FEHR & PEERS
TRANSPORTATION CONSULTANTS

June 12, 2006

Mr. Bruce Houdesheldt
Lennar Communities, Inc.
1075 Creekside Ridge Drive, Suite 110
Roseville, CA 95678

Re: Traffic Study of the North Douglas II Subdivision in Rancho Cordova, CA RS05-2175A

Dear Mr. Houdesheldt:

Fehr & Peers has completed a traffic analysis for the North Douglas II (Whitlow) residential subdivision project to be located north of Douglas Road between Sunrise Boulevard and Grant Line Road in the City of Rancho Cordova. The purpose of this study is to determine any project-specific traffic impacts at nearby study intersections under near-term conditions. This study is based on our previous traffic analysis for North Douglas II (documented in letter reports dated February 15, 2006, and December 20, 2005) and our meeting with you and City staff on May 16, 2006.

PROJECT DESCRIPTION

According to the project site plan (*North Douglas II*, Wood Rodgers, September 2005), the North Douglas II subdivision will consist of 153 single family dwelling units. Access to North Douglas II will be provided through the proposed North Douglas I adjacent subdivision that has two access connections to Americanos Boulevard. In addition, access to Grant Line Road from North Douglas I was assumed at the proposed extension of Raymer Way (internal collector street within the North Douglas I subdivision). Figure 1 illustrates the project location, neighborhood street layout, and access to Americanos Boulevard and Grant Line Road through the North Douglas I subdivision.

NEAR-TERM CONDITIONS

We evaluated traffic impacts of the proposed North Douglas II subdivision project at the following study intersections under near-term conditions:

1. Douglas Road/Americanos Boulevard
2. Douglas Road/Grant Line Road
3. Raymer Way/Grant Line Road (proposed roadway extension from the North Douglas subdivision)

For the purpose of this traffic study, near-term conditions includes existing traffic plus traffic from approved projects within the Sunridge Specific Plan, most of which are currently under construction. These projects include the following:

- North Douglas I subdivision - 665 single family residential units located north of Douglas Road adjacent to the proposed project

- Anatolia I, Anatolia II, Anatolia III, Anthology at Anatolia & Sundance, Anatolia IV, Sunridge Park, and Lot J - approximately 1,800 (mostly single-family) residential units located south of Douglas Road between Sunrise Boulevard and Jaeger Road (this information is based on the *Rancho Cordova Transportation Infrastructure Phasing Study* prepared by Fehr & Peers in March 2006 for the City of Rancho Cordova). Access to these residential subdivision projects would be provided via Jaeger Road from Douglas Road and Chrysanthy Boulevard from Sunrise Boulevard

Near-Term No Project Conditions

Peak hour turning movement volumes at the three study intersection under "Near-Term No Project" conditions were developed by adding existing traffic counts (conducted in November 2005) to the estimated peak hour trips from the residential projects listed above. Trips from the surrounding residential projects were assigned to the study intersections based on assumed trip distribution percentages that are consistent with the *Sunrise Douglas Community Plan/Sun Ridge Specific Plan* (Sacramento County DERA, March 1999).

Assumed Lane Configurations

The following lane configurations were assumed in place under near-term conditions for the study intersections using information provided by Murray Smith & Associates based on their current design work on the Sunrise Douglas Specific Plan (refer to Figure 2):

Douglas Road/Americanos Boulevard (signalized T-intersection)

Eastbound approach:	one exclusive left-turn lane and a through lane
Westbound approach:	one shared through/right-turn lane
Southbound approach:	one exclusive left-turn lane and one exclusive right-turn lane

Douglas Road/Grant Line Road (signalized T-intersection)

Eastbound approach:	one exclusive left-turn lane and one exclusive right-turn lane
Northbound approach:	one exclusive left-turn lane and one through lane
Southbound approach:	one exclusive right-turn lane and one through lane

Raymer Way/Grant Line Road (side-street stop-controlled T-intersection)

Eastbound approach:	one exclusive left-turn lane and one exclusive right-turn lane
Northbound approach:	one exclusive left-turn lane and one through lane
Southbound approach:	one exclusive right-turn lane and one through lane

Figure 2 shows the peak hour traffic volumes at the study intersections under "Near-Term No Project" conditions. Traffic operations at these intersections were analyzed based on criteria contained in *Interim Materials on Highway Capacity - Circular 212* (Transportation Research Board, 1980) for signalized intersections and on criteria in the *Highway Capacity Manual 2000* (Transportation Research Board, 2000) for signalized intersections. Table 1 shows the peak hour levels of service at each of the study intersections under this scenario (see Attachment A for technical calculations). As shown, all study intersections operate at LOS D or better during both AM and PM peak hours, which is acceptable according City of Rancho Cordova standards.

TABLE 1
PEAK HOUR INTERSECTION LEVEL OF SERVICE – NEAR-TERM NO PROJECT CONDITIONS

Study Intersection	Traffic Control	Near-Term No Project Conditions	
		AM peak	PM peak
Douglas Road/Americanos Boulevard	Signalized	0.57 (A)[1]	0.39 (A)
Douglas Road/Grant Line Road	Signalized	0.46 (A)	0.34 (A)
Grant Line Road/Raymer Way (extension)	Side-street Stop	31.4 (D)[2]	16.8 (C)

NOTES:
[1] 0.57 (A) = Volume-to-Capacity Ratio (Level of Service)
[2] 31.4 (D) = Seconds of delay per vehicle for worst case movement (Level of Service)
Traffic operations at the study intersections were analyzed based on criteria contained in *Interim Materials on Highway Capacity - Circular 212* (Transportation Research Board, 1980) for signalized study intersections and the *Highway Capacity Manual 2000* (Transportation Research Board, 2000) for unsignalized intersections
Source: Fehr & Peers, 2006.

PROJECT TRIP GENERATION AND DISTRIBUTION

Table 2 shows the AM and PM peak hour trip generation of the proposed North Douglas II single family residential project based on trip rates contained in the seventh edition of *Trip Generation* (Institute of Transportation Engineers, 2003). As shown, the project is expected to generate a total of 115 AM and 155 PM peak hour vehicle trips.

TABLE 2
PEAK HOUR TRIP GENERATION
NORTH DOUGLAS II (WHITLOW) RESIDENTIAL SUBDIVISION

Project	Land Use	Unit	Trip Rate				Trips			
			AM Peak		PM Peak		AM Peak		PM Peak	
			IN	OUT	IN	OUT	IN	OUT	IN	OUT
North Douglas II	Single Family Residential	153 DU's[2]	0.19	0.56	0.64	0.37	29	86	98	57

Note: [1] Trip generation rates for the proposed land use were taken from *Trip Generation, 7th Edition* (Institute of Transportation Engineers (ITE), 2003).
[2] DU= dwelling units
Source: *Fehr & Peers*, 2006

Project trips from North Douglas II were assigned to the roadway network according to the following distribution percentages, which are consistent with trip distribution assumptions published in the *Sunrise Douglas Community Plan/Sun Ridge Specific Plan*):

- 85 percent to/from the west on Douglas Road
- 10 percent to/from the north on Grant Line Road
- 5 percent to/from the south on Grant Line Road

Traffic volumes from the North Douglas II project were added to the "Near-Term No Project" volumes to yield "Near-term Plus Project" conditions. Figure 3 shows the peak hour turning movement volumes and Table 3 shows the peak hour levels of service at each of the study intersections under "Near-Term Plus Project" conditions (see Attachment A for technical calculations). As shown, all study intersections operate at LOS D or better during both AM and PM peak hours with the addition of project traffic, which is acceptable according City of Rancho Cordova standards.

