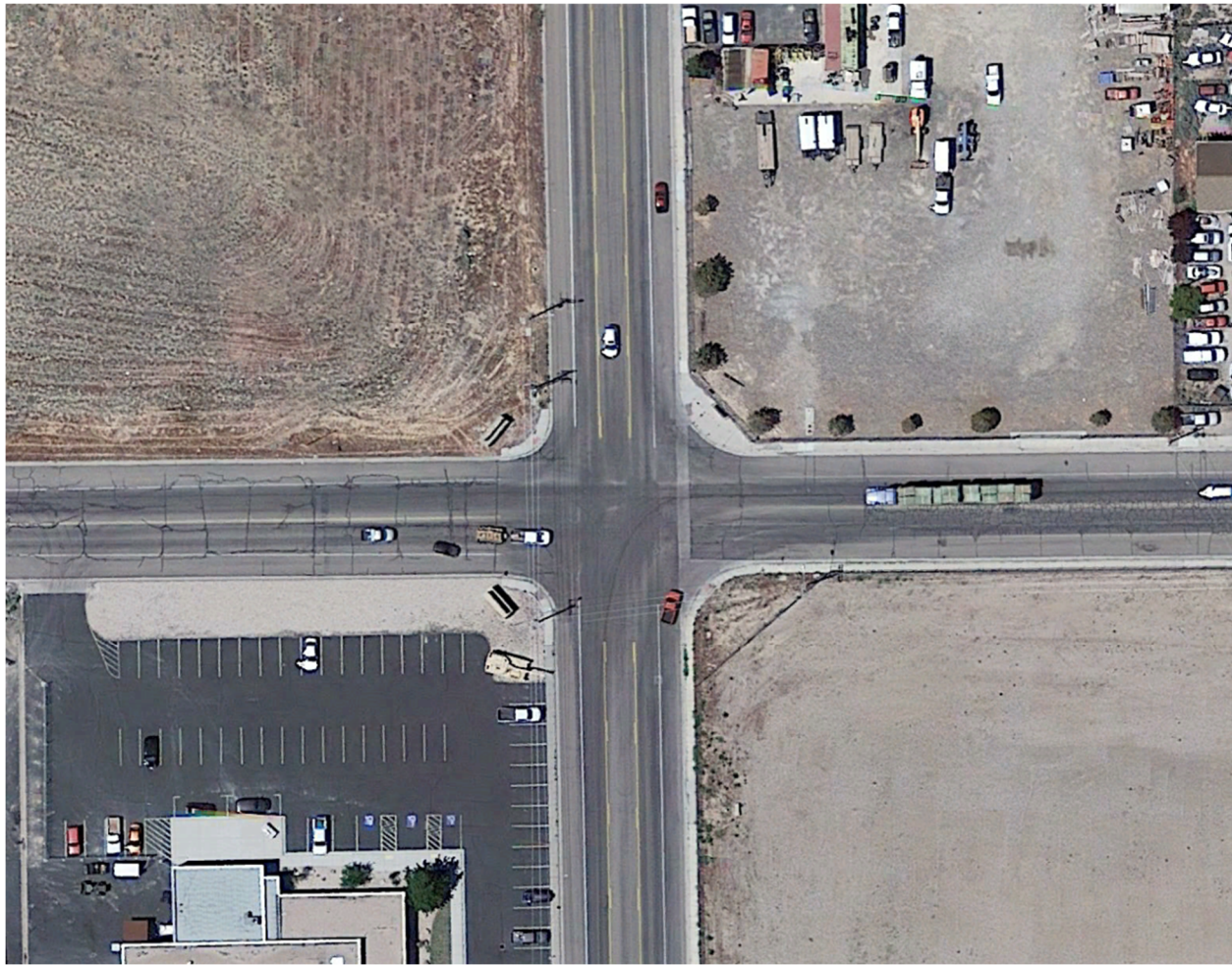
### ***Intersection Geometry***

The intersection is currently a four-way intersection with a two-way stop control in the east and west directions. Northbound and southbound movements are one left turn lane and one shared thru-right lane. Westbound and eastbound movements are one shared left-thru-right lane. There are no marked crosswalks present for pedestrians. It should be noted that in all directions there is ample room in the





shoulders for a vehicle to pull out of the thru lane to decelerate and negotiate a right-turn. Figure 3 shows the intersection geometry at the intersection of Airport Road and Kitty Hawk Drive.



**Figure 3- Intersection Geometry at Airport Road and Kitty Hawk Drive**

### ***Turn Volumes***

Peak hour volumes were counted in the AM between 7 and 9, while the PM peak hour volumes were counted between the hours of 3 and 6. The overall turning volumes are shown in Figures 4 and 5. The peak hour at Airport Road and Kitty Hawk Drive occurs between 5:45 and 6:45 PM. The major movements are in the northbound to eastbound and the eastbound to southbound directions.

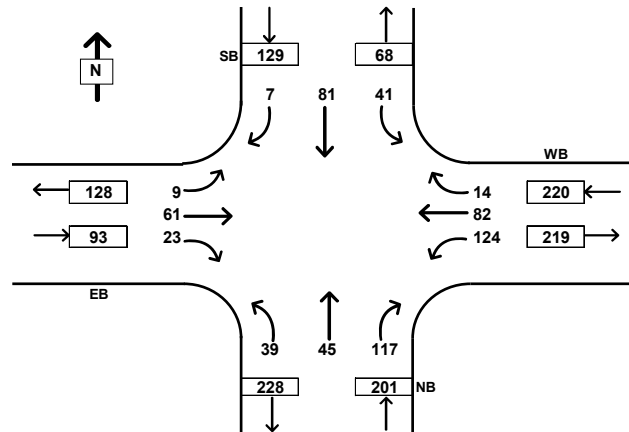


Figure 4 – Airport Road & Kitty Hawk Dr. AM Turn Volumes

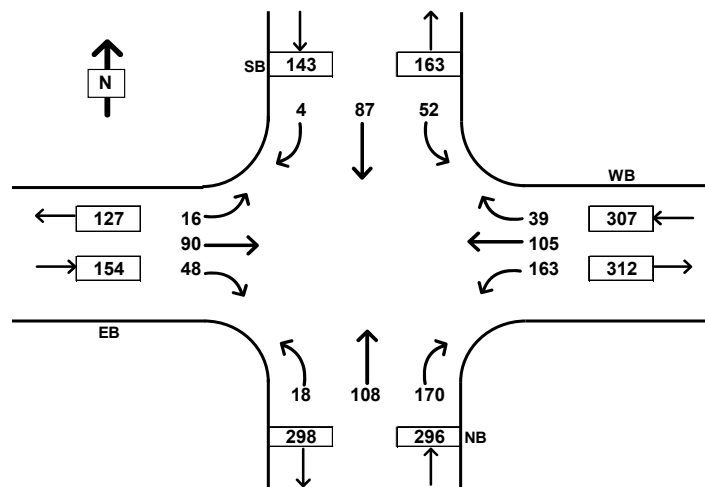


Figure 5 – Airport Road & Kitty Hawk Dr. PM Turn Volumes

### Site Conditions

The intersection is an open intersection with wide shoulders. Chain link fencing is installed behind the sidewalk on the northeast and southeast corners. The southwest corner is a parking lot for the Utah National Guard Armory. The Cedar City Regional Airport is to the west.

There have been 17 reported crashes at this intersection between 2019 and 2021. There have been 13 angle accidents and 5 accidents that were either single-vehicle or front-to-rear accidents.

### WARRANT ANALYSIS FOR AIRPORT ROAD AND KITTY HAWK DRIVE

The following section applies the traffic counts and other known data into the PC Warrants program to ascertain whether warrants are met for a traffic signal at this location.





**WARRANT 1A, 1B, and 1C, EIGHT-HOUR VEHICULAR VOLUME:**

This warrant is met if during 8 hours of an average day there are 350 vph of combined northbound and southbound traffic (after the Rural Factor of 70% is applied) and there are 105 vph in the eastbound or westbound direction. During peak hours, 350 vph on Airport Road was reached for 10 hours of the day, and 105 vph on Kitty Hawk Drive was reached for for most of the day, therefore, Warrant 1A is satisfied.

Warrant 1B is intended for intersections where the volume of the major street is so heavy that traffic on the minor street suffers excessive delay or hazard. The intent of a traffic signal under Warrant 1B is to interrupt continuous traffic to allow side street traffic to either enter or cross the traffic stream. Airport Road does not experience the requisite 525 vph (after the Rural Factor of 70% is applied) for the hours required, so Warrant 1B is not satisfied.

Warrant 1C is intended for intersections where the traffic volumes don't meet individual warrants but where Warrants 1A and 1B are both met to 80% of their stated values, which they are. Therefore, Warrant 1C is satisfied.

