KBP CONSULTING, INC.

July 12, 2017

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

Re: Ratcliff Site – Key West
Minor 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. There is also an independent entity that currently rents and sells bicycles at this location. A minor conditional use application has been submitted to the City of Key West for the purposes of allowing the rental of electric-assist bicycles (e-bikes), scooters, and electric cars on this property. The purpose of this traffic statement is to document the anticipated traffic impacts associated with this proposed use.

Traffic Impacts

In accordance with Section 18-358 of the City's Code of Ordinances, the traffic impacts associated with this proposed rental vehicle operation 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 proposed vehicle rental facility, it is expected that these vehicles will disperse throughout the City's 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 rental traffic will travel to and from the northwest on Simonton Street and 40% of the rental traffic will travel to and from 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 vehicle rental activity 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 are approximately 517 daily trips and 47 peak hour trips.

It is estimated that most of the vehicles at this location will be rented on a daily basis. That is, they will be rented in the morning or early afternoon and returned that same day. As such, these vehicles will result in one (1) exiting trip and one (1) entering trip per day. Therefore, in a worst-case scenario, approximately 258 rental vehicles would generate 517 daily vehicle trips (i.e. one inbound and one outbound trip per day). The peak hour impact is estimated to be approximately 10% of the daily trips or, 52 peak hour trips. This could theoretically exceed the 3% impact threshold of 47 peak hour trips. Therefore, for the purposes of this analysis, the maximum number of daily trips is "capped" at 470. In this case, 235 rental vehicles would account for 470 daily vehicle trips based upon the trip generation characteristics of one inbound and one outbound trip per day per vehicle.

Summary

Based upon the foregoing analysis and assessment of the operations associated with the proposed vehicle rental activities at the Ratcliff Welding site, it is evident that up to 235 rental vehicles at this location can be accommodated 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 OFPETRONIA 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

	DIRECTION: N					DIRECTION: S					COMBINED
TIME	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL	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

GENERATED BY SPS 5.0.49P

Attachment B

FDOT Level of Service Tables

TABLE 1

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

12/18/12

INTERRUPTED FLOW FACILITIES

STATE SIGNALIZED ARTERIALS

Class I (40 mph or higher posted speed limit)

Lanes	Median	B	C	D	E
2	Undivided	*	16,800	17,700	**
4	Divided	*	37,900	39,800	**
6	Divided	*	58,400	59,900	**
8	Divided	*	78,800	80,100	**

Class II (35 mph or slower posted speed limit)

Lanes	Median	B	C	D	E
2	Undivided	*	7,300	14,800	15,600
4	Divided	*	14,500	32,400	33,800
6	Divided	*	23,300	50,000	50,900
8	Divided	*	32,000	67,300	68,100

Non-State Signalized Roadway Adjustments

(Alter corresponding state volumes by the indicated percent.)

Non-State Signalized Roadways - 10%

Median & Turn Lane Adjustments

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%

One-Way Facility Adjustment

Multiply the corresponding two-directional volumes in this table by 0.6

BICYCLE MODE[2]

(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%	*	2,900	7,600	19,700
50-84%	2,100	6,700	19,700	>19,700
85-100%	9,300	19,700	>19,700	**

PEDESTRIAN MODE[2]

(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

BUS MODE (Scheduled Fixed Route)[3]

(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

UNINTERRUPTED FLOW FACILITIES

FREEWAYS

Core Urbanized

Lanes	B	C	D	E
4	47,400	64,000	77,900	84,600
6	69,900	95,200	116,600	130,600
8	92,500	126,400	154,300	176,600
10	115,100	159,700	194,500	222,700
12	162,400	216,700	256,600	268,900

Urbanized

Lanes	B	C	D	E
4	45,800	61,500	74,400	79,900
6	68,100	93,000	111,800	123,300
8	91,500	123,500	148,700	166,800
10	114,800	156,000	187,100	210,300

Freeway Adjustments

Auxiliary Lanes Present in Both Directions	Ramp Metering
+ 20,000	+ 5%

UNINTERRUPTED FLOW HIGHWAYS

Lanes	Median	B	C	D	E
2	Undivided	8,600	17,000	24,200	33,300
4	Divided	36,700	51,800	65,600	72,600
6	Divided	55,000	77,700	98,300	108,800

Uninterrupted Flow Highway Adjustments

Lanes	Median	Exclusive left lanes	Adjustment factors
2	Divided	Yes	+5%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-25%

[1]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.

[2] 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.

[3] 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
www.dot.state.fl.us/planning/systems/sm/los/default.shtm

TABLE 4

Generalized **Peak Hour Two-Way** Volumes for Florida's **Urbanized Areas**[1]

12/18/12

INTERRUPTED FLOW FACILITIES

STATE SIGNALIZED ARTERIALS

Class I (40 mph or higher posted speed limit)

Lanes	Median	B	C	D	E
2	Undivided	*	1,510	1,600	**
4	Divided	*	3,420	3,580	**
6	Divided	*	5,250	5,390	**
8	Divided	*	7,090	7,210	**

Class II (35 mph or slower posted speed limit)

Lanes	Median	B	C	D	E
2	Undivided	*	660	1,330	1,410
4	Divided	*	1,310	2,920	3,040
6	Divided	*	2,090	4,500	4,590
8	Divided	*	2,880	6,060	6,130

Non-State Signalized Roadway Adjustments

(Alter corresponding state volumes by the indicated percent.)

Non-State Signalized Roadways - 10%

Median & Turn Lane Adjustments

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%

One-Way Facility Adjustment

Multiply the corresponding two-directional volumes in this table by 0.6

BICYCLE MODE[2]

(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	**

PEDESTRIAN MODE[2]

(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

BUS MODE (Scheduled Fixed Route)[3]

(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

UNINTERRUPTED FLOW FACILITIES

FREEWAYS

Lanes	B	C	D	E
4	4,120	5,540	6,700	7,190
6	6,130	8,370	10,060	11,100
8	8,230	11,100	13,390	15,010
10	10,330	14,040	16,840	18,930
12	14,450	18,880	22,030	22,860

Freeway Adjustments

Auxiliary Lanes Present in Both Directions	Ramp Metering
+ 1,800	+ 5%

UNINTERRUPTED FLOW HIGHWAYS

Lanes	Median	B	C	D	E
2	Undivided	770	1,530	2,170	2,990
4	Divided	3,300	4,660	5,900	6,530
6	Divided	4,950	6,990	8,840	9,790

Uninterrupted Flow Highway Adjustments

Lanes	Median	Exclusive left lanes	Adjustment factors
2	Divided	Yes	+5%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-25%

[1] 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.

[2] 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.

[3] 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
www.dot.state.fl.us/planning/systems/sm/los/default.shtm