TABLE 3
PEAK HOUR INTERSECTION LEVEL OF SERVICE – NEAR-TERM PLUS PROJECT CONDITIONS

Study Intersection	Traffic Control	Near-Term No Project		Near-Term Plus Project	
		AM peak	PM peak	AM peak	PM peak
Douglas Road/Americanos Boulevard	Signalized	0.57 (A)[1]	0.39 (A)	0.61(B)	0.44 (A)
Douglas Road/Grant Line Road	Signalized	0.46 (A)	0.34 (A)	0.46 (A)	0.35 (A)
Grant Line Road/Raymer Way (extension)	Side-street Stop	31.4 (D)[2]	16.8 (C)	33.0 (D)	17.2 (C)

NOTES:
[1] 0.57 (A) = Volume-to-Capacity Ratio (Level of Service)
[2] 31.4 (D) = Seconds of delay per vehicle for worst case movement (Level of Service)
Traffic operations at the study intersections were analyzed based on criteria contained in *Interim Materials on Highway Capacity - Circular 212* (Transportation Research Board, 1980) for signalized study intersections and the *Highway Capacity Manual 2000* (Transportation Research Board, 2000) for unsignalized intersections
Source: Fehr & Peers, 2006.

Based on our analysis, the North Douglas II subdivision will not trigger and project-specific traffic impacts at the study intersections that were analyzed. The assumed near-Term lane configurations and traffic control would be adequate to accommodate the project traffic at these locations.

We hope this information is helpful. Please feel free to contact us with any questions.

Sincerely,

FEHR & PEERS

Jason Isaac
Senior Transportation Engineer

Jeffrey Clark, P.E.
Associate

FEHR & PEERS
TRANSPORTATION CONSULTANTS

ATTACHMENT A

TECHNICAL CALCULATIONS

NEAR-TERM NO PROJECT

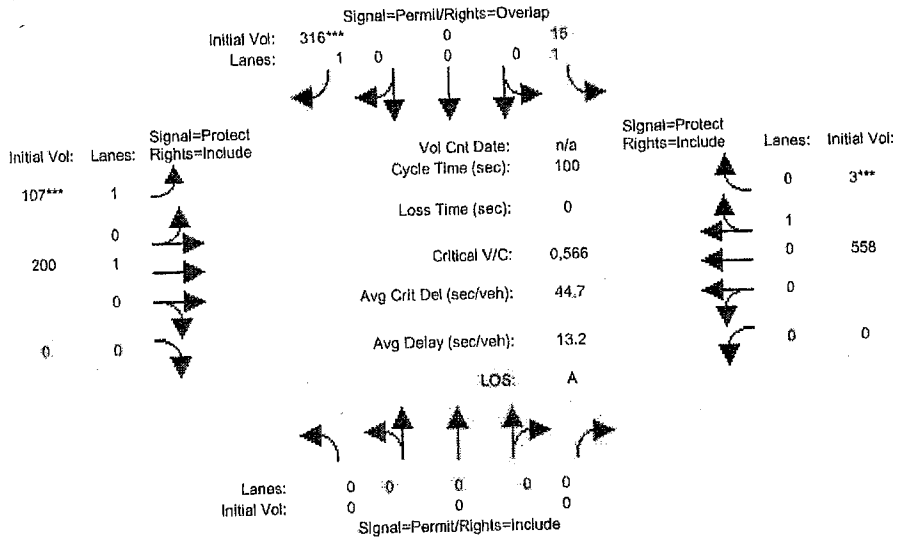
AND

NEAR-TERM PLUS PROJECT CONDITIONS

North Douglas II (Whitlow)

Level Of Service Computation Report
Circular 212 Planning (Future Volume Alternative)
Near Term No Project AM

Intersection #134: Americanos/Douglas

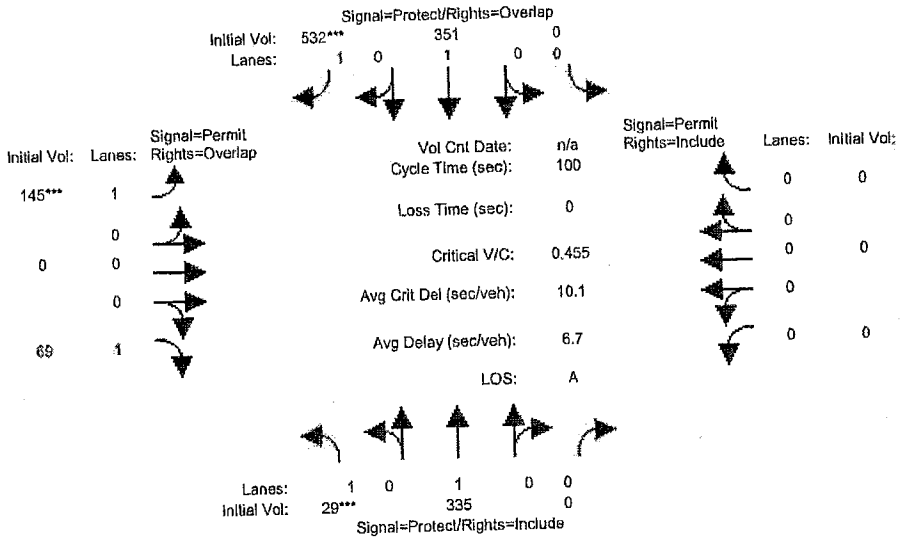


Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module:												
Base Vol:	0	0	0	15	0	316	107	200	0	0	558	3
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	15	0	316	107	200	0	0	558	3
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	15	0	316	107	200	0	0	558	3
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	15	0	316	107	200	0	0	558	3
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	15	0	316	107	200	0	0	558	3
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	0	0	15	0	316	107	200	0	0	558	3
Saturation Flow Module:												
Sat/Lane:	1550	1550	1550	1550	1550	1550	1550	1550	1550	1550	1550	1550
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.99	0.01
Final Sat.:	0	0	0	1550	0	1550	1550	1550	0	0	1542	8
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.01	0.00	0.20	0.07	0.13	0.00	0.00	0.36	0.36
Crit Vol:	0					316	0					561
Crit Moves:						****	****					****

North Douglas II (Whitlow)

Level Of Service Computation Report
Circular 212 Planning (Future Volume Alternative)
Near Term No Project AM