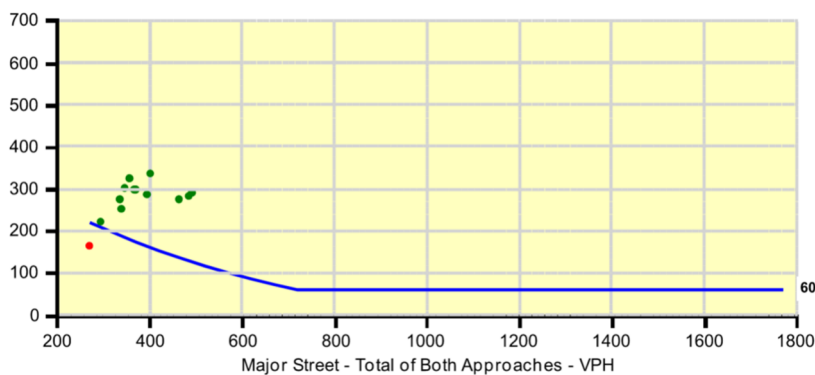
**WARRANT 1A IS SATISFIED.**

**WARRANT 1B IS NOT SATISFIED.**

**WARRANT 1C IS SATISFIED.**

**WARRANT 2, FOUR-HOUR VEHICULAR VOLUME:**

This warrant is intended for intersections where the volume of intersecting traffic during any four hours of the day is the principal reason for consideration of a signal installation. It is met if the combination of the minor street and the major street is above the appropriate curve in the MUTCD Figure 4C-1 in any 4 hours of an average day. The 4-hour volumes are observed to be above the curve as shown in Figure 6, so this warrant is met.



**Figure 6 – Curve for Warrant 2**

**WARRANT 2 IS SATISFIED.**



### ***WARRANT 3A (PEAK HOUR DELAY) and 3B (PEAK HOUR VOLUMES)***

Warrant 3A is intended for intersections where for one hour of the day, minor street traffic suffers undue traffic delay entering or crossing the major street. The warrant is met if all three of the following conditions exist for the same 1 hour (any four consecutive 15-minute periods) of an average day:

1. The total stopped time delay experienced by the traffic on one minor-street approach (one direction only) controlled by a stop sign equals or exceeds 4 vehicle-hours; and
2. The volume on the same minor-street approach (one direction only) equals or exceeds 100 vehicles per hour for one moving lane of traffic; and
3. The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for intersections with three approaches or 800 vehicles per hour for intersections with four or more approaches.

The total stopped time delay on Kitty Hawk Drive was not evaluated. Based on the strength of Warrants 1 and 2 and the fact that there is only 1 lane that shares left-turns, right-turns, and thru movements, the delay is assumed to be significant. Our counting personnel also reported that there have been lengthy queues of waiting vehicles at the east leg, with a high concentration of trucks. This is another indication of high delay.

Warrant 3B is intended for intersections where the volume of intersecting traffic during one hour of the day is the principal reason for consideration of a signal installation. Four one-hour periods meet minimums, so Warrant 3B is satisfied.

**WARRANT 3 WAS NOT EVALUATED.  
WARRANT 3B IS SATISFIED**

### ***WARRANT 4, PEDESTRIAN VOLUME:***

Warrant 4 evaluates the presence of pedestrians crossing the major lanes of an intersection. This warrant is met if the combination of the traffic volume on the major street and the number of crossing pedestrians is above the appropriate curve in the MUTCD Figure 4C-5 for any 4 hours of an average day. The number of pedestrians crossing Airport Road in the peak 4-hour period was observed to be low, so this warrant was not met.

**WARRANT 4 IS NOT SATISFIED.**

### ***WARRANT 5, SCHOOL CROSSING:***

This warrant evaluates the need for a school crossing. Students do not cross Airport Road in the vicinity of this intersection so this warrant is not met.

**WARRANT 5 IS NOT SATISFIED.**





### **WARRANT 6, COORDINATED SIGNAL SYSTEM:**

This warrant is considered satisfied if the signal is needed to maintain proper platooning of vehicles to collectively provide a progressive signalized corridor.

There are no adjacent traffic signals on Airport Road in this vicinity of Cedar City so this intersection would not benefit from a coordinated system if a traffic signal were present.

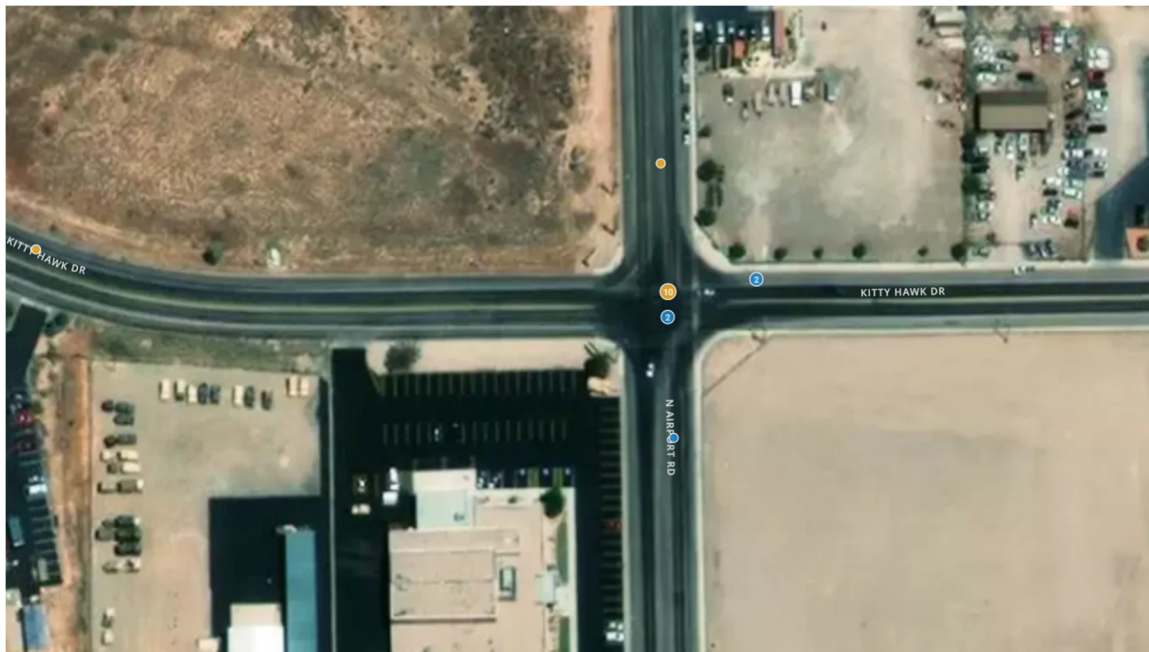
**WARRANT 6 IS NOT SATISFIED.**

### **WARRANT 7, CRASH EXPERIENCE:**

This warrant evaluates the crash experience for a 12-month period. There must be five or more reported crashes susceptible to correction by a traffic signal for this warrant to be considered. In addition, 80-percent of Warrant 1 must be satisfied.

Upon reviewing the accident history for the prior three years, there were 17 crashes reported. On average, five crashes were experienced in a 12-month period, so Warrant 7 can be evaluated.

Of the 17 crashes at this intersection between 2019 and 2021, there have been 13 angle accidents and 5 accidents that were either single-vehicle or front-to-rear accidents (see Figure 7). Three accidents were minor injury accidents. Since there are five accidents per year experienced at this intersection for the past 3 years, Warrant 7 is satisfied



**Figure 7 – 2019-2021 crash location diagram**

**WARRANT 7 IS SATISFIED.**



### **WARRANT 8, ROADWAY NETWORK:**

This warrant is satisfied if any of the following are true:

- A) The intersection is where two major routes meet (which appear on the City's masterplan) and the total approach volume is at least 1000 vph in a peak hour on a weekday and have 5-year projected volumes of meeting one or more of Warrants 1, 2, and 3.;
- B) The intersection is where two major routes meet (which appear on the City's masterplan) and the total approach volume is at least 1000 vph for any 5 hours on a nonnormal business day.

There is not enough total approach volume to reach 1000 vph on the business day studied.

**WARRANT 8 IS NOT SATISFIED.**

### **SPECIFIC SITE CONDITION OBSERVATIONS**

Upon our field visit and operational observation, it is common practice for northbound traffic that is planning to turn right at the intersection to stay in the thru lane and move to the shoulder to decelerate. There is ample room for the shoulder to be used for this maneuver. When this occurs, drivers on the side streets assume that northbound drivers are going thru, not turning right, so they wait for the northbound vehicle to clear the intersection. Operational efficiency is reduced when this occurs. It is recommended that right-turn lanes be formally painted on all legs for smoother traffic operation. This is recommended with or without a traffic signal installation.

### **EVALUATION SUMMARY:**

The above analysis has shown that a traffic signal is warranted at the intersection of Airport Road and Kitty Hawk Drive and should begin to be considered for installation of a traffic signal. The following Warrants are met to consider installation of a signal; Warrant 1, Warrant 2, Warrant 3 and Warrant 7.

The following enhancements to augment safety are suggested:

- It is recommended that right-turn lanes be formally painted on all legs for smoother traffic operation, whether a traffic signal is installed or not.
- Consideration should be given to installing a 4-way stop-controlled intersection before a traffic signal is installed to reduce crashes and improve traffic operation for drivers on Kitty Hawk Drive.



