

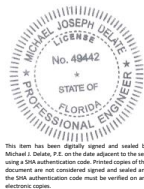
Bargain Basket Marco Island

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Project Description

The proposed Bargain Basket project is located at 790 Bald Eagle Drive, approximately 1,300 feet northwest of the intersection of Collier Boulevard (CR 951) and Bald Eagle Drive (CR 953), in the City of Marco Island. The project lies in Section 8, Township 52S, Range 26E, Collier County, Florida.

Refer to **Figure 1** and **Appendix A: Project Master Site Plan**.

Figure 1 – Project Location Map



The subject property is comprised of several parcels and has a total area of approximately 0.78 acres (ac). The proposed project is the expansion of the existing building.

The subject site is currently zoned C-4 (Commercial Professional) which allows for a broad range of commercial uses.

Traffic generation associated with the proposed development is evaluated generally based on ITE Trip Generation Manual, 11th Edition and ITE Trip Generation Handbook, 3rd Edition. The proposed ITE land use designation is determined based on the ITE Land Use Code (LUC) descriptions and are

intended to provide the highest and best use trip generation scenario with respect to the project's proposed development parameters.

The LUC 814 – Variety Store was considered for this analysis as the proposed project is a store.

The proposed development parameters are illustrated in **Table 1**.

Table 1
Development Program

Development	Land Use	ITE Land Use Code	Total Size
Existing Developed Site Conditions	Variety Store	814 – Variety Store	5,300 square feet
Proposed Site Conditions	Variety Store	814 – Variety Store	4,800 square feet

For the purposes of this analysis, the traffic planning horizon year is assumed to be 2026.

The main access to the subject site is currently provided via Bald Eagle Drive. In addition, full access is also provided along Herb Savage Way for employees and service crews.

Trip Generation

The software program OTISS – Online Traffic Impact Study Software (most recent version) is used to create the trip generation for the project. Traffic volumes are determined by using ITE equations or average rates, as applicable.

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 C: ITE Trip Generation Calculations**.

Based on ITE recommendations, no reductions for internal capture or pass-by trips have been taken into consideration for this analysis.

The estimated trip generation associated with the proposed SDP development scenario is illustrated in **Table 2A**. The estimated trip generation for the existing development is illustrated in **Table 2B**.

Table 2A
Proposed SDP – Trip Generation – Average Weekday

		24 Hour Two-Way Volume	AM Peak Hour			PM Peak Hour		
ITE Land Use	Size		Enter	Exit	Total	Enter	Exit	Total
Variety Store	4,800 sf ⁽¹⁾	304	09	06	15	17	16	33

Note: 1) sf = square feet.

Table 2B
Total Development – Trip Generation – Average Weekday

		24 Hour Two-Way Volume	AM Peak Hour			PM Peak Hour		
ITE Land Use	Size		Enter	Exit	Total	Enter	Exit	Total
Variety Store	10,100 sf ⁽¹⁾	641	18	14	32	36	33	69

Note: 1) sf = square feet.

Transportation Concurrency Analysis

Consistent with the City’s Comprehensive Plan (page VIII – 5) the evaluation for Level of Service (LOS) standards for roads within the city limits are to be measured at PM peak hour. The transportation concurrency is evaluated based on the net new external traffic generated by the proposed PUD versus the existing developed site conditions as illustrated in **Table 2C**.

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

Development	PM Peak Hour		
	Enter	Exit	Total
Proposed SDP	17	16	33
Existing Developed Site Conditions	36	33	69
Net New External Traffic Net Increase/(Net Decrease)	19	17	36

Transportation Operational Analysis

The site access turn lane analysis is evaluated based on the estimated SDP buildout total external traffic – AM and PM peak hour average weekday, as illustrated in **Table 2A**. Proposed SDP External Traffic: AM Enter 9vph/Exit 6vph; PM Enter 17vph/Exit 16vph.

Trip Distribution and Assignment

The estimated net new traffic generated by the development is assigned to the surrounding roadway system based on the knowledge of the area and anticipated routes drivers will utilize to access the site. The site-generated trip distribution is shown in **Table 3, Project Traffic Distribution** and is graphically depicted on **Figure 2 – Project Distribution by Percentage and by PM Peak Hour**.