Intersection #108: Grant Line Road/Douglas Road

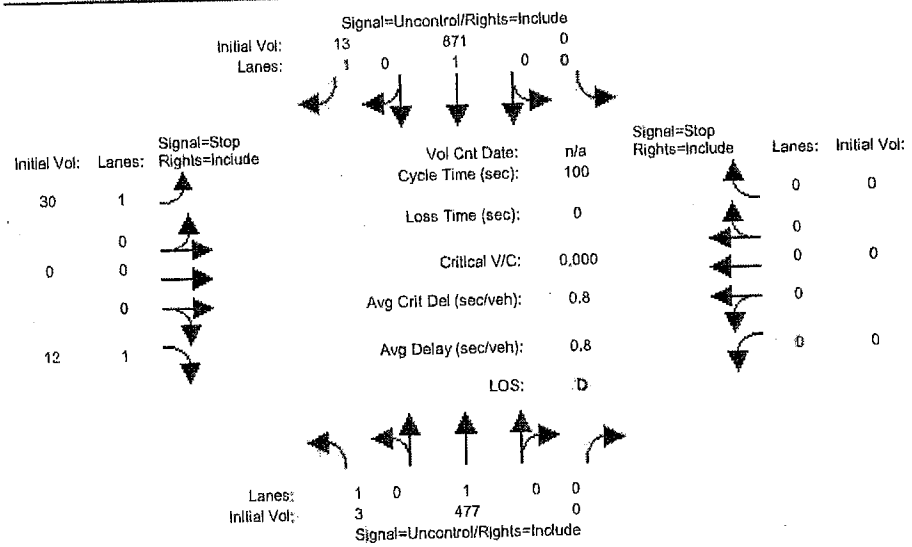


Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module:												
Base Vol:	29	335	0	0	351	532	145	0	69	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	29	335	0	0	351	532	145	0	69	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	29	335	0	0	351	532	145	0	69	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	29	335	0	0	351	532	145	0	69	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	29	335	0	0	351	532	145	0	69	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	29	335	0	0	351	532	145	0	69	0	0	0
Saturation Flow Module:												
Sat/Lane:	1550	1550	1550	1550	1550	1550	1550	1550	1550	1550	1550	1550
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1550	1550	0	0	1550	1550	1550	0	1550	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.02	0.22	0.00	0.00	0.23	0.34	0.09	0.00	0.04	0.00	0.00	0.00
Crit Vol:	29					532	145				0	
Crit Moves:	****					****	****					

North Douglas II (Whitlow)

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Near Term No Project AM

Intersection #1267: Grant Line Road/Raymer Way extension



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	3	477	0	0	871	13	30	0	12	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	3	477	0	0	871	13	30	0	12	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	3	477	0	0	871	13	30	0	12	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	3	477	0	0	871	13	30	0	12	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	3	477	0	0	871	13	30	0	12	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	884	xxxx	xxxxx	xxxx	xxxx	xxxxx	1354	xxxx	871	xxxx	xxxx	xxxxx
Potent Cap.:	774	xxxx	xxxxx	xxxx	xxxx	xxxxx	167	xxxx	353	xxxx	xxxx	xxxxx
Move Cap.:	774	xxxx	xxxxx	xxxx	xxxx	xxxxx	166	xxxx	353	xxxx	xxxx	xxxxx
Volume/Cap:	0.00	xxxx	xxxx	xxxx	xxxx	xxxx	0.18	xxxx	0.03	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.6	xxxx	0.1	xxxx	xxxx	xxxxx
Control Del:	9.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx	31.4	xxxx	15.5	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	D	*	C	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			26.9			xxxxxx		
ApproachLOS:	*			*			D			*		

Peak Hour Delay Signal Warrant Report

****

Intersection #1267 Grant Line Road/Raymer Way extension

****

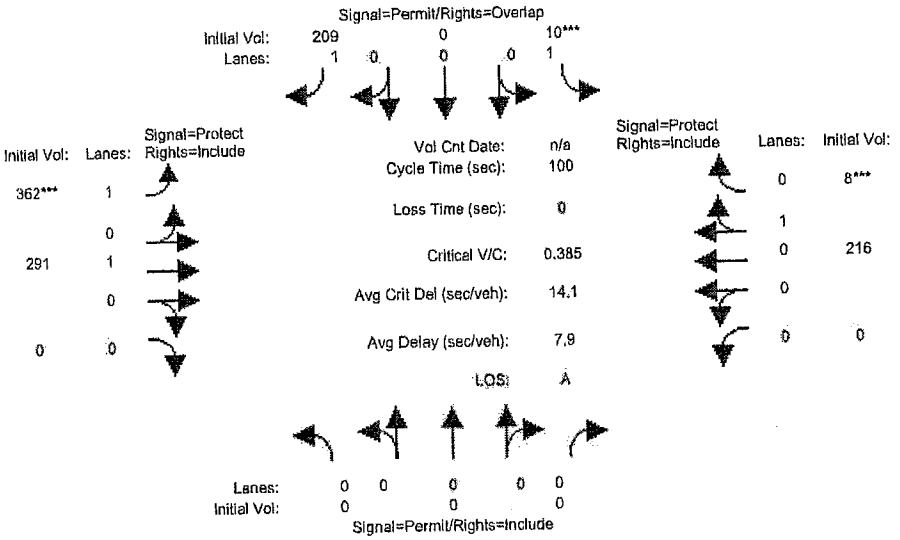
Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R

North Douglas II (Whitlow)

Level Of Service Computation Report
Circular 212 Planning (Future Volume Alternative)
Near Term No Project PM

Intersection #134: Americanos/Douglas

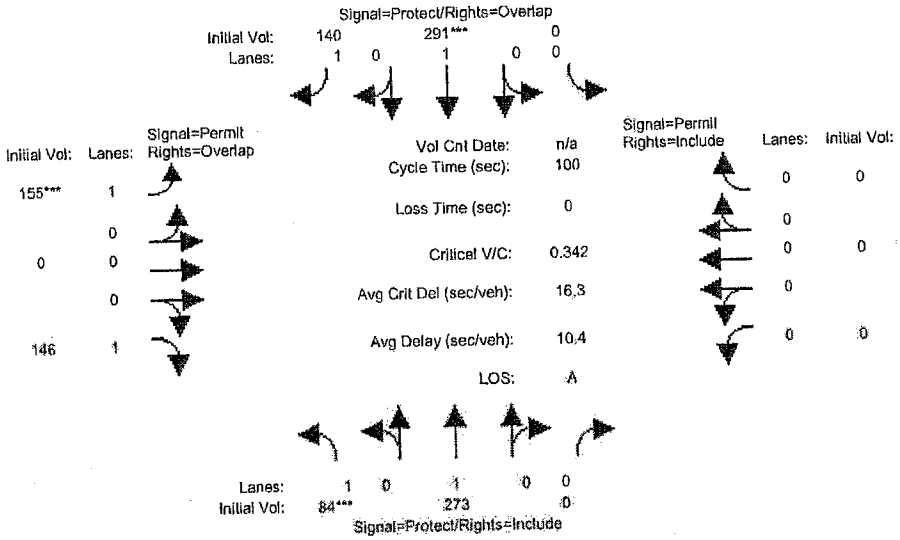


Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module:												
Base Vol:	0	0	0	10	0	209	362	291	0	0	216	8
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	10	0	209	362	291	0	0	216	8
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	10	0	209	362	291	0	0	216	8
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	10	0	209	362	291	0	0	216	8
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	10	0	209	362	291	0	0	216	8
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	0	0	10	0	209	362	291	0	0	216	8
Saturation Flow Module:												
Sat/Lane:	1550	1550	1550	1550	1550	1550	1550	1550	1550	1550	1550	1550
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.96	0.04
Final Sat.:	0	0	0	1550	0	1550	1550	1550	0	0	1495	55
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.01	0.00	0.13	0.23	0.19	0.00	0.00	0.14	0.14
Crit Vol:		0		10			362					224
Crit Moves:				****			****					****

