

Maston Crapps, Regional VP
Dream Finders Homes
14701 Philips Hwy., Suite 300
Jacksonville, FL 32256

**Re: MILLCREEK PD • SIGNAL WARRANT ANALYSIS
Orange Avenue and Project Entrance/Bent Creek Dr
Parcel ID 2407-124-0001-000-3**

Dear Maston,

JFO Group Inc. has been retained to prepare a signal warrant analysis to assess the potential need for signalization at the intersection of Orange Avenue and Project Entrance/Bent Creek Drive associated with the proposed site plan for the Millcreek PD project. The Millcreek PD project is proposing 313 townhomes and 130 single family homes.

Exhibit 1 includes the trip generation for the proposed project. As shown in Exhibit 1, the net Daily, AM and PM peak hour trips potentially generated due to the planned development are 3,367, 215 (54 In/161 Out) and 282 (178 In/104 Out) trips respectively. Exhibit 2 includes a conceptual site plan for the proposed project.

Exhibit 3 includes population projections from the University of Florida's Bureau of Economic and Business Research (BEBR) for St Lucie County. According to Exhibit 3 and in order to provide a conservative analysis, a medium growth rate of 1.50% was used in this analysis and applied to the June 20, 2024 counts which were also adjusted by FDOT's Peak Season Factors. Exhibit 4 includes the field data collection.

12-hour turning movement volumes from 7AM to 7PM were calculated at the subject intersection using field data and percentage of daily traffic coefficients from the 11th Edition of the Trip Generation Manual from the Institute of Transportation Engineers (ITE). See Exhibit 5. Even though the project is providing cross connections with two (2) adjacent properties and a direct connection to Mariah Cir, as part of a conservative analysis, it was assumed that 100% of all project traffic will access the site through the subject intersection.

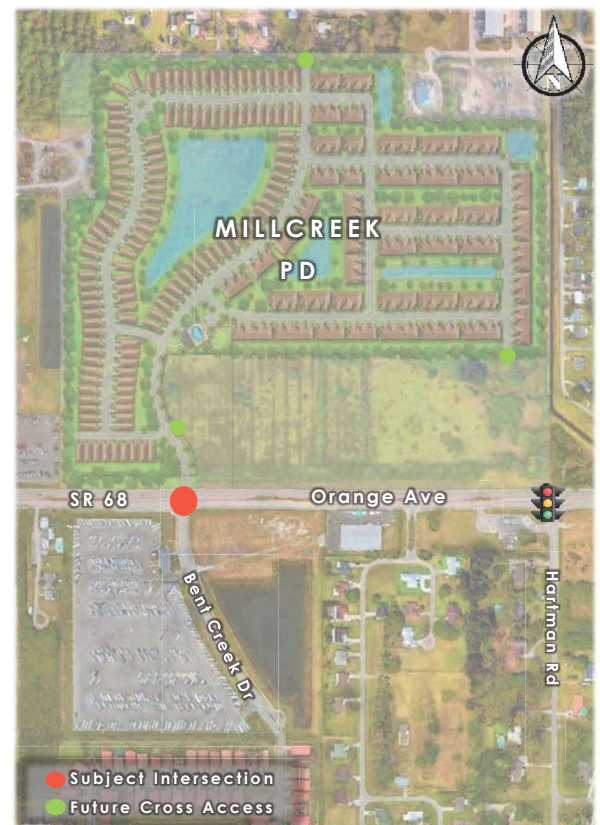


Figure 1 : Project Location

The nearest signalized intersection to the project is located at the Orange Avenue and Hartman Road intersection which is located approximately 1,550 feet east of the study intersection.

There are nine warrants included in the *Manual on Uniform Traffic Control Devices (MUTCD)* manual, only three (3) were evaluated in this analysis: Eight-Hour Vehicular Volume, Four-Hour Vehicular Volume and Peak Hour. The remaining warrants were either considered to be not applicable for this location or necessary information was not available.

Exhibit 6 includes the HCS2024 Warrants Report for 2027 conditions which is the anticipated buildout for the Millcreek PD project. According to the *Manual on Uniform Traffic Control Devices (MUTCD)* for Streets and Highways, a traffic signal should be installed if one or more of the signal warrants are met. According to FDOT District 4, Warrants 1 and 7 are required to be met in order for a new traffic signal to be approved. This analysis shows that the Orange Avenue and Project Entrance/Bent Creek Drive meets *Warrant 3: Peak Hour* at project buildout in the year 2027 while it does not meet *Warrant 1: Eight-Hour Vehicular Volume*.

Furthermore, as required during the pre-application meeting on June 13, 2024, Exhibit 7 includes Synchro 12 (HCM 7) analyses for both AM and PM peak hours to determine the adequacy of the existing eastbound U/left turn lane that will be servicing the proposed project driveway. Table 1 summarizes the results of the HCM analysis. As shown in Table 1, the existing eastbound U/Left turn lane will be able to accommodate existing, forecasted and left turn project traffic at project build-out in the year 2027.

Table 1: Orange Ave & Bent Creek Dr Eastbound Left Turn Lane

	AM	PM
2027 Eastbound Left Demand	27	96
95th Percentile BQ (ft/ln)	2.5	12.5
95th Percentile BQ (veh/ln)	0.1	0.5
Existing U-Turn (feet)	225' + 50' Taper	
FDOT 212-1 ¹	197.5' + 50' Taper	

In conclusion, according to FDOT policies, a traffic signal at Orange Avenue and Project Entrance/Bent Creek Drive is not warranted. Consequently, the installation of a traffic signal device at the Orange Avenue and Project Entrance/Bent Creek Dr intersection is not recommended at this time. Similarly, according to the intersection operational analysis, the existing eastbound U-turn lane will be able to accommodate existing traffic and the future traffic generated by the Millcreek PD development.

Sincerely,

JFO GROUP INC
COA Number 32276



- Enclosures:
- Exhibit 1: Trip Generation
 - Exhibit 2: Conceptual Site Plan
 - Exhibit 3: BEBR Population Growth
 - Exhibit 4: Field Data Collection
 - Exhibit 5: Intersection Volume Development
 - Exhibit 6: Signal Warrant Analysis
 - Exhibit 7: HCM Operational Analysis

¹ Total Decel. Distance: 185' + Queue Length: 12.5'

this item has been electronically signed and sealed by Dr. Juan F. Ortega PE on June 24, 2024 using a Digital Signature. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

**Millcreek PD
 Trip Generation - ITE 11th Edition**

Land Use	ITE Code	Daily	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Single Family Detached	210	$LN(T)=0.92LN(X)+2.68$	26%	74%	$LN(T)=0.91LN(X)+0.12$	63%	37%	$LN(T)=0.94LN(X)+0.27$
Townhomes	220	$T = 6.41(X) + 75.31$	24%	76%	$T = 0.31(X) + 22.85$	63%	37%	$T = 0.43(X) + 20.55$
Land Use	Intensity	Daily Traffic	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Single Family Detached	130 DUs	1,285	25	70	95	80	47	127
Townhomes	313 DUs	2,082	29	91	120	98	57	155
Total Traffic		3,367	54	161	215	178	104	282

Land Use: 210

Single-Family Detached Housing

Description

A single-family detached housing site includes any single-family detached home on an individual lot. A typical site surveyed is a suburban subdivision.

Specialized Land Use

Data have been submitted for several single-family detached housing developments with homes that are commonly referred to as patio homes. A patio home is a detached housing unit that is located on a small lot with little (or no) front or back yard. In some subdivisions, communal maintenance of outside grounds is provided for the patio homes. The three patio home sites total 299 dwelling units with overall weighted average trip generation rates of 5.35 vehicle trips per dwelling unit for weekday, 0.26 for the AM adjacent street peak hour, and 0.47 for the PM adjacent street peak hour. These patio home rates based on a small sample of sites are lower than those for single-family detached housing (Land Use 210), lower than those for single-family attached housing (Land Use 251), and higher than those for senior adult housing -- single-family (Land Use 251). Further analysis of this housing type will be conducted in a future edition of *Trip Generation Manual*.

Additional Data

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (<https://www.ite.org/technical-resources/topics/trip-and-parking-generation/>).

For 30 of the study sites, data on the number of residents and number of household vehicles are available. The overall averages for the 30 sites are 3.6 residents per dwelling unit and 1.5 vehicles per dwelling unit.

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Arizona, California, Connecticut, Delaware, Illinois, Indiana, Kentucky, Maryland, Massachusetts, Minnesota, Montana, New Jersey, North Carolina, Ohio, Ontario (CAN), Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Vermont, Virginia, and West Virginia.

Source Numbers

100, 105, 114, 126, 157, 167, 177, 197, 207, 211, 217, 267, 275, 293, 300, 319, 320, 356, 357, 367, 384, 387, 407, 435, 522, 550, 552, 579, 598, 601, 603, 614, 637, 711, 716, 720, 728, 735, 868, 869, 903, 925, 936, 1005, 1007, 1008, 1010, 1033, 1066, 1077, 1078, 1079

Single-Family Detached Housing (210)