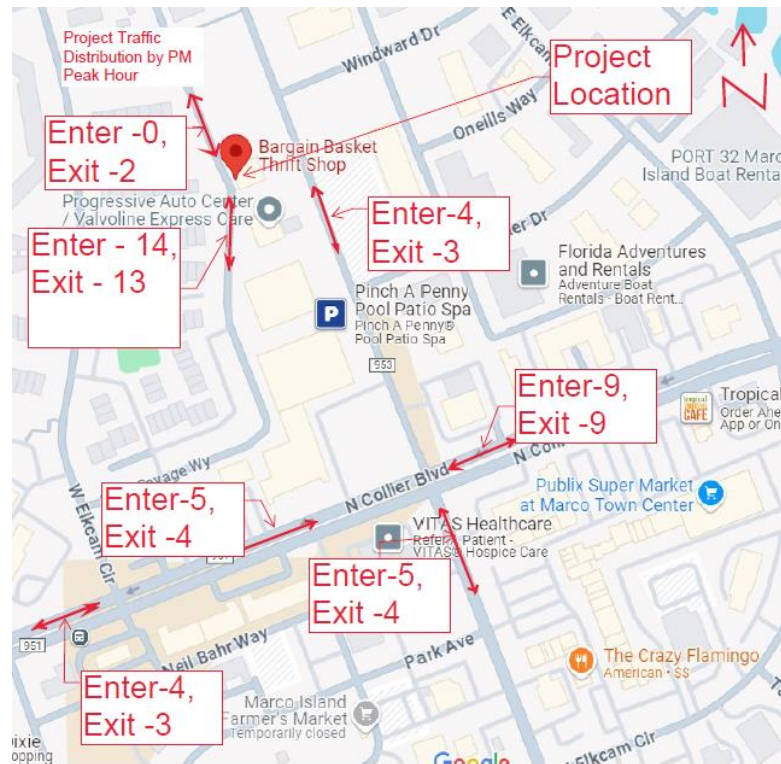
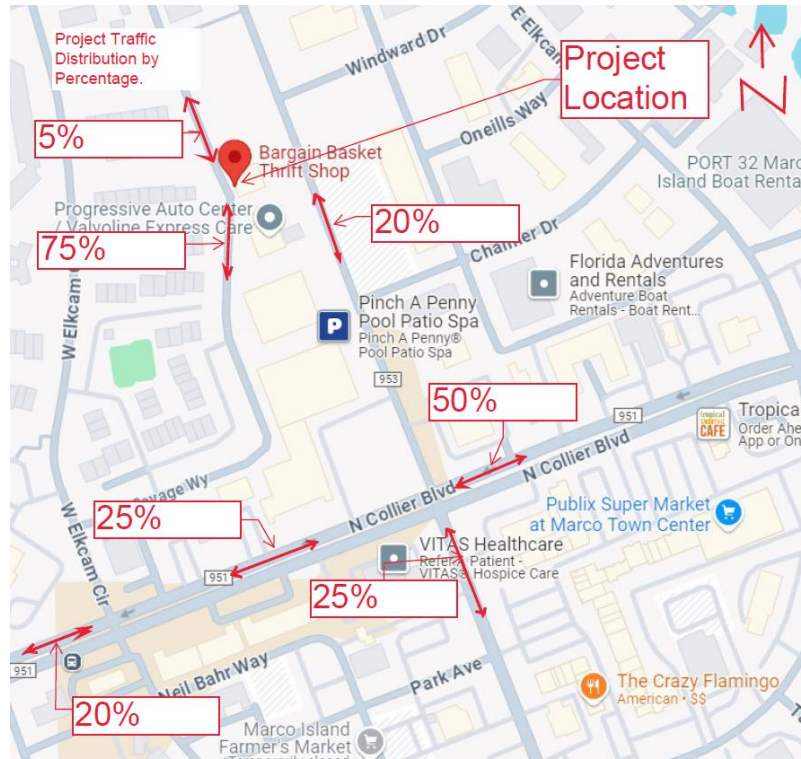
Table 3
Project Traffic Distribution

Roadway Link	Roadway Link Location	Distribution of Project Traffic	PM Peak Hour Project Traffic Vol.		
			Enter	Exit	pc/h/ln ⁽¹⁾
Herb Savage Way ⁽²⁾	North of Project	5%	SB – 0	NB – 2	$(0 + 2)/2 = 1$
Herb Savage Way ⁽²⁾	South of Project	75%	NB – 14	SB – 13	$(14 + 13)/2 = 14$
Bald Eagle Dr	Project Access to Collier Blvd	20%	NB – 4	SB – 3	$(4 + 3)/2 = 4$
Bald Eagle Dr	South of Collier Blvd	25%	NB – 5	SB – 4	$(5 + 4)/2 = 5$
Collier Blvd	West of Elkham Cir	20%	EB – 4	WB – 3	$(4 + 3)/2 = 4$
Collier Blvd	Elkham Cir to Bald Eagle Dr	25%	EB – 5	WB – 4	$(5 + 4)/2 = 8$
Collier Blvd	East of Bald Eagle Dr	50%	WB – 9	EB – 9	$(9 + 9)/2 = 9$

Note(s): 1) passenger cars per hour per lane = pc/h/ln

2) Not a City of Marco monitored roadway.

