



Traffic Impact Analysis

Pine Ridge Commons Planned Unit Development Amendment (PUDA) Growth Management Plan Amendment (GMPA)

Collier County, FL
07/01/2018

Prepared for:

Barron Collier Companies
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Naples, FL 34105

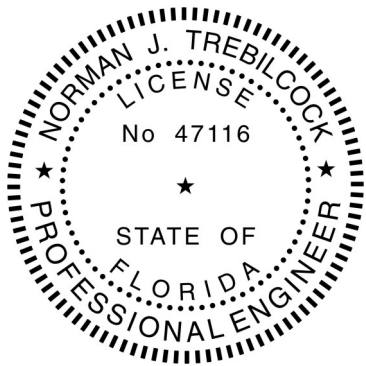
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Collier County Transportation Review Fee – Small Scale Study – No Fee

Statement of Certification

I certify that this Traffic Impact Analysis has been prepared by me or under my immediate supervision and that I have experience and training in the field of Traffic and Transportation Engineering.



This item has been electronically signed and sealed by Norman J. Trebilcock, PE using a *SHA-1* authentication code.

Printed copies of this document are not considered signed and sealed, and the *SHA-1* authentication code must be verified on any electronic copies.

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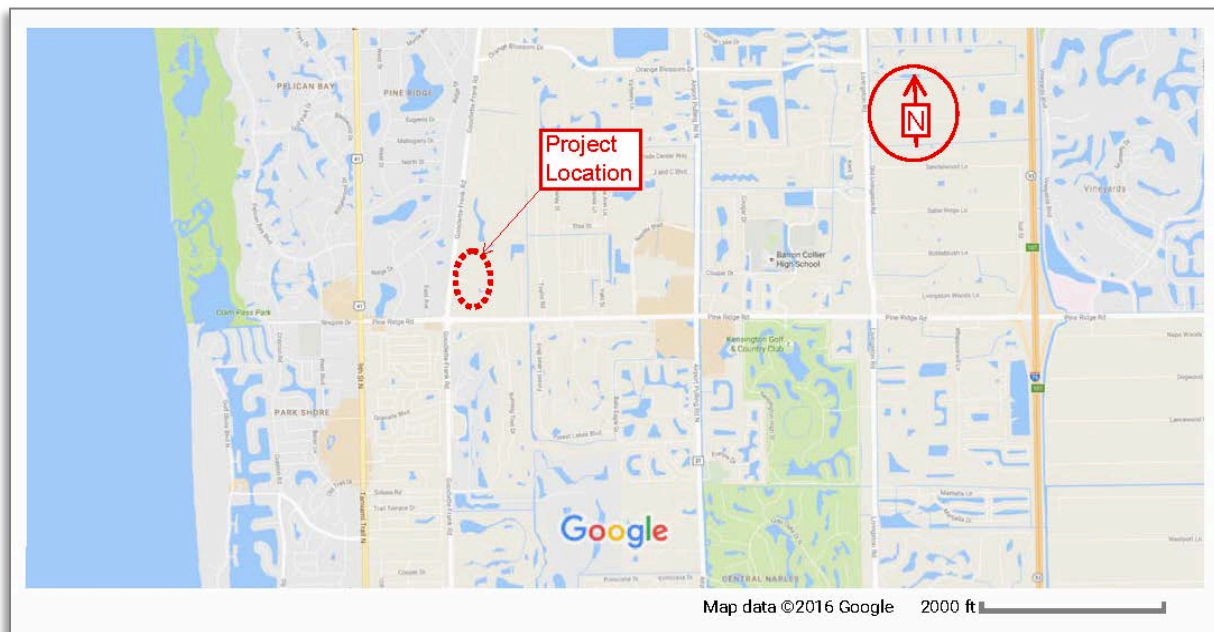
Project Description

The Pine Ridge Commons project is an existing approved Planned Unit Development (PUD) pursuant to Collier County Ordinance No. 1999–94, as may be amended. The subject parcel has a total gross area of approximately 31 acres.

The project site is located on the northeast quadrant of the intersection of Goodlette-Frank Road (CR 851) and Pine Ridge Road (CR 896), approximately 0.5 miles east of US 41, in Section 10, Township 49 South, Range 25 East, Collier County.

Refer to **Figure 1 – Project Location Map**, which follows, and **Appendix A: PUD Master Plan**.

Figure 1 – Project Location Map



The Collier County approved ordinance currently allows the site to be developed for a maximum of 275,000 square feet of retail and commercial uses. Consistent with the approved Pine Ridge Commons PUD Traffic Impact Statement (TIS) prepared by Wilson Miller, dated August, 1999, the site is approved to be developed for up to a maximum 125,000sf gross leasable area of retail shopping and 150,000sf gross floor area of office financial institution space.

As this development has been under construction for a number of years, the built uses are as follows: Retail – 75,243sf, and General Office – 129,099sf (Office – 36,140sf, Valley National Bank – Out Parcel – 3,600sf, Naples Trust – Out Parcel – 6,000sf, Quarles & Brady office building – 43,993sf, and Premier Executive office building – 39,366sf).

The Pine Ridge Commons PUDA – GMPA proposes to retain the option to develop as currently allowed by zoning and add a potential development option consisting of the existing developed commercial uses and 325 residential multi-family dwelling units. In consideration of the proposed residential development option, the project will limit the commercial development to 200,000sf.

The project provides the highest and best use scenario with respect to the project’s proposed trip generation. For the purpose of this report, the Institute of Transportation Engineers (ITE) Land Use Code 220 – Apartments, is utilized for the residential portion of this project. The development program is illustrated in **Table 1**.

Table 1
Development Program

Potential Development	ITE Land Use	ITE Land Use Code	Total Size
Approved PUD ⁽¹⁾	Shopping Center	820	125,000sf
	General Office Building	710	150,000sf
Proposed PUDA Scenario ⁽²⁾	Shopping Center	820	70,901sf
	General Office Building	710	129,099sf
	Apartments	220	325 dwelling units

Note(s): ⁽¹⁾ Per approved Pine Ridge Commons PUD TIS, dated August, 1999. ⁽²⁾ Existing built to date conditions and proposed 325 apartments.

Access to the site is approved from both Goodlette-Frank Road and Pine Ridge Road. For the purposes of this rezone application, no changes to the previously approved accesses are requested.

Trip Generation

The project’s site trip generation is based on the ITE Trip Generation Manual, 9th Edition, and the software program OTISS (Online Traffic Impact Study Software, most current version). The ITE rates and equations are used for the trip generation calculations, as applicable. The ITE – OTISS trip generation calculation worksheets are provided in **Appendix B: Trip Generation Calculations ITE 9th Edition**.

The residential associated common recreation amenities are considered passive incidental to residential use, and are not included in the trip generation analysis.

The **internal capture** accounts for a reduction in external traffic because of the interaction between the multiple land uses in a site. Per Collier County TIS Guidelines and Procedures, the internal capture trips should be reasonable and should not exceed 20% of the total project trips.

For this project, the software program OTISS is used to generate associated internal capture trips. The OTISS process follows the trip balancing approach as recommended in the ITE Trip Generation Manual, 9th Edition (Volume 1): User’s Guide and Handbook, Chapter 7 – procedure for estimating multi-use trip generation internal capture, aka “triangle method”.

The resulting internal capture rates are below the county limits.

The **pass-by trips** account for traffic that is already on the external roadway network and stops at the project on the way to a primary trip destination.

It should be noted that the driveway volumes are not reduced as a result of the pass-by reduction, only the traffic added to the surrounding streets and intersections. As such, pass-by trips are not deducted for operational-access analysis (all external traffic is accounted for).

Consistent with Collier County TIS Guidelines and Procedures, shopping center pass-by rates should not exceed 25% for the peak hour and the daily capture rates are assumed 10% lower than the peak hour capture rate. This analysis calculates Shopping Center LUC 820 pass-by daily rates at 15% and AM and PM peak hour rates at 25%.

The new PUDA – GMPA development scenario trip generation is illustrated in **Table 2A**. The trip generation analysis based on approved conditions is shown in **Table 2B**. The net new proposed trip generation (**Table 2C**) shows total proposed conditions versus existing allowed (the difference between **Table 2A** and **Table 2B**).

Table 2A
Trip Generation (Proposed PUDA Conditions) – Average Weekday

Development	24 Hour Two-Way Volume	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
Shopping Center – 70,901sf⁽¹⁾	5,431	78	48	126	228	248	476
General Office – 129,099sf⁽¹⁾	1,594	207	28	235	38	185	223
Apartments – 325 du⁽²⁾	2,093	33	130	163	127	69	196
Total Traffic	9,118	318	206	524	393	502	895
Total Internal	1,498	17	17	34	66	66	132
Total External	7,620	301	189	490	327	436	763
Total Pass-By	705	17	11	28	50	53	103
Total Net External	6,915	284	178	462	277	383	660

Note(s): ⁽¹⁾ sf=square feet.
 ⁽²⁾ du=dwelling units

Table 2B
Trip Generation (Approved PUD Allowed) – Average Weekday

Development	24 Hour Two-Way Volume	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
Shopping Center – 125,000sf⁽¹⁾	7,851	111	68	179	334	362	696
General Office – 150,000sf⁽¹⁾	1,787	233	32	265	42	204	246
Total Traffic	9,638	344	100	444	376	566	942
Total Internal	550	4	4	8	18	18	36
Total External	9,088	340	96	436	358	548	906
Total Pass-By	1,136	27	17	44	82	88	170
Total Net External	7,952	313	79	392	276	460	736

Note(s): ⁽¹⁾ sf=square feet.

In agreement with the Collier County TIS guidelines, significantly impacted roadways are identified based on the proposed project highest peak hour trip generation and consistent with the peak hour of the adjacent street traffic. Based on the information contained in Collier

County 2017 Annual Update and Inventory Report (AUIR), the peak hour for adjacent roadway network is PM.

In agreement with the Collier County TIS Guidelines, the potential project’s traffic impact is analyzed based on projected PM peak hour net new external trips generated as a result of the proposed PUDA-GMPA (as shown in **Table 2C**).

Table 2C
Trip Generation (Proposed Net New Traffic) – Average Weekday

Development	24 Hour Two-Way Volume	PM Peak Hour		
		Enter	Exit	Total
Proposed PUDA (Net External Traffic)	6,915	277	383	660
Approved PUD (Net External Traffic)	7,952	276	460	736
Proposed New Net External Traffic Net Increase/(Net Decrease)	(1,037)	1	(77)	(76)

As illustrated in **Table 2C**, from a traffic stand point, the proposed rezone development scenario is less intensive when compared to the maximum allowed under current zoning conditions.

A detailed evaluation of applicable access points will be performed at the time of site development permitting/platting to determine turn lane requirements, as applicable.

As requested by staff, additional trip distribution and assignment analysis is provided to better understand the project impacts. In addition, conservatively, the concurrency analysis is evaluated based on trips generated at proposed PUDA build-out conditions versus the estimated under existing built and occupied conditions (background traffic).

Trip Distribution and Assignment

Proposed PUDA Built-out Projected Total External Traffic

The total external traffic generated by the proposed PUDA project is empirically assigned to the adjacent roadways using the knowledge of the area and as coordinated during the methodology meeting with County staff.

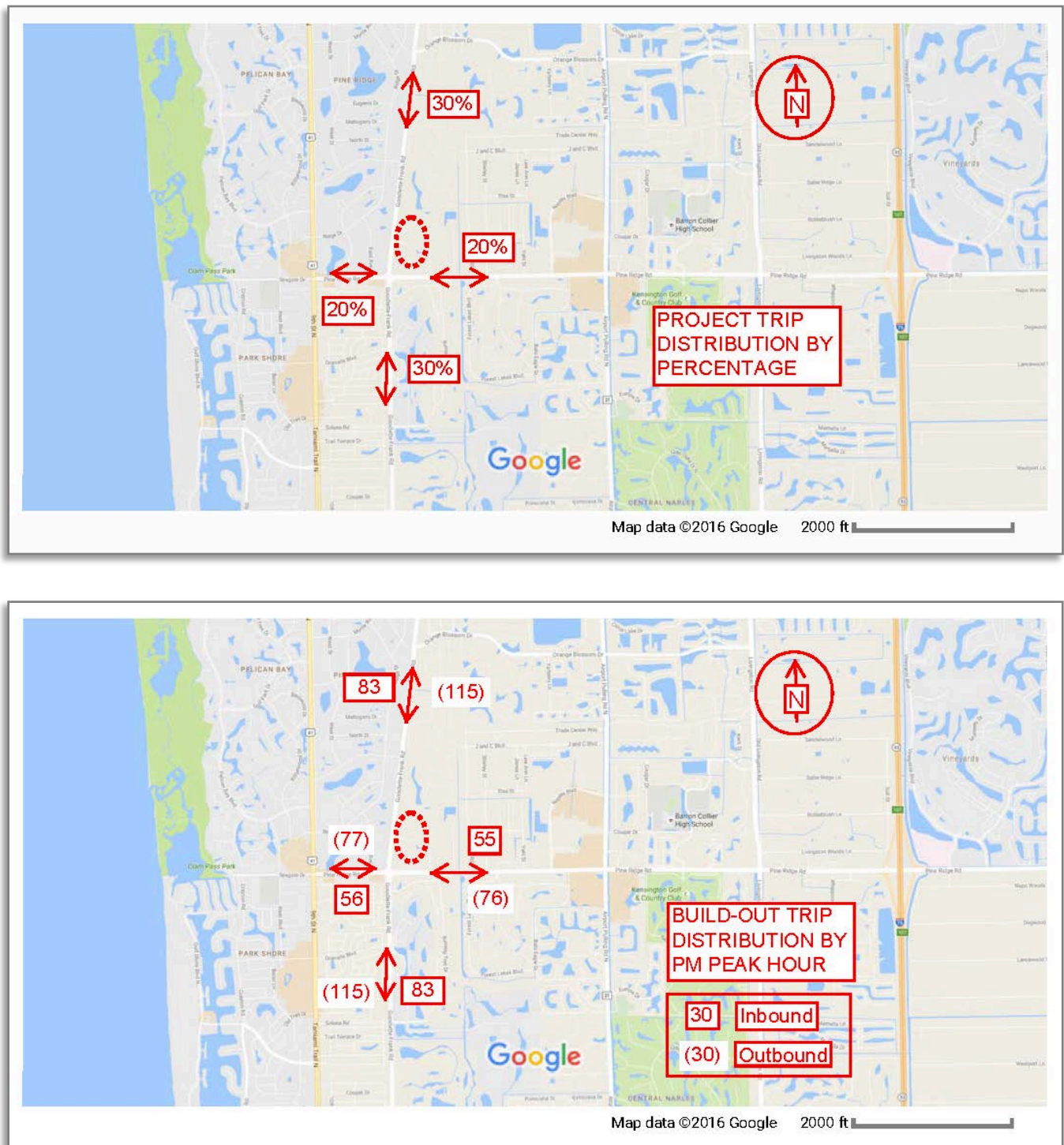
The site-generated trip distribution is shown in **Table 3A, Traffic at Build-out Conditions – Distribution for Peak Hour** and is graphically depicted on the next page in **Figure 2 – Build-out Conditions – Distribution by Percentage and By PM Peak Hour**.

Table 3A
Traffic at Build-out Conditions – Distribution for Peak Hour

Roadway Link	Collier County Link No.	Roadway Link Location	Distribution of Project Traffic	PM Peak Hour Project Volume*	
				Enter	Exit
Goodlette - Frank Road	24.2	Orange Blossom to Pine Ridge Rd	30%	SB – 83	<u>NB – 115</u>
Goodlette - Frank Road	25.0	Pine Ridge Rd to Golden Gate Pkwy	30%	<u>NB – 83</u>	SB – 115
Pine Ridge Road	64.0	US 41 to Goodlette-Frank Rd	20%	<u>EB – 56</u>	WB – 77
Pine Ridge Road	65.0	Goodlette-Frank Rd to Shirley Street	20%	<u>WB – 55</u>	EB – 76

Note(s): *Peak hour, peak direction traffic volumes are **underlined** and **bold**.