Vehicle Trip Ends vs: Dwelling Units
On a: Weekday

Setting/Location: General Urban/Suburban

Number of Studies: 174

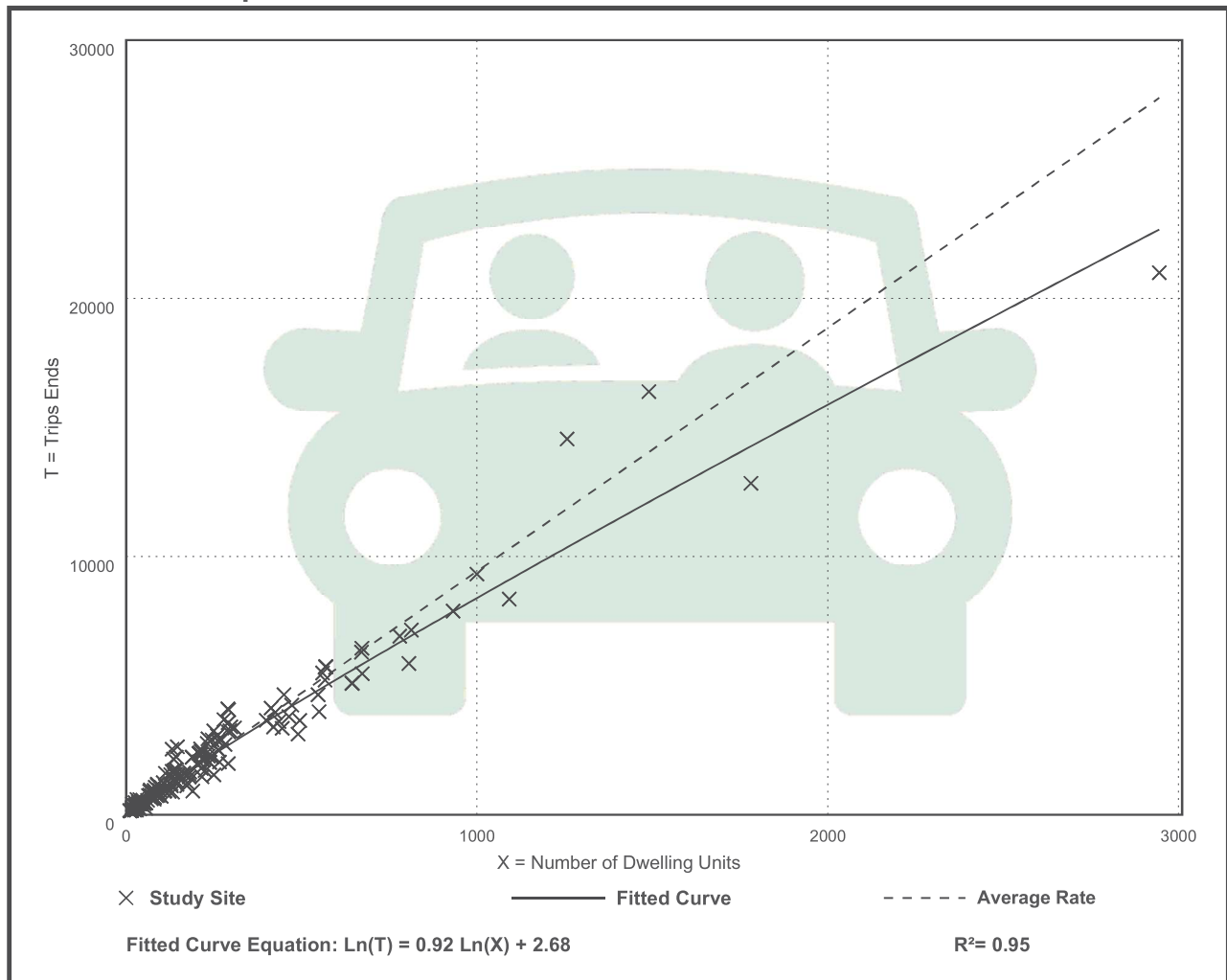
Avg. Num. of Dwelling Units: 246

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
9.43	4.45 - 22.61	2.13

Data Plot and Equation



Single-Family Detached Housing (210)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 192

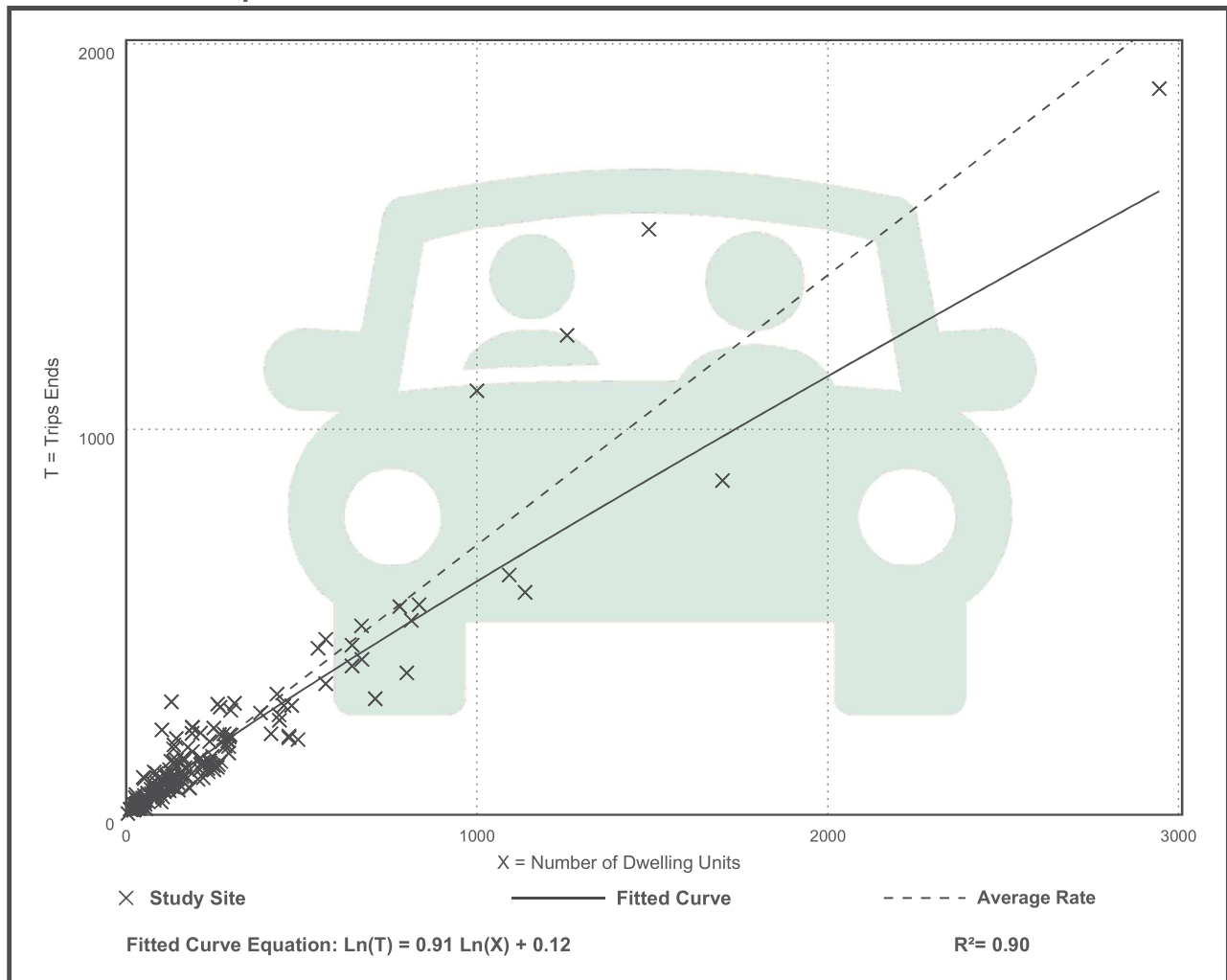
Avg. Num. of Dwelling Units: 226

Directional Distribution: 26% entering, 74% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.70	0.27 - 2.27	0.24

Data Plot and Equation



Single-Family Detached Housing (210)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 208

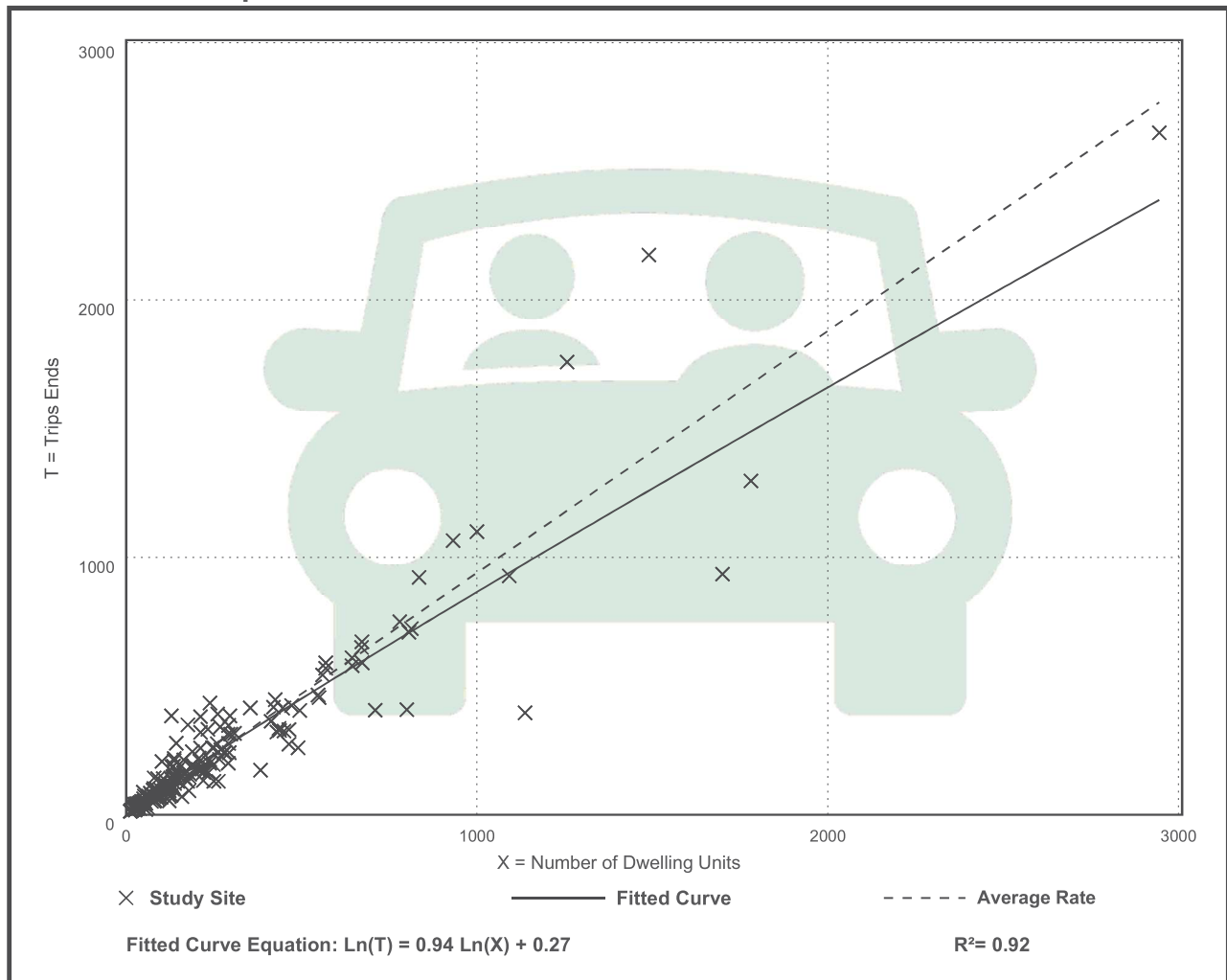
Avg. Num. of Dwelling Units: 248

Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.94	0.35 - 2.98	0.31

Data Plot and Equation



Land Use: 220

Multifamily Housing (Low-Rise)

Description

Low-rise multifamily housing includes apartments, townhouses, and condominiums located within the same building with at least three other dwelling units and that have two or three floors (levels). Various configurations fit this description, including walkup apartment, mansion apartment, and stacked townhouse.

