

May 4, 2018

Ginny Stones, Esq.  
Oropeza Stones Cardenas  
221 Simonton Street  
Key West, Florida 33040

**Re: Ratcliff Site – Key West  
Conditional Use Application – Traffic Statement**

Dear Ginny:

The Ratcliff Welding site is an existing welding and fabrication facility located at 1105 Simonton Street in Key West, Monroe County, Florida. Until recently, this site also had an area for bicycle and small electric vehicle storage. In addition, this had an approved conditional use for small scooter and electric vehicle sales and rentals. A new conditional use application has been submitted to the City of Key West for the purposes of allowing an indoor dining area with 30 seats and 499 square feet of outdoor restaurant consumption area (or, the equivalent of 33 seats) on this property. The total seating capacity will be 63 seats. The purpose of this traffic statement is to document the anticipated traffic impacts associated with this proposed indoor and outdoor consumption area.

### **Traffic Impacts**

In accordance with Section 18-358 of the City's Code of Ordinances, the traffic impacts associated with the proposed indoor and outdoor consumption area must be addressed. More specifically, insignificant (or, "de minimis") impacts are defined as those that constitute an impact of less than three percent (3%) on the local transportation network.

Based upon the location of the subject restaurant, it is expected that their patrons will arrive and depart via the City's extensive street grid network in a variety of directions as to minimize their impacts to any single roadway or intersection. However, for the purposes of this analysis, our focus is on the segment of Simonton Street between Amelia Street and Virginia Street. Given the site's entry and exit point along Simonton Street, the surrounding roadway network, and nearby destinations, it is estimated that 60% of the project traffic will arrive from and depart to the northwest on Simonton Street and 40% of the project traffic will arrive from and depart to the southeast on Simonton Street.

The Florida Department of Transportation (FDOT) maintains a traffic count station (#908112) on Simonton Street approximately 200 feet to the southeast of Petronia Street which is approximately 1,000 feet to the northwest of the Ratcliff site. The most recent annual traffic counts for this station indicate that there are approximately 5,300 vehicles on this roadway segment on a daily basis. The peak hour traffic counts at this location indicate that the peak hour occurs in the mid-afternoon (2:30 PM) and the volume is 506 vehicles. This data is presented in Attachment A to this memorandum.

According to the Florida Department of Transportation’s (FDOT’s) Quality / Level of Service Handbook, in urbanized areas two-lane undivided, class II (35 miles per hour or slower posted speed limit), non-state roadways without exclusive turn lanes have a daily capacity of approximately 10,360 vehicles and a peak hour capacity of approximately 930 vehicles. (Please see Attachment B for the referenced level of service thresholds.) Given that the existing daily and peak hour volumes on this segment of Simonton Street are consuming slightly more than 50% of the roadway’s capacity, it is evident that this roadway is currently operating at an acceptable level of service.

Concerning the impact of the proposed conditional use (i.e. indoor and outdoor consumption area) at the subject site, a 3% impact would equate to 310 daily vehicle trips and 28 peak hour vehicle trips in either direction from the site on Simonton Street. Given the previously referenced 60% / 40% traffic split to and from the site (i.e. 60% to the northwest on Simonton Street and 40% to the southeast on Simonton Street), the maximum vehicle trips to be generated by the site would be approximately 517 daily trips and 47 peak hour trips.

### Trip Generation Analysis

The trip generation for this project was determined utilizing the trip generation rates and equations contained in the Institute of Transportation Engineer’s (ITE) *Trip Generation Manual (10<sup>th</sup> Edition)*. Based upon this information, the daily, AM peak hour, and PM peak hour trip generation rates for the proposed restaurant consumption area are as follows:

#### High-Turnover (Sit-Down) Restaurant – ITE Land Use #932

- ❑ Daily Trip Generation Rate:  $T = 4.37 (X)$   
where  $T = \text{number of trips}$  and  $X = \text{number of seats}$
- ❑ AM Peak Hour Trip Generation Rate:  $T = 0.48 (X)$  (52% in / 48% out)
- ❑ PM Peak Hour Trip Generation Rate:  $T = 0.42 (X)$  (57% in / 43% out)
- ❑ *Pass-by Rate = 43%*

The resulting trip generation for the proposed conditional use is presented in Table 1 below.