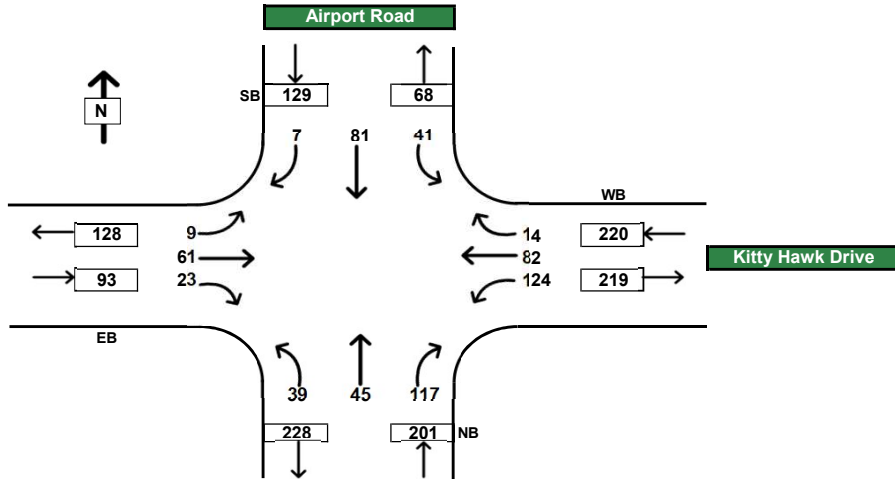
# TRAFFIC COUNT SUMMARY

City: Cedar City  
 N-S Street: Airport Road  
 Date: Thursday, April 21, 2022  
 Begin Time: 07:00 AM  
 Interval Length: 15 min

E-W Street: Kitty Hawk Drive



Time Interval	SB				WB				NB				EB				Total All Moves	Hourly Totals
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED		
07:00 AM	5	10	4	0	23	14	5	0	1	10	21	0	1	13	0	0	107	
07:15 AM	5	19	3	0	18	15	3	0	5	5	26	0	2	14	5	0	120	
07:30 AM	10	25	1	0	38	22	3	0	8	12	24	0	1	13	0	0	157	
07:45 AM	9	22	4	0	22	21	5	0	5	13	36	0	0	15	5	0	157	541
08:00 AM	11	24	0	0	21	20	4	0	6	10	29	0	1	15	3	0	144	578
08:15 AM	7	16	3	0	33	12	3	0	10	12	26	0	2	14	4	0	142	600
08:30 AM	12	23	3	0	38	24	3	0	10	10	31	0	4	17	7	0	182	625
08:45 AM	11	18	1	0	32	26	4	0	13	13	31	0	2	15	9	0	175	643



ADJUSTED PEAK HOUR TRAFFIC VOLUMES											
Southbound			Westbound			Northbound			Eastbound		
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
41	81	7	124	82	14	39	45	117	9	61	23
129			220			201			93		
Trucks: 0%			Trucks: 0%			Trucks: 0%			Trucks: 0%		
Peak Hour: 8:00:00 AM			Peak Hour: 9:00 AM			Peak Vol: 643			PHF: 0.88		

OPTIONAL	
Adjustment Factor	
Monthly:	1.00
Daily:	1.00
Interval:	1.00
Count:	1.00
Total:	1

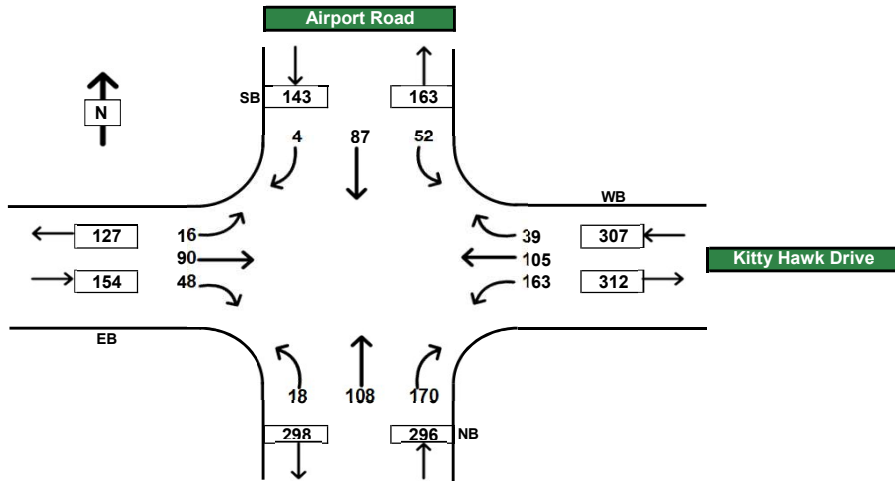
# TRAFFIC COUNT SUMMARY

City: Cedar City  
 N-S Street: Airport Road  
 Date: Thursday, April 21, 2022  
 Begin Time: 04:00 PM  
 Interval Length: 15 min

E-W Street: Kitty Hawk Drive



Time Interval	SB				WB				NB				EB				Total All Moves	Hourly Totals
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED		
04:00 PM	8	26	1	0	25	19	13	0	6	21	45	0	1	26	11	0	202	
04:15 PM	11	29	2	0	28	15	10	0	3	12	42	0	5	30	9	0	196	
04:30 PM	7	16	2	0	30	21	12	0	6	13	34	0	4	20	11	0	176	
04:45 PM	7	28	3	0	32	23	11	0	12	22	42	0	1	15	14	0	210	784
05:00 PM	7	14	2	0	29	21	7	0	5	22	67	0	3	18	7	0	202	784
05:15 PM	10	25	1	0	22	22	10	0	10	17	43	0	6	16	6	0	188	776
05:30 PM	7	25	2	0	22	15	9	1	3	28	37	0	2	17	2	0	169	769
05:45 PM	15	31	0	0	36	20	10	0	3	24	48	0	7	29	15	0	238	797
06:00 PM	13	24	2	0	43	34	6	0	6	30	43	0	3	19	14	0	237	832
06:15 PM	9	17	0	0	42	33	12	0	6	27	45	0	2	22	14	0	229	873
06:30 PM	15	15	2	0	42	18	11	0	3	27	34	0	4	20	5	0	196	900
06:45 PM	16	20	0	0	30	21	9	0	7	22	32	0	3	25	5	0	190	852



ADJUSTED PEAK HOUR TRAFFIC VOLUMES											
Southbound			Westbound			Northbound			Eastbound		
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
52	87	4	163	105	39	18	108	170	16	90	48
143			307			296			154		
Trucks: 0%			Trucks: 0%			Trucks: 0%			Trucks: 0%		
Peak Hour: 5:45:00 PM			Peak Hour: 6:45 PM			Peak Vol: 900			PHF: 0.95		

OPTIONAL Adjustment Factor	
Monthly:	1.00
Daily:	1.00
Interval:	1.00
Count:	1.00
<b>Total:</b>	<b>1</b>



**Cedar City**  
**Airport Road & Kitty Hawk Dr**  
 By: Horrocks Engineers

Study Name: Kitty Hawk & Airport\_W1 & W2  
 Study Date : 4/26/2022

## Signal Warrants - Summary

### Major Street Approaches

**Northbound: Airport**  
 Number of Lanes : 1  
  
 Total Approach Volume: 4,423

**Southbound: Airport**  
 Number of Lanes :1  
  
 Total Approach Volume: 909

### Minor Street Approaches

**Eastbound: Kitty Hawk**  
 Number of Lanes :1  
  
 Total Approach Volume: 1,168

**Westbound: Kitty Hawk**  
 Number of Lanes :1  
  
 Total Approach Volume: 3,983

### Warrant Summary (Rural Values Apply)

<b>Warrant 1 - Eight Hour Vehicular Volumes</b> .....	<b>Satisfied</b>
<b>Warrant 1A - Minimum Vehicular Volume</b> .....	<b>Satisfied</b>
Required volumes reached for 10 hours, 8 are needed	
<b>Warrant 1B - Interruption of Continuous Traffic</b> .....	<b>Not Satisfied</b>
Required volumes reached for 0 hours, 8 are needed	
<b>Warrant 1C - Combination of Warrants</b> .....	<b>Not Satisfied</b>
Required 1A volumes reached for 12 hours, 8 are needed Required 1B volumes reached for 4 hours, 8 are needed	
<b>Warrant 2 - Four Hour Volumes</b> .....	<b>Satisfied</b>
Number of hours (12) volumes exceed minimum >= minimum required (4).	
<b>Warrant 3 - Peak Hour</b> .....	<b>Satisfied</b>
<b>Warrant 3A - Peak Hour Delay</b> .....	<b>Satisfied</b>
Number of one hour periods (18) volumes exceed minimum >= required (1). Delay data not evaluated.	
<b>Warrant 3B - Peak Hour Volumes</b> .....	<b>Satisfied</b>
Volumes exceed minimums for at least one hour period.	
<b>Warrant 4 - Pedestrian Volumes</b> .....	<b>Not Satisfied</b>
Required 4 Hr pedestrian volume reached for 0 hour(s) and the single hour volume for 0 hour(s)	
<b>Warrant 5 - School Crossing</b> .....	<b>Not Evaluated</b>
<b>Warrant 6 - Coordinated Signal System</b> .....	<b>Not Evaluated</b>
<b>Warrant 7 - Crash Experience</b> .....	<b>Not Evaluated</b>
<b>Warrant 8 - Roadway Network</b> .....	<b>Not Evaluated</b>
<b>Warrant 9 - Intersection Near a Grade Crossing</b> .....	<b>Not Evaluated</b>

**Cedar City**  
**Airport Road & Kitty Hawk Dr**  
 By: Horrocks Engineers

Study Name: Kitty Hawk & Airport\_W1 & W2

Study Date : 4/26/2022

## Warrant 1A - Minimum Volumes

**Description**

Intended for sites where the volume of intersecting traffic is the principal reason for consideration of a signal installation.