- A walkup apartment typically is two or three floors in height with dwelling units that are accessed by a single or multiple entrances with stairways and hallways.
- A mansion apartment is a single structure that contains several apartments within what appears to be a single-family dwelling unit.
- A fourplex is a single two-story structure with two matching dwelling units on the ground and second floors. Access to the individual units is typically internal to the structure and provided through a central entry and stairway.
- A stacked townhouse is designed to match the external appearance of a townhouse. But, unlike a townhouse dwelling unit that only shares walls with an adjoining unit, the stacked townhouse units share both floors and walls. Access to the individual units is typically internal to the structure and provided through a central entry and stairway.

Multifamily housing (mid-rise) (Land Use 221), multifamily housing (high-rise) (Land Use 222), affordable housing (Land Use 223), and off-campus student apartment (low-rise) (Land Use 225) are related land uses.

Land Use Subcategory

Data are presented for two subcategories for this land use: (1) not close to rail transit and (2) close to rail transit. A site is considered close to rail transit if the walking distance between the residential site entrance and the closest rail transit station entrance is ½ mile or less.

Additional Data

For the three sites for which both the number of residents and the number of occupied dwelling units were available, there were an average of 2.72 residents per occupied dwelling unit.

For the two sites for which the numbers of both total dwelling units and occupied dwelling units were available, an average of 96.2 percent of the total dwelling units were occupied.

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip

generation resource page on the ITE website (<https://www.ite.org/technical-resources/topics/trip-and-parking-generation/>).

For the three sites for which data were provided for both occupied dwelling units and residents, there was an average of 2.72 residents per occupied dwelling unit.

It is expected that the number of bedrooms and number of residents are likely correlated to the trips generated by a residential site. To assist in future analysis, trip generation studies of all multifamily housing should attempt to obtain information on occupancy rate and on the mix of residential unit sizes (i.e., number of units by number of bedrooms at the site complex).

The sites were surveyed in the 1980s, the 1990s, the 2000s, the 2010s, and the 2020s in British Columbia (CAN), California, Delaware, Florida, Georgia, Illinois, Indiana, Maine, Maryland, Massachusetts, Minnesota, New Jersey, Ontario (CAN), Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Utah, and Washington.

Source Numbers

188, 204, 237, 300, 305, 306, 320, 321, 357, 390, 412, 525, 530, 579, 583, 638, 864, 866, 896, 901, 903, 904, 936, 939, 944, 946, 947, 948, 963, 964, 966, 967, 1012, 1013, 1014, 1036, 1047, 1056, 1071, 1076

Multifamily Housing (Low-Rise) Not Close to Rail Transit (220)

Vehicle Trip Ends vs: Dwelling Units
On a: Weekday

Setting/Location: General Urban/Suburban

Number of Studies: 22

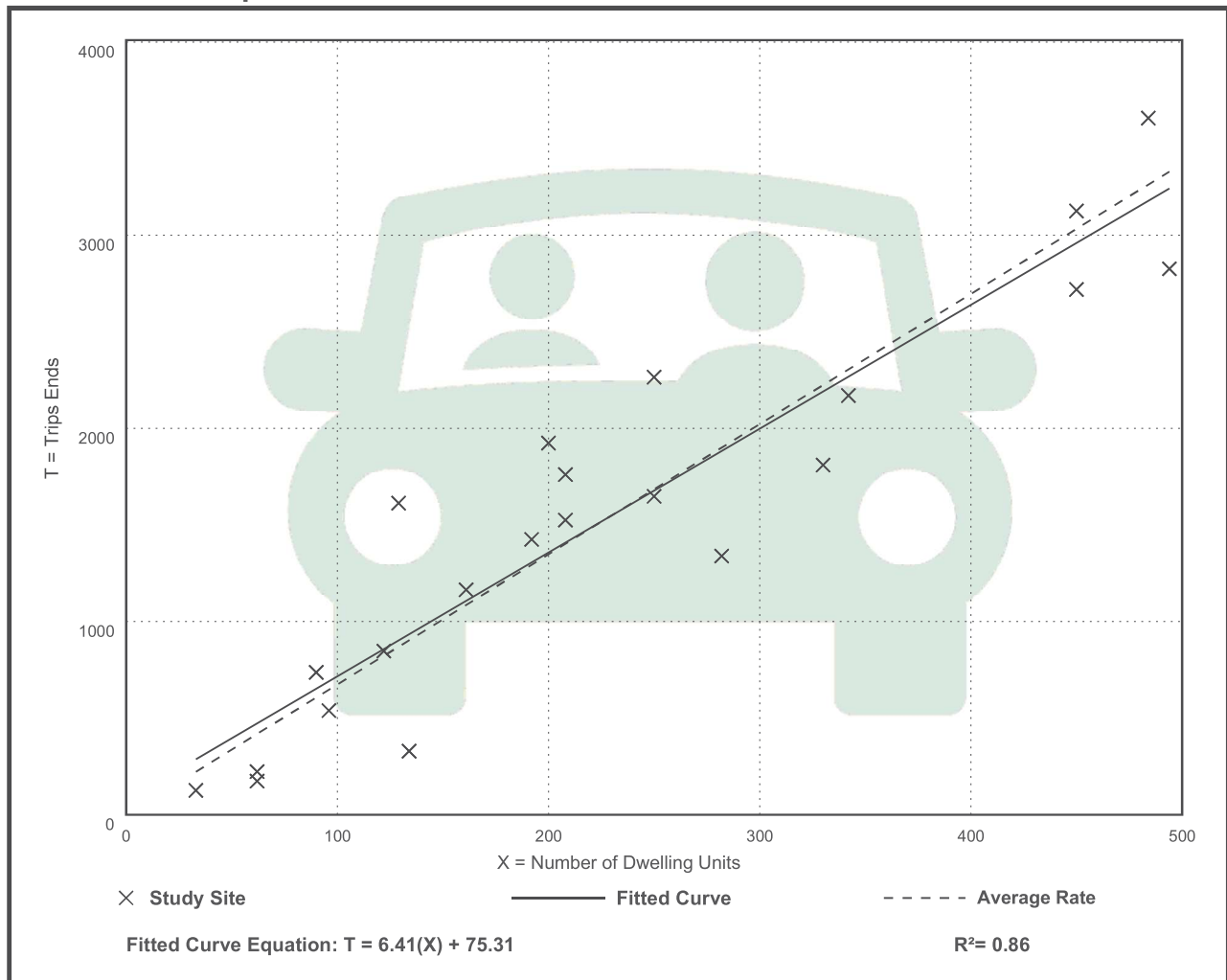
Avg. Num. of Dwelling Units: 229

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
6.74	2.46 - 12.50	1.79

Data Plot and Equation



Multifamily Housing (Low-Rise) Not Close to Rail Transit (220)

Vehicle Trip Ends vs: Dwelling Units

On a: **Weekday,**

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 49

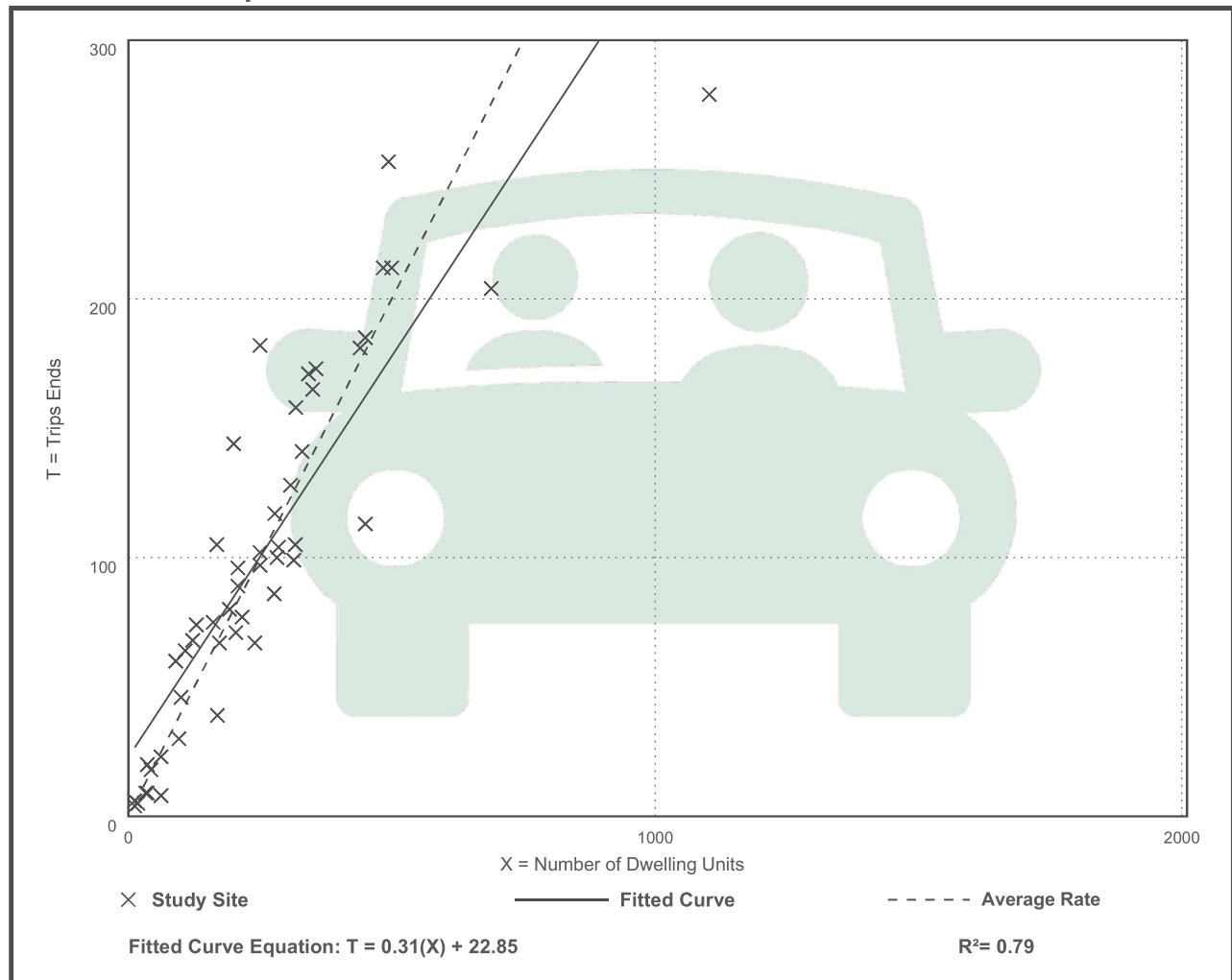
Avg. Num. of Dwelling Units: 249

Directional Distribution: 24% entering, 76% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.40	0.13 - 0.73	0.12