North Douglas II (Whitlow)

Level Of Service Computation Report
Circular 212 Planning (Future Volume Alternative)
Near Term No Project PM

Intersection #108: Grant Line Road/Douglas Road

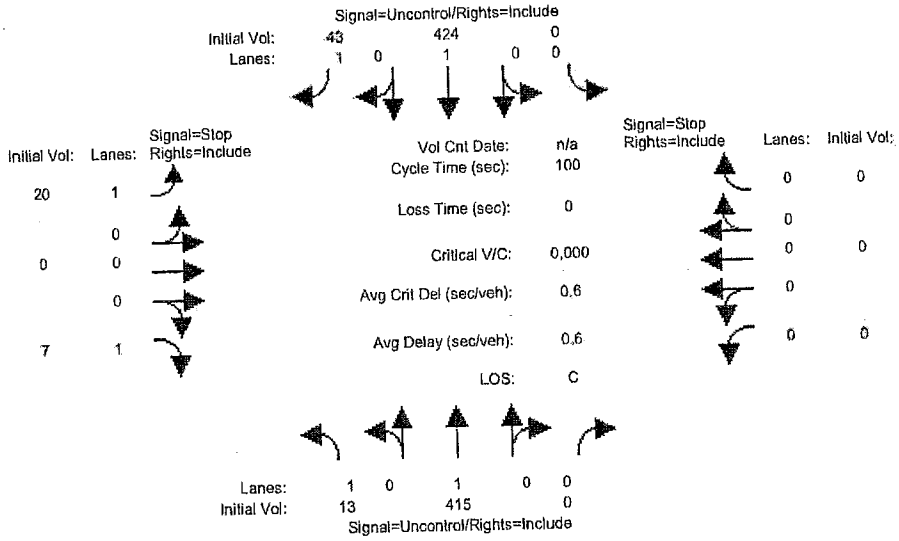


Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module:												
Base Vol:	84	273	0	0	291	140	155	0	146	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	84	273	0	0	291	140	155	0	146	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	84	273	0	0	291	140	155	0	146	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	84	273	0	0	291	140	155	0	146	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	84	273	0	0	291	140	155	0	146	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	84	273	0	0	291	140	155	0	146	0	0	0
Saturation Flow Module:												
Sat/Lane:	1550	1550	1550	1550	1550	1550	1550	1550	1550	1550	1550	1550
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1550	1550	0	0	1550	1550	1550	0	1550	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.05	0.18	0.00	0.00	0.19	0.09	0.10	0.00	0.09	0.00	0.00	0.00
Crit Vol:	84				291		155				0	
Crit Moves:	****				****		****					

North Douglas II (Whitlow)

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Near Term No Project PM

Intersection #1267: Grant Line Road/Raymer Way extension



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	13	415	0	0	424	43	20	0	7	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	13	415	0	0	424	43	20	0	7	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	13	415	0	0	424	43	20	0	7	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	13	415	0	0	424	43	20	0	7	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	13	415	0	0	424	43	20	0	7	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	467	xxxx	xxxxx	xxxx	xxxx	xxxxx	865	xxxx	424	xxxx	xxxx	xxxxx
Potent Cap.:	1105	xxxx	xxxxx	xxxx	xxxx	xxxxx	327	xxxx	634	xxxx	xxxx	xxxxx
Move Cap.:	1105	xxxx	xxxxx	xxxx	xxxx	xxxxx	324	xxxx	634	xxxx	xxxx	xxxxx
Volume/Cap:	0.01	xxxx	xxxx	xxxx	xxxx	xxxx	0.06	xxxx	0.01	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.2	xxxx	0.0	xxxx	xxxx	xxxxx
Control Del:	8.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	16.8	xxxx	10.7	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	C	*	B	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			15.3			xxxxxx		
ApproachLOS:	*			*			C			*		

Peak Hour Delay Signal Warrant Report

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Intersection #1267 Grant Line Road/Raymer Way extension

****

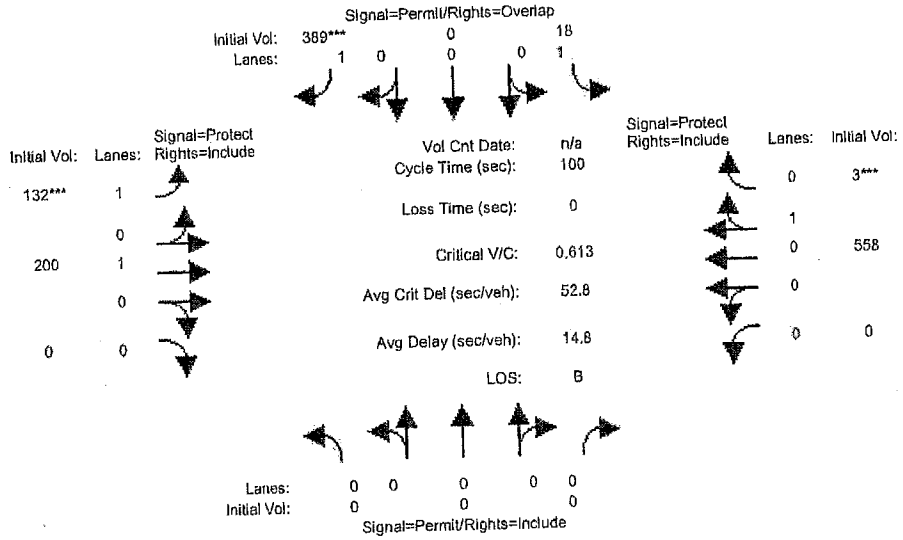
Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R

North Douglas II (Whitlow)

Level Of Service Computation Report
Circular 212 Planning (Future Volume Alternative)
Near Term Plus Project AM