Figure 2 – Project Distribution by Percentage and by PM Peak Hour



Background Traffic

Average background traffic growth rates were estimated for the segments of the roadway network in the study area using a minimum 2% growth rate. The 2012 hourly two-way background traffic volumes are obtained from the “City of Marco Island 2012 Annual Level of Service Report – Appendix C – Traffic Counts” (for details, see **Appendix D: City of Marco Island – 2012 Annual Level of Service Report (Excerpts)**).

Consistent with the method illustrated in the adopted 2012 Annual Level of Service Report, the future background traffic is evaluated based on the passenger cars per hour per lane (pc/h/ln) for each analyzed roadway segment. **Table 4, Background Traffic without Project** illustrates the application of projected growth rates to generate background (without project) peak hour per lane traffic volume for the planning horizon year (2026).

Table 4
Background Traffic without Project (2026)

Roadway Link	Roadway Link Location	2012 Hourly, Two-Way Background Traffic Vol (trips/hr)	2012 Hourly, Per Lane Background Traffic Vol (pc/h/ln)	Projected Traffic Annual Growth Rate (%/yr)	Growth Factor	2026 Projected Hourly, Per Lane Background Traffic Volume w/out Project (pc/h/ln)
Bald Eagle Dr	Project Access to Collier Blvd	312	312/2 = 156	2.0%	1.2682	198
Bald Eagle Dr	South of Collier Blvd	312	312/2 = 156	2.0%	1.2682	198
Collier Blvd	West of Elkhams Cir	919	919/4 = 230	2.0%	1.2682	292
Collier Blvd	Elkhams Cir to Bald Eagle Dr	919	919/4 = 230	2.0%	1.2682	292
Collier Blvd	East of Bald Eagle Dr	919	919/4 = 230	2.0%	1.2682	292

Note(s): Annual Growth Rate = 2%; Growth Factor = $(1 + \text{Annual Growth Rate})^{12}$; 2024 Projected Volume = 2012 Volume x Growth Factor.

Roadway Network Conditions

In agreement with the information contained within the “City of Marco Island – 2012 Annual Level of Service Report”, dated July, 2012 (refer to **Appendix D**), the adopted level of service (LOS) for

Marco Island roadways is LOS “D”, with the exception of North Collier Boulevard (from San Marco Road to the Jolley Bridge), which is required to operate at LOS “C”.

Consistent with the method illustrated in the adopted 2012 Annual Level of Service Report, the LOS standard is evaluated based on the posted speed limit for each analyzed roadway segment.

Bald Eagle Drive is a two-lane undivided collector roadway and has a posted legal speed of 30 mph in the vicinity of project.

North Collier Boulevard is a four-lane divided minor arterial roadway and has a posted legal speed of 35 mph in the vicinity of project.

The LOS standard for the analyzed roadways is determined based on the flow rate method presented in the City’s 2012 Annual Level of Service Report. As such, the maximum flow rate for a LOS D roadway facility with a posted speed limit of 30 mph is 1,050 pc/h/ln. The maximum flow rate for a LOS C roadway facility with a posted speed limit of 35 mph is 900 pc/h/ln. For more details refer to **Appendix E: LOS Standard – Evaluation**.

Table 5
Roadway Network Conditions

Roadway Link	Roadway Link Location	Adopted LOS Standard ⁽¹⁾	Service Flow Rate (pc/h/ln) ⁽²⁾
Bald Eagle Dr	Project Access to Collier Blvd	D	1,050
Bald Eagle Dr	South of Collier Blvd	D	1,050
Collier Blvd	West of Elkham Cir	C	900
Collier Blvd	Elkham Cir to Bald Eagle Dr	C	900
Collier Blvd	East of Bald Eagle Dr	C	900

Note(s): 1) Refer to **Appendix D**.

2) Refer to **Appendix E**.

Project Impacts to Area Roadway Network – Roadway Link Analysis

Transportation concurrency evaluation is performed to ensure that the adopted LOS standard is not exceeded for the analyzed roadway segments.

