Bank of Albuquerque

(Carmel Ave. / Wyoming Blvd.)

Queuing Analysis / Access Study

June 11, 2007

Terry O. Brown, P.E.

Presented to:

Transportation Development Division
City of Albuquerque

Prepared for:

Claudio Vigil & Architects
1801 Rio Grande Blvd. NW
Albuquerque, NM 87104



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Monday, March 20, 2006

Tony Loyd
City of Albuquerque Transportation Development
600 2nd St. NW
Albuquerque, NM 87102

Re: Queuing Analysis for Bank of Albuquerque (Carmel Ave. / Wyoming Blvd.)

Dear Tony:

As you requested, attached is the queuing analysis and other transportation analysis provided for the purpose of providing sufficient information for the City to determine whether or not a full access driveway will be approved at the northwest corner of the proposed Bank of Albuquerque. Also, data and analysis are provided for the purpose of determining whether or not it would be prudent to approve the proposed right-turn-in, right-turn-out driveway on Wyoming Blvd. at the south end of the Bank of Albuquerque site.

To determine the forecast queue lengths at the intersection of Carmel Ave. / Wyoming Blvd., recent turning movement counts were taken at the intersection for the AM and PM Peak Hour periods. The volumes were then grown to the year 2008 using an annual 3% growth rate. To those volumes, the trips generated by the proposed Bank of Albuquerque was added. An analysis of the signalized intersection of Carmel Ave. / Wyoming Blvd. was performed using TEAPAC's Signal 2000, version 2.0 software. The computer modeling reports the level-of-service and delays for the 2008 AM and PM Peak Hour BUILD Conditions for the intersections. It also reports approximate queue lengths. However, the queues for this intersection were determined using the standard City of Albuquerque methodology (Poisson's Arrivals – 95% probable comfort level). Next, the proposed driveway(s) on the project were analyzed to determine unsignalized intersection levels-of-service / delays and queue lengths for the 2008 AM and PM Peak Hour BUILD Conditions. The above described procedure was performed for two different Cases as defined below:

Case A – Case "A" assumes that the only driveway (Driveway "A") accessing the proposed Bank of Albuquerque will be on Carmel Ave. at the northwest corner of the project. It is assumed to be a full access driveway.
Case B – Case "B" assumes that there will be two driveways accessing the proposed Bank of Albuquerque. One access will be Driveway "A" as previously described. The second access (Driveway "B") will be an unsignalized right-turn-in, right-turn-out only driveway on Wyoming Blvd. at the south edge of the project. (See Appendix Page A-2). Discussion of the analysis of the two Cases follows.

Re: Queuing Analysis for Bank of Albuquerque (Carmel Ave. / Wyoming Blvd.)

Case "A"

All of the entering and exiting traffic utilizes Driveway "A" on Carmel Ave. The centerline of Driveway "A" is located approximately 250 feet west of the stop bar for eastbound traffic on Carmel Ave. at Wyoming Blvd.

Under this condition, the projected 2008 AM and PM Peak Hour levels-of-service for the intersection of Carmel Ave. / Wyoming Blvd. is summarized in the following table:

Carmel Ave. / Wyoming Blvd.	2008 BUILD Conditions	
	AM Peak	PM Peak
CASE "A"	B – 12.4	C – 20.6

The projected level-of-service and delay at the intersection are acceptable in both periods for Case "A". The calculated queue length by Signal 2000 for the PM Peak Hour for the eastbound approach is 53 feet for the left turn lane and 220 feet for the thru / right turn lane. The queuing for the eastbound thru / right turn movement appears to be approaching the location of Driveway "A". If possible, measures should be taken to reduce the eastbound queue. The queue length calculated using the City's standard methodology for queuing (Poisson's Arrivals) results in a 100 feet long queue for the eastbound left turn lane and a 300 feet long queue for the thru / right turn lane. This calculation shows the queue in the thru / right turn lane to be slightly beyond Driveway "A".

The projected 2008 AM and PM Peak Hour levels-of-service for the unsignalized Driveway "A" are summarized in the following table:

Carmel Ave. / Driveway "A"	2008 BUILD Conditions	
	AM Peak	PM Peak
CASE "A"	A – 9.3	B – 11.1

The projected level-of-service and delay at the intersection are acceptable in both periods for Case "A". Using HCM methodology for calculating the queue length for the westbound left turn movement into Driveway "A" results in a queue of less than 1 vehicle. The projected westbound left turn volume at Driveway "A" under Case "A" is 22 vehicles per hour during the AM Peak Hour and 55 vehicles per hour during the PM Peak Hour. Under this scenario, the westbound left turn lane should be constructed to a length of greater than one vehicle. According to the HCM analysis, though, the one vehicle length should work at least 95% of the time.

Re: Queuing Analysis for Bank of Albuquerque (Carmel Ave. / Wyoming Blvd.)

Case "B"

The entering and exiting traffic under Case "B" will be able to access the site via two driveways (Driveway "A" on Carmel Ave. and Driveway "B" on Wyoming Blvd.). Driveway "B" is proposed to be a right-turn-in, right-turn-out only driveway. Under Case "B", entering traffic approaching the bank from the east or from the north will have the option to use Driveway "B" to access. Also, traffic exiting the bank desiring to travel south on Wyoming will have the option to use Driveway "B" to access Wyoming Blvd. southbound.

Under Case "B", the projected 2008 AM and PM Peak Hour levels-of-service for the intersection of Carmel Ave. / Wyoming Blvd. is summarized in the following table:

Carmel Ave. / Wyoming Blvd.	2008 BUILD Conditions	
	AM Peak	PM Peak
CASE "B"	B – 12.2	B – 19.8

The projected level-of-service and delay at the intersection are acceptable in both periods for Case "B", and constitute a slight improvement over Case "A". The calculated queue length by Signal 2000 for the PM Peak Hour for the eastbound approach is 55 feet for the left turn lane and 185 feet for the thru / right turn lane. The queuing for the eastbound thru / right turn movement appears to be approaching the location of Driveway "A", but still a few vehicle lengths short of it. Implementation of Driveway "B" as a right-turn-in, right-turn-out access to the site reduces the eastbound queue on Carmel Ave. at Wyoming by about 16%. The queue length calculated using the City's standard methodology for queuing (Poisson's Arrivals) results in a 100 feet long queue for the eastbound left turn lane and a 250 feet long queue for the thru / right turn lane. This calculation shows the queue in the thru / right turn lane to be at Driveway "A". To further reduce the queue on eastbound Carmel Ave. at Wyoming Blvd., a short eastbound right turn lane should be constructed at the intersections. It appears from the architectural plan for this project that there is enough pavement width at the eastbound approach to stripe a 30 feet long eastbound right turn lane on Carmel. This would not only decrease the queue length for eastbound Carmel, but it would also permit a higher percentage of right turns on red for that approach. Considering the short eastbound right turn lane, the queue length for eastbound Carmel Ave. thru / right turn movement would be approximately 225 feet or less based on the City of Albuquerque's standard method of calculating queue lengths at signalized intersections. The 225 feet long queue length assumes that the 30 feet long eastbound right turn lane is in place and also assumes a 130-second cycle length for the signal. A shorter cycle length would result in shorter queues.