Intersection #134: Americanos/Douglas

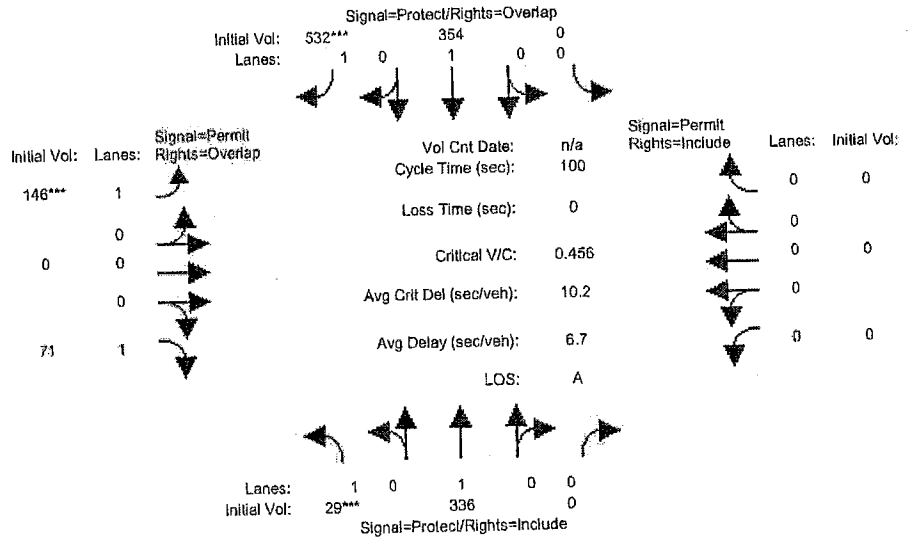


Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module:												
Base Vol:	0	0	0	18	0	389	132	200	0	0	558	3
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	18	0	389	132	200	0	0	558	3
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	18	0	389	132	200	0	0	558	3
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	18	0	389	132	200	0	0	558	3
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	18	0	389	132	200	0	0	558	3
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	0	0	18	0	389	132	200	0	0	558	3
Saturation Flow Module:												
Sat/Lane:	1550	1550	1550	1550	1550	1550	1550	1550	1550	1550	1550	1550
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.99	0.01
Final Sat.:	0	0	0	1550	0	1550	1550	1550	0	0	1542	8
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.01	0.00	0.25	0.09	0.13	0.00	0.00	0.36	0.36
Crit Vol:	0					389	0					561
Crit Moves:						****	****					****

North Douglas II (Whitlow)

Level Of Service Computation Report
Circular 212 Planning (Future Volume Alternative)
Near Term Plus Project AM

Intersection #108: Grant Line Road/Douglas Road

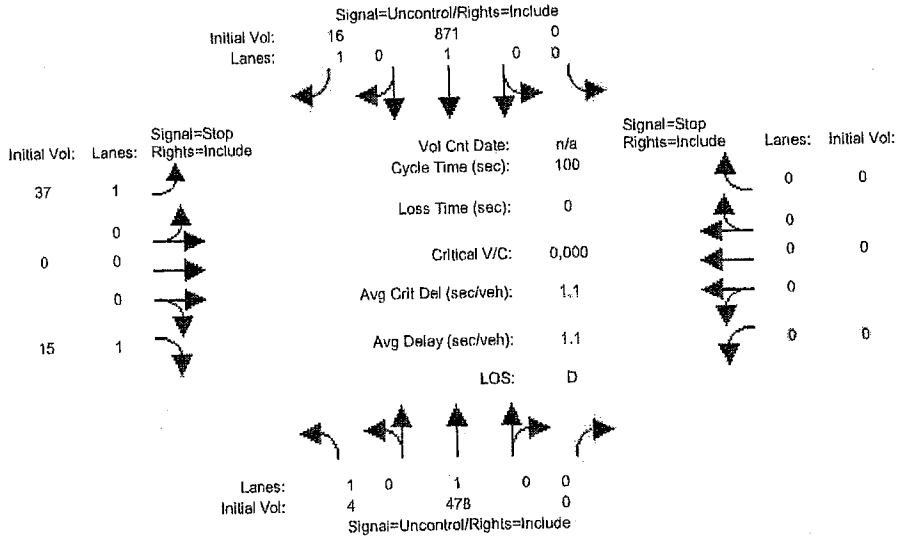


Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module:												
Base Vol:	29	336	0	0	354	532	146	0	71	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	29	336	0	0	354	532	146	0	71	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	29	336	0	0	354	532	146	0	71	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	29	336	0	0	354	532	146	0	71	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	29	336	0	0	354	532	146	0	71	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	29	336	0	0	354	532	146	0	71	0	0	0
Saturation Flow Module:												
Sat/Lane:	1550	1550	1550	1550	1550	1550	1550	1550	1550	1550	1550	1550
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1550	1550	0	0	1550	1550	1550	0	1550	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.02	0.22	0.00	0.00	0.23	0.34	0.09	0.00	0.05	0.00	0.00	0.00
Crit Vol:	29					532	146				0	
Crit Moves:	****					****	****					

North Douglas II (Whitlow)

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Near Term Plus Project AM

Intersection #1267: Grant Line Road/Raymer Way extension



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	4	478	0	0	871	16	37	0	15	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	4	478	0	0	871	16	37	0	15	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	4	478	0	0	871	16	37	0	15	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	4	478	0	0	871	16	37	0	15	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	4	478	0	0	871	16	37	0	15	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	887	xxxx	xxxxx	xxxx	xxxx	xxxxx	1357	xxxx	871	xxxx	xxxx	xxxxx
Potent Cap.:	772	xxxx	xxxxx	xxxx	xxxx	xxxxx	166	xxxx	353	xxxx	xxxx	xxxxx
Move Cap.:	772	xxxx	xxxxx	xxxx	xxxx	xxxxx	165	xxxx	353	xxxx	xxxx	xxxxx
Volume/Cap:	0.01	xxxx	xxxx	xxxx	xxxx	xxxx	0.22	xxxx	0.04	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.8	xxxx	0.1	xxxx	xxxx	xxxxx
Control Del:	9.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx	33.0	xxxx	15.6	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	D	*	C	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			28.0			xxxxxx		
ApproachLOS:	*			*			D			*		

Peak Hour Delay Signal Warrant Report

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Intersection #1267 Grant Line Road/Raymer Way extension

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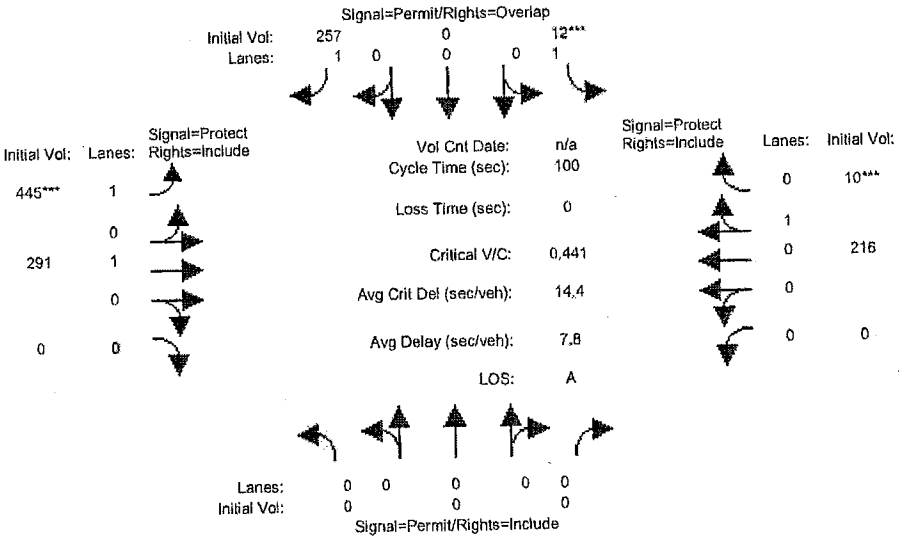
Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R