Data Plot and Equation



Multifamily Housing (Low-Rise) Not Close to Rail Transit (220)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 59

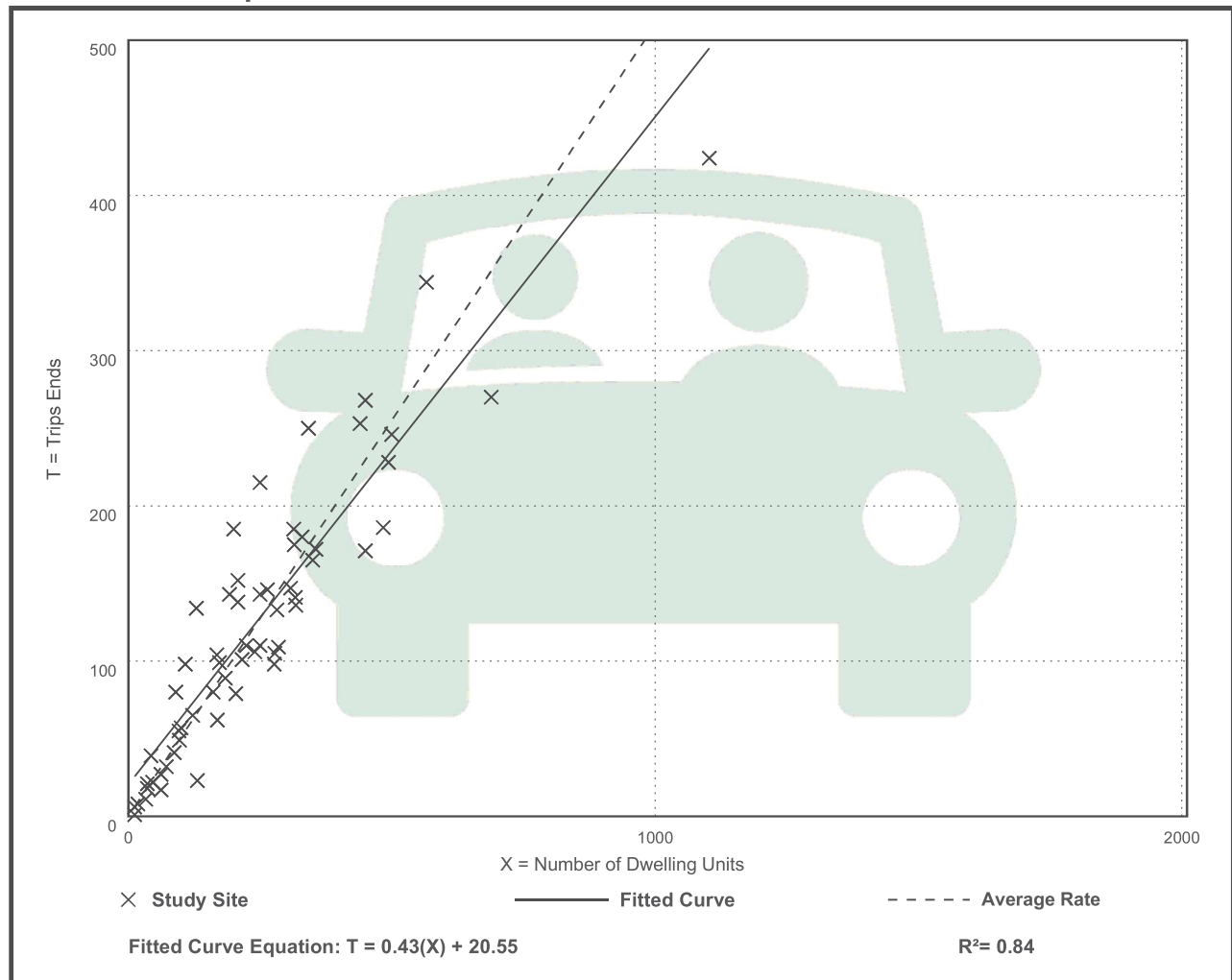
Avg. Num. of Dwelling Units: 241

Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.51	0.08 - 1.04	0.15

Data Plot and Equation



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3. EXISTING CONDITIONS

Orange Avenue is the major roadway serving as primary access to the project. It consists of a four (4) lane divided road in the project vicinity.

4. BACKGROUND TRAFFIC

The University of Florida’s Bureau of Economic and Business Research (BEBR) from the College of Liberal Arts and Sciences calculates population projections for Florida and Its Counties. Table 3 includes the St. Lucie County BEBR growth rates for Year 2025 based on data included in the BEBR Bulletin 198 from January 2024. Exhibit 4 includes the applicable excerpts from the BEBR bulletin.

Table 3: 2025 UF-BEBR Growth Rate

County	BEBR Population Estimate April 1, 2023	BEBR Population Projections (April 1)		2025
		Range	2025	
St. Lucie	368,628	Low	362,300	-0.57%
		Medium	385,400	1.50%
		High	408,600	3.60%

In order to provide a conservative analysis, the BEBR medium growth rate (1.50%) was used in this analysis to determine background traffic on the transportation network.

Projections of Florida Population by County, 2025–2050, with Estimates for 2023

Stefan Rayer, Population Program Director
Conor Comfort, Research Demographer

The Bureau of Economic and Business Research (BEBR) at the University of Florida has produced population projections for Florida and its counties since the 1970s. This report presents our 2024 set of projections and describes the methodology used to construct those projections. To account for uncertainty regarding future population growth, we publish three series of projections – low, medium, and high. We recommend using the medium series for most purposes; this series has historically provided the most accurate forecasts for Florida counties. It should be noted that these projections refer solely to the resident population of Florida; they do not include temporary or seasonal residents whose usual place of residence is in another jurisdiction.

State Projections

The starting point for the state-level projections was the decennial census count for April 1, 2020. Projections were made in one-year intervals using a cohort-component methodology in which births, deaths, and migration are projected separately for each age-sex cohort in Florida.

Survival rates were applied by single year of age and sex to project future deaths in the population. These rates were based on Florida Life Tables for 2012–2018, using mortality data published by the Office of Vital Statistics in the Florida Department of Health. We adjusted the survival rates for 2020–2028 to make them consistent with recent mortality trends, and to align

the projected deaths with those from the State of Florida’s Demographic Estimating Conference (DEC) held November 28, 2023. After 2028, we made small adjustments to the survival rates based on projected changes in survival rates released by the U.S. Census Bureau.

Domestic migration rates by age and sex were based on Public Use Microdata Sample (PUMS) files from the 2011–2019 American Community Survey (ACS) 1-year estimates and 2015–2019 ACS 5-year estimates. We calculated an average of those two sets of migration estimates; projections based on input data from more than one period tend to be more accurate than those based on a single period. By combining 1-year ACS estimates, which are more current, with 5-year ACS estimates, which are more stable, we make use of the different strengths of each type of ACS data.

We applied smoothing techniques to the migration rates by single year of age and sex to adjust for data irregularities caused by small sample sizes. The smoothed in- and out-migration rates were weighted to account for recent changes in Florida’s population growth rates. Projections of domestic in-migration were made by applying weighted in-migration rates to the projected population of the United States (minus Florida), using the most recent set of national projections produced by the U.S. Census Bureau. Projections of out-migration were made by applying weighted out-migration rates to the Florida population. In both instances, rates were calculated separately for males and females for each age up to 90 and over.

Projections of Florida Population by County, 2025–2050, with Estimates for 2023

County and State	Estimates April 1, 2023	Projections, April 1					
		2025	2030	2035	2040	2045	2050
MIAMI-DADE	2,768,954						
Low		2,673,300	2,663,100	2,630,800	2,587,800	2,543,600	2,501,800
Medium		2,814,000	2,910,500	2,981,000	3,035,500	3,083,200	3,127,200
High		2,954,700	3,157,900	3,331,300	3,483,200	3,622,700	3,752,700
MONROE	84,511						
Low		80,300	78,400	76,000	73,300	70,700	68,100
Medium		85,400	87,100	88,100	88,600	88,900	89,000
High		90,600	95,800	100,200	103,900	107,100	110,000
NASSAU	100,763						
Low		97,300	101,400	103,400	103,800	102,800	101,300
Medium		105,700	116,600	125,700	133,500	139,900	145,800
High		114,200	131,700	148,000	163,200	177,000	190,200
OKALOOSA	219,260						
Low		211,400	212,900	211,500	208,500	204,700	200,600
Medium		224,900	236,500	245,200	251,900	257,500	262,200
High		238,400	260,200	278,900	295,400	310,300	323,800
OKEECHOBEE	39,591						
Low		37,800	36,600	35,500	34,500	33,500	32,600
Medium		39,800	40,000	40,300	40,500	40,600	40,800
High		41,800	43,400	45,000	46,400	47,700	48,900
ORANGE	1,492,951						
Low		1,454,400	1,497,700	1,513,900	1,510,700	1,496,500	1,479,200
Medium		1,547,200	1,664,100	1,755,300	1,825,600	1,882,400	1,933,600
High		1,640,000	1,830,500	1,996,600	2,140,500	2,268,300	2,388,000
OSCEOLA	439,225						
Low		436,200	470,500	490,600	500,600	505,200	507,300
Medium		469,000	531,600	582,300	623,800	660,500	695,000
High		501,900	592,800	674,000	747,000	815,700	882,600
PALM BEACH	1,532,718						
Low		1,489,100	1,503,700	1,500,300	1,485,500	1,463,900	1,440,800
Medium		1,567,500	1,643,400	1,700,000	1,742,500	1,774,400	1,801,100
High		1,645,800	1,783,100	1,899,800	1,999,500	2,084,900	2,161,300
PASCO	610,743						
Low		598,400	624,100	640,000	644,400	644,100	642,200
Medium		636,600	693,400	742,100	778,700	810,200	839,500
High		674,800	762,800	844,100	913,000	976,300	1,036,700
PINELLAS	974,689						
Low		943,000	926,100	909,600	893,000	877,200	862,600
Medium		982,200	995,900	1,007,800	1,017,600	1,025,900	1,033,000
High		1,021,500	1,065,600	1,106,100	1,142,300	1,174,700	1,203,500
POLK	797,616						
Low		782,400	817,400	838,800	845,700	846,100	844,100
Medium		832,400	908,200	972,600	1,022,000	1,064,300	1,103,400
High		882,300	999,000	1,106,300	1,198,400	1,282,500	1,362,700
PUTNAM	75,906						
Low		72,600	71,000	69,000	66,900	65,100	63,500
Medium		76,400	77,600	78,100	78,500	79,000	79,400
High		80,300	84,200	87,300	90,100	92,800	95,300
ST. JOHNS	315,317						
Low		313,800	341,200	359,500	368,300	372,800	375,100
Medium		337,400	385,500	426,700	459,000	487,300	513,900
High		361,000	429,800	493,900	549,600	601,800	652,600
ST. LUCIE	368,628						
Low		362,300	381,600	394,000	400,600	404,500	406,000
Medium		385,400	423,900	456,800	484,200	508,800	530,700
High		408,600	466,300	519,600	567,700	613,100	655,400