Based on our analysis, none of the analyzed roadway segments are projected to exceed the adopted LOS standard with or without the project at 2026 future build-out conditions. **Table 6, Roadway Link Level of Service** illustrates the LOS impacts of the project on the analyzed roadway network.

Based on the traffic counts illustrated in the 2012 Annual LOS Report, the LOS determination for the analyzed roadway segments is depicted in **Appendix F**.

Table 6
Roadway Link Level of Service (LOS) – With Project in the Year 2026

Roadway Link	Roadway Link Location	LOS Standard – Peak Hour Service Flow Rate (pc/h/ln) ⁽¹⁾	2026 Background LOS – Peak Hour Flow Rate (pc/h/ln) ⁽²⁾	LOS Standard exceeded without Project? Yes/No	Peak Hour Per Lane (Pj Traffic Added) ⁽³⁾	2026 LOS – Peak Hour Flow Rate w/ Pj (pc/h/ln) ⁽⁴⁾	LOS Standard exceeded with Project? Yes/No
Bald Eagle Dr	Project Access to Collier Blvd	D – 1,050	A – 198	No	4	A – 202	No
Bald Eagle Dr	South of Collier Blvd	D – 1,050	A – 198	No	5	A – 203	No
Collier Blvd	West of Elkham Cir	C – 900	A – 292	No	4	A – 296	No
Collier Blvd	Elkham Cir to Bald Eagle Dr	C – 900	A – 292	No	8	A – 300	No
Collier Blvd	East of Bald Eagle Dr	C – 900	A – 292	No	9	A – 301	No

Note(s): 1) Refer to **Table 5** from this report.

2) Refer to **Table 4** from this report.

3) Refer to **Table 3** from this report.

4) 2026 Projected Volume = 2026 background + Project Volume added.

Site Access Turn Lane Analysis

The main access to the subject site is currently provided via Bald Eagle Drive. In addition, full access is also provided along Herb Savage Way for employees and service crews. For more details refer to **Appendix A: Project Master Site Plan**.

Project accesses were evaluated for turn lane warrants based on the City's use of the following Collier County standards: (a) two-lane roadways – 40vph for right-turn lane/20vph for left-turn lane; and (b) multi-lane divided roadways – right-turn lanes shall always be provided; and (c) when new median openings are permitted, they shall always include left-turn lanes.

Turn lane lengths required at build-out conditions are analyzed based on the number of turning vehicles in an average one-minute period for right-turning movements, and two-minute period for left-turning movements, within the peak hour traffic. The minimum queue length is 25 feet and the queue/vehicle is 25 feet. For details refer to **Appendix H: Turning Movement Exhibits**.

Bald Eagle Drive Entrance – The project is expected to generate 4vph and 7vph northbound left- turns during the AM and PM peak hour, respectively, which is below the 20vph threshold value. As such, a left-turn lane is not warranted at this location.

Herb Savage Way – This is an alley which provides on-street parking on both sides of the roadway. Due to the estimated project traffic volume (refer to **Appendix H**) and consistent with the general layout of this alley, turn lanes are not recommended. In addition, as illustrated in the proposed site plan, no changes are proposed to the existing on-street parking at this location.

Improvement Analysis

Based on the concurrency evaluation results, there is adequate and sufficient roadway capacity to accommodate projected traffic at buildout conditions. The analyzed roadway network is projected to perform within the adopted level of service standard.

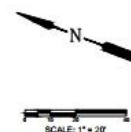
Consistent with the turn lane analysis results, no turn lane improvements are recommended for this project.

Mitigation of Impact

The developer proposes to pay the appropriate City of Marco Island Road Impact Fees as building permits are issued for the project, as applicable.

Appendix A:

Project Master Site Plan



Appendix B:

Initial Meeting Checklist (Methodology Meeting)

Pre application meeting was performed and the methodology of the of TIS analysis was performed.

Appendix C:

ITE Trip Generation Calculations

Existing building square footage = 5,300 SF

<u>Land use Code</u>	<u>Trip Period</u>	<u>Trip Generation Equation</u>	<u>Total Trips</u>	<u>Trip Enter/Exit</u>
LUC 814	Daily Traffic (ADT) for weekday	$T = 63.47(x) =$	336 ADT	
	AM Peak Hour (VPH)	$T = 3.18(x) =$ 57% Enter/43% Exit =	17	10/07
	PM Peak Hour (VPH)	$T = 6.84(x) =$ 52% Enter/48% Exit =	36	19/17