**Summary**

10 one hour periods meet minimums.  
 Warrant IS met.

**Site Data Required**

Rural Settings Apply = **True**  
 Number of Major Lanes = **1**  
 Number of Minor Lanes = **1**

**Volume Requirements**

Rural Factor of 70 % applied  
 Veh/Hr Major = **350**  
 Veh/Hr Minor = **105**

Time	Major Road				Minor Road			Met?
	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	
11:30 - 12:30	398	+	78	=	476	68	270	Yes
09:30 - 10:30	400	+	57	=	457	120	269	Yes
10:30 - 11:30	383	+	70	=	453	74	301	Yes
12:30 - 13:30	364	+	71	=	435	41	276	Yes
06:30 - 07:30	308	+	76	=	384	92	312	Yes
07:30 - 08:30	323	+	60	=	383	111	320	Yes
08:30 - 09:30	313	+	52	=	365	111	321	Yes
02:45 - 03:45	291	+	67	=	358	98	291	Yes
03:45 - 04:45	273	+	84	=	357	97	306	Yes
05:30 - 06:30	280	+	75	=	355	130	297	Yes
05:15 - 06:15	271	+	77	=	348	120	287	No
04:45 - 05:45	268	+	77	=	345	96	276	No
02:30 - 03:30	287	+	49	=	336	76	256	No
05:00 - 06:00	263	+	72	=	335	109	274	No
02:15 - 03:15	277	+	48	=	325	70	251	No
13:30 - 14:30	264	+	49	=	313	41	211	No
02:00 - 03:00	253	+	40	=	293	48	223	No
13:45 - 14:45	232	+	47	=	279	35	189	No
14:00 - 15:00	230	+	40	=	270	36	166	No
01:45 - 02:45	214	+	34	=	248	38	217	No
14:15 - 15:15	210	+	33	=	243	38	160	No
14:30 - 15:30	190	+	37	=	227	35	135	No
14:45 - 15:45	184	+	31	=	215	49	125	No
15:00 - 16:00	185	+	29	=	214	52	109	No
01:30 - 02:30	184		28		212	33	212	No

**Cedar City**  
**Airport Road & Kitty Hawk Dr**  
 By: Horrocks Engineers

Study Name: Kitty Hawk & Airport\_W1 & W2

Study Date : 4/26/2022

## Warrant 1B - Interruption of Continuous Traffic

**Description**

Intended for sites where the volume of the major street is so heavy that traffic on the minor street suffers excessive delay or hazard.

**Summary**

Only 0 one hour periods meet minimums.  
 Warrant is NOT met.

**Site Data Required**

Rural Settings Apply = **True**  
 Number of Major Lanes = **1**  
 Number of Minor Lanes = **1**

**Volume Requirements**

Rural Factor of 70 % applied  
 Veh/Hr Major = **525**  
 Veh/Hr Minor = **52**

Time	Major Road Airport				Total	Minor Road Kitty Hawk		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
10:00 - 11:00	420	+	70	=	490	100	290	No
09:45 - 10:45	414	+	69	=	483	110	282	No
12:00 - 13:00	406	+	77	=	483	60	283	No
11:15 - 12:15	401	+	78	=	479	69	271	No
11:45 - 12:45	404	+	72	=	476	70	289	No
11:30 - 12:30	398	+	78	=	476	68	270	No
10:15 - 11:15	395	+	81	=	476	80	295	No
11:00 - 12:00	389	+	74	=	463	73	276	No
09:30 - 10:30	400	+	57	=	457	120	269	No
10:30 - 11:30	383	+	70	=	453	74	301	No
10:45 - 11:45	377	+	72	=	449	73	284	No
12:30 - 13:30	364	+	71	=	435	41	276	No
12:15 - 13:15	367	+	67	=	434	52	286	No
09:15 - 10:15	375	+	43	=	418	122	273	No
12:45 - 13:45	342	+	69	=	411	36	247	No
07:00 - 08:00	338	+	62	=	400	105	336	No
09:00 - 10:00	347	+	46	=	393	102	288	No
07:15 - 08:15	328	+	64	=	392	113	352	No
06:45 - 07:45	308	+	82	=	390	98	321	No
06:30 - 07:30	308	+	76	=	384	92	312	No
07:30 - 08:30	323	+	60	=	383	111	320	No
08:45 - 09:45	333	+	46	=	379	101	314	No
03:15 - 04:15	288	+	91	=	379	100	321	No
07:45 - 08:45	321	+	56	=	377	115	328	No
06:15 - 07:15	301		76		377	86	290	No

**Cedar City**  
**Airport Road & Kitty Hawk Dr**  
 By: Horrocks Engineers

Study Name: Kitty Hawk & Airport\_W1 & W2

Study Date : 4/26/2022

## Warrant 1C Combination of Warrants

**Description**

Intended for sites where the traffic volumes don't meet individual warrants but where Warrants 1A and 1B are both met to 80% of their stated values.

**Summary**

12 hours meet 1A minimums.  
 Only 4 hours meet 1B minimums.  
 Warrant is NOT met.

**Site Data Required**

Rural Settings Apply = **True**  
 Number of Major Lanes = **1**  
 Number of Minor Lanes = **1**

**Volume Requirements**

Rural Factor of 70% applied  
 Warrant 1A 1B  
 Veh/Hr Major = **280 420**

Veh/Hr Minor = **84 42**

**Major Road**  
**Airport**

**Minor Road**  
**Kitty Hawk**

Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1A?
10:00 - 11:00	420	+	70	=	490	100	290	Yes
12:00 - 13:00	406	+	77	=	483	60	283	Yes
11:00 - 12:00	389	+	74	=	463	73	276	Yes
07:00 - 08:00	338	+	62	=	400	105	336	Yes
09:00 - 10:00	347	+	46	=	393	102	288	Yes
06:00 - 07:00	283	+	87	=	370	109	298	Yes
03:00 - 04:00	286	+	79	=	365	102	300	Yes
08:00 - 09:00	295	+	62	=	357	113	326	Yes
04:00 - 05:00	266	+	79	=	345	98	302	Yes
13:00 - 14:00	278	+	62	=	340	32	251	Yes
05:00 - 06:00	263	+	72	=	335	109	274	Yes
02:00 - 03:00	253	+	40	=	293	48	223	Yes

Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1B?
11:30 - 12:30	398	+	78	=	476	68	270	Yes
09:30 - 10:30	400	+	57	=	457	120	269	Yes
10:30 - 11:30	383	+	70	=	453	74	301	Yes
12:30 - 13:30	364	+	71	=	435	41	276	Yes
09:15 - 10:15	375	+	43	=	418	122	273	No
07:00 - 08:00	338	+	62	=	400	105	336	No
09:00 - 10:00	347	+	46	=	393	102	288	No
07:15 - 08:15	328	+	64	=	392	113	352	No
06:45 - 07:45	308	+	82	=	390	98	321	No
06:30 - 07:30	308	+	76	=	384	92	312	No
07:30 - 08:30	323	+	60	=	383	111	320	No
08:45 - 09:45	333	+	46	=	379	101	314	No



# Cedar City

## Airport Road & Kitty Hawk Dr

By: Horrocks Engineers

Study Name: Kitty Hawk & Airport\_W1 & W2  
 Study Date : 4/26/2022

### Warrant 2 - Four Hour Volumes

#### Description

Intended for sites where the volume of intersecting traffic during any four hours of the day is the principal reason for consideration of a signal installation.

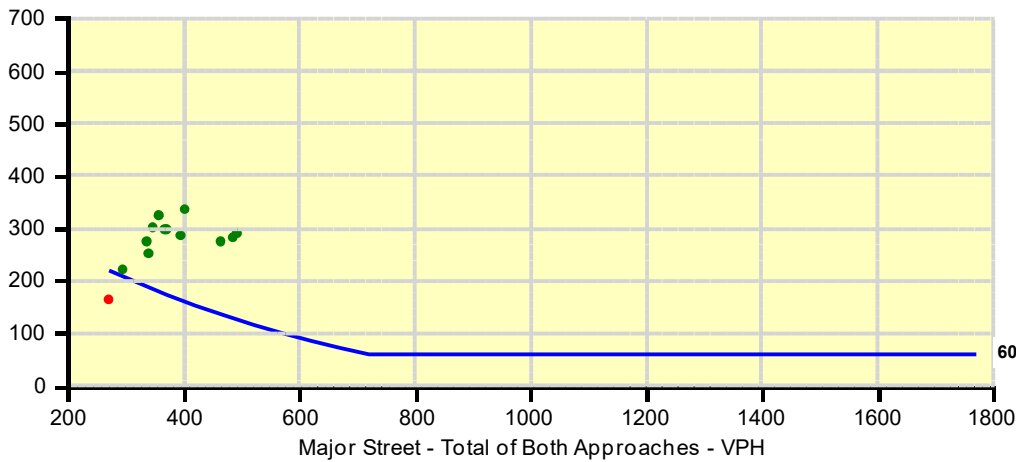
#### Summary

12 one hour periods meet minimums.  
 Warrant IS met.