<b>Table 1 Ratcliff Site Restaurant Trip Generation Analysis Key West, Florida</b>								
Land Use	Size	Daily Trips	AM Peak Hour Trips			PM Peak Hour Trips		
			In	Out	Total	In	Out	Total
<i>Proposed</i>								
High-Turnover (Sit-Down) Restaurant - Pass-by (43%)	63 Seats	275 <i>-118</i>	16 <i>-7</i>	14 <i>-6</i>	30 <i>-13</i>	15 <i>-6</i>	11 <i>-5</i>	26 <i>-11</i>
<b>Total</b>		<b>157</b>	<b>9</b>	<b>8</b>	<b>17</b>	<b>9</b>	<b>6</b>	<b>15</b>

Compiled by: KBP Consulting, Inc. (May 2018).

Source: ITE Trip Generation Manual (10th Edition).

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As indicated by the foregoing trip generation analysis, the proposed indoor / outdoor consumption area is estimated to generate approximately 157 net new daily vehicle trips, 17 net new AM peak hour vehicle trips, and 15 net new PM peak hour vehicle trips. It should also be noted that, given the location of the subject site, many of the patrons of this proposed use are likely to arrive and depart via alternative modes of transportation such as walking, bicycling, scooters, etc. Even without this additional reduction in traffic to be generated by the subject outdoor consumption area, the projected daily and peak hour vehicle trips are substantially less than the 3% significance thresholds (i.e. 517 daily vehicle trips and 47 peak hour trips) and, therefore, will not constitute a significant impact on the local street network.

### **Summary**

Based upon the foregoing analysis and assessment of the traffic operations associated with the proposed conditional use (i.e. indoor / outdoor restaurant consumption area) at the Ratcliff Welding site, it is evident that the proposed indoor dining area with 30 seats and the 499 square feet of outdoor restaurant consumption area (or, the equivalent of 33 seats) can be accommodated well within the City's 3% traffic impact threshold on local streets. If you have any questions or require additional information, please do not hesitate to contact me.

Sincerely,

**KBP CONSULTING, INC.**



Karl B. Peterson, P.E.  
Florida Registration Number 49897  
Engineering Business Number 29939

# **Attachment A**

## **FDOT Traffic Count Data**

FLORIDA DEPARTMENT OF TRANSPORTATION  
 TRANSPORTATION STATISTICS OFFICE  
 2016 HISTORICAL AADT REPORT

COUNTY: 90 - MONROE

SITE: 8112 - SIMONTON ST, 200' SOUTH OF PETRONIA ST (2011 OFF SYSTEM CYCLE)

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2016	5300 C	N 2700	S 2600	9.00	54.90	8.80
2015	6600 T	0	0	9.00	54.30	8.10
2014	6300 S			9.00	55.20	3.80
2013	6200 F	0	0	9.00	54.80	7.30
2012	6100 C	N 0	S 0	9.00	55.00	8.20

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE  
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE  
 V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

\*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

COUNTY: 90  
 STATION: 8112  
 DESCRIPTION: SIMONTON ST, 200' SOUTH OF?PETRONIA ST (2011 OFF S  
 START DATE: 05/17/2016  
 START TIME: 0000

TIME	DIRECTION: N					DIRECTION: S					COMBINED TOTAL	
	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL		
0000	8	2	9	5	24	11	13	10	8	42	66	
0100	3	2	3	1	9	5	5	8	1	19	28	
0200	1	2	4	2	9	2	4	6	5	17	26	
0300	2	3	2	2	9	1	1	4	1	7	16	
0400	1	0	0	1	2	4	2	1	4	11	13	
0500	1	3	3	3	10	4	5	3	7	19	29	
0600	9	12	10	24	55	10	9	9	7	35	90	
0700	10	24	17	42	93	9	12	15	23	59	152	
0800	44	43	45	51	183	17	13	24	22	76	259	
0900	62	33	46	56	197	33	42	31	39	145	342	
1000	57	42	53	68	220	36	32	34	49	151	371	
1100	61	47	54	65	227	40	45	48	35	168	395	
1200	50	58	39	59	206	42	52	52	57	203	409	
1300	48	52	59	53	212	49	47	54	52	202	414	
1400	48	48	47	53	196	65	60	67	62	254	450	
1500	80	74	61	52	267	67	56	46	53	222	489	
1600	57	49	41	50	197	49	78	61	59	247	444	
1700	68	50	55	56	229	62	72	50	51	235	464	
1800	48	37	38	46	169	30	45	30	31	136	305	
1900	36	42	46	40	164	32	31	23	25	111	275	
2000	25	35	20	7	87	49	30	44	44	167	254	
2100	20	14	19	18	71	32	38	21	14	105	176	
2200	28	15	13	15	71	25	34	16	20	95	166	
2300	17	9	14	9	49	20	17	16	6	59	108	
24-HOUR TOTALS:					2956						2785	5741