Figure 2 – Build-out Conditions – Distribution by Percentage and By PM Peak Hour



Concurrency Analysis

As requested by staff, for concurrency analysis purposes, the trip generation associated with the PUD built/occupied condition is illustrated in **Table 3B**. Per our site visit observations, the built and occupied uses are as follows: Retail – 20,000sf and General Office – 104,203sf

Table 3B
Trip Generation (Built/Occupied PUD) – Average Weekday⁽¹⁾

Development	24 Hour Two-Way Volume	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
Shopping Center – 20,000sf⁽²⁾	2,386	36	22	58	98	106	204
General Office – 104,203sf⁽²⁾	1,355	174	24	198	33	162	195
Total Traffic	3,741	210	46	256	131	268	399
Total Internal	168	2	2	4	5	5	10
Total External	3,573	208	44	252	126	263	389
Total Pass-By	345	9	5	14	24	26	50
Total Net External	3,228	199	39	238	102	237	339

Note(s): ⁽¹⁾ For trip generation calculations refer to **Appendix B**.

⁽²⁾ sf=square feet.

As previously indicated, concurrency analysis is calculated based on net new external traffic at PM peak hour period: trips generated at proposed PUDA build-out conditions versus existing built – occupied conditions generated traffic (background traffic), as depicted in **Table 3C** which follows.

Table 3C
Trip Generation (New Net External Traffic at Build-out Conditions) – Average Weekday

Development	PM Peak Hour		
	Enter	Exit	Total
Proposed Build-out Conditions (Net External Traffic)	277	383	660
Existing Built Conditions (Net External Traffic)	102	237	339
New Net External Traffic Net Increase/(Net Decrease)	175	146	321

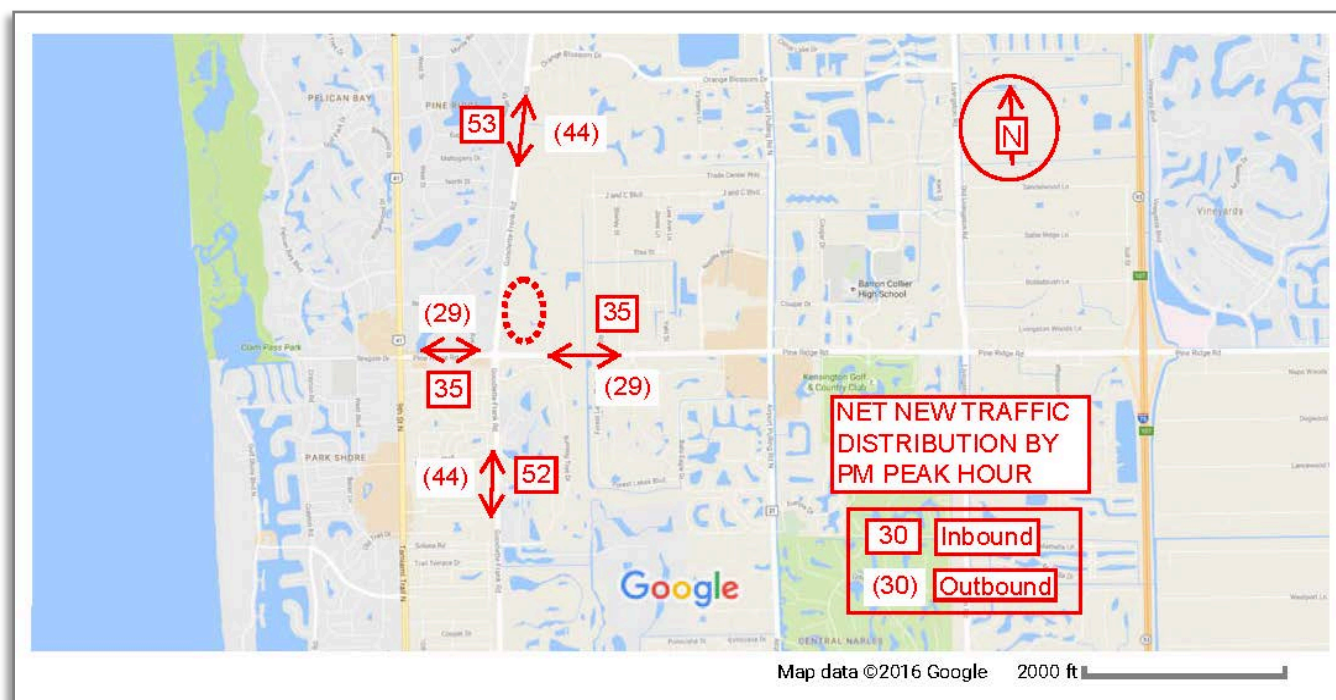
The new net external site-generated traffic distribution is shown in **Table 3D, Net New Traffic Conditions – Distribution for Peak Hour** and is graphically depicted in **Figure 3 – Net New Traffic by PM Peak Hour**.

Table 3D
Net New Traffic Conditions – Distribution for Peak Hour

Roadway Link	Collier County Link No.	Roadway Link Location	Distribution of Project Traffic	PM Peak Hour Project Volume*	
				Enter	Exit
Goodlette - Frank Road	24.2	Orange Blossom to Pine Ridge Rd	30%	SB – 53	<u>NB – 44</u>
Goodlette - Frank Road	25.0	Pine Ridge Rd to Golden Gate Pkwy	30%	<u>NB – 52</u>	SB – 44
Pine Ridge Road	64.0	US 41 to Goodlette-Frank Rd	20%	<u>EB – 35</u>	WB – 29
Pine Ridge Road	65.0	Goodlette-Frank Rd to Shirley Street	20%	<u>WB – 35</u>	EB – 29

Note(s): *Peak hour, peak direction traffic volumes are underlined and **bold** to be used in Roadway Link Level of Service calculations.

Figure 3 – Net New Traffic by PM Peak Hour (at Build Out)



Background Traffic

Average background traffic growth rates were estimated for the segments of the roadway network in the study area using the Collier County Transportation Planning Staff guidance of a minimum 2% growth rate, or the historical growth rate from peak hour peak direction volume (estimated from 2008 through 2017), whichever is greater.

Another way to derive the background traffic is to use the 2017 AUIR volume plus the trip bank volume. **Table 4, Background Traffic without Project** illustrates the application of projected growth rates to generate the projected background (without project) peak hour peak direction traffic volume for the build-out year 2022.

Table 4
Background Traffic without Project (2017 - 2022)

Roadway Link	CC AUIR Link ID #	Roadway Link Location	2017 AUIR Pk Hr, Pk Dir Background Traffic Volume (trips/hr)	Projected Traffic Annual Growth Rate (%/yr)*	Growth Factor	2022 Projected Pk Hr, Peak Dir Background Traffic Volume w/out Project (trips/hr) Growth Factor**	Trip Bank	2022 Projected Pk Hr, Peak Dir Background Traffic Volume w/out Project (trips/hr) Trip Bank***
Goodlette - Frank Road	24.2	Orange Blossom to Pine Ridge Rd	1,550	2.0%	1.1041	<u>1,712</u>	0	1,550
Goodlette - Frank Road	25.0	Pine Ridge Rd to Golden Gate Pkwy	1,890	2.0%	1.1041	<u>2,087</u>	0	1,890
Pine Ridge Road	64.0	US 41 to Goodlette-Frank Rd	1,860	2.0%	1.1041	<u>2,054</u>	6	1,866
Pine Ridge Road	65.0	Goodlette-Frank Rd to Shirley Street	1,970	2.0%	1.1041	<u>2,176</u>	1	1,971

Note(s): *Annual Growth Rate - from 2017 AUIR, 2% minimum. **Growth Factor = (1+Annual Growth Rate)⁵. 2022 Projected Volume= 2017 AUIR Volume x Growth Factor. ***2022 Projected Volume= 2017 AUIR Volume + Trip Bank. The projected 2022 Peak Hour – Peak Direction Background Traffic is the greater of the Growth Factor or Trip Bank calculation, which is underlined and **bold** as applicable.

Existing and Future Roadway Network

The existing roadway conditions are extracted from the 2017 Annual Update and Inventory Report (AUIR) and the project roadway conditions are based on the current Collier County 5-Year Work Program. Roadway improvements that are currently under construction or are scheduled to be constructed within the five-year Transportation Improvement Plan (TIP) or Capital Improvement program (CIP) are considered to be committed improvements. As no such improvements were identified in the Collier County 2017 AUIR, the evaluated roadways are anticipated to remain as such through project build-out. The existing and future roadway conditions are illustrated in **Table 5, Existing and Future Roadway Conditions**.

Table 5
Existing and Future Roadway Conditions

Roadway Link	CC AUIR Link ID #	Roadway Link Location	Exist Roadway	Min. Standard LOS	Exist Peak Dir, Peak Hr Capacity Volume	Future Project Build out Roadway
Goodlette - Frank Road	24.2	Orange Blossom to Pine Ridge Road	6D	E	2,400 (NB)	6D
Goodlette - Frank Road	25.0	Pine Ridge Road to Golden Gate Parkway	6D	E	3,000 (NB)	6D
Pine Ridge Road	64.0	US 41 to Goodlette-Frank Road	6D	E	2,800 (EB)	6D
Pine Ridge Road	65.0	Goodlette-Frank Road to Shirley Street	6D	E	2,800 (WB)	6D

Note(s): 2U = 2-lane undivided roadway; 4D, 6D, 8D = 4-lane, 6-lane, 8-lane divided roadway, respectively; LOS = Level of Service

Project Impacts to Area Roadway Network-Link Analysis

The Collier County Transportation Planning Services developed Level of Service (LOS) volumes for the roadway links impacted by the project, which were evaluated to determine the project impacts to the area roadway network in the future year 2022. The Collier County Transportation Planning Services guidelines have determined that a project will be considered to have a significant and adverse impact if **both** the percentage volume capacity exceeds 2% of the capacity for the link directly accessed by the project and for the link adjacent to the link

directly accessed by the project; 3% for other subsequent links **and** if the roadway is projected to operate below the adopted LOS standard.

Based on these criteria, this project does not create any significant and adverse impacts to the area roadway network. **Table 6, Roadway Link Level of Service** illustrates the LOS impacts of the project on the roadway network closest to the project. All analyzed roadway links are projected to operate above the adopted LOS standard with or without the project at 2022 future build-out conditions.

As illustrated in Collier County Land Development Code (LDC), Chapter 6.02.02 – M.2., once traffic from a development has been shown to be less than significant on any segment using Collier County TIS criterion, the development’s impact is not required to be analyzed further on any additional segments.

Table 6
Roadway Link Level of Service (LOS) – With Project in the Year 2022

Roadway Link	CC AUIR Link ID #	Roadway Link Location	2017 Peak Dir, Peak Hr Capacity Volume	Roadway Link, Peak Dir, Peak Hr (Project Vol Added)*	2022 Peak Dir, Peak Hr Volume w/Project **	% Vol Capacity Impact by Project	Min LOS exceeded without Project? Yes/No	Min LOS exceeded with Project? Yes/No
Goodlette - Frank Road	24.2	Orange Blossom to Pine Ridge Rd	2,400 (NB)	<u>NB – 44</u>	<u>1,756</u>	1.83%	No	No
Goodlette - Frank Road	25.0	Pine Ridge Rd to Golden Gate Pkwy	3,000 (NB)	<u>NB – 52</u>	<u>2,139</u>	1.73%	No	No
Pine Ridge Road	64.0	US 41 to Goodlette-Frank Rd	2,800 (EB)	<u>EB – 35</u>	<u>2,089</u>	1.25%	No	No
Pine Ridge Road	65.0	Goodlette-Frank Rd to Shirley Street	2,800 (WB)	<u>WB – 35</u>	<u>2,211</u>	1.25%	No	No

Note(s): *Refer to **Table 3D** from this report. **2022 Projected Volume= 2022 background (refer to **Table 4**) + Project Volume added.

The analyzed Pine Ridge Road and Goodlette-Frank Road (north of Pine Ridge Road) links are located within the Northwest Transportation Concurrency Management Area (TCMA). The TCMA's designation is provided in Policy 5.6 of the Transportation Element.

In agreement with Policy 5.7 of the Transportation Element, the TCMA concurrency is measured on a system-wide basis such that each TCMA shall maintain 85% of its lane miles at

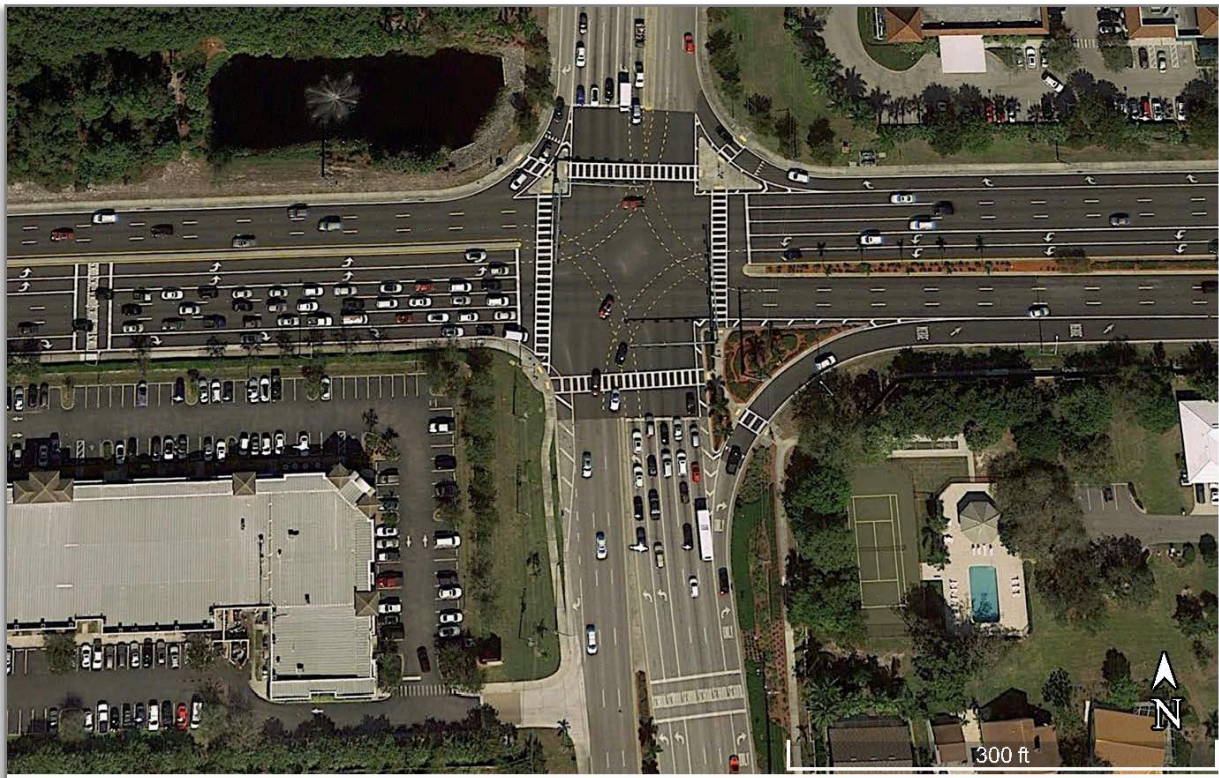
or above the LOS standards. Based on the information contained in 2017 AUIR, the Northwest TCMA percent lane miles meeting standard is 98.9%.

As illustrated in Policy 5.8(d) – Transportation Element, no impact will be de minimus if it exceeds the adopted LOS standard of any affected designated hurricane evacuation routes within a TCMA. Any impact to a hurricane evacuation route within a TCMA shall require a proportionate share congestion mitigation payment provided the remaining LOS requirements of the TCMA are maintained. As illustrated in **Table 6**, no LOS deficiencies are expected for the analyzed roadway network.

Intersection Operational Analysis

Accesses to the site are approved from both Goodlette-Frank Road and Pine Ridge Road. For the purposes of this rezone application, no changes to the previously approved accesses are requested. As requested by Collier County Transportation staff, Pine Ridge Road and Goodlette-Frank Road intersection is analyzed for both current peak conditions (year 2018) and future peak traffic projections (year 2022). The existing intersection lane configuration is illustrated in **Figure 4**.