The projected 2008 AM and PM Peak Hour levels-of-service for the unsignalized Driveway "A" are summarized in the following table:

Carmel Ave. / Driveway "A"	2008 BUILD Conditions	
	AM Peak	PM Peak
CASE "A"	A – 9.5	B – 11.2

The projected level-of-service and delay at the intersection are acceptable in both periods for Case "B". Using HCM methodology for calculating the queue length for the westbound left turn movement into Driveway "A" results in a queue of less than 1 vehicle. The projected westbound

Re: Queuing Analysis for Bank of Albuquerque (Carmel Ave. / Wyoming Blvd.)

left turn volume at Driveway "A" under Case "B" is 17 vehicles per hour during the AM Peak Hour and 40 vehicles per hour during the PM Peak Hour. This again is a slight reduction of the projected westbound left turn volumes under Case "A". Under this scenario, the westbound left turn lane should be constructed to a length of greater than one vehicle. According to the HCM analysis, though, the one vehicle length should work at least 95% of the time.

The projected southbound right turn volume turning into Driveway "B" is 5 vehicles per hour during the AM Peak Hour and 11 vehicles per hour during the PM Peak Hour. The projected right turn volumes are not sufficient to warrant a right turn deceleration lane. However, in the future, if this driveway is shared with the development to the south, the southbound right turn deceleration lane may be warranted.

Case "B" provides a reduction in calculated queue lengths for the eastbound approach on Carmel Ave. at Wyoming Blvd. and a reduction of westbound left turn volume at proposed Driveway "A" on Carmel Ave. into the proposed Bank of Albuquerque. Thus, this report has demonstrated a definite benefit to implementing a right-turn-in, right-turn-out unsignalized driveway on Wyoming Blvd. at the south side of this project.

Based on the analysis contained in this study, the following recommendations are made:

1) Driveway "A" located at the northwest corner of the proposed Bank of Albuquerque should be a full access unsignalized driveway.
2) Driveway "A" should be located as far to the west of Wyoming Blvd. as is possible.
3) A westbound left turn lane should be constructed on Carmel Ave. at Driveway "A" to a length of 25 feet plus transition (enough for a one-vehicle queue). See conceptual drawing on Appendix Page A-3.
4) The eastbound left turn lane on Carmel Ave. at Wyoming should maintain a length of 150 feet plus transition. The transition should utilize a 125' – 125' radius reverse curve.
5) A new right-turn-in, right-turn-out unsignalized driveway should be constructed on Wyoming Blvd. at the south end of the Bank of Albuquerque project (approximately 250 south of Carmel Ave. centerline to centerline).
6) A southbound right turn deceleration lane is not warranted at Driveway "B" at this time.

Please call me if you have questions or if you need additional information.

Sincerely Yours,

Terry O. Brown

Attachments: Appendix Pages A-1 thru A-46

Bank of Albuquerque

(Carmel Ave / Wyoming Blvd)

2008 NO BUILD Volumes - AM(PM)

NTS

CASE A

CASE B

CASE A

CASE B

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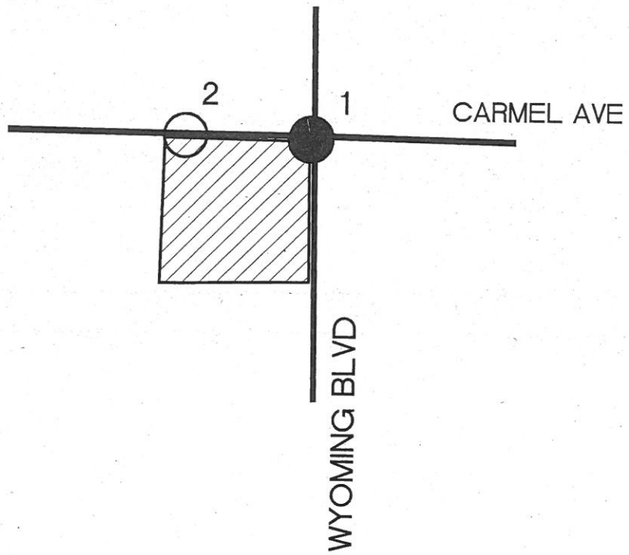
Bank of Albuquerque

(Carmel Ave / Wyoming Blvd)

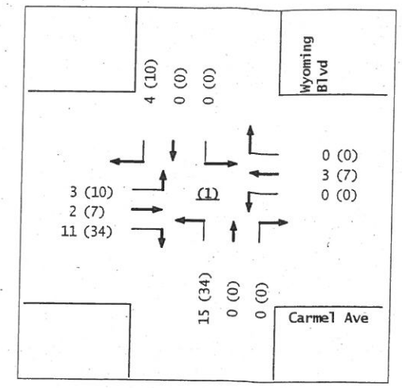
Trips Generated Volumes - AM(PM)