PEAK VOLUME INFORMATION

	DIRECTION: N		DIRECTION: S		COMBINED DIRECTIONS	
	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
A.M.	815	201	845	128	845	320
P.M.	1445	268	1615	260	1430	506
DAILY	1445	268	1615	260	1430	506

# **Attachment B**

## **FDOT Level of Service Tables**

**Generalized Annual Average Daily Volumes for Florida's  
Urbanized Areas**

**TABLE 1**

12/18/12

INTERRUPTED FLOW FACILITIES						UNINTERRUPTED FLOW FACILITIES					
<b>STATE SIGNALIZED ARTERIALS</b>						<b>FREEWAYS</b>					
<b>Class I (40 mph or higher posted speed limit)</b>						<b>Core Urbanized</b>					
Lanes	Median	B	C	D	E	Lanes	B	C	D	E	
2	Undivided	*	16,800	17,700	**	4	47,400	64,000	77,900	84,600	
4	Divided	*	37,900	39,800	**	6	69,900	95,200	116,600	130,600	
6	Divided	*	58,400	59,900	**	8	92,500	126,400	154,300	176,600	
8	Divided	*	78,800	80,100	**	10	115,100	159,700	194,500	222,700	
						12	162,400	216,700	256,600	268,900	
<b>Class II (35 mph or slower posted speed limit)</b>						<b>Urbanized</b>					
Lanes	Median	B	C	D	E	Lanes	B	C	D	E	
2	Undivided	*	7,300	14,800	15,600	4	45,800	61,500	74,400	79,900	
4	Divided	*	14,500	32,400	33,800	6	68,100	93,000	111,800	123,300	
6	Divided	*	23,300	50,000	50,900	8	91,500	123,500	148,700	166,800	
8	Divided	*	32,000	67,300	68,100	10	114,800	156,000	187,100	210,300	
<b>Non-State Signalized Roadway Adjustments</b> (Alter corresponding state volumes by the indicated percent.)						<b>Freeway Adjustments</b>					
Non-State Signalized Roadways - 10%						Auxiliary Lanes Present in Both Directions + 20,000					
						Ramp Metering + 5%					
<b>Median &amp; Turn Lane Adjustments</b>						<b>UNINTERRUPTED FLOW HIGHWAYS</b>					
Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors		Lanes	Median	B	C	D	E
2	Divided	Yes	No	+5%		2	Undivided	8,600	17,000	24,200	33,300
2	Undivided	No	No	-20%		4	Divided	36,700	51,800	65,600	72,600
Multi	Undivided	Yes	No	-5%		6	Divided	55,000	77,700	98,300	108,800
Multi	Undivided	No	No	-25%		<b>Uninterrupted Flow Highway Adjustments</b>					
-	-	-	Yes	+ 5%		Lanes	Median	Exclusive left lanes	Adjustment factors		
<b>One-Way Facility Adjustment</b> Multiply the corresponding two-directional volumes in this table by 0.6						2	Divided	Yes	+5%		
						Multi	Undivided	Yes	-5%		
						Multi	Undivided	No	-25%		
<b>BICYCLE MODE<sup>2</sup></b> (Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)						<sup>1</sup> Values shown are presented as two-way annual average daily volumes for levels of service and are for the automobile/truck modes unless specifically stated. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the Highway Capacity Manual and the Transit Capacity and Quality of Service Manual.					
Paved Shoulder/Bicycle Lane Coverage						<sup>2</sup> Level of service for the bicycle and pedestrian modes in this table is based on number of motorized vehicles, not number of bicyclists or pedestrians using the facility.					
	B	C	D	E		<sup>3</sup> Buses per hour shown are only for the peak hour in the single direction of the higher traffic flow.					
0-49%	*	2,900	7,600	19,700		* Cannot be achieved using table input value defaults.					
50-84%	2,100	6,700	19,700	>19,700		** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.					
85-100%	9,300	19,700	>19,700	**		Source: Florida Department of Transportation Systems Planning Office <a href="http://www.dot.state.fl.us/planning/systems/sm/los/default.shtm">www.dot.state.fl.us/planning/systems/sm/los/default.shtm</a>					
<b>PEDESTRIAN MODE<sup>2</sup></b> (Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)											
Sidewalk Coverage	B	C	D	E							
0-49%	*	*	2,800	9,500							
50-84%	*	1,600	8,700	15,800							
85-100%	3,800	10,700	17,400	>19,700							
<b>BUS MODE (Scheduled Fixed Route)<sup>3</sup></b> (Buses in peak hour in peak direction)											
Sidewalk Coverage	B	C	D	E							
0-84%	> 5	≥ 4	≥ 3	≥ 2							
85-100%	> 4	≥ 3	≥ 2	≥ 1							