Total building square footage = 10,100 SF

<u>Land use Code</u>	<u>Trip Period</u>	<u>Trip Generation Equation</u>	<u>Total Trips</u>	<u>Trip Enter/Exit</u>
LUC 814	Daily Traffic (ADT) for weekday	$T = 63.47(x) =$	641 ADT	
	AM Peak Hour (VPH)	$T = 3.18(x) =$ 57% Enter/43% Exit =	32	18/14
	PM Peak Hour (VPH)	$T = 6.84(x) =$ 52% Enter/48% Exit =	69	36/33

Appendix D:

City of Marco Island – 2012 Annual Level of Service Report (Excerpts)

2012 Annual Level of Service Report

Current Level of Service Standard

The following standards represent the adopted Level of Service (LOS) standards for the City of Marco Island, as provided in the City's Comprehensive Plan and Land Development Code:

Potable Water	200 gallons per capita per day
Sanitary Sewer	100 gallons per capita per day
Transportation	Minor Arterial - LOS "C" (North Collier Boulevard only) Collectors, Local Collectors, Local Roads - LOS "D"
Community Parks	1.2882 acres of active parkland per 1,000 residents
Stormwater Drainage	<p>The LOS design standard for new stormwater management facilities will be the ten-year, one-hour storm event, with 3.3 inches/hour intensity duration. For existing and future drainage system components the following design LOS standard hierarchy is provided:</p> <p>LOS Standard A: Upstream (US) Ground Elevation Upstream Hydraulic Grade Line (US HGL) > 0.5 ft. LOS Standard B: US Ground Elevation US HGL > 0.2 ft. LOS Standard C: US Ground Elevation US HGL > or = 0.0 ft. LOS Standard D: US HGL < or = 3.9 ft. NAVD* LOS Standard E: US HGL < 3.9 ft. NAVD*</p> <p>For existing drainage system components, a level not to exceed the parameters of LOS shall be adopted.</p> <p>(*) May be acceptable LOS standard at limited number of roadway locations due to extreme topographical conditions.</p>
Solid Waste	<p>1.10 tons of solid waste per capita per year; A minimum of two years of constructed lined landfill capacity at the calculated waste generation rate; A minimum of ten years of permittable landfill capacity at the calculated waste generation rate.</p>

*2012 Annual Level of Service Report***5. CURRENT INVENTORY OF FACILITIES**

This section provides an overview of current facilities for each service subject to a LOS standard and programmed improvements and/or enhancements over the next five years.

A. TRANSPORTATION

Various functional classifications of the Marco Island roadway network are listed below along with the number of lanes for each facility. The Island's roadway network

is comprised of one minor arterial, two collectors, eleven local collector roads, and numerous local roads.

Roadway	Designation	Number of through lanes
North Collier Blvd (Jolley Bridge to San Marco Rd)	Minor arterial	4
Bald Eagle Dr	Collector	3/2
San Marco Rd	Collector	2
North Barfield Dr	Local Collector	2
South Barfield Dr	Local Collector	4/2
South Collier Blvd (south of San Marco Rd)	Local Collector	4
Winterberry Dr	Local Collector	2
Landmark St	Local Collector	2
East Elkcarn Cir	Local Collector	2
South Heathwood Dr	Local Collector	2
Yellowbird St	Local Collector	2
Hernando Dr	Local Collector	2
Tigertail Ct (portion)	Local Collector	2
Kendall Dr (portion)	Local Collector	2

Level of Service Standards

As a qualitative measure of operational characteristics, the LOS descriptions used for transportation planning, adopted from the Transportation Research Board, Highway Capacity Manual, 2010 (Washington, DC: TRB, 2010), are as follows:

LOS “A” The highest quality of service a particular class of highway can provide. It is a condition of free flow in which there is little or no restriction on speed or maneuverability caused by the presence of other vehicles in the traffic stream. Stopped delay at intersections is minimal.

LOS “B” A zone of stable flow and representing reasonably unimpeded traffic operations at average travel speeds. The ability to maneuver within the traffic stream is only slightly restricted and stopped delays are not bothersome. Operating speed is beginning to be restricted by other traffic. Drivers are not generally subject to appreciable tensions.

LOS “C” Still represents stable traffic flow operations, however, the ability to select speeds, maneuver and change lanes may be more restricted than in LOS “B”. Longer queues (traffic lines) and/or adverse signal coordination may contribute to lower average travel speeds. Motorists will experience an appreciable tension while driving.

LOS “D” Approaching unstable flow. Tolerable operating speeds are maintained but are subject to considerable and sudden variation. Freedom to maneuver and driving comfort are low because of increased lane density. The probability of accidents has increased and most drivers consider this level of service undesirable.