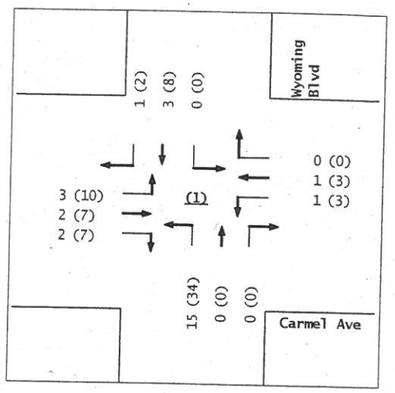


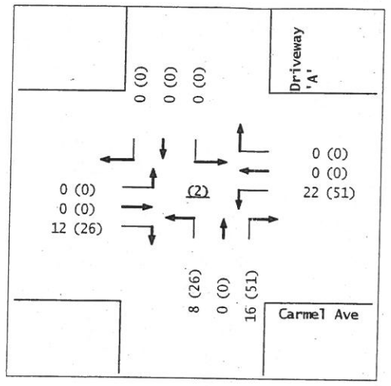
NTS

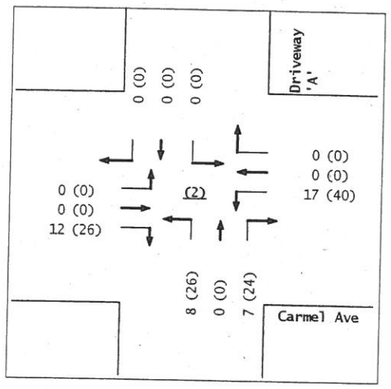


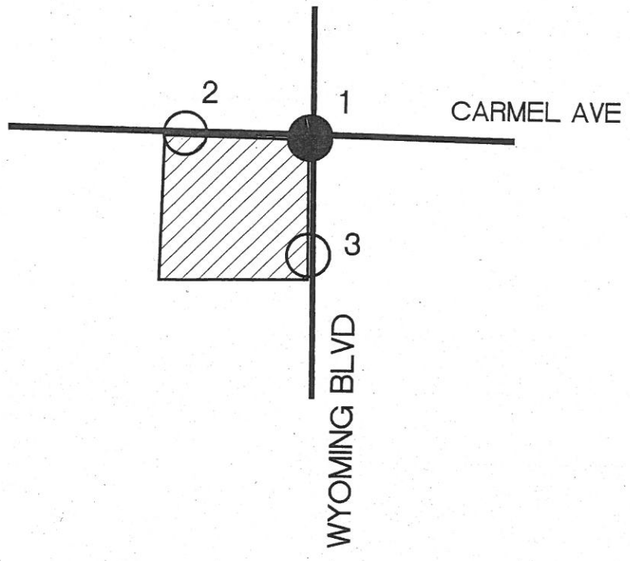
CASE A





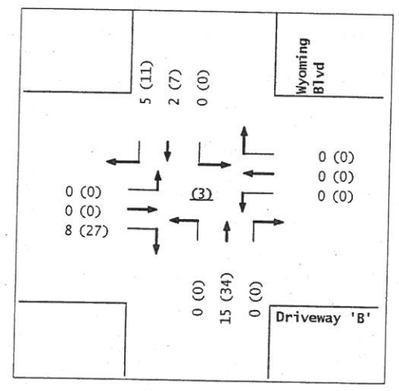






CASE B

CASE A



CASE B

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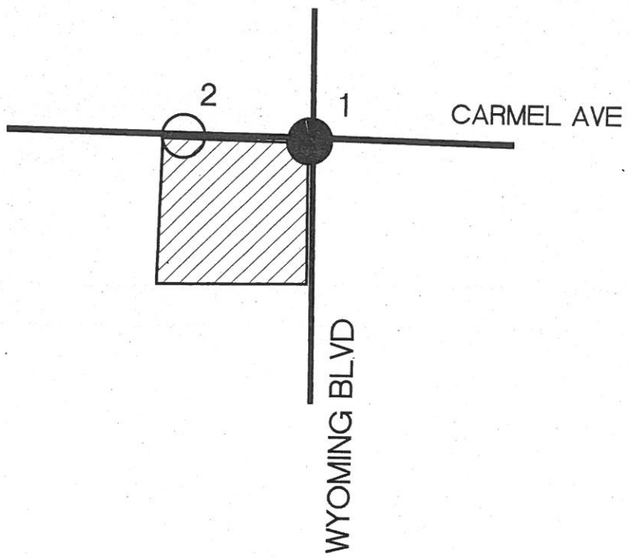
Bank of Albuquerque

(Carmel Ave / Wyoming Blvd)

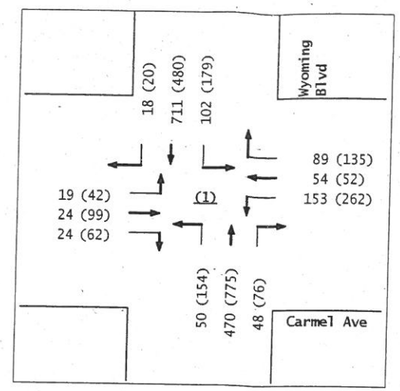
2008 BUILD Volumes - AM(PM)