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KMF Traffic Group, LLC

(772) 924-6993
www.kmftraffic.net

Manual traffic count - All traffic
Orange Ave., and Bent Creeck Dr.
Fort Pierce, FL

File Name : ORBENT
Site Code : JO24
Start Date : 6/20/2024
Page No : 1

Groups Printed- All Traffic

Start Time	Bent Creeck Dr NB			Orange Ave EB			Orange Ave WB			Int. Total
	Left	Right	Ped	Thru	Right	UTurn	Left	Thru	UTurn	
07:00 AM	7	4	0	122	1	0	1	140	0	275
07:15 AM	4	4	0	137	2	0	3	123	0	273
07:30 AM	6	0	2	190	2	0	0	167	0	367
07:45 AM	10	10	4	231	3	0	1	147	0	406
Total	27	18	6	680	8	0	5	577	0	1321
08:00 AM	10	5	0	192	2	0	3	143	1	356
08:15 AM	5	5	0	189	3	0	1	103	0	306
08:30 AM	7	6	0	179	6	0	2	111	0	311
08:45 AM	4	4	0	189	1	0	2	137	0	337
Total	26	20	0	749	12	0	8	494	1	1310
09:00 AM	4	5	1	132	0	0	2	118	0	262
09:15 AM	4	4	0	131	6	3	0	115	0	263
09:30 AM	5	3	1	139	1	0	1	116	0	266
09:45 AM	2	4	2	165	2	0	2	113	0	290
Total	15	16	4	567	9	3	5	462	0	1081
10:00 AM	6	4	0	117	1	0	0	100	0	228
10:15 AM	1	0	0	111	2	0	1	92	0	207
10:30 AM	3	5	0	144	6	0	0	131	0	289
10:45 AM	2	6	0	143	5	1	4	115	1	277
Total	12	15	0	515	14	1	5	438	1	1001
11:00 AM	3	3	0	136	5	0	3	106	0	256
11:15 AM	7	4	0	166	4	0	3	104	0	288
11:30 AM	6	3	0	134	4	1	0	122	0	270
11:45 AM	6	5	0	142	6	1	1	105	0	266
Total	22	15	0	578	19	2	7	437	0	1080
12:00 PM	6	6	0	151	10	0	3	159	0	335
12:15 PM	3	5	0	130	3	0	3	139	2	285
12:30 PM	3	8	0	149	5	0	4	155	0	324

KMF Traffic Group, LLC

(772) 924-6993
www.kmftraffic.net

Manual traffic count - All traffic
Orange Ave., and Bent Creeck Dr.
Fort Pierce, FL

File Name : ORBENT
Site Code : JO24
Start Date : 6/20/2024
Page No : 2

Groups Printed- All Traffic

Start Time	Bent Creeck Dr NB			Orange Ave EB			Orange Ave WB			Int. Total
	Left	Right	Ped	Thru	Right	UTurn	Left	Thru	UTurn	
12:45 PM	10	3	0	154	7	0	2	138	0	314
Total	22	22	0	584	25	0	12	591	2	1258
01:00 PM	7	6	0	143	4	0	0	172	0	332
01:15 PM	3	1	0	144	5	0	5	148	0	306
01:30 PM	1	3	0	157	3	0	2	144	0	310
01:45 PM	4	5	0	109	10	1	5	131	0	265
Total	15	15	0	553	22	1	12	595	0	1213
02:00 PM	4	8	0	141	3	0	3	165	0	324
02:15 PM	4	5	0	154	6	0	6	134	0	309
02:30 PM	4	5	0	131	3	0	5	124	0	272
02:45 PM	4	8	0	146	2	0	7	150	0	317
Total	16	26	0	572	14	0	21	573	0	1222
03:00 PM	3	5	0	121	2	0	4	133	0	268
03:15 PM	6	5	0	143	6	0	1	133	0	294
03:30 PM	4	6	0	140	4	1	3	158	0	316
03:45 PM	0	2	0	168	4	0	5	178	0	357
Total	13	18	0	572	16	1	13	602	0	1235
04:00 PM	6	7	0	150	6	0	1	187	0	357
04:15 PM	2	6	0	189	7	0	6	177	0	387
04:30 PM	4	4	0	182	4	0	11	178	0	383
04:45 PM	5	4	0	183	6	2	2	182	0	384
Total	17	21	0	704	23	2	20	724	0	1511
05:00 PM	5	5	0	193	7	3	6	197	0	416
05:15 PM	1	6	0	195	10	0	6	196	0	414
05:30 PM	3	5	0	179	9	1	5	181	1	384
05:45 PM	6	9	1	174	9	0	4	147	0	350
Total	15	25	1	741	35	4	21	721	1	1564
06:00 PM	3	5	0	125	5	0	5	153	0	296
06:15 PM	4	5	2	126	8	0	5	97	0	247

KMF Traffic Group, LLC

(772) 924-6993
www.kmftraffic.net

Manual traffic count - All traffic
Orange Ave., and Bent Creeck Dr.
Fort Pierce, FL

File Name : ORBENT
Site Code : JO24
Start Date : 6/20/2024
Page No : 3

Groups Printed- All Traffic

Start Time	Bent Creeck Dr NB			Orange Ave EB			Orange Ave WB			Int. Total
	Left	Right	Ped	Thru	Right	UTurn	Left	Thru	UTurn	
06:30 PM	0	5	2	88	6	0	0	98	0	199
06:45 PM	3	2	0	103	7	0	1	91	0	207
Total	10	17	4	442	26	0	11	439	0	949
Grand Total	210	228	15	7257	223	14	140	6653	5	14745
Apprch %	46.4	50.3	3.3	96.8	3	0.2	2.1	97.9	0.1	
Total %	1.4	1.5	0.1	49.2	1.5	0.1	0.9	45.1	0	

2023 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
 CATEGORY: 9401 CEN.-W OF US1 TO I95

MOCF: 0.93

WEEK	DATES	SF	PSCF
1	01/01/2023 - 01/07/2023	1.00	1.08
2	01/08/2023 - 01/14/2023	0.98	1.05
* 3	01/15/2023 - 01/21/2023	0.95	1.02
* 4	01/22/2023 - 01/28/2023	0.94	1.01
* 5	01/29/2023 - 02/04/2023	0.93	1.00
* 6	02/05/2023 - 02/11/2023	0.92	0.99
* 7	02/12/2023 - 02/18/2023	0.91	0.98
* 8	02/19/2023 - 02/25/2023	0.91	0.98
* 9	02/26/2023 - 03/04/2023	0.92	0.99
*10	03/05/2023 - 03/11/2023	0.92	0.99
*11	03/12/2023 - 03/18/2023	0.92	0.99
*12	03/19/2023 - 03/25/2023	0.93	1.00
*13	03/26/2023 - 04/01/2023	0.94	1.01
*14	04/02/2023 - 04/08/2023	0.95	1.02
*15	04/09/2023 - 04/15/2023	0.96	1.03
16	04/16/2023 - 04/22/2023	0.97	1.04
17	04/23/2023 - 04/29/2023	0.98	1.05
18	04/30/2023 - 05/06/2023	0.98	1.05
19	05/07/2023 - 05/13/2023	0.99	1.06
20	05/14/2023 - 05/20/2023	1.00	1.08
21	05/21/2023 - 05/27/2023	1.01	1.09
22	05/28/2023 - 06/03/2023	1.02	1.10
23	06/04/2023 - 06/10/2023	1.03	1.11
24	06/11/2023 - 06/17/2023	1.04	1.12
25	06/18/2023 - 06/24/2023	1.05	1.13
26	06/25/2023 - 07/01/2023	1.06	1.14
27	07/02/2023 - 07/08/2023	1.06	1.14
28	07/09/2023 - 07/15/2023	1.07	1.15
29	07/16/2023 - 07/22/2023	1.07	1.15
30	07/23/2023 - 07/29/2023	1.07	1.15
31	07/30/2023 - 08/05/2023	1.06	1.14
32	08/06/2023 - 08/12/2023	1.06	1.14
33	08/13/2023 - 08/19/2023	1.06	1.14
34	08/20/2023 - 08/26/2023	1.06	1.14
35	08/27/2023 - 09/02/2023	1.07	1.15
36	09/03/2023 - 09/09/2023	1.07	1.15
37	09/10/2023 - 09/16/2023	1.07	1.15
38	09/17/2023 - 09/23/2023	1.06	1.14
39	09/24/2023 - 09/30/2023	1.06	1.14
40	10/01/2023 - 10/07/2023	1.05	1.13
41	10/08/2023 - 10/14/2023	1.05	1.13
42	10/15/2023 - 10/21/2023	1.04	1.12
43	10/22/2023 - 10/28/2023	1.04	1.12
44	10/29/2023 - 11/04/2023	1.03	1.11
45	11/05/2023 - 11/11/2023	1.03	1.11
46	11/12/2023 - 11/18/2023	1.02	1.10
47	11/19/2023 - 11/25/2023	1.02	1.10
48	11/26/2023 - 12/02/2023	1.01	1.09
49	12/03/2023 - 12/09/2023	1.01	1.09
50	12/10/2023 - 12/16/2023	1.00	1.08
51	12/17/2023 - 12/23/2023	0.98	1.05
52	12/24/2023 - 12/30/2023	0.97	1.04
53	12/31/2023 - 12/31/2023	0.95	1.02