#### Site Data Required

Rural Settings Apply = **True**  
 Number of Major Lanes = **1**  
 Number of Minor Lanes = **1**

Time	Major Road Airport				Total	Minor Road Kitty Hawk		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
10:00 - 11:00	420	+	70	=	490	100	290	Yes
12:00 - 13:00	406	+	77	=	483	60	283	Yes
11:00 - 12:00	389	+	74	=	463	73	276	Yes
07:00 - 08:00	338	+	62	=	400	105	336	Yes
09:00 - 10:00	347	+	46	=	393	102	288	Yes
06:00 - 07:00	283	+	87	=	370	109	298	Yes
03:00 - 04:00	286	+	79	=	365	102	300	Yes
08:00 - 09:00	295	+	62	=	357	113	326	Yes
04:00 - 05:00	266	+	79	=	345	98	302	Yes
13:00 - 14:00	278	+	62	=	340	32	251	Yes
05:00 - 06:00	263	+	72	=	335	109	274	Yes
							223	Yes



**Cedar City**  
**Airport Road & Kitty Hawk Dr**  
 By: Horrocks Engineers

Study Name: Kitty Hawk & Airport\_W1 & W2

Study Date : 4/26/2022

**Warrant 3A - Peak Hour Delay**

**Description**

Intended for sites where for one hour of the day minor street traffic suffers undue traffic delay entering or crossing the major street.

**Summary**

18 one hour periods meet minimums.  
 Warrant IS met.

**Site Data Required**

Number of Minor Lanes = 1

**Volume and Delay Requirements**

Veh/Hr All Approaches = **800**  
 Veh/Hr Minor = **100**  
 Total Delay (Veh-Hrs) = **4**

Time	Major Road Airport			Minor Road Kitty Hawk			Warrant Met?		
	Total of All Approaches	Met?	Minor EB	Delay EB	Met?	Minor WB		Delay WB	Met?
10:00 - 11:00	880	Yes	100	-	---	290	-	Yes	Yes
09:45 - 10:45	875	Yes	110	-	---	282	-	Yes	Yes
07:15 - 08:15	857	Yes	113	-	---	352	-	Yes	Yes
10:15 - 11:15	851	Yes	80	-	---	295	-	Yes	Yes
09:30 - 10:30	846	Yes	120	-	---	269	-	Yes	Yes
07:00 - 08:00	841	Yes	105	-	---	336	-	Yes	Yes
11:45 - 12:45	835	Yes	70	-	---	289	-	Yes	Yes
10:30 - 11:30	828	Yes	74	-	---	301	-	Yes	Yes
12:00 - 13:00	826	Yes	60	-	---	283	-	Yes	Yes
07:45 - 08:45	820	Yes	115	-	---	328	-	Yes	Yes
11:15 - 12:15	819	Yes	69	-	---	271	-	Yes	Yes
07:30 - 08:30	814	Yes	111	-	---	320	-	Yes	Yes
11:30 - 12:30	814	Yes	68	-	---	270	-	Yes	Yes
09:15 - 10:15	813	Yes	122	-	---	273	-	Yes	Yes
11:00 - 12:00	812	Yes	73	-	---	276	-	Yes	Yes
06:45 - 07:45	809	Yes	98	-	---	321	-	Yes	Yes
10:45 - 11:45	806	Yes	73	-	---	284	-	Yes	Yes
03:15 - 04:15	800	Yes	100	-	---	321	-	Yes	Yes
08:15 - 09:15	799	No	109	-	---	324	-	Yes	No
08:30 - 09:30	797	No	111	-	---	321	-	Yes	No
08:00 - 09:00	796	No	113	-	---	326	-	Yes	No
03:30 - 04:30	796	No	101	-	---	318	-	Yes	No
08:45 - 09:45	794	No	101	-	---	314	-	Yes	No
06:30 - 07:30	788	No	92	-	---	312	-	Yes	No
09:00 - 10:00	783	No	102	-	---	288	-	Yes	No

# Cedar City

## Airport Road & Kitty Hawk Dr

By: Horrocks Engineers

Study Name: Kitty Hawk & Airport\_W1 & W2

Study Date : 4/26/2022

### Warrant 3B - Peak Hour Volumes

#### Description

Intended for sites where the volume of intersecting traffic during one hour of the day is the principal reason for consideration of a signal installation.

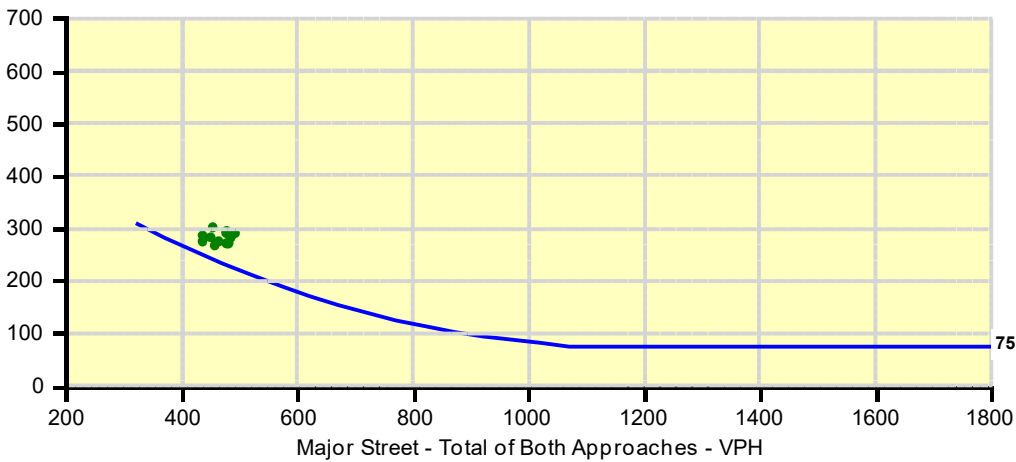
#### Summary

34 one hour periods meet minimums.  
Warrant IS met.

#### Site Data Required

Rural Settings Apply = **True**  
 Number of Major Lanes = **1**  
 Number of Minor Lanes = **1**

Time	Major Road Airport				Total	Minor Road Kitty Hawk		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
10:00 - 11:00	420	+	70	=	490	100	290	Yes
09:45 - 10:45	414	+	69	=	483	110	282	Yes
12:00 - 13:00	406	+	77	=	483	60	283	Yes
11:15 - 12:15	401	+	78	=	479	69	271	Yes
11:45 - 12:45	404	+	72	=	476	70	289	Yes
11:30 - 12:30	398	+	78	=	476	68	270	Yes
10:15 - 11:15	395	+	81	=	476	80	295	Yes
11:00 - 12:00	389	+	74	=	463	73	276	Yes
09:30 - 10:30	400	+	57	=	457	120	269	Yes
10:30 - 11:30	383	+	70	=	453	74	301	Yes
10:45 - 11:45	377	+	72	=	449	73	284	Yes
							276	Yes



# Cedar City

## Airport Road & Kitty Hawk Dr

By: Horrocks Engineers

Study Name: Kitty Hawk & Airport\_W1 & W2

Study Date : 4/26/2022

### Warrant 4A - Pedestrian Volumes - 4 Hour

#### Description

Intended for sites where the traffic volume on a major street is so heavy that pedestrians experience excessive delay in crossing the major street.

#### Summary

No '4 Hr Criteria' hours meet minimums.  
No '1 Hr Criteria' hours meet minimums.  
Warrant is NOT met.

#### Site Data Required

Rural Settings Apply = **True**

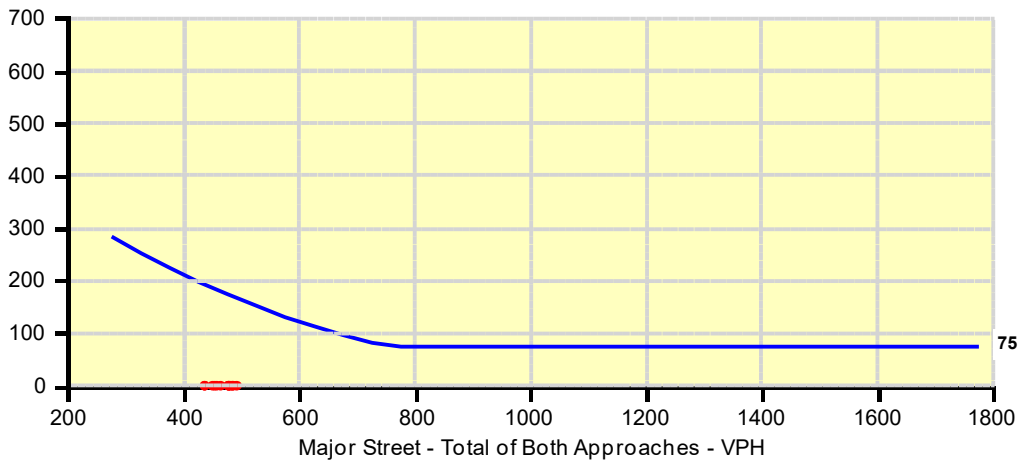
#### Pedestrian Data Required

Adjacent coordinated signals present = **False**  
Closest Signal < 300 Feet = **True**  
Ped Speed < 3.5 ft/sec = **False**