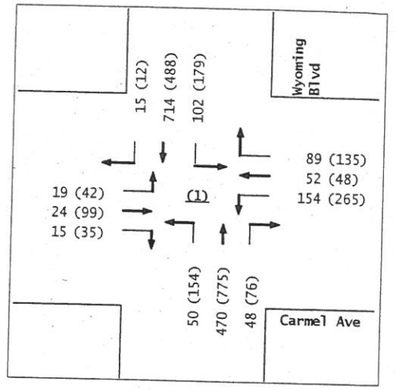


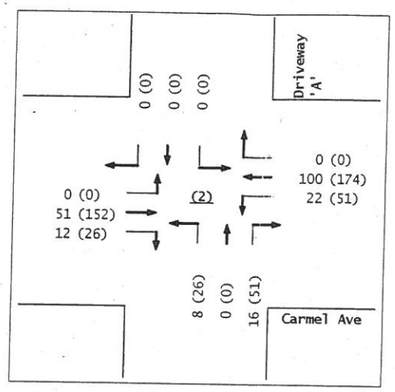
NTS

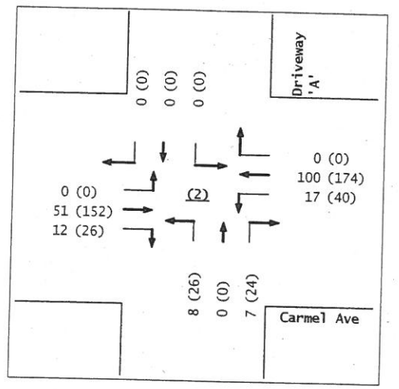


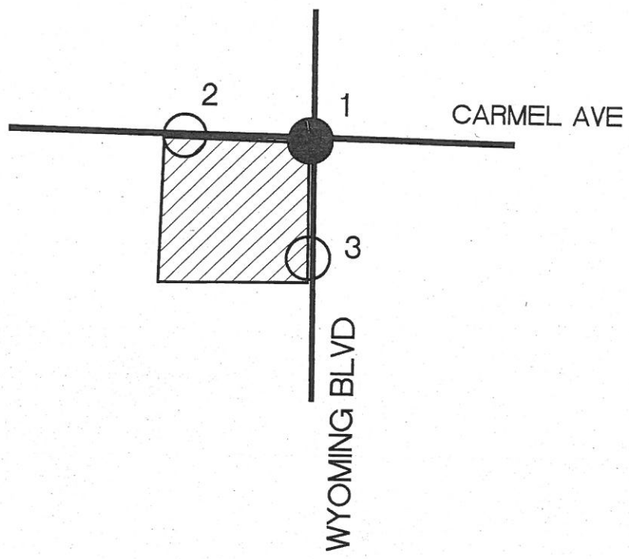
CASE A





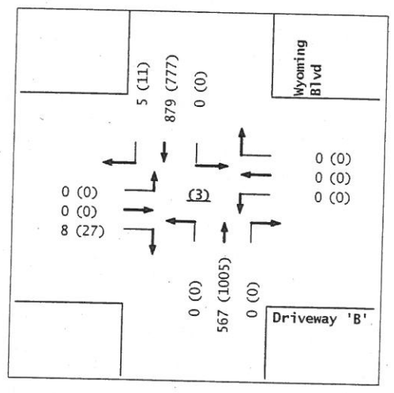






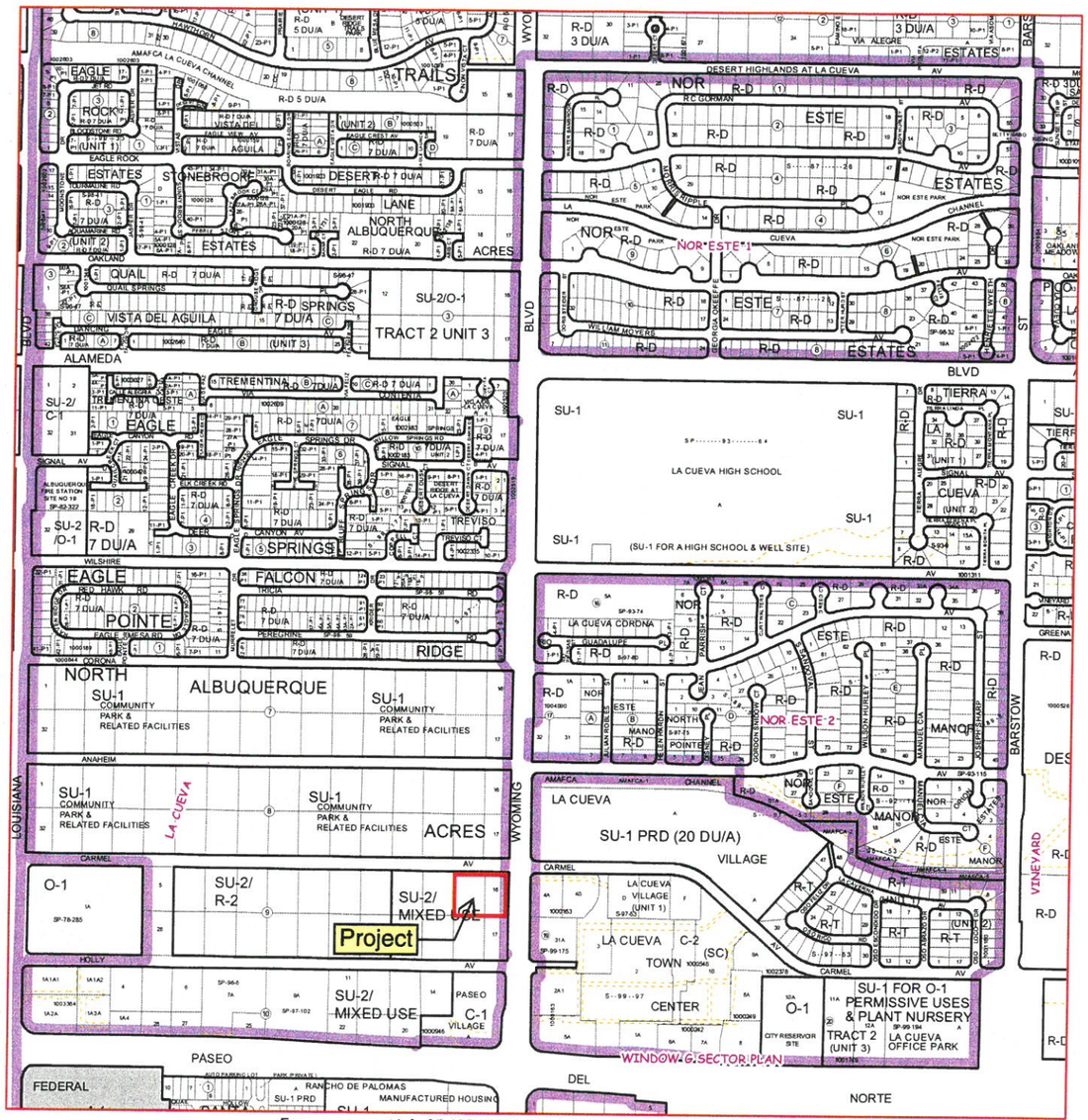
CASE B

CASE A

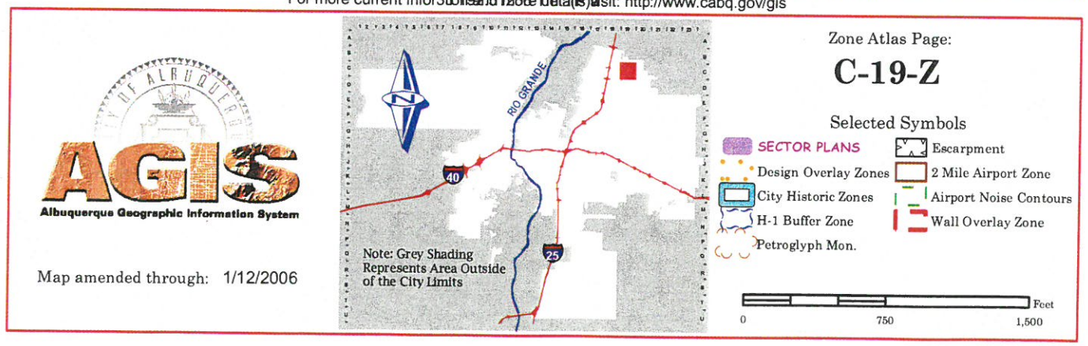


CASE B

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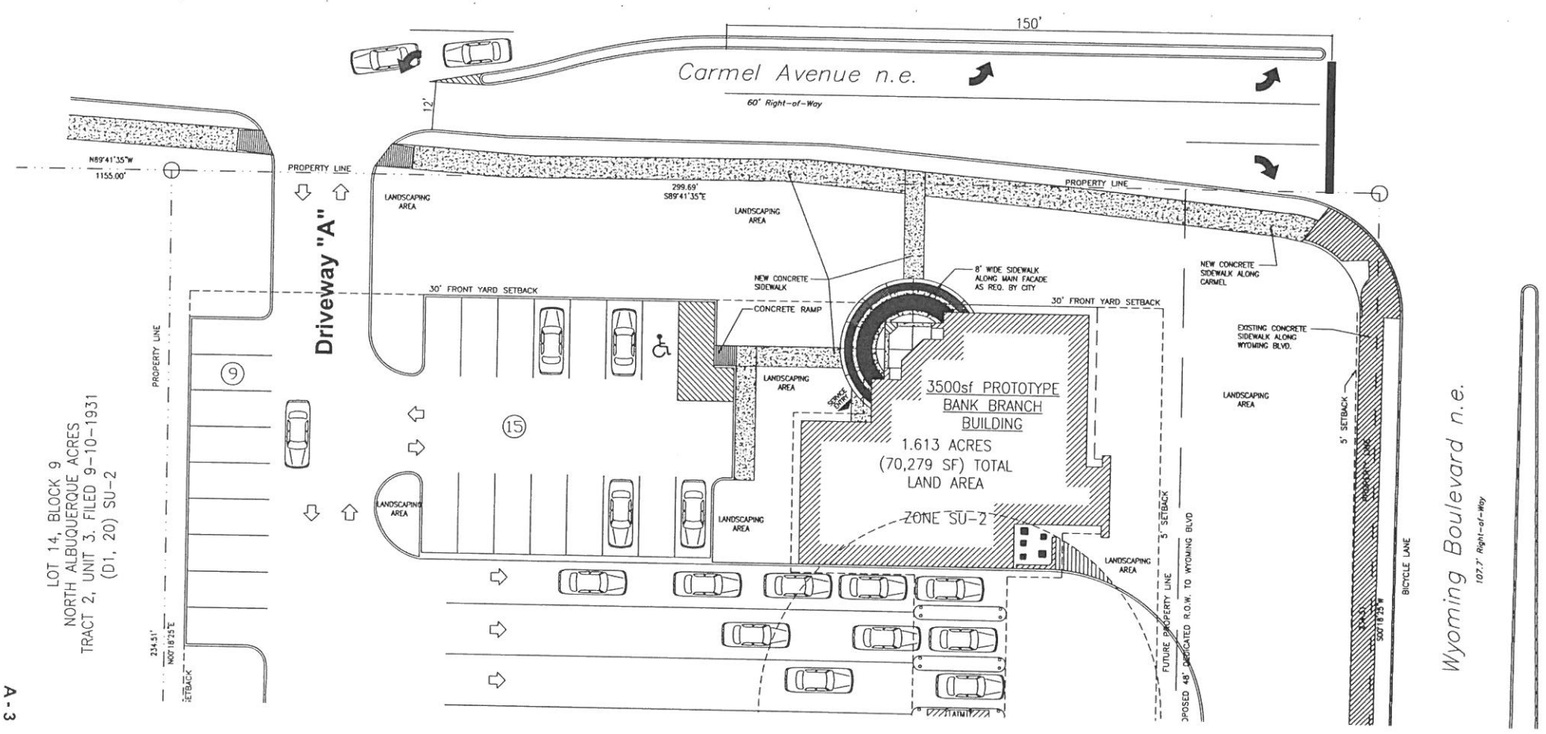
For more current information, visit: http://www.cabq.gov/gis