North Douglas II (Whitlow)

Level Of Service Computation Report
Circular 212 Planning (Future Volume Alternative)
Near Term Plus Project PM

Intersection #134: Americanos/Douglas

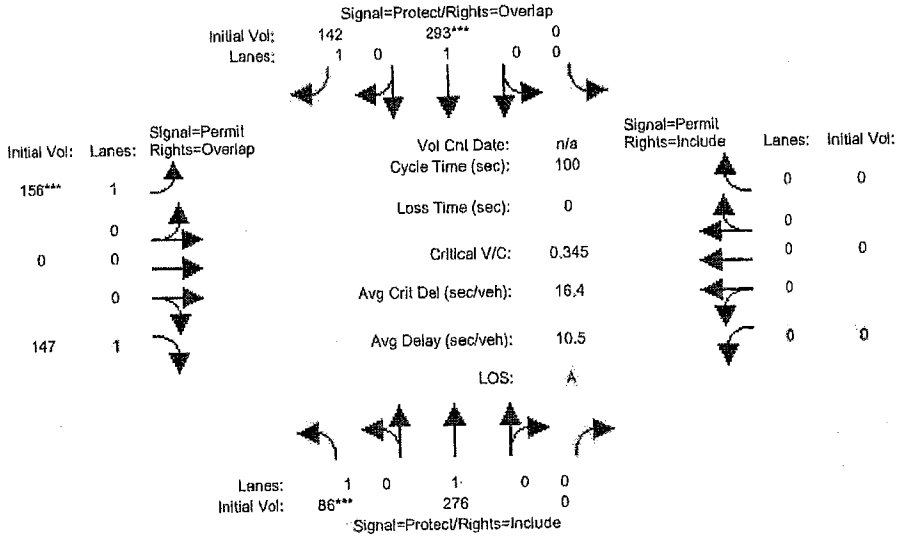


Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module:												
Base Vol:	0	0	0	12	0	257	445	291	0	0	216	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	12	0	257	445	291	0	0	216	10
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	12	0	257	445	291	0	0	216	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	12	0	257	445	291	0	0	216	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	12	0	257	445	291	0	0	216	10
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	0	0	12	0	257	445	291	0	0	216	10
Saturation Flow Module:												
Sat/Lane:	1550	1550	1550	1550	1550	1550	1550	1550	1550	1550	1550	1550
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.96	0.04
Final Sat.:	0	0	0	1550	0	1550	1550	1550	0	0	1481	69
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.01	0.00	0.17	0.29	0.19	0.00	0.00	0.15	0.15
Crit Vol:			0	12			445					226
Crit Moves:				****			****					****

North Douglas II (Whitlow)

Level Of Service Computation Report
Circular 212 Planning (Future Volume Alternative)
Near Term Plus Project PM

Intersection #108: Grant Line Road/Douglas Road

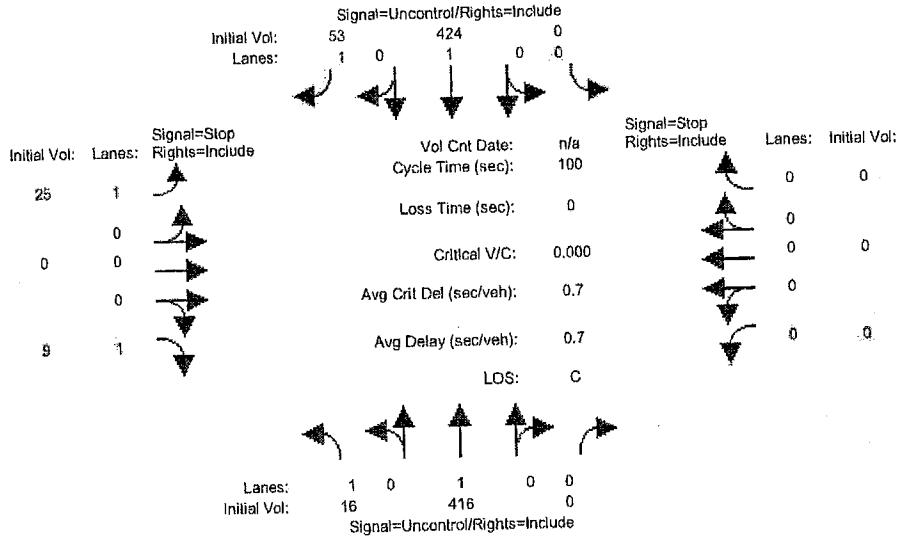


Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module:												
Base Vol:	86	276	0	0	293	142	156	0	147	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	86	276	0	0	293	142	156	0	147	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	86	276	0	0	293	142	156	0	147	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	86	276	0	0	293	142	156	0	147	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	86	276	0	0	293	142	156	0	147	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	86	276	0	0	293	142	156	0	147	0	0	0
Saturation Flow Module:												
Sat/Lane:	1550	1550	1550	1550	1550	1550	1550	1550	1550	1550	1550	1550
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1550	1550	0	0	1550	1550	1550	0	1550	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.06	0.18	0.00	0.00	0.19	0.09	0.10	0.00	0.09	0.00	0.00	0.00
Crit Vol:	86				293		156				0	
Crit Moves:	****				****		****					

North Douglas II (Whitlow)

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Near Term Plus Project PM

Intersection #1267: Grant Line Road/Raymer Way extension



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	16	416	0	0	424	53	25	0	9	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	16	416	0	0	424	53	25	0	9	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	16	416	0	0	424	53	25	0	9	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	16	416	0	0	424	53	25	0	9	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	16	416	0	0	424	53	25	0	9	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	477	xxxx	xxxxx	xxxx	xxxx	xxxxx	872	xxxx	424	xxxx	xxxx	xxxxx
Potent Cap.:	1096	xxxx	xxxxx	xxxx	xxxx	xxxxx	324	xxxx	634	xxxx	xxxx	xxxxx
Move Cap.:	1096	xxxx	xxxxx	xxxx	xxxx	xxxxx	320	xxxx	634	xxxx	xxxx	xxxxx
Volume/Cap:	0.01	xxxx	xxxx	xxxx	xxxx	xxxx	0.08	xxxx	0.01	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.3	xxxx	0.0	xxxx	xxxx	xxxxx
Control Del:	8.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	17.2	xxxx	10.8	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	C	*	B	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			15.5			xxxxxx		
ApproachLOS:	*			*			C			*		

Peak Hour Delay Signal Warrant Report

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Intersection #1267 Grant Line Road/Raymer Way extension