* PEAK SEASON

09-MAR-2024 18:41:41

830UPD

4_9401_PKSEASON.TXT

Millcreek PD - Orange Ave & Bent Creek Dr
 06/20/2024 Field Counts

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
07:00 AM to 08:00 AM	0	680	8	5	577	0	27	0	18	0	0	0
08:00 AM to 09:00 AM	0	749	12	8	494	0	26	0	20	0	0	0
09:00 AM to 10:00 AM	3	567	9	5	462	0	15	0	16	0	0	0
10:00 AM to 11:00 AM	1	515	14	5	438	0	12	0	15	0	0	0
11:00 AM to 12:00 PM	2	578	19	7	437	0	22	0	15	0	0	0
12:00 PM to 01:00 PM	0	584	25	12	591	0	22	0	22	0	0	0
01:00 PM to 02:00 PM	1	553	22	12	595	0	15	0	15	0	0	0
02:00 PM to 03:00 PM	0	572	14	21	573	0	16	0	26	0	0	0
03:00 PM to 04:00 PM	1	572	16	13	602	0	13	0	18	0	0	0
04:00 PM to 05:00 PM	2	704	23	20	724	0	17	0	21	0	0	0
05:00 PM to 06:00 PM	4	741	35	21	721	0	15	0	25	0	0	0
06:00 PM to 07:00 PM	0	442	26	11	439	0	10	0	17	0	0	0

Millcreek PD - Orange Ave & Bent Creek Dr
 Signal Warrant Volumes - 2027 Project Buildout

		Trip Generation	Two-Way	One-Way	Traffic Assignment				
Single Family	130 DUs	$\text{Ln}(T) = 0.92 \text{Ln}(X) + 2.68$	1,285 ADTs	643 ADTs	EBL/SBR	50%		EBR/NBL	50%
Townhomes	313 DUs	$T = 6.41(X) + 75.31$	2,082 ADTs	1,041 ADTs					

	Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use				Single Family Homes				Townhomes			
	Single Family		Townhomes		EBL	WBR	SBL	SBR	EBL	WBR	SBL	SBR
	Entering	Exiting	Entering	Exiting								
07:00 AM to 08:00 AM	3.2%	10.2%	2.6%	12.9%	10	10	33	33	14	14	67	67
08:00 AM to 09:00 AM	3.7%	8.6%	4.0%	9.1%	12	12	28	28	21	21	47	47
09:00 AM to 10:00 AM	3.2%	5.4%	3.9%	7.2%	10	10	17	17	20	20	37	37
10:00 AM to 11:00 AM	4.2%	5.4%	3.9%	4.7%	14	14	17	17	20	20	24	24
11:00 AM to 12:00 PM	5.4%	5.1%	4.9%	5.5%	17	17	16	16	26	26	29	29
12:00 PM to 01:00 PM	5.5%	5.6%	5.6%	5.4%	18	18	18	18	29	29	28	28
01:00 PM to 02:00 PM	6.0%	5.9%	4.8%	4.9%	19	19	19	19	25	25	26	26
02:00 PM to 03:00 PM	7.0%	6.2%	5.9%	6.0%	23	23	20	20	31	31	31	31
03:00 PM to 04:00 PM	8.5%	6.0%	8.3%	5.2%	27	27	19	19	43	43	27	27
04:00 PM to 05:00 PM	10.5%	7.5%	10.0%	5.1%	34	34	24	24	52	52	27	27
05:00 PM to 06:00 PM	10.3%	7.4%	11.4%	6.7%	33	33	24	24	59	59	35	35
06:00 PM to 07:00 PM	8.6%	5.9%	9.5%	6.3%	28	28	19	19	49	49	33	33

Area Growth Rate	1.50%
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Years	3
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PSF	1.13
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Millcreek PD - 2027 Buildout

	Orange Ave EB			Orange Ave WB			Bent Creek Dr NB			Millcreek PD SB		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
07:00 AM to 08:00 AM	24	803	8	5	682	24	27	0	18	100	0	100
08:00 AM to 09:00 AM	33	885	12	8	584	33	26	0	20	75	0	75
09:00 AM to 10:00 AM	30	670	9	5	546	30	15	0	16	54	0	54
10:00 AM to 11:00 AM	34	609	14	5	518	34	12	0	15	41	0	41
11:00 AM to 12:00 PM	43	683	19	7	516	43	22	0	15	45	0	45
12:00 PM to 01:00 PM	47	690	25	12	698	47	22	0	22	46	0	46
01:00 PM to 02:00 PM	44	653	22	12	703	44	15	0	15	45	0	45
02:00 PM to 03:00 PM	54	676	14	21	677	54	16	0	26	51	0	51
03:00 PM to 04:00 PM	70	676	16	13	711	70	13	0	18	46	0	46
04:00 PM to 05:00 PM	86	832	23	20	855	86	17	0	21	51	0	51
05:00 PM to 06:00 PM	92	876	35	21	852	92	15	0	25	59	0	59
06:00 PM to 07:00 PM	77	522	26	11	519	77	10	0	17	52	0	52
	634	8575	223	140	7861	634	210	0	228	665	0	665

Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use		
Source: ITE <i>Trip Generation Manual</i> , 10th Edition		
Land Use Code	210	
Land Use	Single-Family Detached Housing	
Setting	General Urban/Suburban	
Time Period	Weekday	
Trip Type	Vehicle	
# Data Sites	6	
	% of 24-Hour Traffic	
Time	Entering	Exiting
12-1 AM	0.5	0.2
1-2 AM	0.2	0.2
2-3 AM	0.2	0
3-4 AM	0.2	0.2
4-5 AM	0.3	0.8
5-6 AM	0.5	2.0
6-7 AM	1.6	5.9
7-8 AM	3.2	10.2
8-9 AM	3.7	8.6
9-10 AM	3.2	5.4
10-11 AM	4.2	5.4
11-12 PM	5.4	5.1
12-1 PM	5.5	5.6
1-2 PM	6.0	5.9
2-3 PM	7.0	6.2
3-4 PM	8.5	6.0
4-5 PM	10.5	7.5
5-6 PM	10.3	7.4
6-7 PM	8.6	5.9
7-8 PM	6.2	4.3
8-9 PM	6.3	3.1
9-10 PM	4.5	2.4
10-11 PM	2.2	1.1
11-12 AM	1.3	0.7

Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use

Source: ITE *Trip Generation Manual*, 10th Edition

Land Use Code	220			
Land Use	Multifamily Housing (Low-Rise)			
Setting	General Urban/Suburban		Dense Multi-Use Urban	
Time Period	Weekday		Weekday	
Trip Type	Vehicle		Vehicle	
# Data Sites	9		1	
	% of 24-Hour Traffic		% of 24-Hour Traffic	
Time	Entering	Exiting	Entering	Exiting
12-1 AM	0.7	0.3	1.6	0
1-2 AM	0.4	0.1	0.4	0
2-3 AM	0.3	0.3	0.0	0
3-4 AM	0.3	0.4	0.0	0.4
4-5 AM	0.4	1.0	0.4	1.6
5-6 AM	0.1	2.6	0.4	2.7
6-7 AM	1.1	5.8	1.6	8.6
7-8 AM	2.6	12.9	6.2	14.5
8-9 AM	4.0	9.1	3.5	7.5
9-10 AM	3.9	7.2	3.9	3.9
10-11 AM	3.9	4.7	3.5	3.9
11-12 PM	4.9	5.5	2.3	2.7
12-1 PM	5.6	5.4	4.7	3.5
1-2 PM	4.8	4.9	3.1	5.9
2-3 PM	5.9	6.0	6.2	5.9
3-4 PM	8.3	5.2	7.0	5.1
4-5 PM	10.0	5.1	7.4	5.5
5-6 PM	11.4	6.7	7.0	7.1
6-7 PM	9.5	6.3	10.9	5.5
7-8 PM	7.1	4.3	6.2	4.7
8-9 PM	5.7	3.5	7.8	2.4
9-10 PM	4.7	1.4	7.8	5.1
10-11 PM	2.9	1.0	4.7	2.7
11-12 AM	1.5	0.4	3.5	0.8

HCS Warrants Report

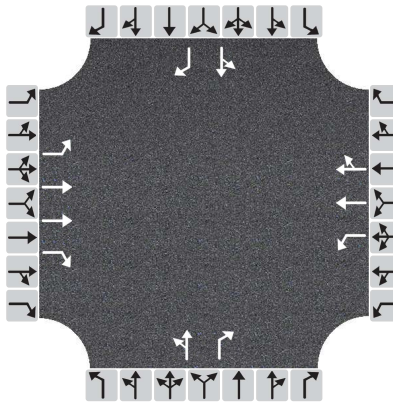
Project Information

Analyst	JF	Date	06/24/24
Agency	JFO	Analysis Year	2024
Jurisdiction	FDOT	Time Period Analyzed	7 AM - 7 PM
Project Description	Millcreek PD		

General

Major Street Direction	East-West	Population < 10,000	No
Starting Time Interval	7	Coordinated Signal System	No
Median Type	Divided	Crashes (crashes/year)	0
Major Street Speed (mi/h)	39	Adequate Trials of Crash Exp. Alt.	No
Nearest Signal (ft)	1550		

Geometry and Traffic



Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Number of Lanes, N	1	2	1	1	2	0	0	1	1	0	1	1
Lane Usage	L	T	R	L	TR			LT	R		LT	R
Vehicle Volumes Averages (veh/h)	52	714	18	11	655	52	17	0	19	55	0	55
Pedestrian Averages (peds/h)	0			0			0			0		
Gap Averages (gaps/h)	0			0			0			0		
Delay Averages (s/veh)	0.0			0.0			0.0			0.0		
Delay Averages (veh-hrs)	0.0			0.0			0.0			0.0		

School Crossing and Roadway Network

Number of Students in Highest Hour	0	Two or More Major Routes	No
Number of Adequate Gaps in Period	0	Weekend Counts	No
Number of Minutes in Period	0	5-year Growth Factor (%)	0

Railroad Crossing

Grade Crossing Approach	None	Rail Traffic (trains/day)	0
Highest Volume Hour with Trains	Unknown	High Occupancy Buses (%)	0
Distance to Stop Line (ft)	-	Tractor-Trailer Trucks (%)	2

Volume Summary														
Hour	Major Volume	Minor Volume	Total Volume	Peds/h	Gaps/h	1A (100%)	1A (80%)	1B (100%)	1B (80%)	2 (100%)	3A (100%)	3B (80%)	4A (70%)	4B (56%)
07 - 08	1546	200	1791	0	0	Yes	Yes	Yes	Yes	Yes	No	Yes	No	No
08 - 09	1555	150	1751	0	0	No	No	Yes	Yes	Yes	No	No	No	No
09 - 10	1290	108	1429	0	0	No	No	Yes	Yes	No	No	No	No	No
10 - 11	1214	82	1323	0	0	No	No	No	Yes	No	No	No	No	No
11 - 12	1311	90	1438	0	0	No	No	No	Yes	No	No	No	No	No
12 - 13	1519	92	1655	0	0	No	No	No	Yes	No	No	No	No	No
13 - 14	1478	90	1598	0	0	No	No	No	Yes	No	No	No	No	No
14 - 15	1496	102	1640	0	0	No	No	Yes	Yes	No	No	No	No	No
15 - 16	1556	92	1679	0	0	No	No	No	Yes	No	No	No	No	No
16 - 17	1902	102	2042	0	0	No	No	Yes	Yes	No	No	No	No	No
17 - 18	1968	118	2126	0	0	No	No	Yes	Yes	Yes	No	No	No	No
18 - 19	1232	104	1363	0	0	No	No	Yes	Yes	No	No	No	No	No
Total	18067	1330	19835	0	0	1	1	7	12	3	0	1	0	0