Figure 4 – Pine Ridge Rd and Goodlette-Frank Rd Intersection



Pine Ridge Road (CR 896) is under Collier County jurisdiction and it is currently a six-lane east-west divided urban arterial roadway and has a posted legal speed limit of 45 mph in the vicinity of project.

Goodlette-Frank Road (CR 851) is under Collier County jurisdiction and it is currently a north-south urban arterial roadway and has a posted legal speed limit of 45 mph in the vicinity of project.

To support the traffic analysis, intersection turning movement counts were conducted on the subject sites on January 31, 2018. AM and PM peak period turning movement data were collected in 15-minute intervals from 7-9 AM, and from 4-6 PM.

A summary of the intersection turning movement counts is provided in **Appendix C: Intersection Raw Turning Movement Counts**.

Traffic count volumes collected are adjusted for peak season conditions by using the peak season conversion factor (PSCF) as illustrated in FDOT 2017 Peak Season Factor Category Report (most current data). As such, the 2018 traffic counts are adjusted by using a PSCF = 1.01 to better illustrate peak season conditions.

Annual growth rates utilized to evaluate the traffic for future conditions are considered as 2% for Pine Ridge Rd. and Vanderbilt Beach Rd. (as illustrated in **Table 4**).

The subject intersection is evaluated based on the calculated background traffic (2018 and 2022) with the additional traffic estimated to PUD buildout conditions. A summary of the projected peak season background traffic and project traffic is provided in **Appendix D: Intersections Peak Season Traffic**.

Capacity and Quality/Level of Service (LOS)

Capacity is defined as the maximum rate at which vehicles can pass through a given point in an hour under prevailing conditions.

An assessment of the Level of Service (LOS) and volume to capacity ratio analysis of the subject intersections are conducted using Synchro Studio 9 traffic software.

The intersection control delay is used as the basis for determining LOS, ranging from LOS A to LOS F using the delay ranges for signalized intersections.

According to Highway Capacity Manual 2010 (HCM 2010), the level of service criterion for intersections is shown in **Table 7**.

Table 7
Level of Service for Intersections

HCM-Based Level of Service and Delay Ranges		
Average Delay (seconds / vehicle)		LOS
Signalized Intersections	Unsignalized intersections	
< 10.0	< 10.0	A
> 10.0 to < 20.0	> 10.0 to < 15.0	B
> 20.0 to < 35.0	> 15.0 to < 25.0	C
> 35.0 to < 55.0	> 25.0 to < 35.0	D
> 55.0 to < 80.0	> 35.0 to < 50.0	E
> 80.0	> 50.0	F

Source: HCM 2010

Based on HCM guidelines, the general description of each LOS is as follows: LOS A – free flow; LOS B – stable flow with slight delays, LOS C – stable flow with acceptable delays, LOS D – approaching unstable flow with tolerable delay and unfavorable progression, LOS E – unstable flow with intolerable delay and poor progression to all movements, and LOS F – forced flow (congested and queues fail to clear) and poor progression to all movements.

The LOS for an overall approach or intersection is determined solely by the control delay. In addition, if the volume-to-capacity (V/C) ratio for a lane group exceeds 1.0, LOS F is assigned to the individual lane group.

To support the signalized intersection analyses, the existing signal programmed Eight Phase Actuated Controller (EPAC) data was provided by Collier County Transportation staff.

The percent heavy vehicle is assumed the Design Hour Truck (DHT) – the percent of trucks expected to use the roadway segment during the design hour of the design year. Design Hour Truck is determined as half of T24 (annual 24-hour percentage of trucks). A 2% heavy vehicle factor is assumed for all movements for the purposes of this analysis.

The volume to capacity ratio (V/C), also referred to as degree of saturation, represents the sufficiency of an intersection to accommodate the vehicular demand. A V/C ratio less than 0.85 generally indicates that adequate capacity is available and vehicles are not expected to experience significant queues and delays. As the V/C ratio approaches 1.0, traffic flow may become unstable, and delay and queuing conditions may occur. Once the demand exceeds the capacity (a V/C ratio greater than 1.0), traffic flow is unstable and excessive delay and queuing

is expected. Under these conditions vehicles may require more than one signal cycle to pass through the intersection (known as cycle failure). For design purposes, a V/C ratio between 0.85 and 0.95 is generally utilized for the peak hour of the horizon year. For the purposes of this analysis, each intersection movement is analyzed to ensure that the threshold value of V/C failure (1.0) is not exceeded.

The results of the Synchro 9 intersection analyses for AM and PM peak hour conditions are summarized in **Table 7**. Synchro 9 intersection worksheets are provided in **Appendix E: Intersection Analysis – Synchro 9 Printouts**.

Table 7
Intersection Analysis Summary

Study Intersection	2018 Peak Season Background Traffic	2022 Peak Season Background Traffic	2022 Peak Season Background Traffic with PUD Build-out Traffic
AM Peak Hour			
Intersection LOS	D	D	D
Each Approach LOS Failure (LOS F)	No	No	No
V/C ratio > 1 for Specific Movements	No	No	No
PM Peak Hour			
Intersection LOS	D	D	D
Each Approach LOS Failure (LOS F)	No	No	No
V/C ratio > 1 for Specific Movements	No	No	No

Based on the results of this analysis, the study area intersection operates at an acceptable level of service under current 2018 and future 2022 background conditions and is anticipated to continue to operate at acceptable level of service with the additional traffic associated with the PUD at buildout-out conditions.

In addition, the threshold value of failure for V/C is not exceeded for any intersection movements associated with AM and PM peak pour conditions.

Improvement Analysis

Based on the link analysis and trip distribution, the additional net new traffic is not a significant and adverse traffic generator for the roadway network at this location.

As illustrated in our analysis, the projected traffic impact is neither significant nor adverse for the purposes of this application. The Northwest TCMA contains sufficient capacity to maintain

85% of its lane miles at or above the LOS standard (as required in Policy 5.7 of the Transportation Element).

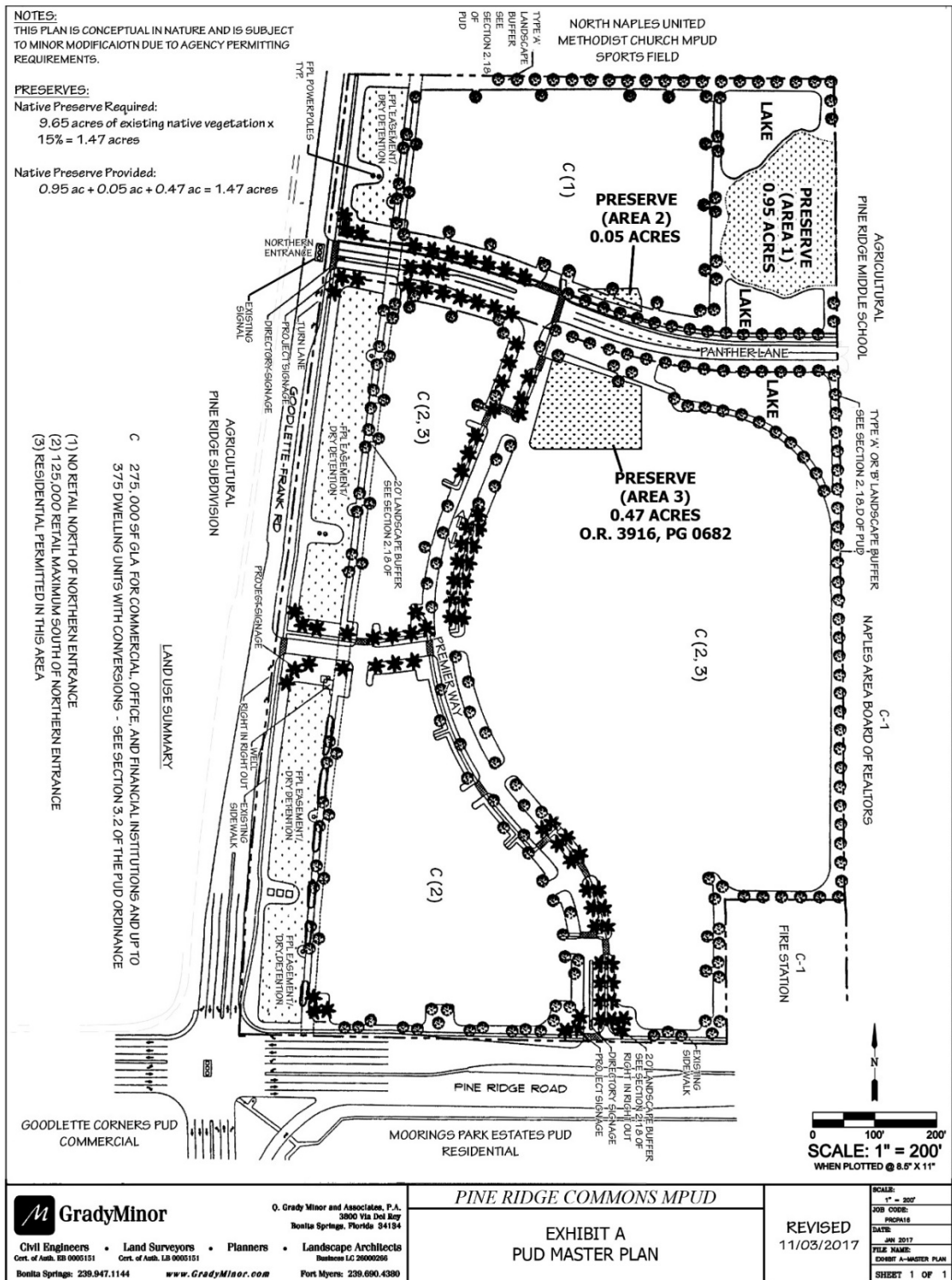
Based on the results of the Goodlette-Frank Road and Pine Ridge Road intersection analysis, the study area intersection operates at an acceptable level of service under current 2018 and future 2022 background conditions and is anticipated to continue to operate at acceptable level of service with the additional traffic associated with the PUD at buildout conditions.

A detailed evaluation of applicable access points will be performed at the time of site development permitting/platting to determine turn lane requirements, as applicable.

Mitigation of Impact

The developer proposes to pay the appropriate Collier County Road Impact Fee as building permits are issued for the project.

Appendix A: PUD Master Plan



Appendix B: Trip Generation Calculations ITE 9th Edition

Approved PUD Development

Land Use	Size	Weekday		AM Peak Hour		PM Peak Hour	
		Entry	Exit	Entry	Exit	Entry	Exit
820 - Shopping Center (General Urban/Suburban)							
Reduction	125 1000 Sq. Feet Gross Leasable Area	3926	3925	111	68	334	362
Internal		0	0	0	0	0	0
Pass-by		157	118	2	2	7	11
Non-pass-by		565	571	27	17	82	88
		3204	3236	82	49	245	263
710 - General Office Building (General Urban/Suburban)							
Reduction	150 1000 Sq. Feet Gross Floor Area	894	893	233	32	42	204
Internal		0	0	0	0	0	0
Pass-by		118	157	2	2	11	7
Non-pass-by		0	0	0	0	0	0
		776	736	231	30	31	197
Total		4820	4818	344	100	376	566
Total Reduction		0	0	0	0	0	0
Total Internal		275	275	4	4	18	18
Total Pass-by		565	571	27	17	82	88
Total Non-pass-by		3980	3972	313	79	276	460

PERIOD SETTING

Analysis Name : Weekday
Project Name : Pine Ridge Commons - Approved PUD
Date: 1/7/2018
State/Province:
Country:
Analyst's Name:
No :
City:
Zip/Postal Code:
Client Name:
Edition: ITE-TGM 9th Edition

Land Use	Independent Variable	Size	Time Period	Method	Entry	Exit	Total
820 - Shopping Center (General Urban/Suburban)	1000 Sq. Feet Gross Leasable Area	125	Weekday	Best Fit (LOG) $\ln(T) = 0.65\ln(X) + 5.83$	3926 50%	3925 50%	7851
710 - General Office Building (General Urban/Suburban)	1000 Sq. Feet Gross Floor Area	150	Weekday	Best Fit (LOG) $\ln(T) = 0.76\ln(X) + 3.68$	894 50%	893 50%	1787

TRAFFIC REDUCTIONS

Land Use	Entry Reduction	Adjusted Entry	Exit Reduction	Adjusted Exit
820 - Shopping Center	0 %	3926	0 %	3925
710 - General Office Building	0 %	894	0 %	893

INTERNAL TRIPS

820 - Shopping Center
Exit 3925 Demand Exit: 3 % (118) Balanced: 118
Entry 3926 Demand Entry: 4 % (157) Balanced: 157
710 - General Office Building
Demand Entry: 15 % (134) **Entry** 894
Demand Exit: 22 % (196) **Exit** 893

820 - Shopping Center

Total Trips		Internal Trips		External Trips	
		710 - General Office Building	Total		
Entry	3926 (100%)	157 (4%)	157 (4%)	3769	(96%)
Exit	3925 (100%)	118 (3%)	118 (3%)	3807	(97%)
Total	7851 (100%)	275 (4%)	275 (4%)	7576	(96%)

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710 - General Office Building

	Total Trips	Internal Trips		External Trips
		820 - Shopping Center	Total	
Entry	894 (100%)	118 (13%)	118 (13%)	776 (87%)
Exit	893 (100%)	157 (18%)	157 (18%)	736 (82%)
Total	1787 (100%)	275 (15%)	275 (15%)	1512 (85%)

EXTERNAL TRIPS

Land Use	External Trips	Pass-by%	Pass-by Trips	Non-pass-by Trips
820 - Shopping Center	7576	15	1136	6440
710 - General Office Building	1512	0	0	1512

NOTES**Internal Trips Notes:**

null

ITE DEVIATION DETAILS**Weekday**

Landuse No deviations from ITE.

Methods No deviations from ITE.

External Trips 820 - Shopping Center (General Urban/Suburban)
ITE does not recommend a particular pass-by% for this case.

710 - General Office Building (General Urban/Suburban)
ITE does not recommend a particular pass-by% for this case.

Print Preview

SUMMARY

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Total Entering	4820
Total Exiting	4818
Total Entering Reduction	0
Total Exiting Reduction	0
Total Entering Internal Capture Reduction	275
Total Exiting Internal Capture Reduction	275
Total Entering Pass-by Reduction	565
Total Exiting Pass-by Reduction	571
Total Entering Non-Pass-by Trips	3980
Total Exiting Non-Pass-by Trips	3972

<https://itetripgen.org/projectstudy/printpreview?guid=6b2b84ce5e9977fac291842c673762f6>

06/22/2018

PERIOD SETTING

Analysis Name : AM Peak Hour
Project Name : Pine Ridge Commons - Approved PUD
Date: 1/7/2018
State/Province:
Country:
Analyst's Name:
No :
City:
Zip/Postal Code:
Client Name:
Edition: ITE-TGM 9th Edition

Land Use	Independent Variable	Size	Time Period	Method	Entry	Exit	Total
820 - Shopping Center (General Urban/Suburban)	1000 Sq. Feet Gross Leasable Area	125	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.	Best Fit (LOG) $\ln(T) = 0.61\ln(X) + 2.24$	111 62%	68 38%	179
710 - General Office Building (General Urban/Suburban)	1000 Sq. Feet Gross Floor Area	150	Weekday, AM Peak Hour of Generator	Best Fit (LOG) $\ln(T) = 0.8\ln(X) + 1.57$	233 88%	32 12%	265

 The time periods do not match.