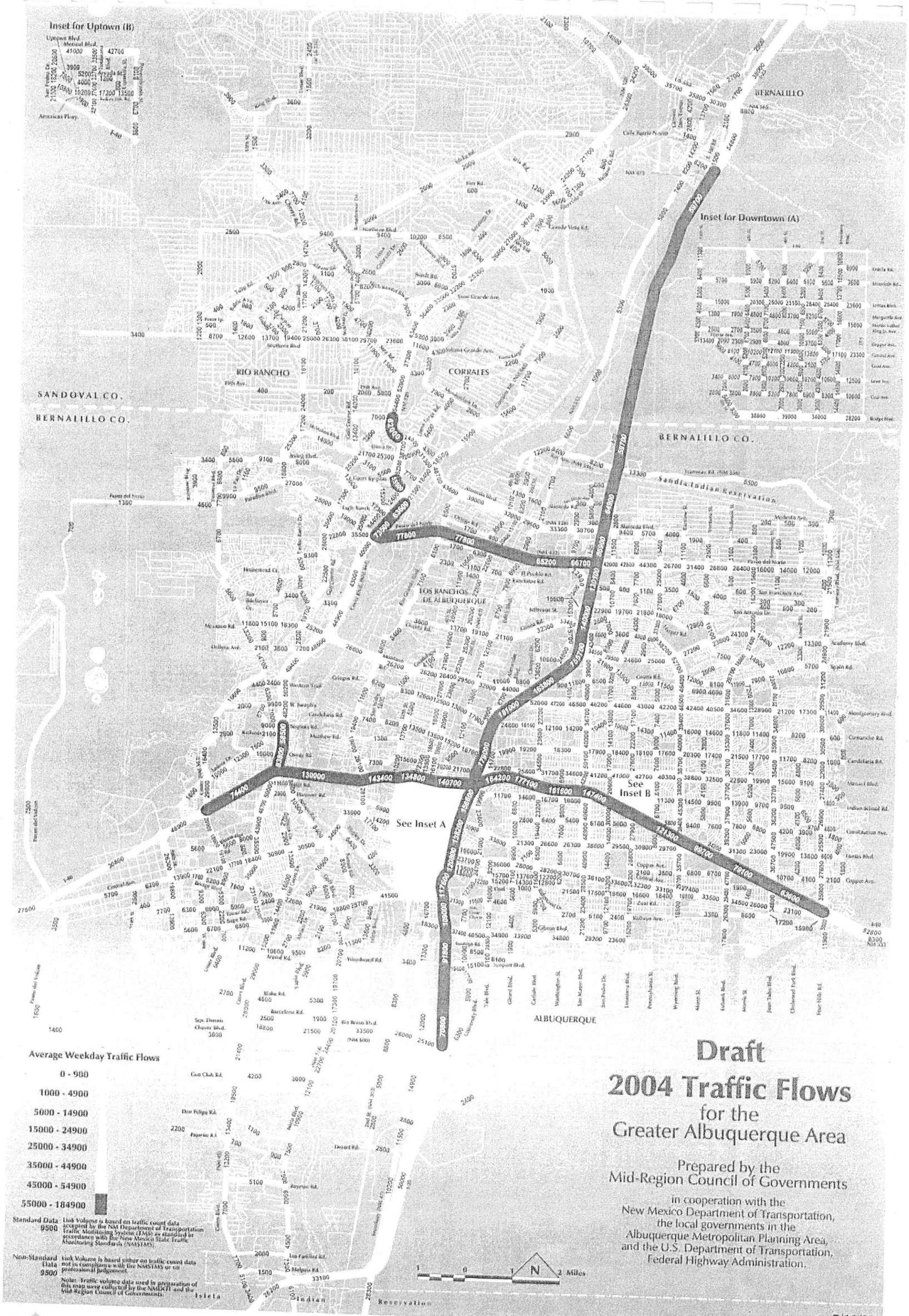
Wyoming Boulevard n.e.
107.7' Right-of-Way
BICYCLE LANE
5' SETBACK
EXISTING CONCRETE SIDEWALK ALONG WYOMING BLVD.
LANDSCAPING AREA
NEW CONCRETE SIDEWALK ALONG CARMEL
PROPOSED 48' DEDICATED R.O.W. TO WYOMING BLVD
FUTURE PROPERTY LINE
30' FRONT YARD SETBACK
PROPERTY LINE
DO NOT ENTER SIGNAGE
6' WIDE SIDEWALK AS REQ BY CITY
3500sf PROTOTYPE BANK BRANCH BUILDING
1.613 ACRES (70,279 SF) TOTAL LAND AREA
ZONE SU-2
MINIMUM WAY 2 FOOTGARDLES TWO AREA
LOT 17, BLOCK 9
NORTH ALBUQUERQUE ACRES
TRACT 2, UNIT 3
FILED 9-10-1931
(01, 20)
SU-2
Carmel Avenue n.e.
60' Right-of-Way
CONCRETE RAMP
PROPOSED MEDIAN CUT TO ALLOW SITE ACCESS
NB9°41'35"E
399.69'
15
9
5' SETBACK
N00°18'25"E
234.51'
PROPERTY LINE
NB9°41'35"W
1155.69'
NB9°41'35"W
415.61'
RETAIL PATIO/SEATING TRACKTED 240 AT DUMPSTER AREA
LOT 14, BLOCK 9
NORTH ALBUQUERQUE ACRES
TRACT 2, UNIT 3, FILED 9-10-1931
(01, 20) SU-2