Warrants	
Warrant 1: Eight-Hour Vehicular Volume	
A. Minimum Vehicular Volumes (Both major approaches --and-- higher minor approach) --or--	
B. Interruption of Continuous Traffic (Both major approaches --and-- higher minor approach) --or--	
80% Vehicular --and-- Interruption Volumes (Both major approaches --and-- higher minor approach)	
Warrant 2: Four-Hour Vehicular Volume	
Four-Hour Vehicular Volume (Both major approaches --and-- higher minor approach)	
Warrant 3: Peak Hour	
A. Peak-Hour Conditions (Minor delay -- and-- minor volume --and-- total volume) --or--	✓
B. Peak-Hour Vehicular Volumes (Both major approaches --and-- higher minor approach)	✓
Warrant 4: Pedestrian Volume	
A. Four Hour Volumes --or--	
B. One-Hour Volumes	
Warrant 5: School Crossing	
Gaps Same Period --and--	
Student Volumes	
Nearest Traffic Control Signal (optional)	✓
Warrant 6: Coordinated Signal System	
Degree of Platooning (Predominant direction or both directions)	
Warrant 7: Crash Experience	
A. Adequate trials of alternatives, observance and enforcement failed --and--	
B. Reported crashes susceptible to correction by signal (12-month period) --and--	
C. 80% Volumes for Warrants 1A, 1B, --or-- 4 are satisfied	✓
Warrant 8: Roadway Network	
A. Weekday Volume (Peak hour total --and-- projected warrants 1, 2, or 3) --or--	
B. Weekend Volume (Five hours total)	
Warrant 9: Grade Crossing	
A. Grade Crossing within 140 ft --and--	
B. Peak-Hour Vehicular Volumes	



Category	Avg Vehicle Trips/Day
D	1,201-4,000

Access Class	Speed	Full Median Opening	Directional Med. Opening	Driveway Connection Spacing	Signal Spacing	Access Class	Speed
5	47 & Under		660'	245'	1,320'	5	47 & Under
	Over 47			440'	2,640'		Over 47

Land Use	Intensity	Daily Traffic	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Single Family Detached	130 DUs	1,285	25	70	95	80	47	127
Townhomes	313 DUs	2,082	29	91	120	98	57	155

Millcreek PD
Orange Avenue (SR 68)
2024-05-23

LEGEND
 AM Peak Hour = XX
 PM Peak Hour = (XY)
 Daily = YY

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 Traffic Engineering • Transportation Planning
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Intersection Volume Development

**Orange Ave (SR 68) & Bent Creek Dr
 Millcreek PD**

Input Data

GR = 1.50%
 Peak Season = 1.13
 Traffic Count Year = 2024
 Buildout Year = 2027
 Years = 3

AM Peak Hour		PM Peak Hour		Millcreek PD
In	Out	In	Out	
54	161	178	104	130 Townhomes 313 Single Family



AM Peak Hour

AM	Eastbound			Westbound			Northbound			Southbound		
	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
Volume 20-Jun-24	0	802	10	6	560	-	31	-	20	-	-	-
Existing Peak Hour Conditions	0	906	11	7	633	-	35	-	23	-	-	-
2027 Historic Growth	0	947	12	7	662	-	37	-	24	-	-	-
% Project Traffic	50%	-	-	-	-	50%	-	-	-	50%	-	50%
Project Traffic Direction	IN	-	-	-	-	IN	-	-	-	OUT	-	OUT
Project Traffic	27	-	-	-	-	27	-	-	-	80	-	81
2027 Future Conditions with Build	27	947	12	7	662	27	37	0	24	80	0	81

PM Peak Hour

PM	Eastbound			Westbound			Northbound			Southbound		
	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
Volume 20-Jun-24	6	750	32	20	756	-	14	-	20	-	-	-
Existing Peak Hour Conditions	7	848	36	23	854	-	16	-	23	-	-	-
2027 Historic Growth	7	887	38	24	893	-	17	-	24	-	-	-
% Project Traffic	50%	-	-	-	-	50%	-	-	-	50%	-	50%
Project Traffic Direction	IN	-	-	-	-	IN	-	-	-	OUT	-	OUT
Project Traffic	89	-	-	-	-	89	-	-	-	52	-	52
2027 Future Conditions with Build	96	887	38	24	893	89	17	0	24	52	0	52

Lanes, Volumes, Timings
 1: Bent Creek Dr/Millcreek PD Driveway & Orange Ave/SR 68

MILLCREEK PD
 AM 2027



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (vph)	27	947	12	7	662	27	37	0	24	80	0	81
Future Volume (vph)	27	947	12	7	662	27	37	0	24	80	0	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		0	230		230	0		0	0		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	50			50			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.994			0.850				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3518	0	1770	1583	0	1770	1583	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3518	0	1770	1583	0	1770	1583	0
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		413			432			605			232	
Travel Time (s)		16.3			20.2			8.3			5.3	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	28	997	13	7	697	28	39	0	25	84	0	85
Shared Lane Traffic (%)												
Lane Group Flow (vph)	28	997	13	7	725	0	39	25	0	84	85	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			16			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	43.9%
ICU Level of Service	A
Analysis Period (min)	15

Intersection												
Int Delay, s/veh	6.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↑↑	↔	↔	↑↑		↔	↔		↔	↔	
Traffic Vol, veh/h	27	947	12	7	662	27	37	0	24	80	0	81
Future Vol, veh/h	27	947	12	7	662	27	37	0	24	80	0	81
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	225	-	0	230	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	997	13	7	697	28	39	0	25	84	0	85

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	725	0	0	1009	0	0	1417	1794	498	1281	1792	633
Stage 1	-	-	-	-	-	-	1054	1054	-	726	726	-
Stage 2	-	-	-	-	-	-	363	740	-	555	1066	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	873	-	-	682	-	-	97	80	517	123	80	634
Stage 1	-	-	-	-	-	-	242	301	-	382	428	-
Stage 2	-	-	-	-	-	-	628	421	-	483	297	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	873	-	-	682	-	-	81	76	517	112	76	634
Mov Cap-2 Maneuver	-	-	-	-	-	-	81	76	-	112	76	-
Stage 1	-	-	-	-	-	-	234	291	-	378	423	-
Stage 2	-	-	-	-	-	-	538	417	-	445	287	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0.25			0.1			56.99			55.69		
HCM LOS							F			F		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	81	517	873	-	-	682	-	-	112	634
HCM Lane V/C Ratio	0.484	0.049	0.033	-	-	0.011	-	-	0.755	0.134
HCM Control Delay (s/veh)	86	12.3	9.3	-	-	10.3	-	-	100.4	11.6
HCM Lane LOS	F	B	A	-	-	B	-	-	F	B
HCM 95th %tile Q(veh)	2	0.2	0.1	-	-	0	-	-	4.2	0.5

Lanes, Volumes, Timings
 1: Bent Creek Dr/Millcreek PD Driveway & Orange Ave/SR 68

MILLCREEK PD
 PM 2027



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	96	887	38	24	893	89	17	0	24	52	0	52
Future Volume (vph)	96	887	38	24	893	89	17	0	24	52	0	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		0	230		230	0		0	0		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	50			50			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.986			0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3490	0	1770	1583	0	1770	1583	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3490	0	1770	1583	0	1770	1583	0
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		413			432			605			232	
Travel Time (s)		16.3			20.2			8.3			5.3	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	101	934	40	25	940	94	18	0	25	55	0	55
Shared Lane Traffic (%)												
Lane Group Flow (vph)	101	934	40	25	1034	0	18	25	0	55	55	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			16			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	52.4%
ICU Level of Service	A
Analysis Period (min)	15

Intersection												
Int Delay, s/veh	10											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	↑↑	7	7	↑↑		7	7		7	7	
Traffic Vol, veh/h	96	887	38	24	893	89	17	0	24	52	0	52
Future Vol, veh/h	96	887	38	24	893	89	17	0	24	52	0	52
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	225	-	0	230	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	101	934	40	25	940	94	18	0	25	55	0	55

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1034	0	0	974	0	0	1656	2220	467	1706	2213	517
Stage 1	-	-	-	-	-	-	1136	1136	-	1037	1037	-
Stage 2	-	-	-	-	-	-	521	1084	-	669	1176	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	668	-	-	704	-	-	64	43	543	59	43	503
Stage 1	-	-	-	-	-	-	215	275	-	247	306	-
Stage 2	-	-	-	-	-	-	507	291	-	413	263	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	668	-	-	704	-	-	47	35	543	~ 46	35	503
Mov Cap-2 Maneuver	-	-	-	-	-	-	47	35	-	~ 46	35	-
Stage 1	-	-	-	-	-	-	183	234	-	238	295	-
Stage 2	-	-	-	-	-	-	436	281	-	334	224	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	1.07			0.25			57.99			173.97		
HCM LOS							F			F		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	47	543	668	-	-	704	-	-	46	503
HCM Lane V/C Ratio	0.381	0.047	0.151	-	-	0.036	-	-	1.19	0.109
HCM Control Delay (s/veh)	123	12	11.3	-	-	10.3	-	-	334.9	13
HCM Lane LOS	F	B	B	-	-	B	-	-	F	B
HCM 95th %tile Q(veh)	1.3	0.1	0.5	-	-	0.1	-	-	5.1	0.4