TRAFFIC REDUCTIONS

Land Use	Entry Reduction	Adjusted Entry	Exit Reduction	Adjusted Exit
820 - Shopping Center	0 %	111	0 %	68
710 - General Office Building	0 %	233	0 %	32

INTERNAL TRIPS

820 - Shopping Center
Exit 68 Demand Exit: 3 % (2) Balanced: 2 Demand Entry: 31 % (72) **Entry** 233
Entry 111 Demand Entry: 2 % (2) Balanced: 2 Demand Exit: 23 % (7) **Exit** 32

820 - Shopping Center

Total Trips		Internal Trips		External Trips	
		710 - General Office Building	Total		
Entry	111 (100%)	2 (2%)	2 (2%)	109 (98%)	
Exit	68 (100%)	2 (3%)	2 (3%)	66 (97%)	
Total	179 (100%)	4 (2%)	4 (2%)	175 (98%)	

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710 - General Office Building

	Total Trips	Internal Trips		External Trips
		820 - Shopping Center	Total	
Entry	233 (100%)	2 (1%)	2 (1%)	231 (99%)
Exit	32 (100%)	2 (6%)	2 (6%)	30 (94%)
Total	265 (100%)	4 (2%)	4 (2%)	261 (98%)

EXTERNAL TRIPS

Land Use	External Trips	Pass-by%	Pass-by Trips	Non-pass-by Trips
820 - Shopping Center	175	25	44	131
710 - General Office Building	261	0	0	261

NOTES**Internal Trips Notes:**

null

ITE DEVIATION DETAILS**Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.**

Landuse No deviations from ITE.

Methods No deviations from ITE.

External Trips 820 - Shopping Center (General Urban/Suburban)
ITE does not recommend a particular pass-by% for this case.

Weekday, AM Peak Hour of Generator

Landuse No deviations from ITE.

Methods No deviations from ITE.

External Trips 710 - General Office Building (General Urban/Suburban)
ITE does not recommend a particular pass-by% for this case.

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06/22/2018

SUMMARY

Total Entering	344
Total Exiting	100
Total Entering Reduction	0
Total Exiting Reduction	0
Total Entering Internal Capture Reduction	4
Total Exiting Internal Capture Reduction	4
Total Entering Pass-by Reduction	27
Total Exiting Pass-by Reduction	17
Total Entering Non-Pass-by Trips	313
Total Exiting Non-Pass-by Trips	79

PERIOD SETTING

Analysis Name : PM Peak Hour
Project Name : Pine Ridge Commons - Approved PUD
Date: 1/7/2018
State/Province:
Country:
Analyst's Name:
No :
City:
Zip/Postal Code:
Client Name:
Edition: ITE-TGM 9th Edition

Land Use	Independent Variable	Size	Time Period	Method	Entry	Exit	Total
820 - Shopping Center (General Urban/Suburban)	1000 Sq. Feet Gross Leasable Area	125	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.	Best Fit (LOG) $\ln(T) = 0.67\ln(X) + 3.31$	334 48%	362 52%	696
710 - General Office Building (General Urban/Suburban)	1000 Sq. Feet Gross Floor Area	150	Weekday, PM Peak Hour of Generator	Best Fit (LIN) $T = 1.12(X) + 78.45$	42 17%	204 83%	246

 The time periods do not match.

TRAFFIC REDUCTIONS

Land Use	Entry Reduction	Adjusted Entry	Exit Reduction	Adjusted Exit
820 - Shopping Center	0 %	334	0 %	362
710 - General Office Building	0 %	42	0 %	204

INTERNAL TRIPS

820 - Shopping Center
Exit 362 Demand Exit: 3 % (11) Balanced: 11
Entry 334 Demand Entry: 2 % (7) Balanced: 7
710 - General Office Building
Demand Entry: 31 % (13) **Entry** 42
Demand Exit: 23 % (47) **Exit** 204

820 - Shopping Center

Total Trips		Internal Trips		External Trips	
		710 - General Office Building	Total		
Entry	334 (100%)	7 (2%)	7 (2%)	327 (98%)	
Exit	362 (100%)	11 (3%)	11 (3%)	351 (97%)	

Print Preview

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Total	696 (100%)	18 (3%)	18 (3%)	678 (97%)
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710 - General Office Building

	Total Trips	Internal Trips		External Trips
		820 - Shopping Center	Total	
Entry	42 (100%)	11 (26%)	11 (26%)	31 (74%)
Exit	204 (100%)	7 (3%)	7 (3%)	197 (97%)
Total	246 (100%)	18 (7%)	18 (7%)	228 (93%)

EXTERNAL TRIPS

Land Use	External Trips	Pass-by%	Pass-by Trips	Non-pass-by Trips
820 - Shopping Center	678	25	170	508
710 - General Office Building	228	0	0	228

ITE DEVIATION DETAILS**Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.**

Landuse No deviations from ITE.

Methods No deviations from ITE.

External Trips 820 - Shopping Center (General Urban/Suburban)
The chosen pass-by% (25) is not provided by ITE. ITE recommends 37.

Weekday, PM Peak Hour of Generator

Landuse No deviations from ITE.

Methods No deviations from ITE.

External Trips 710 - General Office Building (General Urban/Suburban)
ITE does not recommend a particular pass-by% for this case.

SUMMARY

Total Entering	376
Total Exiting	566

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Total Entering Reduction	0
Total Exiting Reduction	0
Total Entering Internal Capture Reduction	18
Total Exiting Internal Capture Reduction	18
Total Entering Pass-by Reduction	82
Total Exiting Pass-by Reduction	88
Total Entering Non-Pass-by Trips	276
Total Exiting Non-Pass-by Trips	460

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06/22/2018

Proposed PUDA Development

Land Use	Size	Weekday		AM Peak Hour		PM Peak Hour	
		Entry	Exit	Entry	Exit	Entry	Exit
820 - Shopping Center (General Urban/Suburban)	70.9 1000 Sq. Feet Gross Leasable Area	2716	2715	78	48	228	248
Reduction		0	0	0	0	0	0
Internal		353	380	9	7	26	37
Pass-by		354	351	17	11	50	53
Non-pass-by		2009	1984	52	30	152	158
710 - General Office Building (General Urban/Suburban)	129.1 1000 Sq. Feet Gross Floor Area	797	797	207	28	38	185
Reduction		0	0	0	0	0	0
Internal		81	125	1	3	7	8
Pass-by		0	0	0	0	0	0
Non-pass-by		716	672	206	25	31	177
220 - Apartment (General Urban/Suburban)	325 Dwelling Units	1047	1046	33	130	127	69
Reduction		0	0	0	0	0	0
Internal		315	244	7	7	33	21
Pass-by		0	0	0	0	0	0
Non-pass-by		732	802	26	123	94	48
Total		4560	4558	318	206	393	502
Total Reduction		0	0	0	0	0	0
Total Internal		749	749	17	17	66	66
Total Pass-by		354	351	17	11	50	53
Total Non-pass-by		3457	3458	284	178	277	383

PERIOD SETTING

Analysis Name : Weekday
Project Name : Pine Ridge Commons - Proposed PUDA
Date: 6/22/2018
State/Province:
Country:
Analyst's Name:
No :
City:
Zip/Postal Code:
Client Name:
Edition: ITE-TGM 9th Edition

Land Use	Independent Variable	Size	Time Period	Method	Entry	Exit	Total
820 - Shopping Center (General Urban/Suburban)	1000 Sq. Feet Gross Leasable Area	70.9	Weekday	Best Fit (LOG) $\ln(T) = 0.65\ln(X) + 5.83$	2716 50%	2715 50%	5431
710 - General Office Building (General Urban/Suburban)	1000 Sq. Feet Gross Floor Area	129.1	Weekday	Best Fit (LOG) $\ln(T) = 0.76\ln(X) + 3.68$	797 50%	797 50%	1594
220 - Apartment (General Urban/Suburban)	Dwelling Units	325	Weekday	Best Fit (LIN) $T = 6.06(X) + 123.56$	1047 50%	1046 50%	2093

TRAFFIC REDUCTIONS

Land Use	Entry Reduction	Adjusted Entry	Exit Reduction	Adjusted Exit
820 - Shopping Center	0 %	2716	0 %	2715
710 - General Office Building	0 %	797	0 %	797
220 - Apartment	0 %	1047	0 %	1046

INTERNAL TRIPS

820 - Shopping Center				710 - General Office Building			
Exit	2715	Demand Exit:	3 % (81)	Balanced:	81	Demand Entry:	15 % (120)
Entry	2716	Demand Entry:	4 % (109)	Balanced:	109	Demand Exit:	22 % (175)
Exit	2715	Demand Exit:	11 % (299)	Balanced:	299	Demand Entry:	33 % (346)
Entry	2716	Demand Entry:	9 % (244)	Balanced:	244	Demand Exit:	38 % (397)
220 - Apartment							
Exit	2715	Demand Exit:	11 % (299)	Balanced:	299	Demand Entry:	33 % (346)
Entry	2716	Demand Entry:	9 % (244)	Balanced:	244	Demand Exit:	38 % (397)

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710 - General Office Building**220 - Apartment**

Exit 797	Demand Exit: 2 % (16)	Balanced: 16	Demand Entry: 3 % (31)	Entry 1047
Entry 797	Demand Entry: 0 % (0)	Balanced: 0	Demand Exit: 0 % (0)	Exit 1046

820 - Shopping Center

	Total Trips	Internal Trips			External Trips
		710 - General Office Building	220 - Apartment	Total	
Entry	2716 (100%)	109 (4%)	244 (9%)	353 (13%)	2363 (87%)
Exit	2715 (100%)	81 (3%)	299 (11%)	380 (14%)	2335 (86%)
Total	5431 (100%)	190 (3%)	543 (10%)	733 (13%)	4698 (87%)

710 - General Office Building

	Total Trips	Internal Trips			External Trips
		820 - Shopping Center	220 - Apartment	Total	
Entry	797 (100%)	81 (10%)	0 (0%)	81 (10%)	716 (90%)
Exit	797 (100%)	109 (14%)	16 (2%)	125 (16%)	672 (84%)
Total	1594 (100%)	190 (12%)	16 (1%)	206 (13%)	1388 (87%)

220 - Apartment

	Total Trips	Internal Trips			External Trips
		820 - Shopping Center	710 - General Office Building	Total	
Entry	1047 (100%)	299 (29%)	16 (2%)	315 (30%)	732 (70%)
Exit	1046 (100%)	244 (23%)	0 (0%)	244 (23%)	802 (77%)
Total	2093 (100%)	543 (26%)	16 (1%)	559 (27%)	1534 (73%)

EXTERNAL TRIPS

Land Use	External Trips	Pass-by%	Pass-by Trips	Non-pass-by Trips
820 - Shopping Center	4698	15	705	3993
710 - General Office Building	1388	0	0	1388
220 - Apartment	1534	0	0	1534

NOTES

Internal Trips Notes:

ITE DEVIATION DETAILS

Weekday

Landuse No deviations from ITE.

Methods No deviations from ITE.

External Trips 820 - Shopping Center (General Urban/Suburban)
ITE does not recommend a particular pass-by% for this case.

710 - General Office Building (General Urban/Suburban)
ITE does not recommend a particular pass-by% for this case.

220 - Apartment (General Urban/Suburban)
ITE does not recommend a particular pass-by% for this case.

SUMMARY

Total Entering	4560
Total Exiting	4558
Total Entering Reduction	0
Total Exiting Reduction	0
Total Entering Internal Capture Reduction	749
Total Exiting Internal Capture Reduction	749
Total Entering Pass-by Reduction	354
Total Exiting Pass-by Reduction	351
Total Entering Non-Pass-by Trips	3457
Total Exiting Non-Pass-by Trips	3458

Print Preview

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PERIOD SETTING

Analysis Name : AM Peak Hour
Project Name : Pine Ridge Commons - Proposed PUDA
Date: 6/22/2018
State/Province:
Country:
Analyst's Name:
No :
City:
Zip/Postal Code:
Client Name:
Edition: ITE-TGM 9th Edition

Land Use	Independent Variable	Size	Time Period	Method	Entry	Exit	Total
820 - Shopping Center (General Urban/Suburban)	1000 Sq. Feet Gross Leasable Area	70.9	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.	Best Fit (LOG) $\ln(T) = 0.61\ln(X) + 2.24$	78 62%	48 38%	126
710 - General Office Building (General Urban/Suburban)	1000 Sq. Feet Gross Floor Area	129.1	Weekday, AM Peak Hour of Generator	Best Fit (LOG) $\ln(T) = 0.8\ln(X) + 1.57$	207 88%	28 12%	235
220 - Apartment (General Urban/Suburban)	Dwelling Units	325	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.	Best Fit (LIN) $T = 0.49(X) + 3.73$	33 20%	130 80%	163

 The time periods do not match.

TRAFFIC REDUCTIONS

Land Use	Entry Reduction	Adjusted Entry	Exit Reduction	Adjusted Exit
820 - Shopping Center	0 %	78	0 %	48
710 - General Office Building	0 %	207	0 %	28
220 - Apartment	0 %	33	0 %	130

INTERNAL TRIPS

820 - Shopping Center

Exit 48 Demand Exit: 3 % (1)
Entry 78 Demand Entry: 2 % (2)

710 - General Office Building

Balanced: 1 Demand Entry: 31 % (64) **Entry** 207
 Balanced: 2 Demand Exit: 23 % (6) **Exit** 28

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06/22/2018

820 - Shopping Center					
Exit	48	Demand Exit:	12 % (6)	Balanced: 6	Demand Entry: 31 % (10)
Entry	78	Demand Entry:	9 % (7)	Balanced: 7	Demand Exit: 53 % (69)

710 - General Office Building					
Exit	28	Demand Exit:	2 % (1)	Balanced: 1	Demand Entry: 2 % (1)
Entry	207	Demand Entry:	0 % (0)	Balanced: 0	Demand Exit: 0 % (0)

820 - Shopping Center					
	Total Trips	Internal Trips			External Trips
		710 - General Office Building	220 - Apartment	Total	
Entry	78 (100%)	2 (3%)	7 (9%)	9 (12%)	69 (88%)
Exit	48 (100%)	1 (2%)	6 (13%)	7 (15%)	41 (85%)
Total	126 (100%)	3 (2%)	13 (10%)	16 (13%)	110 (87%)

710 - General Office Building					
	Total Trips	Internal Trips			External Trips
		820 - Shopping Center	220 - Apartment	Total	
Entry	207 (100%)	1 (0%)	0 (0%)	1 (0%)	206 (100%)
Exit	28 (100%)	2 (7%)	1 (4%)	3 (11%)	25 (89%)
Total	235 (100%)	3 (1%)	1 (0%)	4 (2%)	231 (98%)

220 - Apartment					
	Total Trips	Internal Trips			External Trips
		820 - Shopping Center	710 - General Office Building	Total	
Entry	33 (100%)	6 (18%)	1 (3%)	7 (21%)	26 (79%)
Exit	130 (100%)	7 (5%)	0 (0%)	7 (5%)	123 (95%)
Total	163 (100%)	13 (8%)	1 (1%)	14 (9%)	149 (91%)

EXTERNAL TRIPS

Land Use	External Trips	Pass-by%	Pass-by Trips	Non-pass-by Trips
820 - Shopping Center	110	25	28	82
710 - General Office Building	231	0	0	231
220 - Apartment	149	0	0	149

Print Preview

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Internal Trips Notes:

null

ITE DEVIATION DETAILS**Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.**

Landuse No deviations from ITE.

Methods No deviations from ITE.

External Trips 820 - Shopping Center (General Urban/Suburban)
ITE does not recommend a particular pass-by% for this case.

220 - Apartment (General Urban/Suburban)
ITE does not recommend a particular pass-by% for this case.

Weekday, AM Peak Hour of Generator

Landuse No deviations from ITE.

Methods No deviations from ITE.

External Trips 710 - General Office Building (General Urban/Suburban)
ITE does not recommend a particular pass-by% for this case.

SUMMARY

Total Entering	318
Total Exiting	206
Total Entering Reduction	0
Total Exiting Reduction	0
Total Entering Internal Capture Reduction	17
Total Exiting Internal Capture Reduction	17
Total Entering Pass-by Reduction	17
Total Exiting Pass-by Reduction	11
Total Entering Non-Pass-by Trips	284
Total Exiting Non-Pass-by Trips	178

PERIOD SETTING

Analysis Name : PM Peak Hour
Project Name : Pine Ridge Commons - Proposed PUDA
Date: 6/22/2018
State/Province:
Country:
Analyst's Name:
No :
City:
Zip/Postal Code:
Client Name:
Edition: ITE-TGM 9th Edition

Land Use	Independent Variable	Size	Time Period	Method	Entry	Exit	Total
820 - Shopping Center (General Urban/Suburban)	1000 Sq. Feet Gross Leasable Area	70.9	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.	Best Fit (LOG) $\ln(T) = 0.67\ln(X) + 3.31$	228 48%	248 52%	476
710 - General Office Building (General Urban/Suburban)	1000 Sq. Feet Gross Floor Area	129.1	Weekday, PM Peak Hour of Generator	Best Fit (LIN) $T = 1.12(X) + 78.45$	38 17%	185 83%	223
220 - Apartment (General Urban/Suburban)	Dwelling Units	325	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.	Best Fit (LIN) $T = 0.55(X) + 17.65$	127 65%	69 35%	196

 The time periods do not match.