A - 2

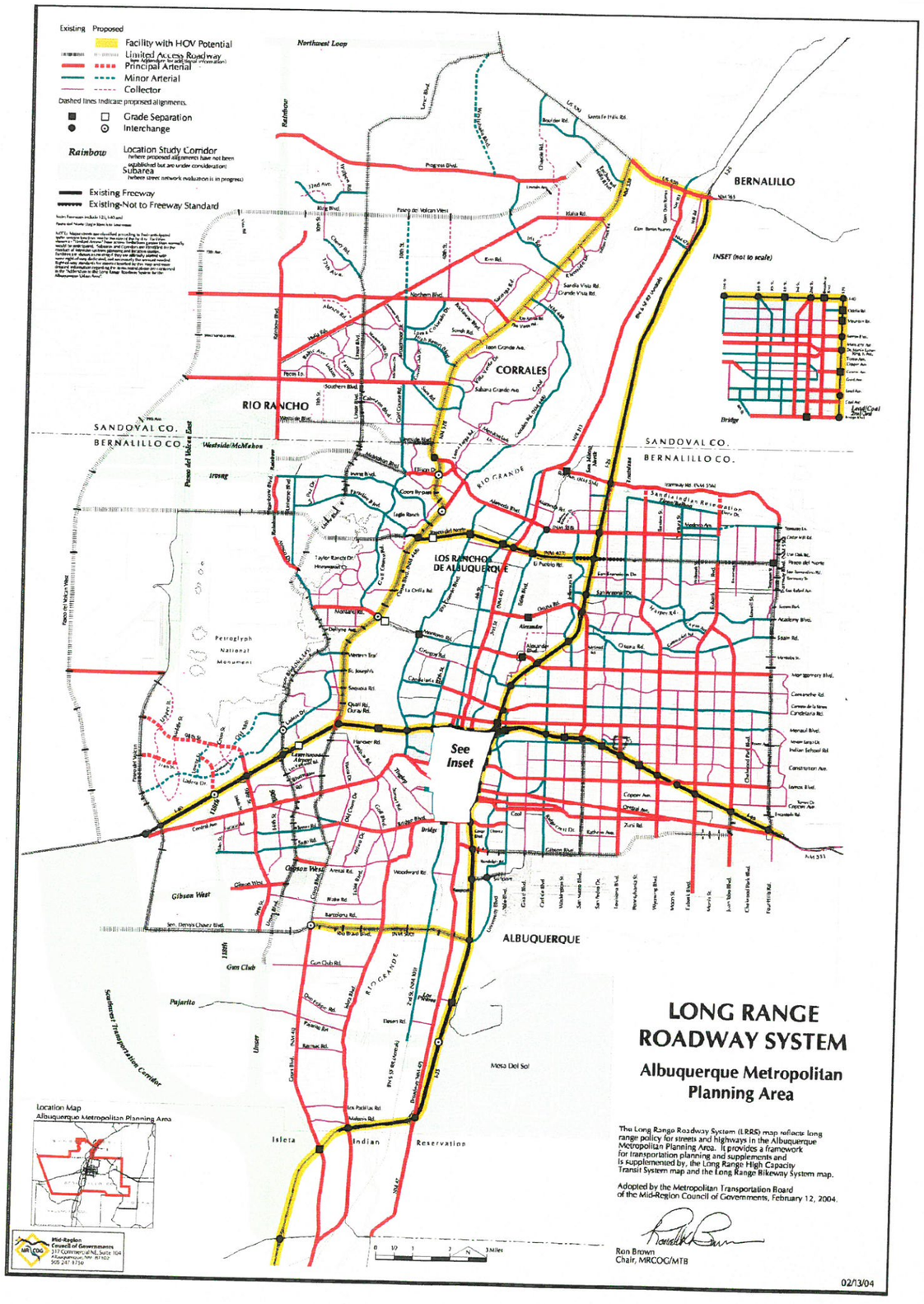
Recommended Configuration
Carmel Ave. @ Driveway "A"




Bank of Albuquerque
Carmel Ave / Wyoming Blvd
Aerial Photo - 2004
SITE
CARMEL AVE
WYOMING BLVD
A-4



Mid-Region Council of Governments
809 Copper Ave. NW
Albuquerque, NM 87102
505-247-1750


Existing Proposed
Facility with HOV Potential
Limited Access Roadway
Principal Arterial
Minor Arterial
Collector
Dashed lines indicate proposed alignments.
Grade Separation
Interchange
Rainbow
Location Study Corridor
Subarea
Existing Freeway
Existing-Not to Freeway Standard
Northwest Loop
BERNALILLO
INSET (not to scale)
CORRALES
RIO RANCHO
SANDOVAL CO.
BERNALILLO CO.
RIO GRANDE
LOS RANCHOS DE ALBUQUERQUE
Petroglyph National Monument
See Inset
Gibson West
ALBUQUERQUE
Gun Club
Pajarito
Mesa Del Sol
Isleta Indian Reservation
Location Map
Albuquerque Metropolitan Planning Area
Mid-Region Council of Governments
3 Miles
LONG RANGE ROADWAY SYSTEM
Albuquerque Metropolitan Planning Area
The Long Range Roadway System (LRRS) map reflects long range policy for streets and highways in the Albuquerque Metropolitan Planning Area. It provides a framework for transportation planning and supplements and is supplemented by, the Long Range High Capacity Transit System map and the Long Range Bikeway System map.
Adopted by the Metropolitan Transportation Board of the Mid-Region Council of Governments, February 12, 2004.
Ron Brown
Chair, MRCOG/MTB
02/13/04

Bank of Albuquerque (Carmel Ave / Wyoming Blvd)

Trip Generation Data

USE (ITE CODE)		24 HOUR TWO-WAY VOLUME	A.M. PEAK HOUR		P.M. PEAK HOUR	
		GROSS	ENTER	EXIT	ENTER	EXIT
	Units					
Drive-In Bank (912)	***3.00***	1,067	34	24	77	77
	Drive-In Windows					

ITE Trip Generation Equations:

Average Vehicle Trip Ends on a Weekday (24 HOUR TWO-WAY VOLUME)

Ln(T) = ***1.326*** **Ln(X) +** ***5.516***
50% Enter, ***50%*** Exit

Average Vehicle Trip Ends on a Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7am and 9am (A.M. PEAK HOUR)

T = ***19.38*** **(X) +** ***0***
58% Enter, ***42%*** Exit

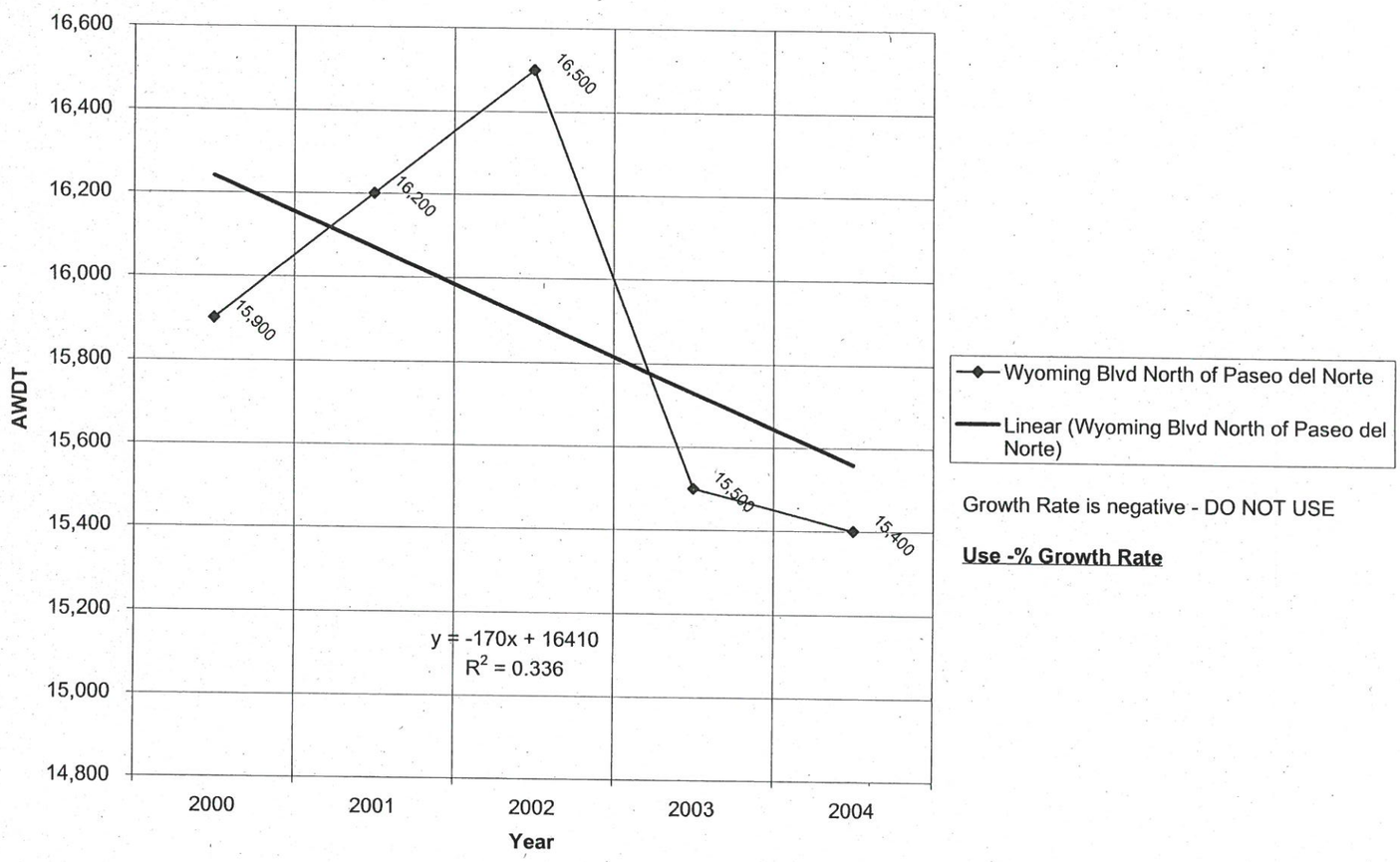
Average Vehicle Trip Ends on a Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4pm and 6pm (P.M. PEAK HOUR)