Generalized **Peak Hour Two-Way** Volumes for Florida's  
**Urbanized Areas**<sup>1</sup>

**TABLE 4**

12/18/12

INTERRUPTED FLOW FACILITIES						UNINTERRUPTED FLOW FACILITIES						
<b>STATE SIGNALIZED ARTERIALS</b>						<b>FREEWAYS</b>						
<b>Class I</b> (40 mph or higher posted speed limit)						Lanes	B	C	D	E		
Lanes	Median	B	C	D	E	4	4,120	5,540	6,700	7,190		
2	Undivided	*	1,510	1,600	**	6	6,130	8,370	10,060	11,100		
4	Divided	*	3,420	3,580	**	8	8,230	11,100	13,390	15,010		
6	Divided	*	5,250	5,390	**	10	10,330	14,040	16,840	18,930		
8	Divided	*	7,090	7,210	**	12	14,450	18,880	22,030	22,860		
<b>Class II</b> (35 mph or slower posted speed limit)						<b>Freeway Adjustments</b>						
Lanes	Median	B	C	D	E	Auxiliary Lanes			Ramp			
2	Undivided	*	660	1,330	1,410	Present in Both Directions			Metering			
4	Divided	*	1,310	2,920	3,040	+ 1,800			+ 5%			
6	Divided	*	2,090	4,500	4,590							
8	Divided	*	2,880	6,060	6,130							
<b>Non-State Signalized Roadway Adjustments</b> (Alter corresponding state volumes by the indicated percent.)												
Non-State Signalized Roadways - 10%												
<b>Median &amp; Turn Lane Adjustments</b>												
Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors								
2	Divided	Yes	No	+5%								
2	Undivided	No	No	-20%								
Multi	Undivided	Yes	No	-5%								
Multi	Undivided	No	No	-25%								
-	-	-	Yes	+ 5%								
<b>One-Way Facility Adjustment</b> Multiply the corresponding two-directional volumes in this table by 0.6												
<b>BICYCLE MODE</b> <sup>2</sup> (Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)												
Paved Shoulder/Bicycle Lane Coverage						B	C	D	E			
0-49%						*	260	680	1,770			
50-84%						190	600	1,770	>1,770			
85-100%						830	1,770	>1,770	**			
<b>PEDESTRIAN MODE</b> <sup>2</sup> (Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)												
Sidewalk Coverage						B	C	D	E			
0-49%						*	*	250	850			
50-84%						*	150	780	1,420			
85-100%						340	960	1,560	>1,770			
<b>BUS MODE (Scheduled Fixed Route)</b> <sup>3</sup> (Buses in peak hour in peak direction)												
Sidewalk Coverage						B	C	D	E			
0-84%						> 5	≥ 4	≥ 3	≥ 2			
85-100%						> 4	≥ 3	≥ 2	≥ 1			
						<sup>1</sup> Values shown are presented as peak hour two-way volumes for levels of service and are for the automobile/truck modes unless specifically stated. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the Highway Capacity Manual and the Transit Capacity and Quality of Service Manual.						
						<sup>2</sup> Level of service for the bicycle and pedestrian modes in this table is based on number of motorized vehicles, not number of bicyclists or pedestrians using the facility.						
						<sup>3</sup> Buses per hour shown are only for the peak hour in the single direction of the higher traffic flow.						
						* Cannot be achieved using table input value defaults.						
						** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.						
						Source: Florida Department of Transportation Systems Planning Office <a href="http://www.dot.state.fl.us/planning/systems/sm/los/default.shtm">www.dot.state.fl.us/planning/systems/sm/los/default.shtm</a>						