TRAFFIC REDUCTIONS

Land Use	Entry Reduction	Adjusted Entry	Exit Reduction	Adjusted Exit
820 - Shopping Center	0 %	228	0 %	248
710 - General Office Building	0 %	38	0 %	185
220 - Apartment	0 %	127	0 %	69

INTERNAL TRIPS

820 - Shopping Center

Exit 248 Demand Exit: 3 % (7)
Entry 228 Demand Entry: 2 % (5)

Balanced:
7

Balanced:
5

710 - General Office Building

Demand Entry: 31 % (12) **Entry** 38
 Demand Exit: 23 % (43) **Exit** 185

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Exit 248 Demand Exit: 12 % (30) Balanced: 30 Demand Entry: 31 % (39) **Entry** 127

Entry 228 Demand Entry: 9 % (21) Balanced: 21 Demand Exit: 53 % (37) **Exit** 69

710 - General Office Building**220 - Apartment**

Exit 185 Demand Exit: 2 % (4) Balanced: 3 Demand Entry: 2 % (3) **Entry** 127

Entry 38 Demand Entry: 0 % (0) Balanced: 0 Demand Exit: 0 % (0) **Exit** 69

820 - Shopping Center

	Total Trips	Internal Trips			External Trips
		710 - General Office Building	220 - Apartment	Total	
Entry	228 (100%)	5 (2%)	21 (9%)	26 (11%)	202 (89%)
Exit	248 (100%)	7 (3%)	30 (12%)	37 (15%)	211 (85%)
Total	476 (100%)	12 (3%)	51 (11%)	63 (13%)	413 (87%)

710 - General Office Building

	Total Trips	Internal Trips			External Trips
		820 - Shopping Center	220 - Apartment	Total	
Entry	38 (100%)	7 (18%)	0 (0%)	7 (18%)	31 (82%)
Exit	185 (100%)	5 (3%)	3 (2%)	8 (4%)	177 (96%)
Total	223 (100%)	12 (5%)	3 (1%)	15 (7%)	208 (93%)

220 - Apartment

	Total Trips	Internal Trips			External Trips
		820 - Shopping Center	710 - General Office Building	Total	
Entry	127 (100%)	30 (24%)	3 (2%)	33 (26%)	94 (74%)
Exit	69 (100%)	21 (30%)	0 (0%)	21 (30%)	48 (70%)
Total	196 (100%)	51 (26%)	3 (2%)	54 (28%)	142 (72%)

EXTERNAL TRIPS

Land Use	External Trips	Pass-by%	Pass-by Trips	Non-pass-by Trips
820 - Shopping Center	413	25	103	310
710 - General Office Building	208	0	0	208
220 - Apartment	142	0	0	142

Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.

Landuse No deviations from ITE.

Methods No deviations from ITE.

External Trips 820 - Shopping Center (General Urban/Suburban)
The chosen pass-by% (25) is not provided by ITE. ITE recommends 43.

220 - Apartment (General Urban/Suburban)
ITE does not recommend a particular pass-by% for this case.

Weekday, PM Peak Hour of Generator

Landuse No deviations from ITE.

Methods No deviations from ITE.

External Trips 710 - General Office Building (General Urban/Suburban)
ITE does not recommend a particular pass-by% for this case.

SUMMARY

Total Entering	393
Total Exiting	502
Total Entering Reduction	0
Total Exiting Reduction	0
Total Entering Internal Capture Reduction	66
Total Exiting Internal Capture Reduction	66
Total Entering Pass-by Reduction	50
Total Exiting Pass-by Reduction	53
Total Entering Non-Pass-by Trips	277
Total Exiting Non-Pass-by Trips	383

Existing PUD Constructed – Occupied Development

Land Use	Size	Weekday		AM Peak Hour		PM Peak Hour	
		Entry	Exit	Entry	Exit	Entry	Exit
820 - Shopping Center (General Urban/Suburban)							
Reduction	20 1000 Sq. Feet Gross Leasable Area	1193	1193	36	22	98	106
Internal		0	0	0	0	0	0
Pass-by		48	36	1	1	2	3
Non-pass-by		172	173	9	5	24	26
		973	984	26	16	72	77
710 - General Office Building (General Urban/Suburban)							
Reduction	104,21 1000 Sq. Feet Gross Floor Area	678	677	174	24	33	162
Internal		0	0	0	0	0	0
Pass-by		36	48	1	1	3	2
Non-pass-by		0	0	0	0	0	0
		642	629	173	23	30	160
Total		1871	1870	210	46	131	268
Total Reduction		0	0	0	0	0	0
Total Internal		84	84	2	2	5	5
Total Pass-by		172	173	9	5	24	26
Total Non-pass-by		1615	1613	199	39	102	237

Print Preview

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PERIOD SETTING

Analysis Name : Weekday
Project Name : Pine Ridge Commons - Existing Constructed - Occupied
Date: 1/7/2018
State/Province:
Country:
Analyst's Name:
No :
City:
Zip/Postal Code:
Client Name:
Edition: ITE-TGM 9th Edition

Land Use	Independent Variable	Size	Time Period	Method	Entry	Exit	Total
820 - Shopping Center (General Urban/Suburban)	1000 Sq. Feet Gross Leasable Area	20	Weekday	Best Fit (LOG) $\ln(T) = 0.65\ln(X) + 5.83$	1193 50%	1193 50%	2386
710 - General Office Building (General Urban/Suburban)	1000 Sq. Feet Gross Floor Area	104.21	Weekday	Best Fit (LOG) $\ln(T) = 0.76\ln(X) + 3.68$	678 50%	677 50%	1355

TRAFFIC REDUCTIONS

Land Use	Entry Reduction	Adjusted Entry	Exit Reduction	Adjusted Exit
820 - Shopping Center	0 %	1193	0 %	1193
710 - General Office Building	0 %	678	0 %	677

INTERNAL TRIPS

820 - Shopping Center
Exit 1193 Demand Exit: 3 % (36) Balanced: 36
Entry 1193 Demand Entry: 4 % (48) Balanced: 48
710 - General Office Building
Demand Entry: 15 % (102) **Entry** 678
Demand Exit: 22 % (149) **Exit** 677

820 - Shopping Center

Total Trips		Internal Trips		External Trips	
		710 - General Office Building	Total		
Entry	1193 (100%)	48 (4%)	48 (4%)	1145	(96%)
Exit	1193 (100%)	36 (3%)	36 (3%)	1157	(97%)
Total	2386 (100%)	84 (4%)	84 (4%)	2302	(96%)

<https://itetripngen.org/projectstudy/printpreview?guid=a98c4f593e449ec3744d17c389a28838>

06/22/2018

Print Preview

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710 - General Office Building

	Total Trips	Internal Trips		External Trips
		820 - Shopping Center	Total	
Entry	678 (100%)	36 (5%)	36 (5%)	642 (95%)
Exit	677 (100%)	48 (7%)	48 (7%)	629 (93%)
Total	1355 (100%)	84 (6%)	84 (6%)	1271 (94%)

EXTERNAL TRIPS

Land Use	External Trips	Pass-by%	Pass-by Trips	Non-pass-by Trips
820 - Shopping Center	2302	15	345	1957
710 - General Office Building	1271	0	0	1271

NOTES**Internal Trips Notes:**

null

ITE DEVIATION DETAILS**Weekday**

Landuse No deviations from ITE.

Methods No deviations from ITE.

External Trips 820 - Shopping Center (General Urban/Suburban)
ITE does not recommend a particular pass-by% for this case.

710 - General Office Building (General Urban/Suburban)
ITE does not recommend a particular pass-by% for this case.

SUMMARY

Print Preview

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Total Entering	1871
Total Exiting	1870
Total Entering Reduction	0
Total Exiting Reduction	0
Total Entering Internal Capture Reduction	84
Total Exiting Internal Capture Reduction	84
Total Entering Pass-by Reduction	172
Total Exiting Pass-by Reduction	173
Total Entering Non-Pass-by Trips	1615
Total Exiting Non-Pass-by Trips	1613

<https://itetripgen.org/projectstudy/printpreview?guid=a98c4f593e449ec3744d17c389a28838>

06/22/2018

PERIOD SETTING

Analysis Name : AM Peak Hour
Project Name : Pine Ridge Commons - Existing Constructed - Occupied
Date: 1/7/2018
State/Province:
Country:
Analyst's Name:
No :
City:
Zip/Postal Code:
Client Name:
Edition: ITE-TGM 9th Edition

Land Use	Independent Variable	Size	Time Period	Method	Entry	Exit	Total
820 - Shopping Center (General Urban/Suburban)	1000 Sq. Feet Gross Leasable Area	20	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.	Best Fit (LOG) $\ln(T) = 0.61\ln(X) + 2.24$	36 62%	22 38%	58
710 - General Office Building (General Urban/Suburban)	1000 Sq. Feet Gross Floor Area	104.21	Weekday, AM Peak Hour of Generator	Best Fit (LOG) $\ln(T) = 0.8\ln(X) + 1.57$	174 88%	24 12%	198

 The time periods do not match.

TRAFFIC REDUCTIONS

Land Use	Entry Reduction	Adjusted Entry	Exit Reduction	Adjusted Exit
820 - Shopping Center	0 %	36	0 %	22
710 - General Office Building	0 %	174	0 %	24

INTERNAL TRIPS

820 - Shopping Center

Exit 22 Demand Exit: 3 % (1)

Entry 36 Demand Entry: 2 % (1)

710 - General Office Building

Entry 174 Demand Entry: 31 % (54)

Exit 24 Demand Exit: 23 % (6)

820 - Shopping Center

Total Trips		Internal Trips		External Trips	
		710 - General Office Building	Total		
Entry	36 (100%)	1 (3%)	1 (3%)	35 (97%)	
Exit	22 (100%)	1 (5%)	1 (5%)	21 (95%)	

Print Preview

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710 - General Office Building

	Total Trips	Internal Trips		External Trips
		820 - Shopping Center	Total	
Entry	174 (100%)	1 (1%)	1 (1%)	173 (99%)
Exit	24 (100%)	1 (4%)	1 (4%)	23 (96%)
Total	198 (100%)	2 (1%)	2 (1%)	196 (99%)

EXTERNAL TRIPS

Land Use	External Trips	Pass-by%	Pass-by Trips	Non-pass-by Trips
820 - Shopping Center	56	25	14	42
710 - General Office Building	196	0	0	196

NOTES**Internal Trips Notes:**

null

ITE DEVIATION DETAILS**Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.**

Landuse No deviations from ITE.

Methods No deviations from ITE.

External Trips 820 - Shopping Center (General Urban/Suburban)
ITE does not recommend a particular pass-by% for this case.

Weekday, AM Peak Hour of Generator

Landuse No deviations from ITE.

Methods No deviations from ITE.

External Trips 710 - General Office Building (General Urban/Suburban)
ITE does not recommend a particular pass-by% for this case.

Print Preview

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SUMMARY

Total Entering	210
Total Exiting	46
Total Entering Reduction	0
Total Exiting Reduction	0
Total Entering Internal Capture Reduction	2
Total Exiting Internal Capture Reduction	2
Total Entering Pass-by Reduction	9
Total Exiting Pass-by Reduction	5
Total Entering Non-Pass-by Trips	199
Total Exiting Non-Pass-by Trips	39

<https://itetripgen.org/projectstudy/printpreview?guid=180840ec58062515a6d59458ee4b5a3b>

06/22/2018

PERIOD SETTING

Analysis Name : PM Peak Hour
Project Name : Pine Ridge Commons - Existing Constructed - Occupied
Date: 1/7/2018
State/Province:
Country:
Analyst's Name:
No :
City:
Zip/Postal Code:
Client Name:
Edition: ITE-TGM 9th Edition

Land Use	Independent Variable	Size	Time Period	Method	Entry	Exit	Total
820 - Shopping Center (General Urban/Suburban)	1000 Sq. Feet Gross Leasable Area	20	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.	Best Fit (LOG) $\ln(T) = 0.67\ln(X) + 3.31$	98 48%	106 52%	204
710 - General Office Building (General Urban/Suburban)	1000 Sq. Feet Gross Floor Area	104.21	Weekday, PM Peak Hour of Generator	Best Fit (LIN) $T = 1.12 (X) + 78.45$	33 17%	162 83%	195

 The time periods do not match.

TRAFFIC REDUCTIONS

Land Use	Entry Reduction	Adjusted Entry	Exit Reduction	Adjusted Exit
820 - Shopping Center	0 %	98	0 %	106
710 - General Office Building	0 %	33	0 %	162

INTERNAL TRIPS

820 - Shopping Center

Exit 106 Demand Exit: 3 % (3)
Entry 98 Demand Entry: 2 % (2)

710 - General Office Building

Balanced: 3 Demand Entry: 31 % (10) **Entry** 33
 Balanced: 2 Demand Exit: 23 % (37) **Exit** 162

820 - Shopping Center

Total Trips		Internal Trips		External Trips	
		710 - General Office Building	Total		
Entry	98 (100%)	2 (2%)	2 (2%)	96 (98%)	
Exit	106 (100%)	3 (3%)	3 (3%)	103 (97%)	

710 - General Office Building

	Total Trips	Internal Trips		External Trips
		820 - Shopping Center	Total	
Entry	33 (100%)	3 (9%)	3 (9%)	30 (91%)
Exit	162 (100%)	2 (1%)	2 (1%)	160 (99%)
Total	195 (100%)	5 (3%)	5 (3%)	190 (97%)

EXTERNAL TRIPS

Land Use	External Trips	Pass-by%	Pass-by Trips	Non-pass-by Trips
820 - Shopping Center	199	25	50	149
710 - General Office Building	190	0	0	190

ITE DEVIATION DETAILS**Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.**

Landuse No deviations from ITE.

Methods No deviations from ITE.

External Trips 820 - Shopping Center (General Urban/Suburban)
The chosen pass-by% (25) is not provided by ITE. ITE recommends 62.

Weekday, PM Peak Hour of Generator

Landuse No deviations from ITE.

Methods No deviations from ITE.

External Trips 710 - General Office Building (General Urban/Suburban)
ITE does not recommend a particular pass-by% for this case.