T = ***51.08*** **(X) +** ***0***
50% Enter, ***50%*** Exit

Comments:
Tract No.

Based on ITE Trip Generation Manual - 7th Edition

Historic Growth Chart Wyoming Blvd North of Paseo del Norte (2000-2004)



Growth Rate is negative - DO NOT USE

Use -% Growth Rate

BofA-Carmel_Growth.xls

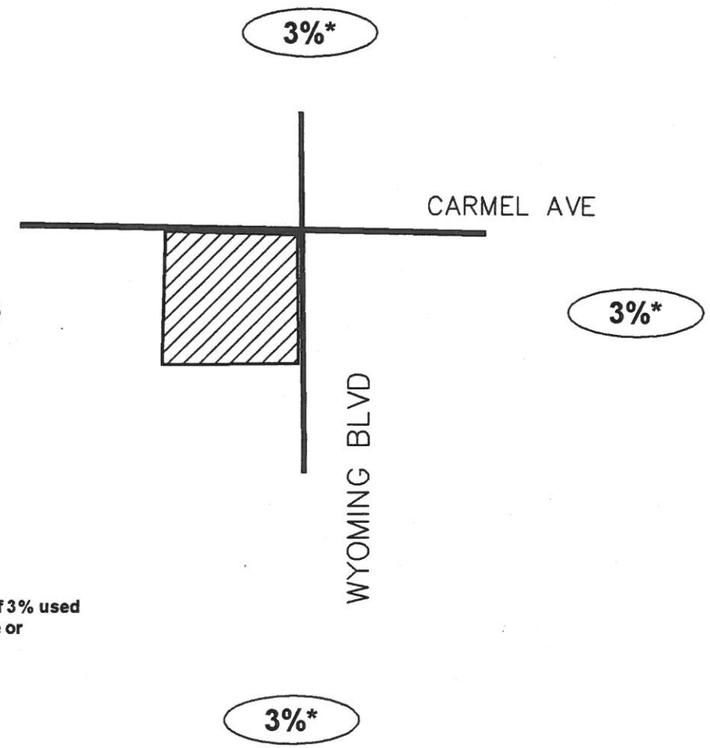
Bank of Albuquerque

(Carmel Ave / Wyoming Blvd)

Growth Rate Map (%)

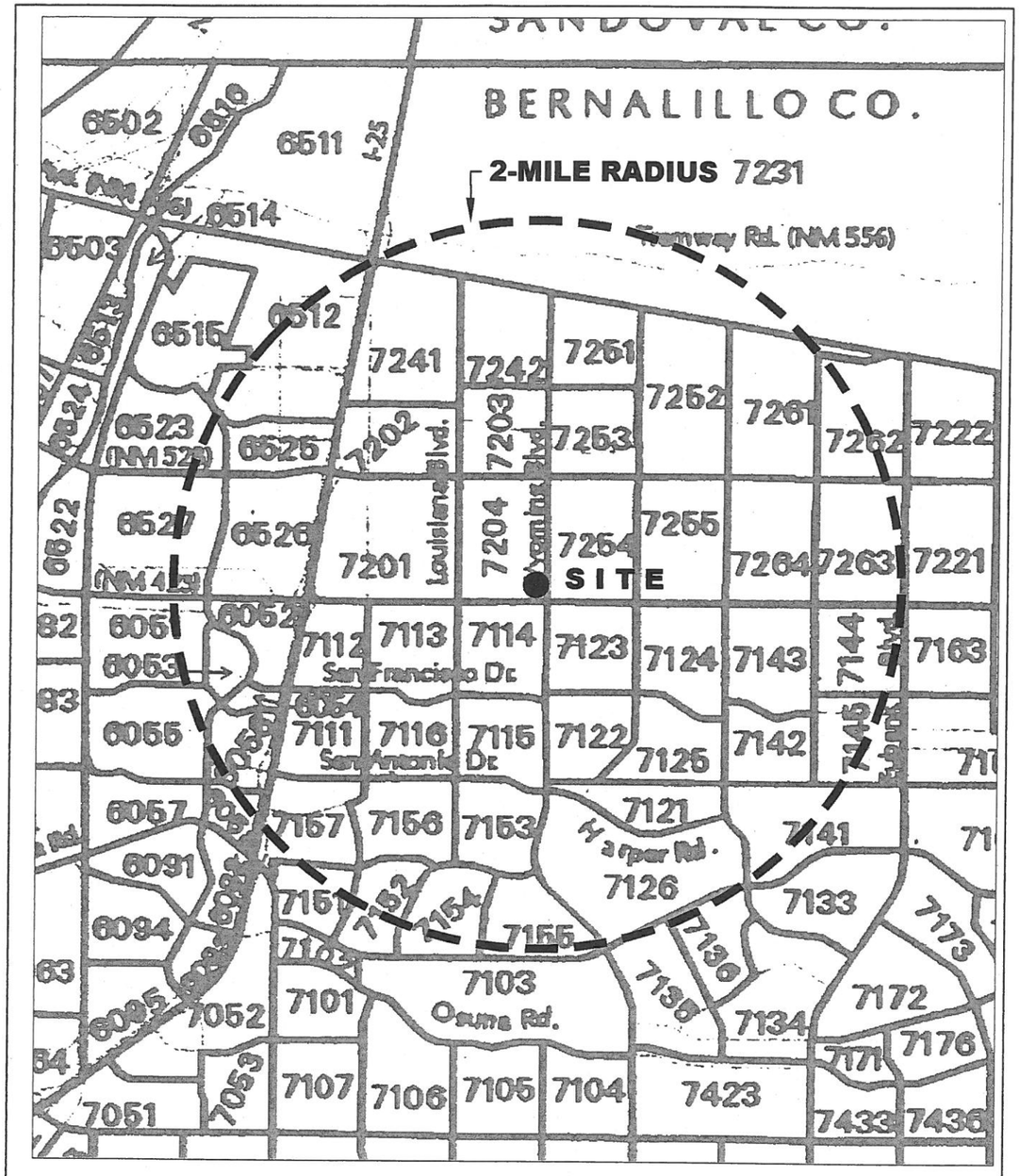


NTS



*** Generic growth rate of 3% used where rate is negative or unavailable**

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DATA ANALYSIS SUBZONE (DASZ) MAP