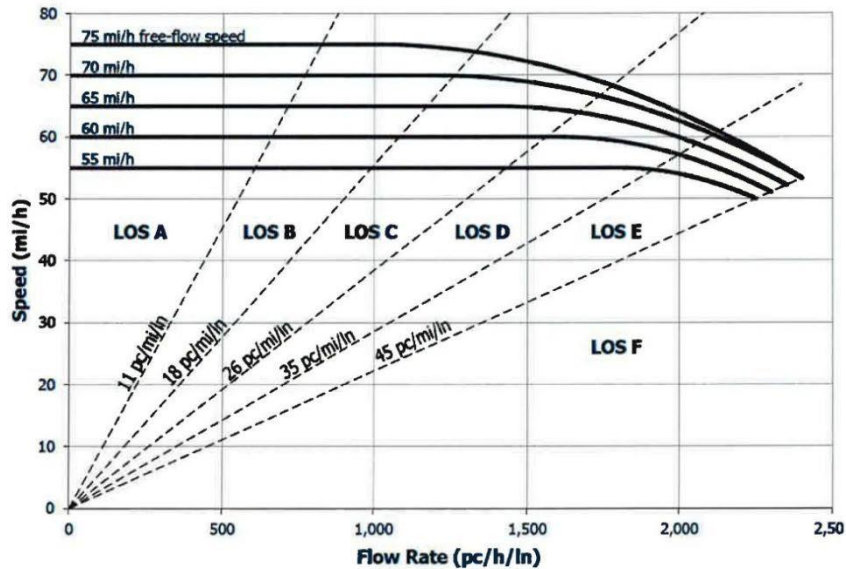
LOS “E” The upper limit of LOS “E” is the capacity of the facility. Operation at this level of service is unstable, and speeds will fluctuate widely from point to point. There is little independence of speed selection and maneuverability. Driving comfort is low and accident potential is high.

LOS “F” Describes forced-flow operations and represents traffic flow characteristics by extremely low speeds. Speed and rate of flow are below levels attained in LOS “E”, and may, for short time periods, drop to zero. Intersection congestion is likely at critical signalized locations, with high approach delays resulting with the queue continuing to grow upstream as long as the arrival rate continues to exceed the discharge rate.

The original Comprehensive Plan adopted a LOS “D” as the minimum acceptable level of service for Marco Island’s roadway, except for the portion of North Collier Blvd. (San Marco Road to the Jolley Bridge), which was required to operate at a LOS “C”.

2012 Annual Level of Service Report

The graph below illustrates the method how LOS standard is applied to each roadway:



Current Travel Conditions

Appendix C (pg. 40) illustrates the difference between the maximum traffic under adopted LOS standards, and actual traffic counts done in 2011-2012, as well as 2004 (for comparison), for selected roadways.

As of 2012, it is estimated that all roadways on Marco Island operate within adopted LOS standard.

Future Traffic Circulation

Based on the original Comprehensive Plan, and supplemented by annual LOS reports, Island's roadways are anticipated to function above the adopted LOS "D" standard well into the future, and therefore the City can focus on desired upgrade projects rather than rectification of

deficiencies. Further, the Island's roadway network is functioning and will continue to function at a level that will not create any problems for future development. Nevertheless, the City continues to make system upgrades that enhance safety, capacity, bicycle/pedestrian usage (see the Appendix D, pg. 41), and beautification.

Future Road Link and Bridge Capacity Improvements

The next table identifies the existing and proposed number of lanes for the primary roadways on the Island. The decision on future number of lanes for the roadways was based on projected future traffic volumes, current conditions, and community desires. Hurricane evacuation also plays an important role in determining roadway widths and lane requirements.