#### Major Road

Airport

Time	NB Vehs	+	SB Vehs	=	Total	NB Peds	+	SB Peds	=	Ped Total	Met?
10:00 - 11:00	420	+	70	=	490	0	+	0	=	0	No
09:45 - 10:45	414	+	69	=	483	0	+	0	=	0	No
12:00 - 13:00	406	+	77	=	483	0	+	0	=	0	No
11:15 - 12:15	401	+	78	=	479	0	+	0	=	0	No
10:15 - 11:15	395	+	81	=	476	0	+	0	=	0	No
11:30 - 12:30	398	+	78	=	476	0	+	0	=	0	No
11:45 - 12:45	404	+	72	=	476	0	+	0	=	0	No
11:00 - 12:00	389	+	74	=	463	0	+	0	=	0	No
09:30 - 10:30	400	+	57	=	457	0	+	0	=	0	No
10:30 - 11:30	383	+	70	=	453	0	+	0	=	0	No
10:45 - 11:45	377	+	72	=	449	0	+	0	=	0	No
12:30 - 13:30	364	+	71	=	435	0	+	0	=	0	No





# Cedar City

## Airport Road & Kitty Hawk Dr

By: Horrocks Engineers

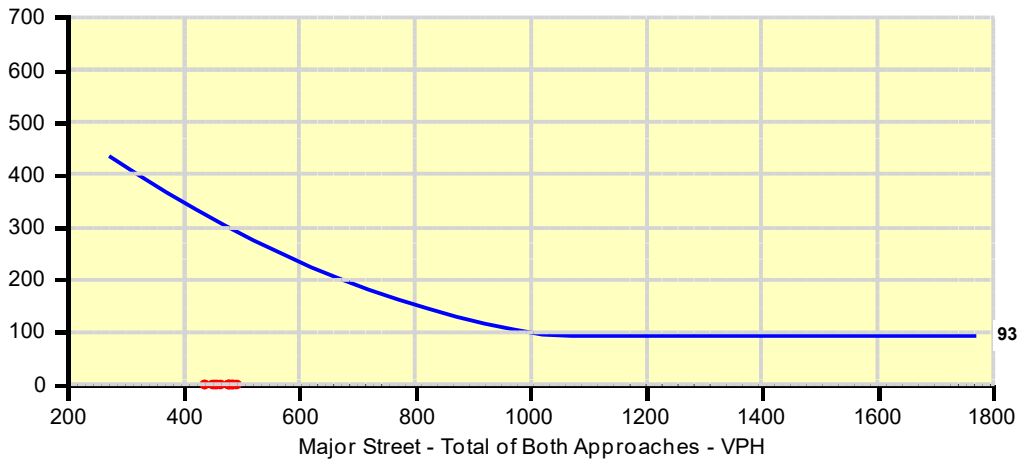
Study Name: Kitty Hawk & Airport\_W1 & W2

Study Date : 4/26/2022

### Warrant 4B - Pedestrian Volumes - 1 Hour

<b>Major Road</b>
<b>Airport</b>

Time	NB Vehs	+	SB Vehs	=	Total	NB Peds	+	SB Peds	=	Ped Total	Met?
10:00 - 11:00	420	+	70	=	490	0	+	0	=	0	No
09:45 - 10:45	414	+	69	=	483	0	+	0	=	0	No
12:00 - 13:00	406	+	77	=	483	0	+	0	=	0	No
11:15 - 12:15	401	+	78	=	479	0	+	0	=	0	No
10:15 - 11:15	395	+	81	=	476	0	+	0	=	0	No
11:30 - 12:30	398	+	78	=	476	0	+	0	=	0	No
11:45 - 12:45	404	+	72	=	476	0	+	0	=	0	No
11:00 - 12:00	389	+	74	=	463	0	+	0	=	0	No
09:30 - 10:30	400	+	57	=	457	0	+	0	=	0	No
10:30 - 11:30	383	+	70	=	453	0	+	0	=	0	No
10:45 - 11:45	377	+	72	=	449	0	+	0	=	0	No
12:30 - 13:30	364	+	71	=	435	0	+	0	=	0	No



**Cedar City**  
**Airport Road & Kitty Hawk Dr**  
 By: Horrocks Engineers

Study Name: Kitty Hawk & Airport\_W3  
 Study Date : 4/26/2022

## Signal Warrants - Summary

### Major Street Approaches

**Northbound: Airport**  
 Number of Lanes : 1  
  
 Total Approach Volume: 1,214

**Southbound: Airport**  
 Number of Lanes :1  
  
 Total Approach Volume: 658

### Minor Street Approaches

**Eastbound: Kitty Hawk**  
 Number of Lanes :1  
  
 Total Approach Volume: 573

**Westbound: Kitty Hawk**  
 Number of Lanes :1  
  
 Total Approach Volume: 1,172

### Warrant Summary (Rural Values Apply)

<b>Warrant 1 - Eight Hour Vehicular Volumes</b> .....	<b>Not Satisfied</b>
<b>Warrant 1A - Minimum Vehicular Volume</b> .....	<b>Not Satisfied</b>
Required volumes reached for 3 hours, 8 are needed	
<b>Warrant 1B - Interruption of Continuous Traffic</b> .....	<b>Not Satisfied</b>
Required volumes reached for 0 hours, 8 are needed	
<b>Warrant 1C - Combination of Warrants</b> .....	<b>Not Satisfied</b>
Required 1A volumes reached for 5 hours, 8 are needed Required 1B volumes reached for 2 hours, 8 are needed	
<b>Warrant 2 - Four Hour Volumes</b> .....	<b>Satisfied</b>
Number of hours (4) volumes exceed minimum >= minimum required (4).	
<b>Warrant 3 - Peak Hour</b> .....	<b>Satisfied</b>
<b>Warrant 3A - Peak Hour Delay</b> .....	<b>Satisfied</b>
Number of one hour periods (4) volumes exceed minimum >= required (1). Delay data not evaluated.	
<b>Warrant 3B - Peak Hour Volumes</b> .....	<b>Satisfied</b>
Volumes exceed minimums for at least one hour period.	
<b>Warrant 4 - Pedestrian Volumes</b> .....	<b>Not Satisfied</b>
Required 4 Hr pedestrian volume reached for 0 hour(s) and the single hour volume for 0 hour(s)	
<b>Warrant 5 - School Crossing</b> .....	<b>Not Evaluated</b>
<b>Warrant 6 - Coordinated Signal System</b> .....	<b>Not Evaluated</b>
<b>Warrant 7 - Crash Experience</b> .....	<b>Not Evaluated</b>
<b>Warrant 8 - Roadway Network</b> .....	<b>Not Evaluated</b>
<b>Warrant 9 - Intersection Near a Grade Crossing</b> .....	<b>Not Evaluated</b>

**Cedar City**  
**Airport Road & Kitty Hawk Dr**  
 By: Horrocks Engineers

Study Name: Kitty Hawk & Airport\_W3

Study Date : 4/26/2022

## Warrant 1A - Minimum Volumes

**Description**

Intended for sites where the volume of intersecting traffic is the principal reason for consideration of a signal installation.

**Summary**

Only 3 one hour periods meet minimums.  
 Warrant is NOT met.

**Site Data Required**

Rural Settings Apply = **True**  
 Number of Major Lanes = **1**  
 Number of Minor Lanes = **1**

**Volume Requirements**

Rural Factor of 70 % applied  
 Veh/Hr Major = **350**  
 Veh/Hr Minor = **105**

Time	Major Road Airport				=	Total	Minor Road Kitty Hawk		Met?
	Major NB	+	Major SB				Minor EB	Minor WB	
17:00 - 18:00	307	+	139	=	446	128	223	Yes	
18:00 - 19:00	282	+	133	=	415	136	301	Yes	
16:00 - 17:00	258	+	140	=	398	147	239	Yes	
07:45 - 08:45	198	+	134	=	332	87	206	No	
08:00 - 09:00	201	+	129	=	330	93	220	No	
07:30 - 08:30	191	+	132	=	323	73	204	No	
07:15 - 08:15	179	+	133	=	312	74	192	No	
15:45 - 16:45	182	+	102	=	284	117	173	No	
07:00 - 08:00	166	+	117	=	283	69	189	No	
08:15 - 09:15	156	+	94	=	250	74	175	No	
15:30 - 16:30	129	+	77	=	206	82	110	No	
06:45 - 07:45	112	+	82	=	194	49	141	No	
08:30 - 09:30	108	+	68	=	176	54	127	No	
06:30 - 07:30	68	+	46	=	114	35	78	No	
15:15 - 16:15	72	+	35	=	107	38	57	No	
08:45 - 09:45	57	+	30	=	87	26	62	No	
06:15 - 07:15	32	+	19	=	51	14	42	No	
11:00 - 12:00	0	+	0	=	0	0	0	No	
23:00 - 00:00	0	+	0	=	0	0	0	No	
23:15 - 00:15	0	+	0	=	0	0	0	No	
23:30 - 00:30	0	+	0	=	0	0	0	No	
14:00 - 15:00	0	+	0	=	0	0	0	No	
06:00 - 07:00	0	+	0	=	0	0	0	No	
09:30 - 10:30	0	+	0	=	0	0	0	No	
09:15 - 10:15	0		0		0	0	0	No	

**Cedar City**  
**Airport Road & Kitty Hawk Dr**  
 By: Horrocks Engineers

Study Name: Kitty Hawk & Airport\_W3

Study Date : 4/26/2022

## Warrant 1B - Interruption of Continuous Traffic

**Description**

Intended for sites where the volume of the major street is so heavy that traffic on the minor street suffers excessive delay or hazard.