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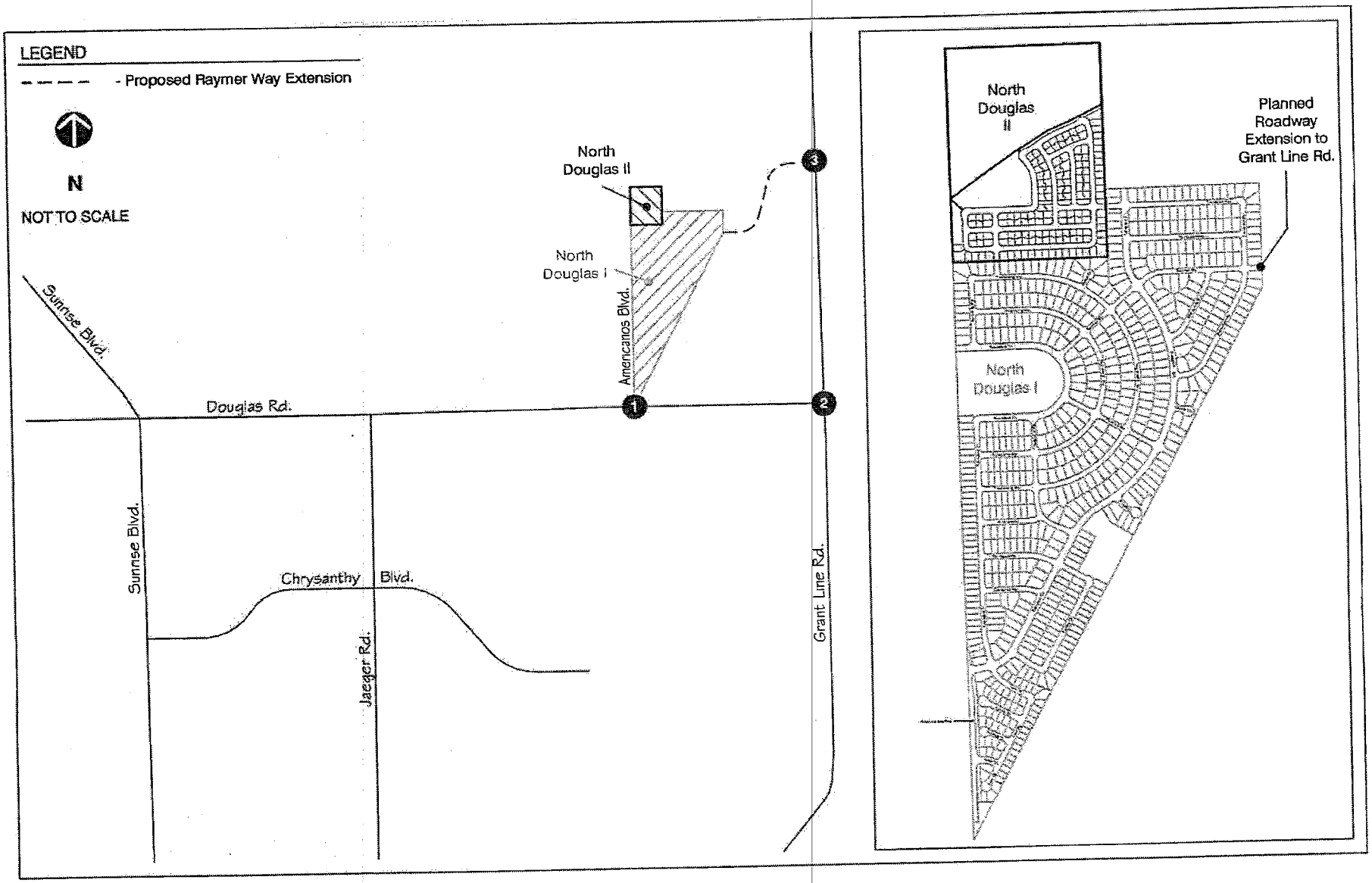
Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R



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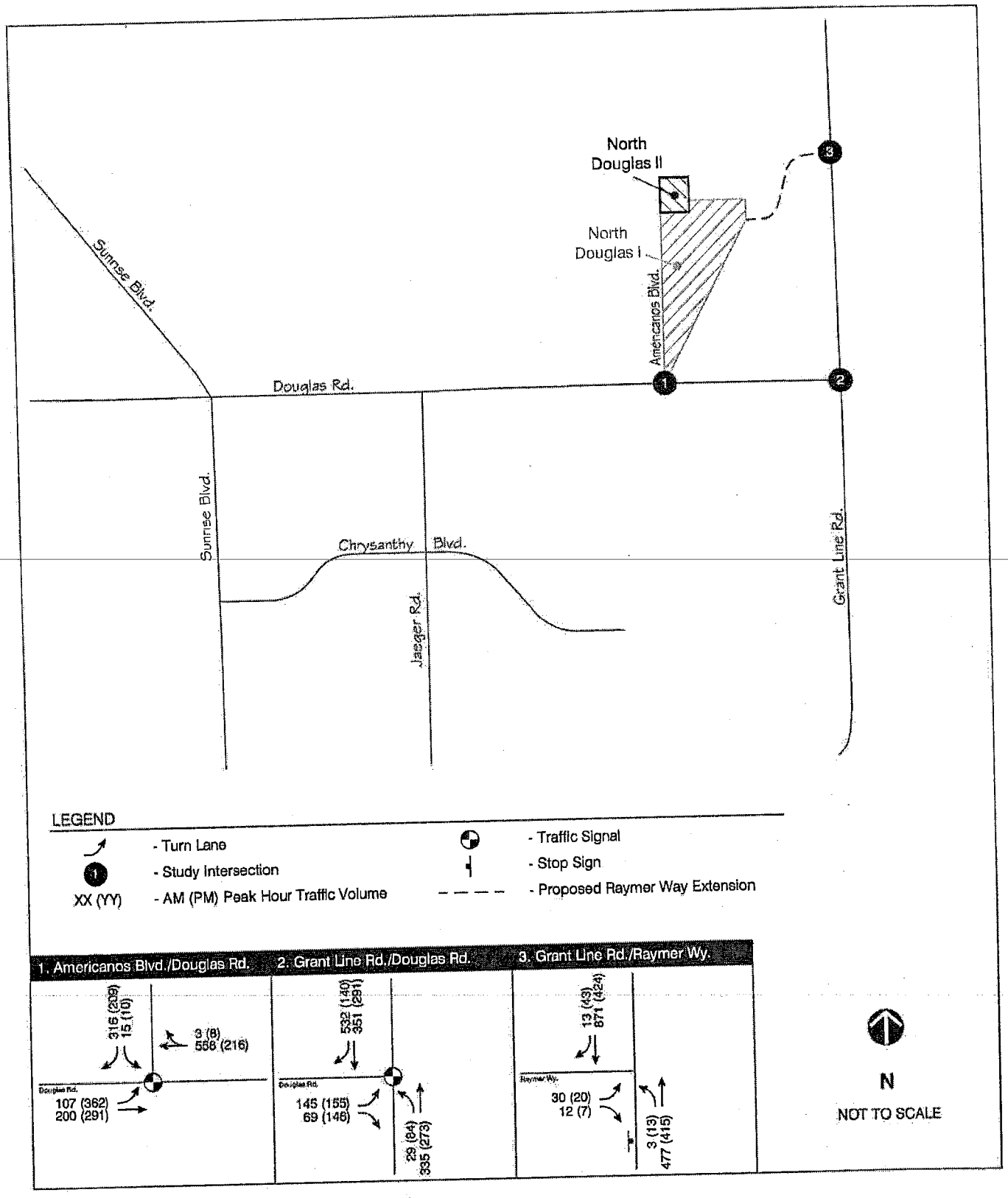
NORTH DOUGLAS II (WHITLOW)
PROJECT LOCATION AND SITE PLAN