2012 Annual Level of Service Report

Appendix C
Traffic Counts

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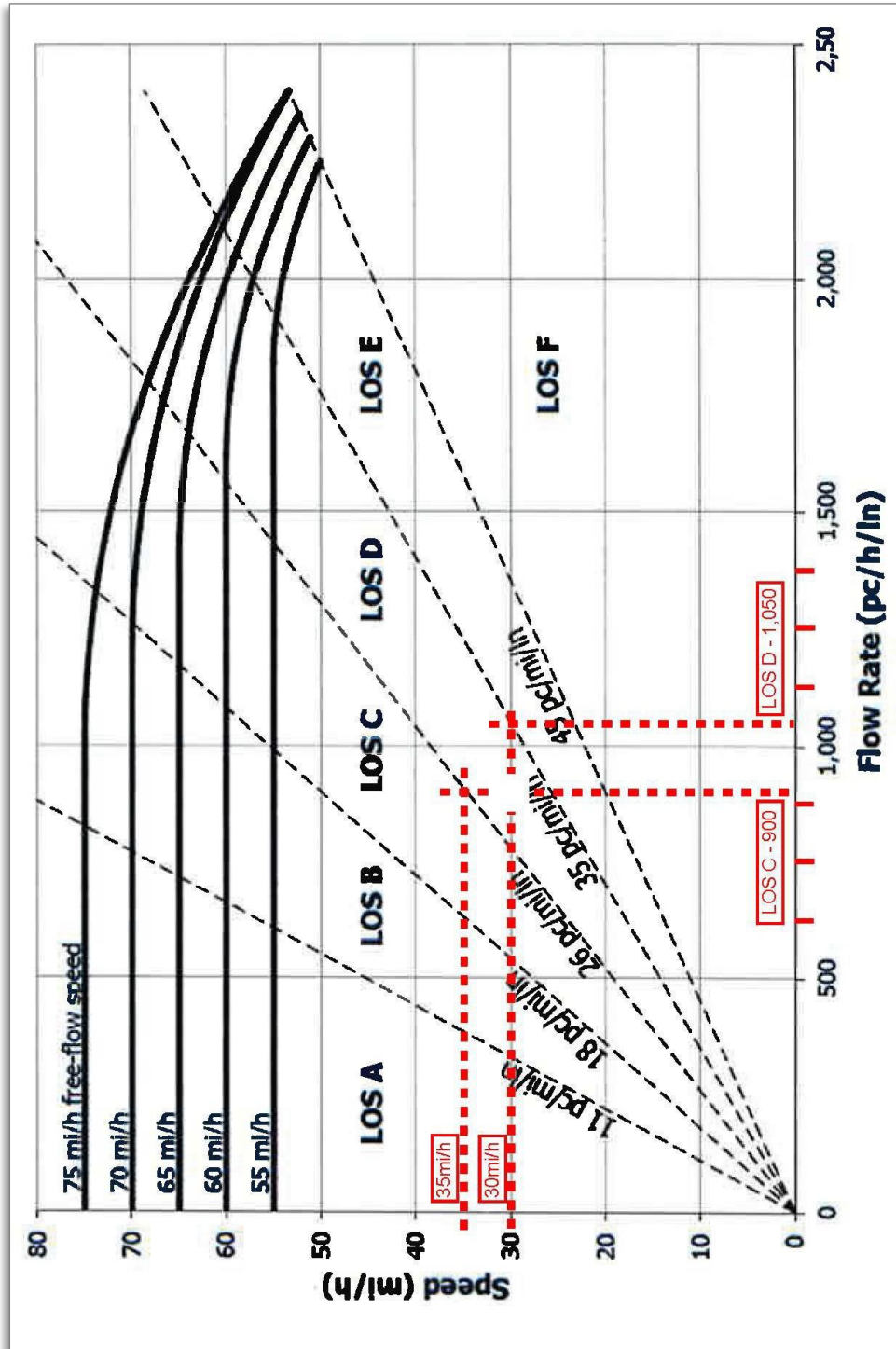
Roadway	Date taken	Lanes counted	Daily	2004 Daily Counts	Hourly	Per minute	Vehicles/minute / lane	Speed limit	Adopted LOS	2012 actual LOS
North Collier (inbound)	Dec-11	2	9,267		386	6.4	3.2	35		
North Collier (outbound)	Mar-12	2	12,779		532	8.9	4.5	35		
North Collier (all lanes)		4	22,046	27,743	919	15	3.8	35	C	A
North Barfield	Apr-12	2	6,852	8,480	285	4.8	2.4	30	D	A
San Marco (@Cushing)	Dec-11	2	6,568*	12,080*	274	4.6	2.3	35	D	A
Bald Eagle (@Tallwood)	Mar-12	2	7,499*	13,233*	312	5.2	2.6	30	D	A
Winterberry (@Partridge)	Apr-12	2	5,429	4,961	226	3.8	1.9	30	D	A
Landmark (@Maple)	Apr-12	2	1,480		62	1	0.5	30	D	A
Sandhill	Mar-12	2	510		21	0.4	0.2	30	D	A
Seagrape	Nov-11	2	812		34	0.6	0.3	30	D	A

Gasoline prices (nominal dollars per gallon): 2004 - \$1.85; 2012 (June) - \$3.55 (<http://www.eia.gov/forecasts/steo/realprices/>)

* 2004 traffic counts for San Marco and Bald Eagle were done during Collier Boulevard rehabilitation and reconstruction. All the traffic from Collier was redirected to San Marco and Bald Eagle, which explains a large discrepancy between 2004 and 2012 counts.