**Summary**

Only 0 one hour periods meet minimums.  
 Warrant is NOT met.

**Site Data Required**

Rural Settings Apply = **True**  
 Number of Major Lanes = **1**  
 Number of Minor Lanes = **1**

**Volume Requirements**

Rural Factor of 70 % applied  
 Veh/Hr Major = **525**  
 Veh/Hr Minor = **52**

Time	Major Road				Minor Road			Met?
	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	
17:15 - 18:15	292	+	155	=	447	136	249	No
17:00 - 18:00	307	+	139	=	446	128	223	No
17:30 - 18:30	300	+	145	=	445	146	282	No
16:45 - 17:45	308	+	131	=	439	107	223	No
17:45 - 18:45	296	+	143	=	439	154	307	No
16:30 - 17:30	293	+	122	=	415	121	240	No
18:00 - 19:00	282	+	133	=	415	136	301	No
16:15 - 17:15	280	+	128	=	408	137	239	No
16:00 - 17:00	258	+	140	=	398	147	239	No
07:45 - 08:45	198	+	134	=	332	87	206	No
08:00 - 09:00	201	+	129	=	330	93	220	No
07:30 - 08:30	191	+	132	=	323	73	204	No
07:15 - 08:15	179	+	133	=	312	74	192	No
18:15 - 19:15	203	+	94	=	297	100	218	No
15:45 - 16:45	182	+	102	=	284	117	173	No
07:00 - 08:00	166	+	117	=	283	69	189	No
08:15 - 09:15	156	+	94	=	250	74	175	No
15:30 - 16:30	129	+	77	=	206	82	110	No
06:45 - 07:45	112	+	82	=	194	49	141	No
18:30 - 19:30	125	+	68	=	193	62	131	No
08:30 - 09:30	108	+	68	=	176	54	127	No
06:30 - 07:30	68	+	46	=	114	35	78	No
15:15 - 16:15	72	+	35	=	107	38	57	No
18:45 - 19:45	61	+	36	=	97	33	60	No
08:45 - 09:45	57		30		87	26	62	No



**Cedar City**  
**Airport Road & Kitty Hawk Dr**  
 By: Horrocks Engineers

Study Name: Kitty Hawk & Airport\_W3

Study Date : 4/26/2022

## Warrant 1C Combination of Warrants

**Description**

Intended for sites where the traffic volumes don't meet individual warrants but where Warrants 1A and 1B are both met to 80% of their stated values.

**Summary**

Only 5 hours meet 1A minimums.  
 Only 2 hours meet 1B minimums.  
 Warrant is NOT met.

**Site Data Required**

Rural Settings Apply = **True**  
 Number of Major Lanes = **1**  
 Number of Minor Lanes = **1**

**Volume Requirements**

Rural Factor of 70% applied  
 Warrant 1A 1B  
 Veh/Hr Major = **280 420**

Veh/Hr Minor = **84 42**

**Major Road**  
**Airport**

**Minor Road**  
**Kitty Hawk**

Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1A?
17:45 - 18:45	296	+	143	=	439	154	307	Yes
16:45 - 17:45	308	+	131	=	439	107	223	Yes
08:00 - 09:00	201	+	129	=	330	93	220	Yes
15:45 - 16:45	182	+	102	=	284	117	173	Yes
07:00 - 08:00	166	+	117	=	283	69	189	Yes
15:30 - 16:30	129	+	77	=	206	82	110	No
06:45 - 07:45	112	+	82	=	194	49	141	No
06:30 - 07:30	68	+	46	=	114	35	78	No
15:15 - 16:15	72	+	35	=	107	38	57	No
18:45 - 19:45	61	+	36	=	97	33	60	No
06:15 - 07:15	32	+	19	=	51	14	42	No
09:00 - 10:00	0		0		0	0	0	No

Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1B?
17:45 - 18:45	296	+	143	=	439	154	307	Yes
16:45 - 17:45	308	+	131	=	439	107	223	Yes
16:30 - 17:30	293	+	122	=	415	121	240	No
16:15 - 17:15	280	+	128	=	408	137	239	No
16:00 - 17:00	258	+	140	=	398	147	239	No
07:45 - 08:45	198	+	134	=	332	87	206	No
08:00 - 09:00	201	+	129	=	330	93	220	No
07:30 - 08:30	191	+	132	=	323	73	204	No
07:15 - 08:15	179	+	133	=	312	74	192	No
15:45 - 16:45	182	+	102	=	284	117	173	No
07:00 - 08:00	166	+	117	=	283	69	189	No
08:15 - 09:15	156		94		250	74	175	No

# Cedar City

## Airport Road & Kitty Hawk Dr

By: Horrocks Engineers

Study Name: Kitty Hawk & Airport\_W3

Study Date : 4/26/2022

## Warrant 2 - Four Hour Volumes

### Description

Intended for sites where the volume of intersecting traffic during any four hours of the day is the principal reason for consideration of a signal installation.

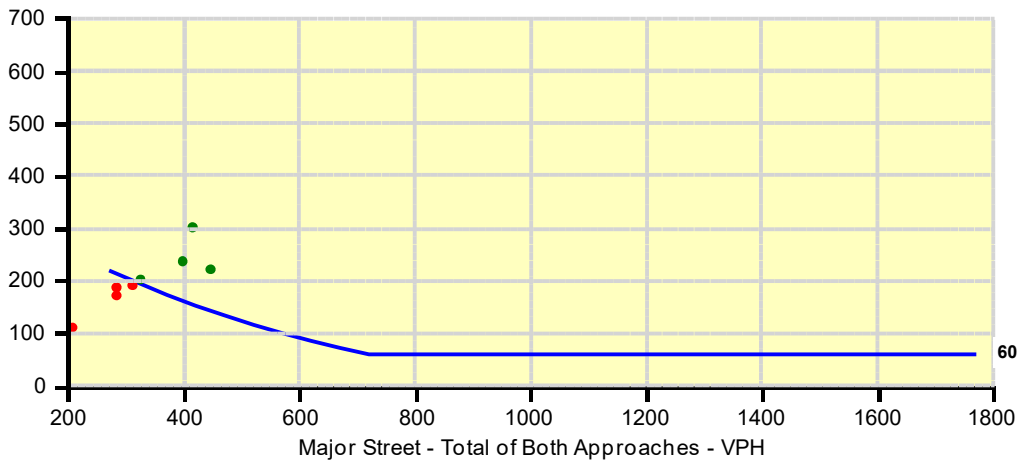
### Summary

4 one hour periods meet minimums.  
Warrant IS met.

### Site Data Required

Rural Settings Apply = **True**  
 Number of Major Lanes = **1**  
 Number of Minor Lanes = **1**

Time	Major Road Airport				Total	Minor Road Kitty Hawk		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
17:00 - 18:00	307	+	139	=	446	128	223	Yes
18:00 - 19:00	282	+	133	=	415	136	301	Yes
16:00 - 17:00	258	+	140	=	398	147	239	Yes
07:30 - 08:30	191	+	132	=	323	73	204	Yes
07:15 - 08:15	179	+	133	=	312	74	192	No
15:45 - 16:45	182	+	102	=	284	117	173	No
07:00 - 08:00	166	+	117	=	283	69	189	No
15:30 - 16:30	129	+	77	=	206	82	110	No
06:45 - 07:45	112	+	82	=	194	49	141	No
08:30 - 09:30	108	+	68	=	176	54	127	No
06:30 - 07:30	68	+	46	=	114	35	78	No
							57	No



**Cedar City**  
**Airport Road & Kitty Hawk Dr**  
 By: Horrocks Engineers

Study Name: Kitty Hawk & Airport\_W3  
 Study Date : 4/26/2022

**Warrant 3A - Peak Hour Delay**

**Description**

Intended for sites where for one hour of the day minor street traffic suffers undue traffic delay entering or crossing the major street.

**Summary**

4 one hour periods meet minimums.  
 Warrant IS met.