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

KMF Traffic Group, LLC

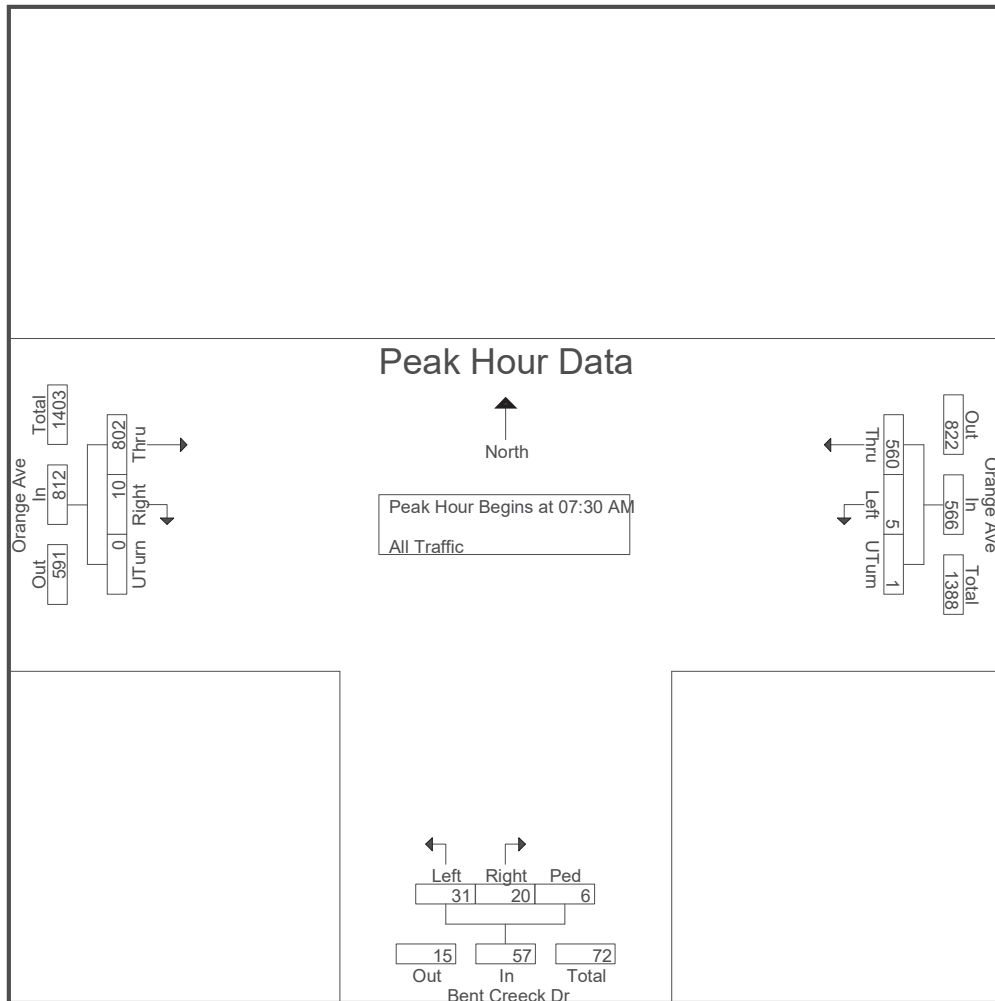
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Manual traffic count - All traffic
Orange Ave., and Bent Creeck Dr.
Fort Pierce, FL

File Name : ORBENT
Site Code : JO24
Start Date : 6/20/2024
Page No : 4

Start Time	Bent Creeck Dr NB				Orange Ave EB				Orange Ave WB				Int. Total
	Left	Right	Ped	App. Total	Thru	Right	UTurn	App. Total	Left	Thru	UTurn	App. Total	
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:30 AM													
07:30 AM	6	0	2	8	190	2	0	192	0	167	0	167	367
07:45 AM	10	10	4	24	231	3	0	234	1	147	0	148	406
08:00 AM	10	5	0	15	192	2	0	194	3	143	1	147	356
08:15 AM	5	5	0	10	189	3	0	192	1	103	0	104	306
Total Volume	31	20	6	57	802	10	0	812	5	560	1	566	1435
% App. Total	54.4	35.1	10.5		98.8	1.2	0		0.9	98.9	0.2		
PHF	.775	.500	.375	.594	.868	.833	.000	.868	.417	.838	.250	.847	.884



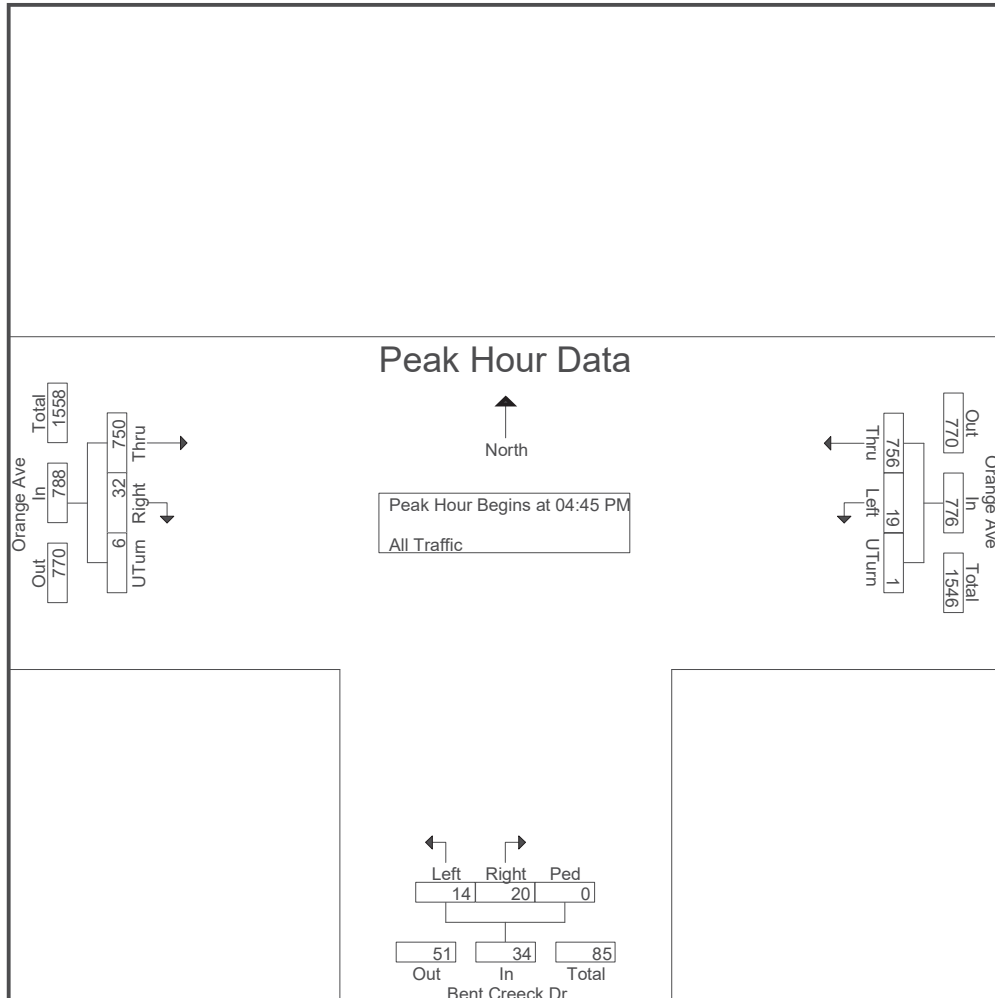
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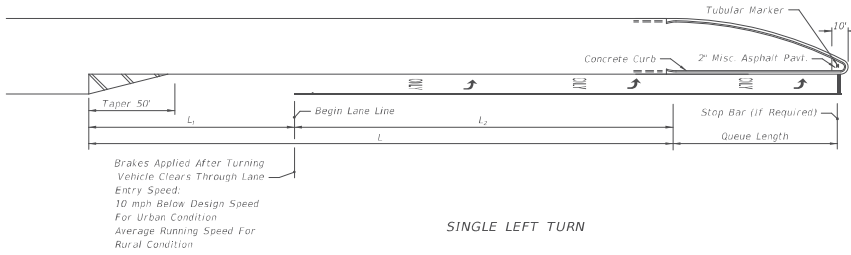
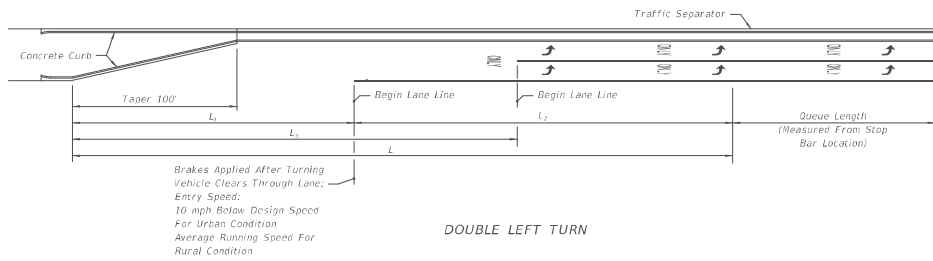
Manual traffic count - All traffic
Orange Ave., and Bent Creeck Dr.
Fort Pierce, FL

File Name : ORBENT
Site Code : JO24
Start Date : 6/20/2024
Page No : 6

	Bent Creeck Dr NB				Orange Ave EB				Orange Ave WB				
Start Time	Left	Right	Ped	App. Total	Thru	Right	UTurn	App. Total	Left	Thru	UTurn	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 06:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:45 PM													
04:45 PM	5	4	0	9	183	6	2	191	2	182	0	184	384
05:00 PM	5	5	0	10	193	7	3	203	6	197	0	203	416
05:15 PM	1	6	0	7	195	10	0	205	6	196	0	202	414
05:30 PM	3	5	0	8	179	9	1	189	5	181	1	187	384
Total Volume	14	20	0	34	750	32	6	788	19	756	1	776	1598
% App. Total	41.2	58.8	0		95.2	4.1	0.8		2.4	97.4	0.1		
PHF	.700	.833	.000	.850	.962	.800	.500	.961	.792	.959	.250	.956	.960



MEDIAN TURN LANES MINIMUM DECELERATION LENGTHS



		MEDIAN TURN LANES							
		URBAN CONDITIONS				RURAL CONDITIONS			
Design Speed (mph)	Entry Speed (mph)	Clearance Distance L ₁ (ft.)	Brake To		Clearance Distance L ₂ (ft.)	Brake To		Clearance Distance L ₂ (ft.)	
			Stop Distance L ₁ (ft.)	Decel. Distance L (ft.)		Stop Distance L ₁ (ft.)	Decel. Distance L (ft.)		
35	25	70	75	145	110	—	—	—	
40	30	80	75	155	120	—	—	—	
45	35	85	100	185	135	—	—	—	
50	40/44	105	135	240	160	185	290	160	
55	48	125	—	—	—	225	350	195	
60	52	145	—	—	—	260	405	230	
65	55	170	—	—	—	290	460	270	

NOT TO SCALE

EXHIBIT 212-1
01/01/2022

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