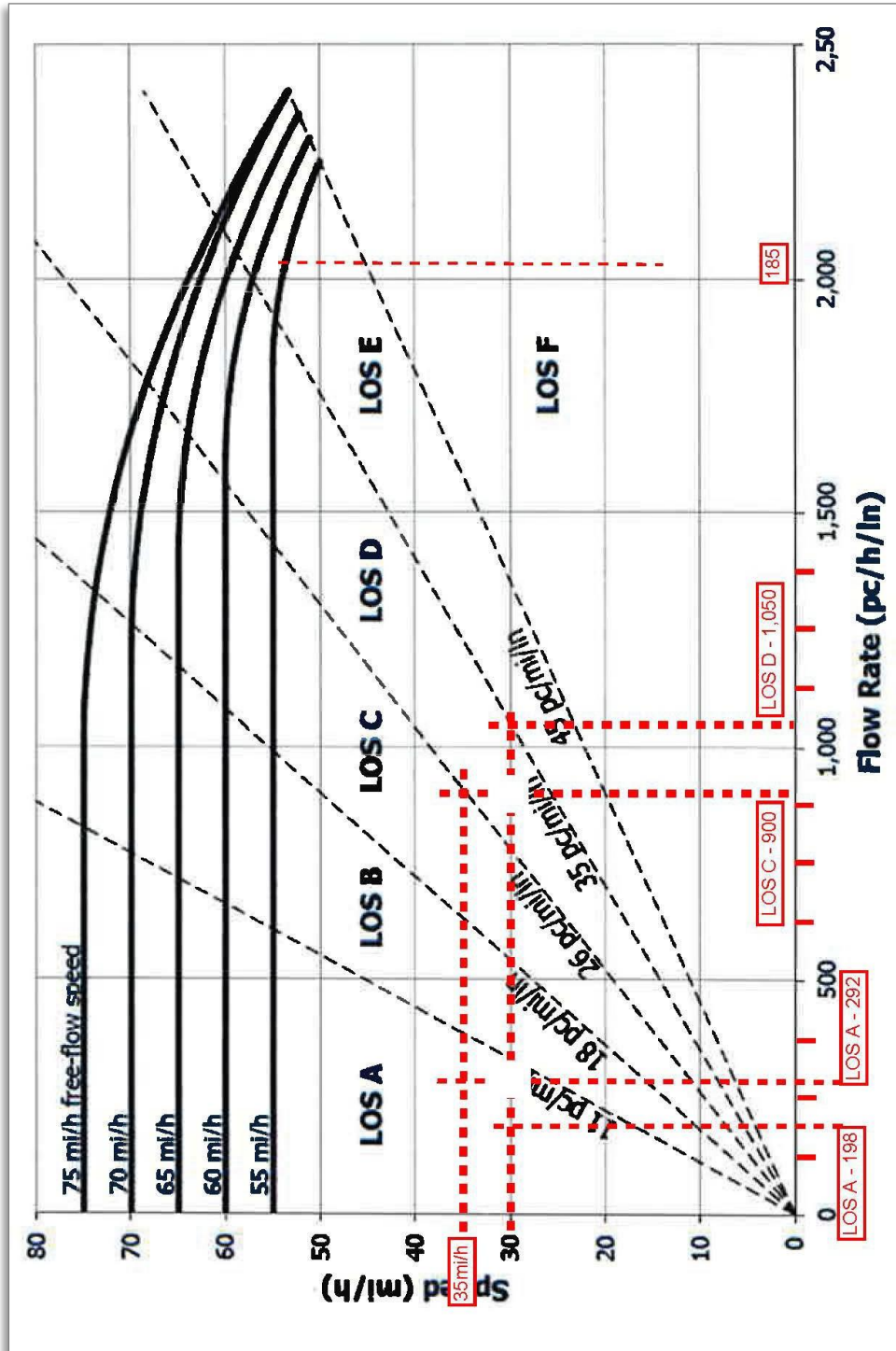
Appendix E:

LOS Standard - Evaluation



Appendix F:

**LOS Analysis Based on Traffic Counts Depicted in the 2012
Annual LOS Report**



Appendix H:

Turning Movement Exhibits