**Site Data Required**

Number of Minor Lanes = 1

**Volume and Delay Requirements**

Veh/Hr All Approaches = **800**  
 Veh/Hr Minor = **100**  
 Total Delay (Veh-Hrs) = **4**

Time	Major Road Airport			Minor Road Kitty Hawk			Warrant Met?		
	Total of All Approaches	Met?	Minor EB	Delay EB	Met?	Minor WB		Delay WB	Met?
17:45 - 18:45	900	Yes	154	-	---	307	-	Yes	Yes
17:30 - 18:30	873	Yes	146	-	---	282	-	Yes	Yes
18:00 - 19:00	852	Yes	136	-	---	301	-	Yes	Yes
17:15 - 18:15	832	Yes	136	-	---	249	-	Yes	Yes
17:00 - 18:00	797	No	128	-	---	223	-	Yes	No
16:00 - 17:00	784	No	147	-	---	239	-	Yes	No
16:15 - 17:15	784	No	137	-	---	239	-	Yes	No
16:30 - 17:30	776	No	121	-	---	240	-	Yes	No
16:45 - 17:45	769	No	107	-	---	223	-	Yes	No
08:00 - 09:00	643	No	93	-	---	220	-	Yes	No
07:45 - 08:45	625	No	87	-	---	206	-	Yes	No
18:15 - 19:15	615	No	100	-	---	218	-	Yes	No
07:30 - 08:30	600	No	73	-	---	204	-	Yes	No
07:15 - 08:15	578	No	74	-	---	192	-	Yes	No
15:45 - 16:45	574	No	117	-	---	173	-	Yes	No
07:00 - 08:00	541	No	69	-	---	189	-	Yes	No
08:15 - 09:15	499	No	74	-	---	175	-	Yes	No
15:30 - 16:30	398	No	82	-	---	110	-	Yes	No
18:30 - 19:30	386	No	62	-	---	131	-	Yes	No
06:45 - 07:45	384	No	49	-	---	141	-	Yes	No
08:30 - 09:30	357	No	54	-	---	127	-	Yes	No
06:30 - 07:30	227	No	35	-	---	78	-	No	No
15:15 - 16:15	202	No	38	-	---	57	-	No	No
18:45 - 19:45	190	No	33	-	---	60	-	No	No
08:45 - 09:45	175	No	26	-	---	62	-	No	No

# Cedar City

## Airport Road & Kitty Hawk Dr

By: Horrocks Engineers

Study Name: Kitty Hawk & Airport\_W3  
 Study Date : 4/26/2022

### Warrant 3B - Peak Hour Volumes

#### Description

Intended for sites where the volume of intersecting traffic during one hour of the day is the principal reason for consideration of a signal installation.

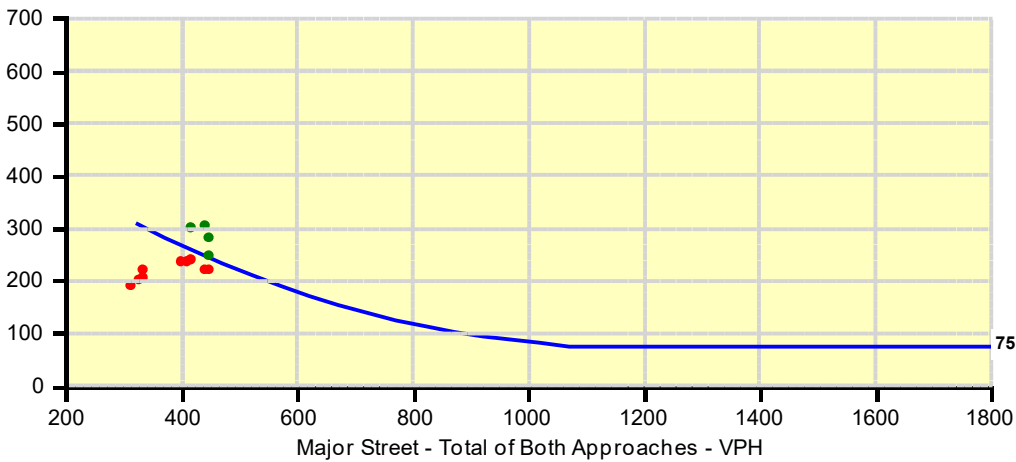
#### Summary

4 one hour periods meet minimums.  
 Warrant IS met.

#### Site Data Required

Rural Settings Apply = **True**  
 Number of Major Lanes = **1**  
 Number of Minor Lanes = **1**

Time	Major Road Airport				Total	Minor Road Kitty Hawk		Met?
	Major NB	+	Major SB	=		Minor EB	Minor WB	
17:15 - 18:15	292	+	155	=	447	136	249	Yes
17:30 - 18:30	300	+	145	=	445	146	282	Yes
17:45 - 18:45	296	+	143	=	439	154	307	Yes
18:00 - 19:00	282	+	133	=	415	136	301	Yes
17:00 - 18:00	307	+	139	=	446	128	223	No
16:45 - 17:45	308	+	131	=	439	107	223	No
16:30 - 17:30	293	+	122	=	415	121	240	No
16:15 - 17:15	280	+	128	=	408	137	239	No
16:00 - 17:00	258	+	140	=	398	147	239	No
07:45 - 08:45	198	+	134	=	332	87	206	No
08:00 - 09:00	201	+	129	=	330	93	220	No
							204	No





# Cedar City

## Airport Road & Kitty Hawk Dr

By: Horrocks Engineers

Study Name: Kitty Hawk & Airport\_W3

Study Date : 4/26/2022

### Warrant 4A - Pedestrian Volumes - 4 Hour

#### Description

Intended for sites where the traffic volume on a major street is so heavy that pedestrians experience excessive delay in crossing the major street.

#### Summary

No '4 Hr Criteria' hours meet minimums.  
No '1 Hr Criteria' hours meet minimums.  
Warrant is NOT met.

#### Site Data Required

Rural Settings Apply = **True**

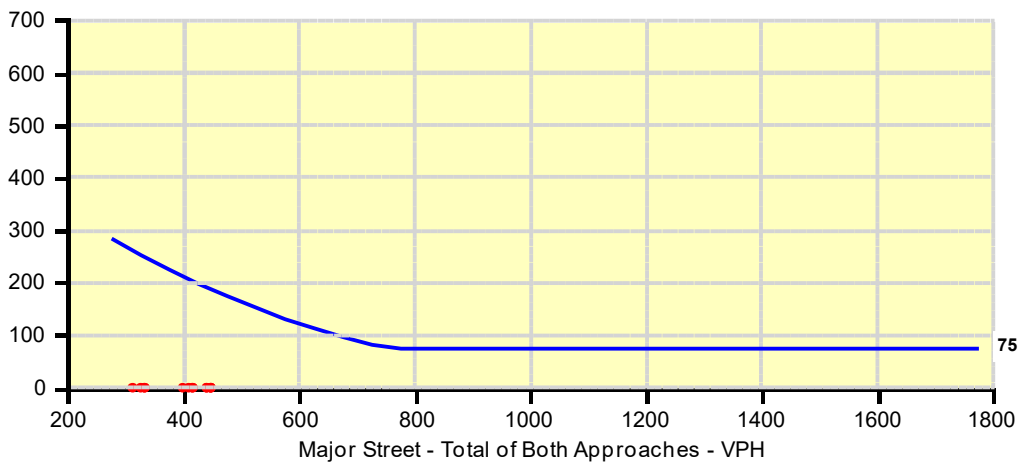
#### Pedestrian Data Required

Adjacent coordinated signals present = **False**  
Closest Signal < 300 Feet = **True**  
Ped Speed < 3.5 ft/sec = **False**

#### Major Road

Airport

Time	NB Vehs	+	SB Vehs	=	Total	NB Peds	+	SB Peds	=	Ped Total	Met?
17:15 - 18:15	292	+	155	=	447	0	+	0	=	0	No
17:00 - 18:00	307	+	139	=	446	0	+	0	=	0	No
17:30 - 18:30	300	+	145	=	445	0	+	0	=	0	No
16:45 - 17:45	308	+	131	=	439	0	+	0	=	0	No
17:45 - 18:45	296	+	143	=	439	0	+	0	=	0	No
16:30 - 17:30	293	+	122	=	415	0	+	0	=	0	No
18:00 - 19:00	282	+	133	=	415	0	+	0	=	0	No
16:15 - 17:15	280	+	128	=	408	0	+	0	=	0	No
16:00 - 17:00	258	+	140	=	398	0	+	0	=	0	No
07:45 - 08:45	198	+	134	=	332	0	+	0	=	0	No
08:00 - 09:00	201	+	129	=	330	0	+	0	=	0	No
07:30 - 08:30	191	+	132	=	323	0	+	0	=	0	No



# Cedar City

## Airport Road & Kitty Hawk Dr

By: Horrocks Engineers

Study Name: Kitty Hawk & Airport\_W3

Study Date : 4/26/2022

### Warrant 4B - Pedestrian Volumes - 1 Hour

<b>Major Road</b>
<b>Airport</b>

Time	NB Vehs	+	SB Vehs	=	Total	NB Peds	+	SB Peds	=	Ped Total	Met?
17:15 - 18:15	292	+	155	=	447	0	+	0	=	0	No
17:00 - 18:00	307	+	139	=	446	0	+	0	=	0	No
17:30 - 18:30	300	+	145	=	445	0	+	0	=	0	No
16:45 - 17:45	308	+	131	=	439	0	+	0	=	0	No
17:45 - 18:45	296	+	143	=	439	0	+	0	=	0	No
16:30 - 17:30	293	+	122	=	415	0	+	0	=	0	No
18:00 - 19:00	282	+	133	=	415	0	+	0	=	0	No
16:15 - 17:15	280	+	128	=	408	0	+	0	=	0	No
16:00 - 17:00	258	+	140	=	398	0	+	0	=	0	No
07:45 - 08:45	198	+	134	=	332	0	+	0	=	0	No
08:00 - 09:00	201	+	129	=	330	0	+	0	=	0	No
07:30 - 08:30	191	+	132	=	323	0	+	0	=	0	No