SUMMARY

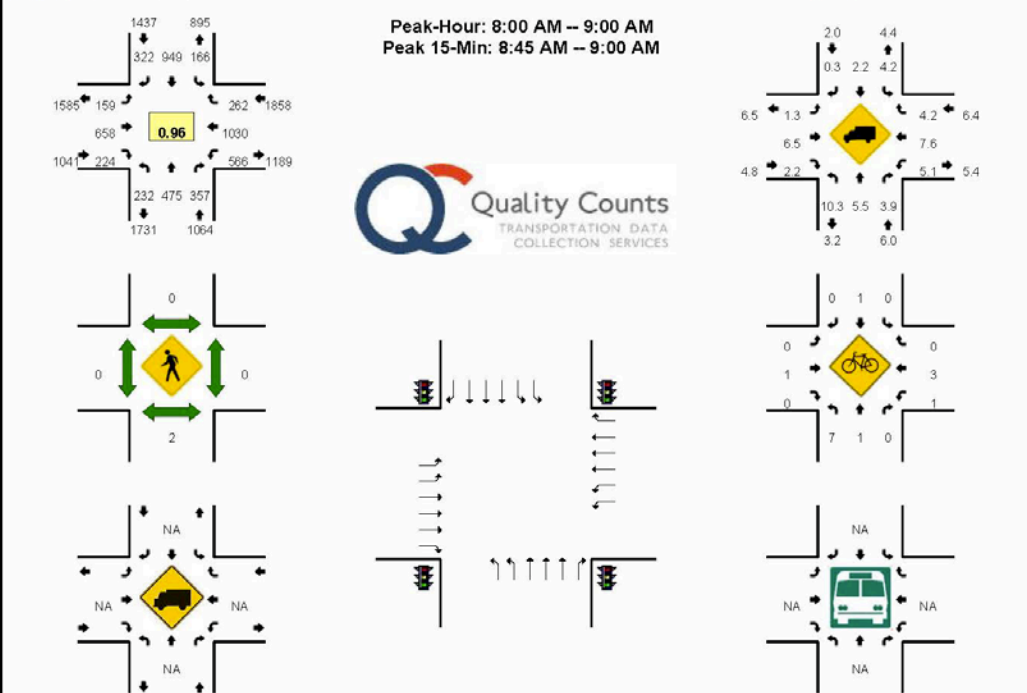
Total Entering	131
Total Exiting	268
Total Entering Reduction	0

Print Preview		Page 3 of 3
Total Exiting Reduction	0	
Total Entering Internal Capture Reduction	5	
Total Exiting Internal Capture Reduction	5	
Total Entering Pass-by Reduction	24	
Total Exiting Pass-by Reduction	26	
Total Entering Non-Pass-by Trips	102	
Total Exiting Non-Pass-by Trips	237	

Appendix C: Intersection Raw Turning Movement Counts

Type of peak hour being reported: Intersection Peak Method for determining peak hour: Total Entering Volume

LOCATION: Goodlette-Frank Rd -- Pine Ridge Rd QC JOB #: 14572801
CITY/STATE: Naples, FL DATE: Wed, Jan 31 2018



15-Min Count Period Beginning At	Goodlette-Frank Rd (Northbound)					Goodlette-Frank Rd (Southbound)					Pine Ridge Rd (Eastbound)					Pine Ridge Rd (Westbound)					Total	Hourly Totals
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
7:00 AM	14	63	58	0	0	23	112	2	0	22	10	73	26	0	4	112	137	4	5	20	685	
7:15 AM	34	100	55	0	0	30	185	12	0	37	21	111	18	0	12	100	145	11	1	24	896	
7:30 AM	46	99	74	0	0	28	200	12	0	62	30	124	33	0	11	128	227	31	1	26	1132	
7:45 AM	70	120	102	0	0	29	279	22	0	60	38	143	46	0	14	142	255	24	2	26	1372	4085
8:00 AM	58	111	93	0	0	38	224	26	0	68	37	143	45	0	20	133	254	28	2	40	1320	4720
8:15 AM	44	128	71	0	0	37	276	24	0	45	44	161	52	0	16	152	262	39	0	34	1365	5209
8:30 AM	68	125	93	0	0	43	236	19	0	50	49	134	32	1	17	134	235	38	1	20	1295	5372
8:45 AM	62	111	100	0	0	48	213	32	0	58	28	220	31	0	11	139	279	34	5	29	1400	5400
Peak 15-Min Flowrates	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Total	
All Vehicles	248	444	400	0	0	192	852	128	0	232	112	880	124	0	44	556	1116	136	20	116	5600	
Heavy Trucks	32	48	12			8	32	0			0	44	0			44	72	12			304	
Pedestrians	0					0					0	0				0					0	
Bicycles	3	0	0			0	0	0			0	0	0			0	0	0			3	
Railroad																						
Stopped Buses																						

Comments:

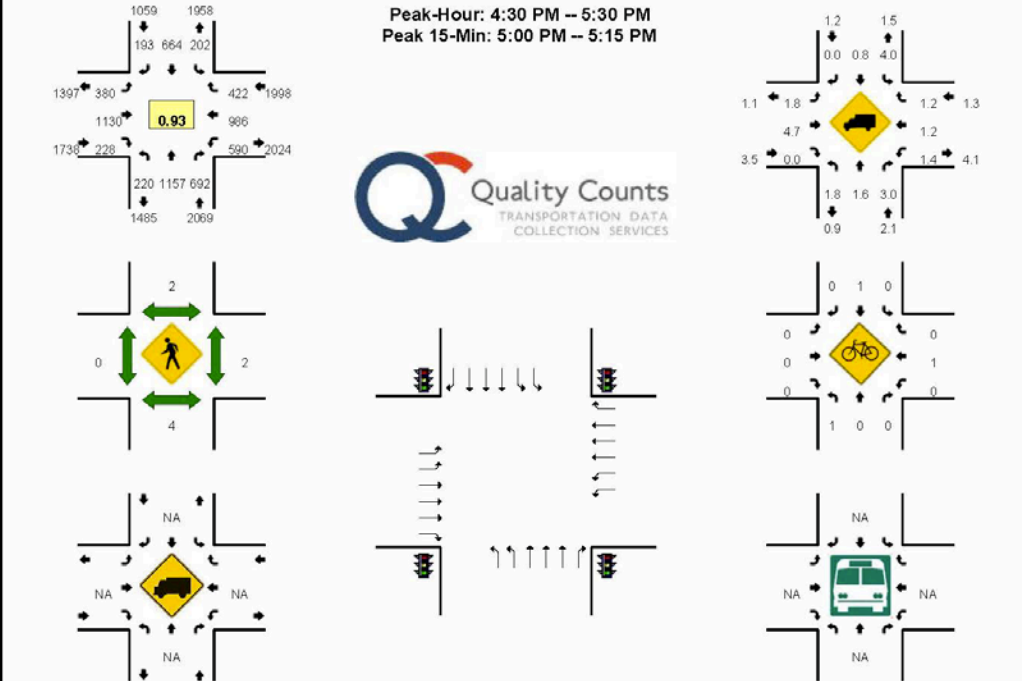
Report generated on 2/7/2018 3:28 PM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

Type of peak hour being reported: Intersection Peak Method for determining peak hour: Total Entering Volume

LOCATION: Goodlette-Frank Rd -- Pine Ridge Rd
CITY/STATE: Naples, FL

QC JOB #: 14572802
DATE: Wed, Jan 31 2018



15-Min Count Period Beginning At	Goodlette-Frank Rd (Northbound)					Goodlette-Frank Rd (Southbound)					Pine Ridge Rd (Eastbound)					Pine Ridge Rd (Westbound)					Total	Hourly Totals
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
4:00 PM	56	283	153	0	0	66	187	8	0	43	78	297	33	0	29	180	292	74	4	20	1803	
4:15 PM	71	241	176	0	0	42	164	16	0	36	82	332	36	0	28	136	213	73	3	24	1673	
4:30 PM	44	259	161	0	0	41	167	22	0	29	58	271	25	0	29	164	258	61	0	40	1629	
4:45 PM	61	284	163	2	0	53	159	20	0	31	100	252	23	1	19	105	207	56	0	43	1579	6684
5:00 PM	55	261	203	1	0	53	153	11	0	28	120	327	34	0	35	174	281	97	0	22	1855	6736
5:15 PM	57	353	165	0	0	55	185	24	0	28	101	280	32	0	31	147	240	69	0	35	1801	6864
5:30 PM	67	258	153	0	0	44	135	24	0	18	90	260	42	0	33	106	168	45	0	33	1476	6711
5:45 PM	48	209	104	0	0	46	137	22	0	35	67	241	30	0	31	118	242	58	0	38	1426	6558

Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	
All Vehicles	220	1044	812	4	0	212	612	44	0	112	480	1308	136	0	140	696	1124	388	0	88	7420
Heavy Trucks	12	16	40			8	0	0			8	60	0			8	16	4			172
Pedestrians	0	0	0			4					0	0	0			0	0	0			4
Bicycles	0	0	0			0	0	0			0	0	0			0	1	0			1
Railroad																					
Stopped Buses																					

Comments:

Report generated on 2/7/2018 3:28 PM

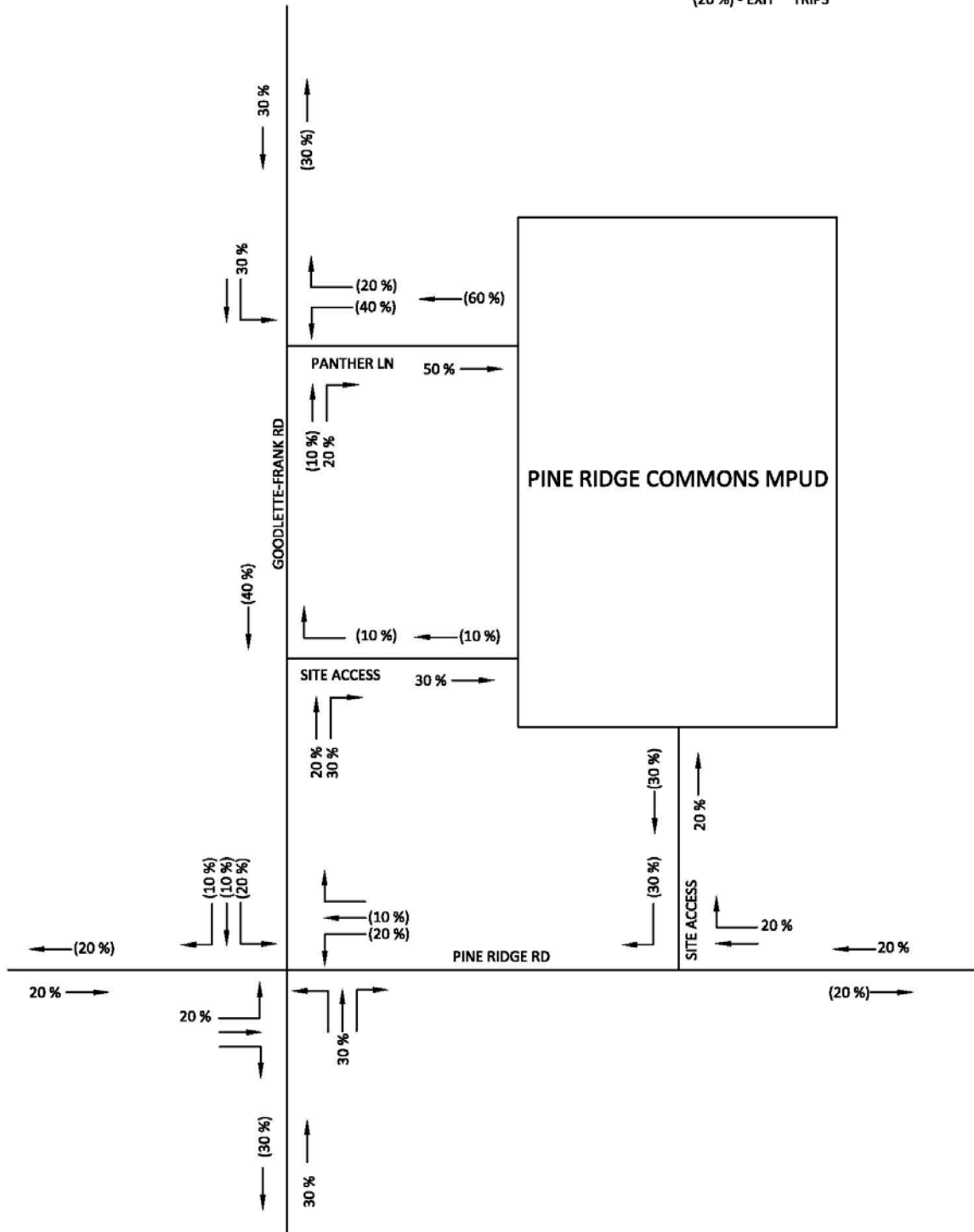
SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