FIGURE 1



NORTH DOUGLAS II (WHITLOW) PEAK HOUR TRAFFIC VOLUMES AND LANE CONFIGURATIONS - NEAR-TERM NO PROJECT CONDITIONS

FIGURE 2

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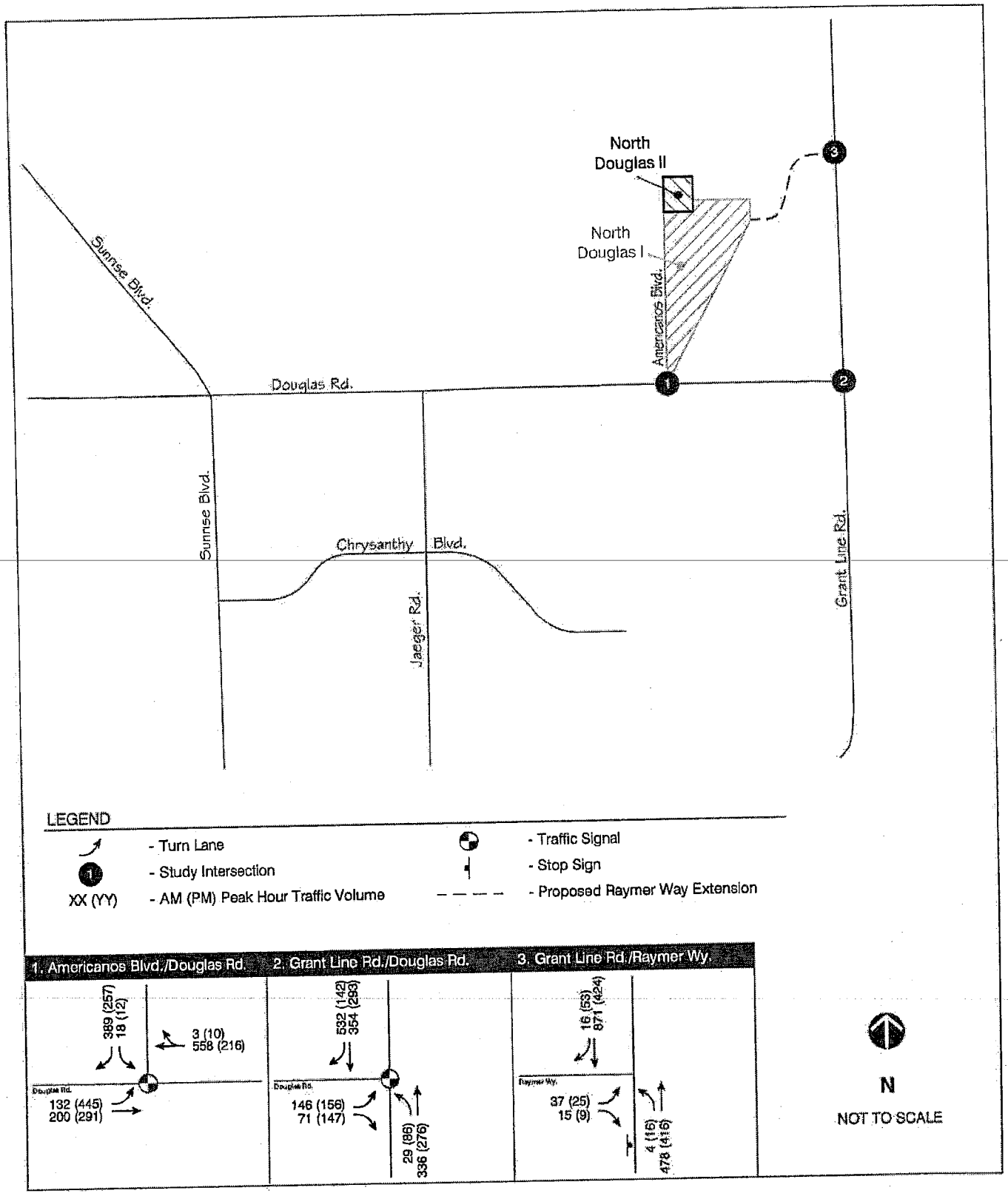

NORTH DOUGLAS II (WHITLOW) PEAK HOUR TRAFFIC VOLUMES AND LANE CONFIGURATIONS - NEAR-TERM PLUS PROJECT CONDITIONS

FIGURE 3

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Traffic volumes from the North Douglas II project were added to the "Near-Term No Project" volumes to yield "Near-term Plus Project" conditions. Figure 3 shows the peak hour turning movement volumes and Table 3 shows the peak hour levels of service at each of the study intersections under "Near-Term Plus Project" conditions (see Attachment A for technical calculations). As shown, all study intersections operate at LOS D or better during both AM and PM peak hours with the addition of project traffic, which is acceptable according City of Rancho Cordova standards.

TABLE 3
PEAK HOUR INTERSECTION LEVEL OF SERVICE – NEAR-TERM PLUS PROJECT CONDITIONS

Study Intersection	Traffic Control	Near-Term No Project		Near-Term Plus Project	
		AM peak	PM peak	AM peak	PM peak
Douglas Road/Americanos Boulevard	Signalized	0.57 (A)[1]	0.39 (A)	0.61(B)	0.44 (A)
Douglas Road/Grant Line Road	Signalized	0.46 (A)	0.34 (A)	0.46 (A)	0.35 (A)
Grant Line Road/Raymer Way (extension)	Side-street Stop	31.4 (D)[2]	16.8 (C)	33.0 (D)	17.2 (C)

NOTES:
[1] 0.57 (A) = Volume-to-Capacity Ratio (Level of Service)
[2] 31.4 (D) = Seconds of delay per vehicle for worst case movement (Level of Service)
Traffic operations at the study intersections were analyzed based on criteria contained in *Interim Materials on Highway Capacity - Circular 212* (Transportation Research Board, 1980) for signalized study intersections and the *Highway Capacity Manual 2000* (Transportation Research Board, 2000) for unsignalized intersections
Source: Fehr & Peers, 2006.

Based on our analysis, the North Douglas II subdivision will not trigger any project-specific traffic impacts at the study intersections that were analyzed. The assumed near-term lane configurations and traffic control would be adequate to accommodate the project traffic at these locations.

We hope this information is helpful. Please feel free to contact us with any questions.

Sincerely,

FEHR & PEERS

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