Appendix D: Intersection Peak Season Traffic

PUD BUILDOUT - NET NEW EXTERNAL TRAFFIC TURNING MOVEMENTS BY PERCENTAGE



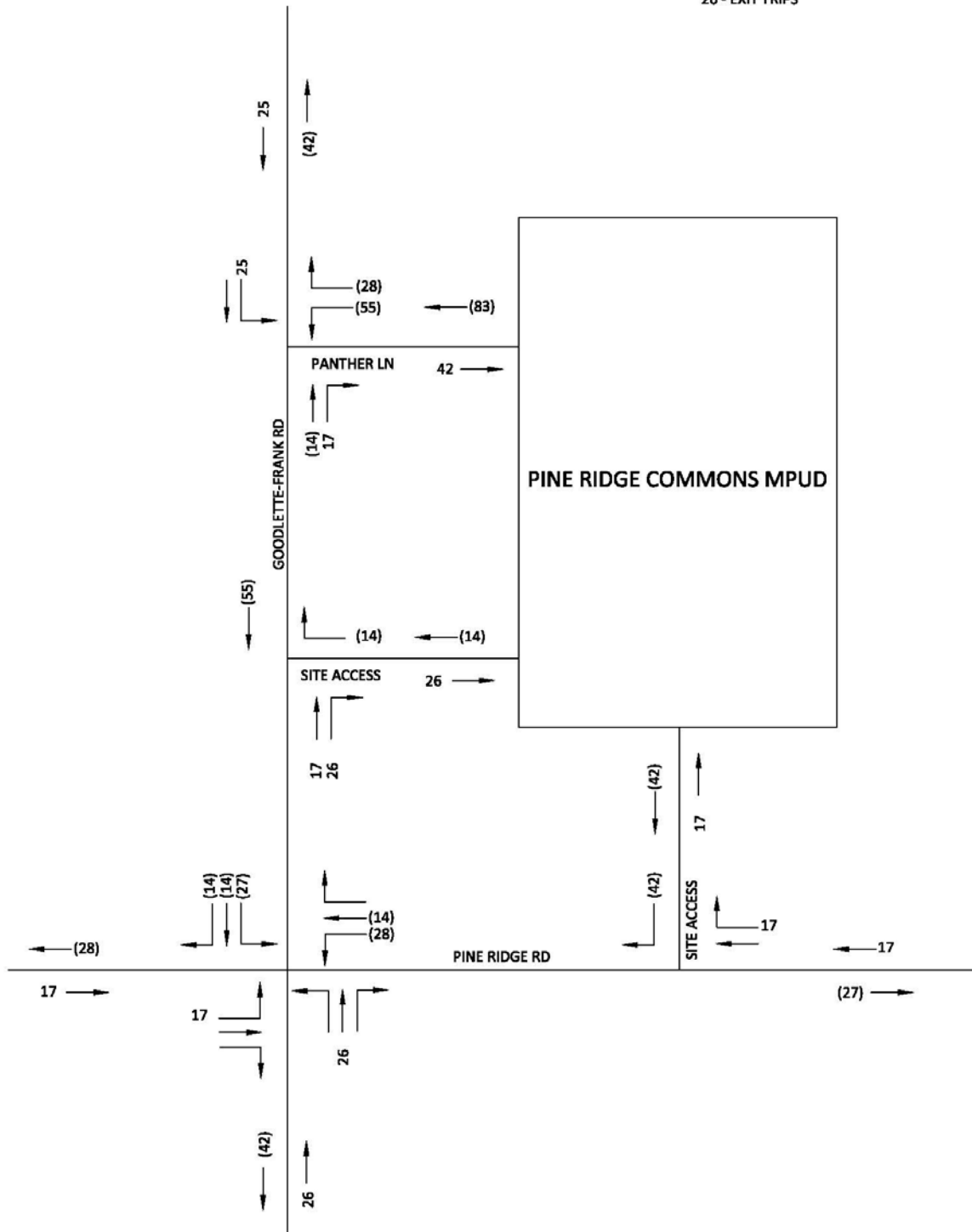
20 % - ENTER TRIPS
(20 %) - EXIT TRIPS



PUD BUILDOUT - NET NEW EXTERNAL TRAFFIC TURNING MOVEMENTS BY AM PEAK HOUR



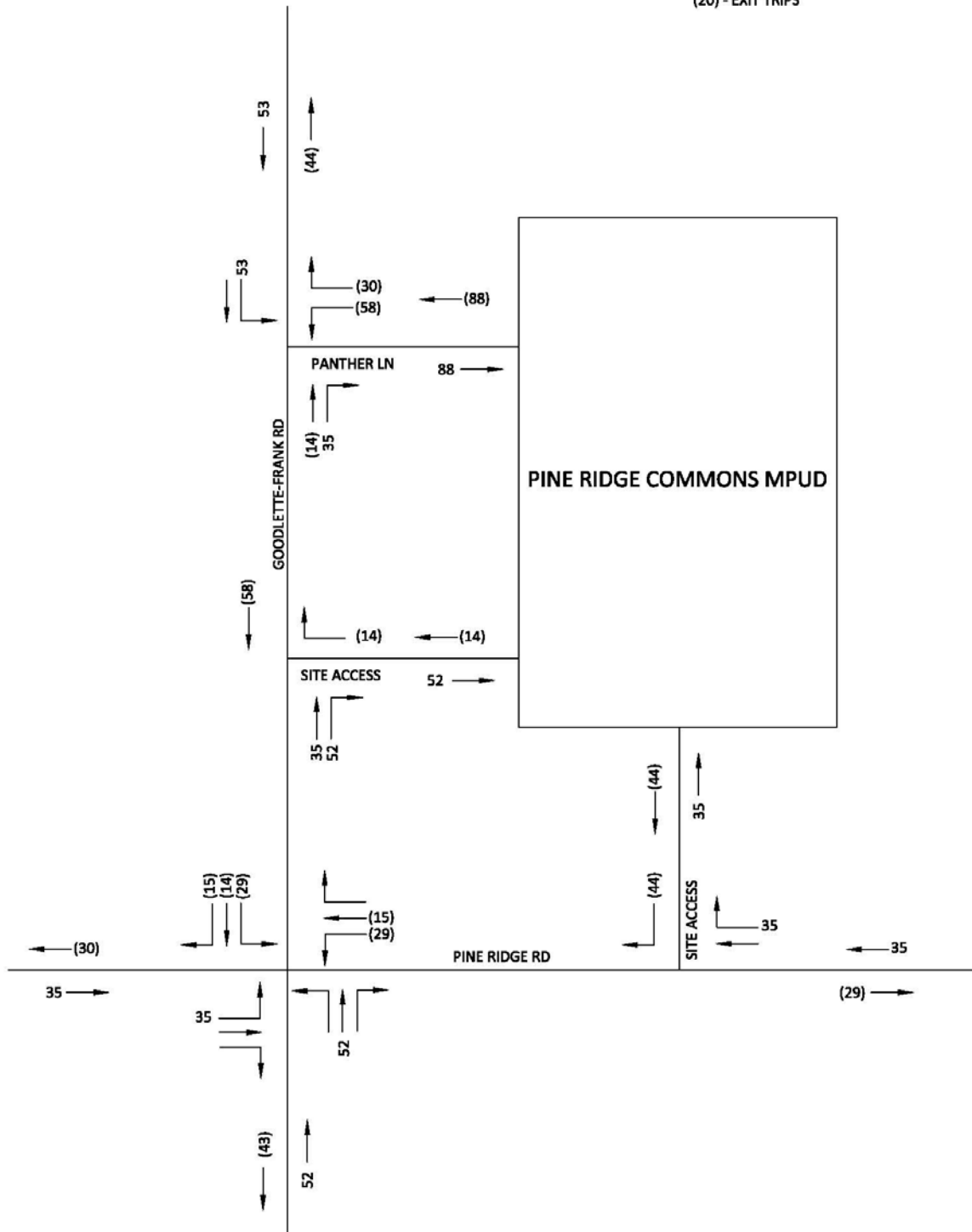
20 - ENTER TRIPS
20 - EXIT TRIPS



PUD BUILDOUT - NET NEW EXTERNAL TRAFFIC TURNING MOVEMENTS BY PM PEAK HOUR



20 - ENTER TRIPS
(20) - EXIT TRIPS



PROJECT - PINE RIDGE COMMONS MPUD
 INTERSECTION - GOODLETTE-FRANK RD AND PINE RIDGE RD
 COUNT DATA - DATE - 1-31-2018
 COUNT DATA - TIME - 7.00 AM - 9.00 AM
 PEAK HOUR - 8.00 AM - 9.00 AM

INTERSECTION 2022 TRAFFIC PEAK SEASON AM PEAK HOUR																
	GOODLETTE-FRANK ROAD								PINE RIDGE ROAD							
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND			
	LEFT	THRU	RIGHT	TOTAL	LEFT	THRU	RIGHT	TOTAL	LEFT	THRU	RIGHT	TOTAL	LEFT	THRU	RIGHT	TOTAL
2018 RAW TMC*	232	475	357	1,064	166	949	322	1,437	159	658	224	1,041	566	1,030	262	1,858
PSCF**	1.01	1.01	1.01		1.01	1.01	1.01		1.01	1.01	1.01		1.01	1.01	1.01	
2018 PEAK SEASON VOLUME	235	480	361	1,076	168	959	326	1,453	161	665	227	1,053	572	1,041	265	1,878
ANNUAL GROWTH RATE (AGR)	2.0%	2.0%	2.0%		2.0%	2.0%	2.0%		2.0%	2.0%	2.0%		2.0%	2.0%	2.0%	
YEARS TO 2022	4	4	4		4	4	4		4	4	4		4	4	4	
2022 BACKGROUND***	255	520	391	1,166	182	1,039	353	1,574	175	720	246	1,141	620	1,127	287	2,034
MPUD BUILDOUT - ADDITIONAL TRAFFIC	0	26	0	26	27	14	14	55	17	0	0	17	28	14	0	42
2022 TOTAL TRAFFIC	255	546	391	1,192	209	1,053	367	1,629	192	720	246	1,158	648	1,141	287	2,076
Note(s): * TMC = turning movement count; ** As illustrated in the FDOT 2017 Peak Season Factor Category Report; *** Future Projected Volume = Base Volume*(1+AGRP) ⁿ ; n = number of years from the base year																

Note(s): * TMC = turning movement count; ** As illustrated in the FDOT 2017 Peak Season Factor Category Report; *** Future Projected
 Volume = Base Volume * (1+AGR)ⁿ; n = number of years from the base year.

PROJECT - PINE RIDGE COMMONS MPUD
 INTERSECTION - GOODLETTE-FRANK RD AND PINE RIDGE RD
 COUNT DATA - DATE - 1-31-2018
 COUNT DATA - TIME - 4.00 PM - 6.00 PM
 PEAK HOUR - 4.30 PM - 5.30 PM

INTERSECTION 2022 TRAFFIC PEAK SEASON PM PEAK HOUR														
	GOODLETTE-FRANK ROAD						PINE RIDGE ROAD							
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND				
	LEFT	THRU	RIGHT	TOTAL	LEFT	THRU	RIGHT	TOTAL	LEFT	THRU	RIGHT	TOTAL	LEFT	TOTAL
2018 RAW TMC*	220	1,157	692	2,069	202	664	193	1,059	380	1,130	228	1,738	590	1,998
PSCF**	1.01	1.01	1.01		1.01	1.01	1.01		1.01	1.01	1.01		1.01	
2018 PEAK SEASON VOLUME	223	1,169	699	2,091	205	671	195	1,071	384	1,142	231	1,757	596	2,019
ANNUAL GROWTH RATE (AGR)	2.0%	2.0%	2.0%		2.0%	2.0%	2.0%		2.0%	2.0%	2.0%		2.0%	
YEARS TO 2022	4	4	4		4	4	4		4	4	4		4	
2022 BACKGROUND***	242	1,266	757	2,265	222	727	212	1,161	416	1,237	251	1,904	646	2,188
MPUD BUILDOUT - ADDITIONAL TRAFFIC	0	52	0	52	29	14	15	58	35	0	0	35	29	44
2022 TOTAL TRAFFIC	242	1,318	757	2,317	251	741	227	1,219	451	1,237	251	1,939	675	2,232

Note(s): * TMC = turning movement count; ** As illustrated in the FDOT 2017 Peak Season Factor Category Report; *** Future Projected
 Volume = Base Volume * (1+AGR)ⁿ; n = number of years from the base year.

2017 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
 CATEGORY: 0300 COLLIER COUNTYWIDE

MOCF: 0.88

WEEK	DATES	SF	PSCF
1	01/01/2017 - 01/07/2017	1.05	1.19
2	01/08/2017 - 01/14/2017	0.99	1.13
3	01/15/2017 - 01/21/2017	0.93	1.06
* 4	01/22/2017 - 01/28/2017	0.91	1.03
* 5	01/29/2017 - 02/04/2017	0.89	1.01
* 6	02/05/2017 - 02/11/2017	0.87	0.99
* 7	02/12/2017 - 02/18/2017	0.86	0.98
* 8	02/19/2017 - 02/25/2017	0.86	0.98
* 9	02/26/2017 - 03/04/2017	0.85	0.97
*10	03/05/2017 - 03/11/2017	0.85	0.97
*11	03/12/2017 - 03/18/2017	0.85	0.97
*12	03/19/2017 - 03/25/2017	0.86	0.98
*13	03/26/2017 - 04/01/2017	0.88	1.00
*14	04/02/2017 - 04/08/2017	0.89	1.01
*15	04/09/2017 - 04/15/2017	0.91	1.03
*16	04/16/2017 - 04/22/2017	0.92	1.05
17	04/23/2017 - 04/29/2017	0.94	1.07
18	04/30/2017 - 05/06/2017	0.96	1.09
19	05/07/2017 - 05/13/2017	0.97	1.10
20	05/14/2017 - 05/20/2017	0.99	1.13
21	05/21/2017 - 05/27/2017	1.02	1.16
22	05/28/2017 - 06/03/2017	1.06	1.20
23	06/04/2017 - 06/10/2017	1.09	1.24
24	06/11/2017 - 06/17/2017	1.13	1.28
25	06/18/2017 - 06/24/2017	1.11	1.26
26	06/25/2017 - 07/01/2017	1.09	1.24
27	07/02/2017 - 07/08/2017	1.07	1.22
28	07/09/2017 - 07/15/2017	1.06	1.20
29	07/16/2017 - 07/22/2017	1.06	1.20
30	07/23/2017 - 07/29/2017	1.06	1.20
31	07/30/2017 - 08/05/2017	1.07	1.22
32	08/06/2017 - 08/12/2017	1.07	1.22
33	08/13/2017 - 08/19/2017	1.08	1.23
34	08/20/2017 - 08/26/2017	1.16	1.32
35	08/27/2017 - 09/02/2017	1.24	1.41
36	09/03/2017 - 09/09/2017	1.32	1.50
37	09/10/2017 - 09/16/2017	1.40	1.59
38	09/17/2017 - 09/23/2017	1.35	1.53
39	09/24/2017 - 09/30/2017	1.31	1.49
40	10/01/2017 - 10/07/2017	1.26	1.43
41	10/08/2017 - 10/14/2017	1.22	1.39
42	10/15/2017 - 10/21/2017	1.17	1.33
43	10/22/2017 - 10/28/2017	1.15	1.31
44	10/29/2017 - 11/04/2017	1.12	1.27
45	11/05/2017 - 11/11/2017	1.09	1.24
46	11/12/2017 - 11/18/2017	1.06	1.20
47	11/19/2017 - 11/25/2017	1.06	1.20
48	11/26/2017 - 12/02/2017	1.05	1.19
49	12/03/2017 - 12/09/2017	1.05	1.19
50	12/10/2017 - 12/16/2017	1.05	1.19
51	12/17/2017 - 12/23/2017	1.01	1.15
52	12/24/2017 - 12/30/2017	0.97	1.10
53	12/31/2017 - 12/31/2017	0.93	1.06

* PEAK SEASON

02-MAR-2018 15:35:04

830UPD

1_0300_PKSEASON.TXT

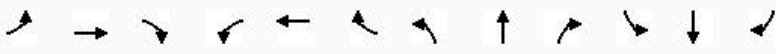
Appendix E: Intersection Analysis – Synchro 9 Printouts

2018 Peak Season – Background Traffic – AM Peak Hour

Lanes, Volumes, Timings

1: Goodlette-Frank Rd & Pine Ridge Rd

06/29/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↗	↔↔	↑↑↑	↗	↔↔	↑↑↑	↗	↔↔	↑↑↑	↗
Traffic Volume (vph)	161	665	227	572	1041	265	235	480	361	168	959	326
Future Volume (vph)	161	665	227	572	1041	265	235	480	361	168	959	326
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	445		595	660		470	595		480	560		610
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	5085	1583	3433	5085	1583
Ft Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	5085	1583	3433	5085	1583
Right Turn on Red			Yes			No			No			No
Satd. Flow (RTOR)			41									
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1663			2007			1240			1332	
Travel Time (s)		25.2			30.4			18.8			20.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	168	693	236	596	1084	276	245	500	376	175	999	340
Turn Type	Prot	NA	pm+ov	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4			Free			Free			Free
Total Split (s)	17.0	43.0	24.0	43.0	69.0		24.0	55.0		19.0	50.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Act Effct Green (s)	16.1	24.7	43.7	26.9	35.4	116.4	14.4	34.5	116.4	11.7	31.8	116.4
Actuated g/C Ratio	0.14	0.21	0.38	0.23	0.30	1.00	0.12	0.30	1.00	0.10	0.27	1.00
w/c Ratio	0.35	0.64	0.38	0.75	0.70	0.17	0.58	0.33	0.24	0.51	0.72	0.21
Control Delay	51.4	46.8	25.6	49.8	39.4	0.2	57.0	33.5	0.4	59.1	42.5	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.4	46.8	25.6	49.8	39.4	0.2	57.0	33.5	0.4	59.1	42.5	0.3
LOS	D	D	C	D	D	A	E	C	A	E	D	A
Approach Delay		43.0			37.0			27.5			35.0	
Approach LOS		D			D			C			C	
Queue Length 50th (ft)	58	172	102	208	252	0	88	103	0	62	239	0
Queue Length 95th (ft)	116	278	217	345	392	0	166	171	0	127	375	0
Internal Link Dist (ft)		1583			1927			1160			1252	
Turn Bay Length (ft)	445		595	660		470	595		480	560		610
Base Capacity (vph)	475	1745	697	1178	2924	1583	596	2289	1583	443	2062	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0

PRR & GFR Int - 2018 Backgr - AM Pk Hr 06/29/2018 Baseline












Synchro 9 Report

Page 1

Lanes, Volumes, Timings

1: Goodlette-Frank Rd & Pine Ridge Rd

06/29/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Reduced v/c Ratio	0.35	0.40	0.34	0.51	0.37	0.17	0.41	0.22	0.24	0.40	0.48	0.21

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 116.4

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 35.8

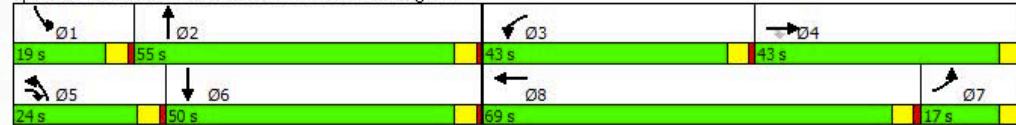
Intersection LOS: D

Intersection Capacity Utilization 73.2%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1: Goodlette-Frank Rd & Pine Ridge Rd




2022 Peak Season – Background Traffic – AM Peak Hour

Lanes, Volumes, Timings

1: Goodlette-Frank Rd & Pine Ridge Rd

06/29/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔↔	↔	↔	↔↔	↔	↔	↔↔	↔	↔	↔↔	↔
Traffic Volume (vph)	175	720	246	620	1127	287	255	520	391	182	1039	353
Future Volume (vph)	175	720	246	620	1127	287	255	520	391	182	1039	353
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%		0%		0%		0%		0%		0%	
Storage Length (ft)	445		595	660		470	595		480	560		610
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	5085	1583	3433	5085	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	5085	1583	3433	5085	1583
Right Turn on Red			Yes			No			No			No
Satd. Flow (RTOR)			41									
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1663			2007			1240			1332	
Travel Time (s)		25.2			30.4			18.8			20.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	182	750	256	646	1174	299	266	542	407	190	1082	368
Turn Type	Prot	NA	pm+ov	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4			Free			Free			Free
Total Split (s)	17.0	43.0	24.0	43.0	69.0		24.0	55.0		19.0	50.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Act Effct Green (s)	16.3	26.7	46.9	29.8	40.2	126.3	15.5	38.8	126.3	12.3	35.7	126.3
Actuated g/C Ratio	0.13	0.21	0.37	0.24	0.32	1.00	0.12	0.31	1.00	0.10	0.28	1.00
w/c Ratio	0.41	0.70	0.42	0.80	0.73	0.19	0.63	0.35	0.26	0.57	0.75	0.23
Control Delay	57.1	51.5	28.6	55.2	41.9	0.3	62.9	35.5	0.4	65.3	46.2	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.1	51.5	28.6	55.2	41.9	0.3	62.9	35.5	0.4	65.3	46.2	0.3
LOS	E	D	C	E	D	A	E	D	A	E	D	A
Approach Delay		47.4			40.1			29.7			38.1	
Approach LOS		D			D			C			D	
Queue Length 50th (ft)	72	211	130	257	312	0	108	125	0	77	294	0
Queue Length 95th (ft)	130	308	244	391	433	0	186	190	0	141	421	0
Internal Link Dist (ft)		1583			1927			1160			1252	
Turn Bay Length (ft)	445		595	660		470	595		480	560		610
Base Capacity (vph)	444	1603	670	1082	2636	1583	548	2102	1583	407	1894	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0

PRR & GFR Int - 2022 Backgr - AM Pk Hr 06/29/2018 Baseline













Synchro 9 Report

Page 1

Lanes, Volumes, Timings

1: Goodlette-Frank Rd & Pine Ridge Rd

06/29/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Reduced v/c Ratio	0.41	0.47	0.38	0.60	0.44	0.19	0.49	0.26	0.26	0.47	0.57	0.23

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 126.3

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 38.9

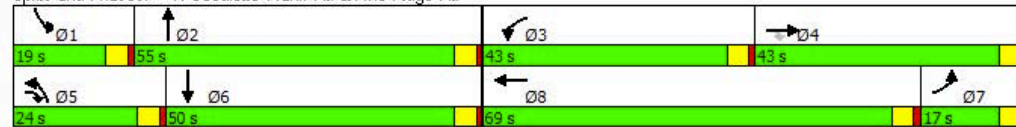
Intersection LOS: D

Intersection Capacity Utilization 76.7%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1: Goodlette-Frank Rd & Pine Ridge Rd



2022 Peak Season – Background with Project Traffic – AM Peak Hour

Lanes, Volumes, Timings

1: Goodlette-Frank Rd & Pine Ridge Rd

06/29/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰ ↱ →	→ ↱	↰	↰ ↱ →	→ ↱	↰	↰ ↱ →	→ ↱	↰	↰ ↱ →	→ ↱	↰
Traffic Volume (vph)	192	720	246	648	1141	287	255	546	391	209	1053	367
Future Volume (vph)	192	720	246	648	1141	287	255	546	391	209	1053	367
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	445		595	660		470	595		480	560		610
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	5085	1583	3433	5085	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	5085	1583	3433	5085	1583
Right Turn on Red			Yes			No			No			No
Satd. Flow (RTOR)			41									
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1663			2007			1240			1332	
Travel Time (s)		25.2			30.4			18.8			20.2	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Shared Lane Traffic (%)												
Lane Group Flow (vph)	200	750	256	675	1189	299	266	569	407	218	1097	382
Turn Type	Prot	NA	pm+ov	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4			Free			Free			Free
Total Split (s)	17.0	43.0	24.0	43.0	69.0		24.0	55.0		19.0	50.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Act Effct Green (s)	16.8	26.9	47.2	31.0	41.1	128.5	15.6	39.0	128.5	13.0	36.4	128.5
Actuated g/C Ratio	0.13	0.21	0.37	0.24	0.32	1.00	0.12	0.30	1.00	0.10	0.28	1.00
w/c Ratio	0.45	0.70	0.42	0.82	0.73	0.19	0.64	0.37	0.26	0.63	0.76	0.24
Control Delay	58.3	52.6	29.3	56.4	42.5	0.3	64.1	36.7	0.4	67.7	47.1	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.3	52.6	29.3	56.4	42.5	0.3	64.1	36.7	0.4	67.7	47.1	0.4
LOS	E	D	C	E	D	A	E	D	A	E	D	A
Approach Delay		48.6			41.0			30.7			39.2	
Approach LOS		D			D			C			D	
Queue Length 50th (ft)	80	217	135	276	326	0	111	137	0	91	306	0
Queue Length 95th (ft)	143	308	244	411	434	0	186	199	0	160	428	0
Internal Link Dist (ft)		1583			1927			1160			1252	
Turn Bay Length (ft)	445		595	660		470	595		480	560		610
Base Capacity (vph)	448	1573	661	1062	2636	1583	538	2064	1583	399	1860	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced w/c Ratio	0.45	0.48	0.39	0.64	0.45	0.19	0.49	0.28	0.26	0.55	0.59	0.24

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 128.5

Control Type: Actuated-Uncoordinated

Maximum w/c Ratio: 0.82

Intersection Signal Delay: 39.9

Intersection LOS: D

PRR & GFR Int - 2022 Backgr w PJ - AM Pk Hr 06/29/2018 Baseline

Synchro 9 Report

Page 1

Lanes, Volumes, Timings

1: Goodlette-Frank Rd & Pine Ridge Rd

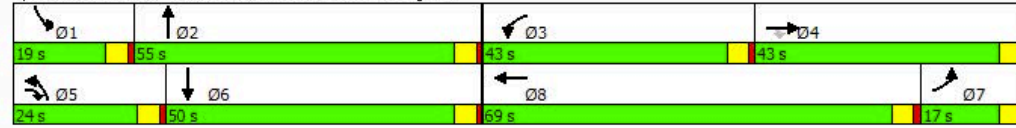
06/29/2018

Intersection Capacity Utilization 77.8%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1: Goodlette-Frank Rd & Pine Ridge Rd



2018 Peak Season – Background Traffic – PM Peak Hour

Lanes, Volumes, Timings

1: Goodlette-Frank Rd & Pine Ridge Rd

06/29/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔↔	↔	↔	↔↔	↔	↔	↔↔	↔	↔	↔↔	↔
Traffic Volume (vph)	384	1142	231	596	996	427	223	1169	699	205	671	195
Future Volume (vph)	384	1142	231	596	996	427	223	1169	699	205	671	195
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	445		595	660		470	595		480	560		610
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	5085	1583	3433	5085	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	5085	1583	3433	5085	1583
Right Turn on Red			Yes			No			No			No
Satd. Flow (RTOR)			41									
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1663			2007			1240			1332	
Travel Time (s)		25.2			30.4			18.8			20.2	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)												
Lane Group Flow (vph)	413	1228	248	641	1071	459	240	1257	752	220	722	210
Turn Type	Prot	NA	pm+ov	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4			Free			Free			Free
Total Split (s)	17.0	45.0	27.0	41.0	69.0		27.0	48.0		26.0	47.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Act Effct Green (s)	31.2	39.6	59.8	31.8	40.2	145.8	15.6	41.4	145.8	14.8	40.6	145.8
Actuated g/C Ratio	0.21	0.27	0.41	0.22	0.28	1.00	0.11	0.28	1.00	0.10	0.28	1.00
w/c Ratio	0.56	0.89	0.37	0.86	0.76	0.29	0.65	0.87	0.48	0.63	0.51	0.13
Control Delay	56.6	60.7	27.2	67.8	52.7	0.5	72.4	57.8	1.0	72.5	46.5	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.6	60.7	27.2	67.8	52.7	0.5	72.4	57.8	1.0	72.5	46.5	0.2
LOS	E	E	C	E	D	A	E	E	A	E	D	A
Approach Delay		55.4			46.1			40.4			43.0	
Approach LOS		E			D			D			D	
Queue Length 50th (ft)	187	426	140	312	355	0	118	427	0	108	216	0
Queue Length 95th (ft)	270	649	222	400	407	0	169	523	0	157	280	0
Internal Link Dist (ft)		1583			1927			1160			1252	
Turn Bay Length (ft)	445		595	660		470	595		480	560		610
Base Capacity (vph)	734	1424	747	866	2268	1583	534	1529	1583	510	1496	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced w/c Ratio	0.56	0.86	0.33	0.74	0.47	0.29	0.45	0.82	0.48	0.43	0.48	0.13

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 145.8

Control Type: Actuated-Uncoordinated

Maximum w/c Ratio: 0.89

Intersection Signal Delay: 46.3

Intersection LOS: D

PRR & GFR Int - 2018 Backgr w - PM Pk Hr 06/29/2018 Baseline

Synchro 9 Report

Page 1

Lanes, Volumes, Timings

1: Goodlette-Frank Rd & Pine Ridge Rd

06/29/2018

Intersection Capacity Utilization 82.5%

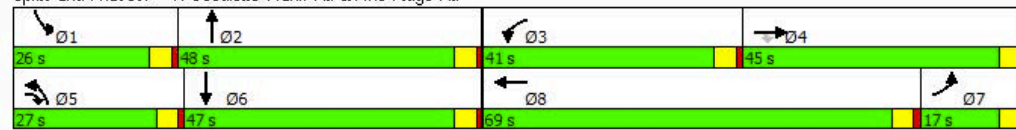
ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Goodlette-Frank Rd & Pine Ridge Rd




2022 Peak Season – Background Traffic – PM Peak Hour

Lanes, Volumes, Timings

1: Goodlette-Frank Rd & Pine Ridge Rd

06/29/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	←←←	→→→	←	←←←	→→→	←	←←←	→→→	←	←←←	→→→	←
Traffic Volume (vph)	416	1237	251	646	1079	463	242	1266	757	222	727	212
Future Volume (vph)	416	1237	251	646	1079	463	242	1266	757	222	727	212
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	445		595	660		470	595		480	560		610
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	5085	1583	3433	5085	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	5085	1583	3433	5085	1583
Right Turn on Red			Yes			No			No			No
Satd. Flow (RTOR)			41									
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1663			2007			1240			1332	
Travel Time (s)		25.2			30.4			18.8			20.2	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)												
Lane Group Flow (vph)	447	1330	270	695	1160	498	260	1361	814	239	782	228
Turn Type	Prot	NA	pm+ov	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4			Free			Free			Free
Total Split (s)	17.0	45.0	27.0	41.0	69.0		27.0	48.0		26.0	47.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Act Effct Green (s)	30.4	40.6	61.9	34.0	44.2	152.1	16.8	43.6	152.1	15.9	42.7	152.1
Actuated g/C Ratio	0.20	0.27	0.41	0.22	0.29	1.00	0.11	0.29	1.00	0.10	0.28	1.00
w/c Ratio	0.65	0.98	0.40	0.91	0.78	0.31	0.69	0.93	0.51	0.67	0.55	0.14
Control Delay	62.3	75.3	29.1	73.8	53.6	0.5	75.2	65.4	1.2	75.4	48.9	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.3	75.3	29.1	73.8	53.6	0.5	75.2	65.4	1.2	75.4	48.9	0.2
LOS	E	E	C	E	D	A	E	E	A	E	D	A
Approach Delay		66.4			48.3			45.0			45.1	
Approach LOS		E			D			D			D	
Queue Length 50th (ft)	213	494	164	349	397	0	132	496	0	121	249	0
Queue Length 95th (ft)	#629	#636	245	#463	435	0	181	#623	0	169	308	0
Internal Link Dist (ft)		1583			1927			1160			1252	
Turn Bay Length (ft)	445		595	660		470	595		480	560		610
Base Capacity (vph)	685	1356	726	825	2160	1583	508	1457	1583	486	1427	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced w/c Ratio	0.65	0.98	0.37	0.84	0.54	0.31	0.51	0.93	0.51	0.49	0.55	0.14

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 152.1

Control Type: Actuated-Uncoordinated

Maximum w/c Ratio: 0.98

Intersection Signal Delay: 51.4

Intersection LOS: D

PRR & GFR Int - 2022 Backgr w - PM Pk Hr 06/29/2018 Baseline

Synchro 9 Report

Page 1

Lanes, Volumes, Timings

1: Goodlette-Frank Rd & Pine Ridge Rd

06/29/2018

Intersection Capacity Utilization 88.1%

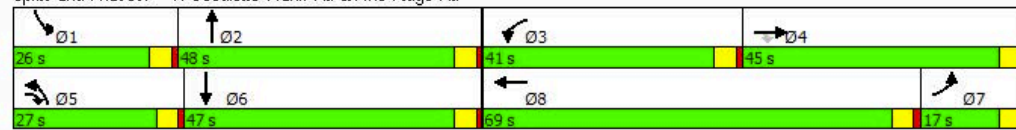
ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Goodlette-Frank Rd & Pine Ridge Rd




2022 Peak Season – Background with Project Traffic – PM Peak Hour

Lanes, Volumes, Timings

1: Goodlette-Frank Rd & Pine Ridge Rd

07/01/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↔↔↔	↔	↔↔	↔↔↔	↔	↔↔	↔↔↔	↔	↔↔	↔↔↔	↔
Traffic Volume (vph)	451	1237	251	675	1094	463	242	1318	757	251	741	227
Future Volume (vph)	451	1237	251	675	1094	463	242	1318	757	251	741	227
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	445		595	660		470	595		480	560		610
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	5085	1583	3433	5085	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	5085	1583	3433	5085	1583
Right Turn on Red			Yes			No			No			No
Satd. Flow (RTOR)			41									
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1663			2007			1240			1332	
Travel Time (s)		25.2			30.4			18.8			20.2	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)												
Lane Group Flow (vph)	485	1330	270	726	1176	498	260	1417	814	270	797	244
Turn Type	Prot	NA	pm+ov	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4			Free			Free			Free
Total Split (s)	17.0	46.0	27.0	41.0	70.0		27.0	49.0		24.0	46.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Act Effct Green (s)	30.9	41.5	63.1	35.4	45.9	156.4	17.1	44.5	156.4	17.0	44.4	156.4
Actuated g/C Ratio	0.20	0.27	0.40	0.23	0.29	1.00	0.11	0.28	1.00	0.11	0.28	1.00
v/c Ratio	0.71	0.99	0.41	0.94	0.79	0.31	0.70	0.98	0.51	0.73	0.55	0.15
Control Delay	65.9	77.9	29.9	79.2	54.7	0.5	77.4	74.2	1.2	79.4	49.9	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.9	77.9	29.9	79.2	54.7	0.5	77.4	74.2	1.2	79.4	49.9	0.2
LOS	E	E	C	E	D	A	E	E	A	E	D	A
Approach Delay		68.9			50.9			50.7			46.7	
Approach LOS		E			D			D			D	
Queue Length 50th (ft)	243	507	169	381	412	0	136	538	0	141	257	0
Queue Length 95th (ft)	#677	#630	243	#603	442	0	182	#661	0	192	317	0
Internal Link Dist (ft)		1583			1927			1160			1252	
Turn Bay Length (ft)	445		595	660		470	595		480	560		610
Base Capacity (vph)	679	1350	717	802	2131	1583	494	1448	1583	428	1443	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.99	0.38	0.91	0.55	0.31	0.53	0.98	0.51	0.63	0.55	0.15

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 156.4

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 54.7

Intersection LOS: D

PRR & GFR Int - 2022 Backgr w PJ - PM Pk Hr 06/29/2018 Baseline

Synchro 9 Report

Page 1

Lanes, Volumes, Timings

1: Goodlette-Frank Rd & Pine Ridge Rd

07/01/2018

Intersection Capacity Utilization 90.8%

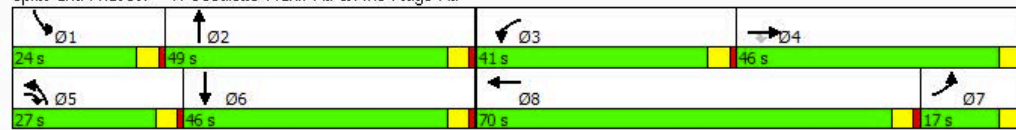
ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Goodlette-Frank Rd & Pine Ridge Rd



PRR & GFR Int - 2022 Backgr w PJ - PM Pk Hr 06/29/2018 Baseline

Synchro 9 Report
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