Bank of Albuquerque (Carmel Ave / Wyoming Blvd)

Trip Distribution Table

Bank of Albuquerque (Carmel Ave / Wyoming Blvd)

Data Analysis Subzone Population Data for determination of Local Trip Distribution for Proposed Retail Commercial Trips

2000 and 2025 Data Taken from Mid-Region Council of Governments' 2025 Socioeconomic
2025 Socioeconomic Forecasts by Data Analysis Subzones for the Mid-Region of New Mexico (S-03-01)

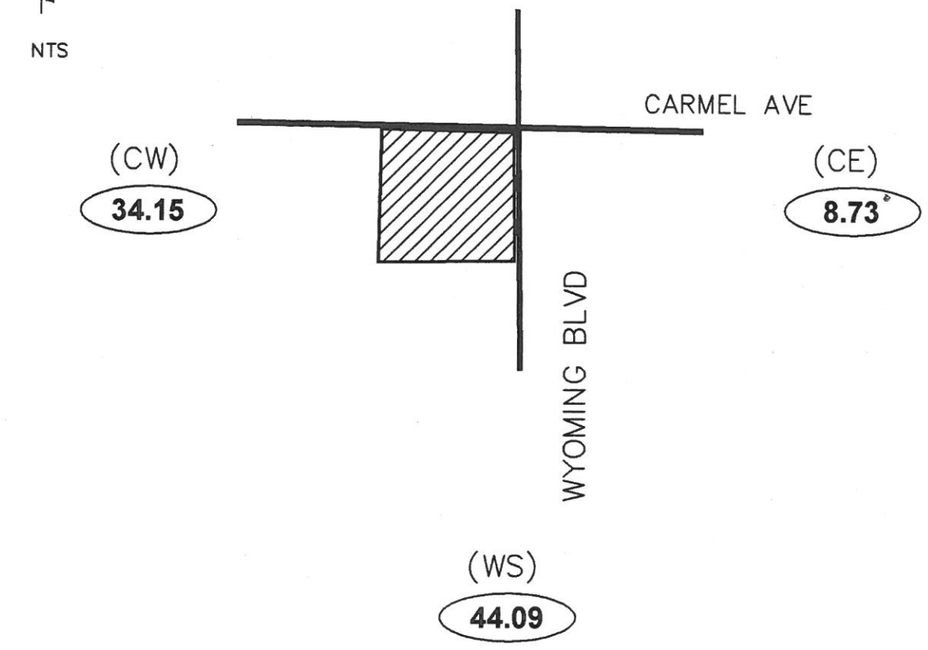
								(WN) Wyoming Blvd North			(CE) Carmel Ave East			(WS) Wyoming Blvd South			(CW) Carmel Ave West		
DASZ #	% Sub Area in Study	2000 Population	2025 Population	Interpolated Population for the Year	Population In Study	Population / Distance	Percent Population	% Utilizing	% Population Utilizing	Population	% Utilizing	% Population Utilizing	Population	% Utilizing	% Population Utilizing	Population	% Utilizing	% Population Utilizing	Population
		2000	2025	2008															
Boundary Specified on DASZ Map																			
6051	25%	0	0	0	0	0	0.00%	0%	0.00%	0	0%	0.00%	0	20%	0.00%	0	80%	0.00%	0
6052	100%	0	9	3	3	3	0.01%	0%	0.00%	0	0%	0.00%	0	20%	0.00%	1	80%	0.01%	2
6053	100%	0	14	4	4	4	0.01%	0%	0.00%	0	0%	0.00%	0	20%	0.00%	1	80%	0.01%	3
6054	100%	2	2	2	2	2	0.01%	0%	0.00%	0	0%	0.00%	0	20%	0.00%	0	80%	0.00%	2
6055	5%	0	7	2	0	0	0.00%	0%	0.00%	0	0%	0.00%	0	20%	0.00%	0	80%	0.00%	0
6056	95%	0	23	7	7	7	0.02%	0%	0.00%	0	0%	0.00%	0	20%	0.00%	1	80%	0.02%	6
6058	20%	52	57	54	11	11	0.03%	0%	0.00%	0	0%	0.00%	0	20%	0.01%	2	80%	0.02%	9
6512	50%	3	379	123	62	62	0.17%	20%	0.03%	12	0%	0.00%	0	0%	0.00%	0	80%	0.14%	50
6523	15%	602	633	612	92	92	0.25%	20%	0.05%	18	0%	0.00%	0	0%	0.00%	0	80%	0.20%	74
6525	100%	387	453	408	408	408	1.12%	20%	0.22%	82	0%	0.00%	0	0%	0.00%	0	80%	0.89%	326
6526	100%	1330	1263	1,309	1,309	1,309	3.58%	20%	0.72%	262	0%	0.00%	0	20%	0.72%	262	60%	2.15%	785
6527	30%	0	2	1	0	0	0.00%	20%	0.00%	0	0%	0.00%	0	20%	0.00%	0	60%	0.00%	0
7111	100%	1176	1184	1,179	1,179	1,179	3.23%	0%	0.00%	0	0%	0.00%	0	20%	0.65%	238	80%	2.58%	943
7112	100%	5	10	7	7	7	0.02%	0%	0.00%	0	0%	0.00%	0	20%	0.00%	1	80%	0.02%	6
7113	100%	893	1145	974	974	974	2.67%	0%	0.00%	0	0%	0.00%	0	20%	0.53%	195	80%	2.13%	779
7114	100%	1486	1408	1,461	1,461	1,461	4.00%	0%	0.00%	0	0%	0.00%	0	75%	3.00%	1,096	25%	1.00%	365
7115	100%	1541	1450	1,512	1,512	1,512	4.14%	0%	0.00%	0	0%	0.00%	0	50%	2.07%	756	50%	2.07%	756
7116	100%	1275	1372	1,308	1,306	1,306	3.57%	0%	0.00%	0	0%	0.00%	0	30%	1.07%	392	70%	2.50%	914
7121	100%	952	920	942	942	942	2.58%	0%	0.00%	0	0%	0.00%	0	100%	2.58%	942	0%	0.00%	0
7122	100%	1310	1269	1,297	1,297	1,297	3.55%	0%	0.00%	0	0%	0.00%	0	100%	3.55%	1,297	0%	0.00%	0
7123	100%	1268	1729	1,416	1,416	1,416	3.87%	0%	0.00%	0	0%	0.00%	0	100%	3.87%	1,416	0%	0.00%	0
7124	100%	1473	1491	1,479	1,479	1,479	4.05%	0%	0.00%	0	10%	0.40%	148	90%	3.64%	1,331	0%	0.00%	0
7125	100%	1384	1297	1,356	1,356	1,356	3.71%	0%	0.00%	0	10%	0.37%	136	90%	3.34%	1,220	0%	0.00%	0
7126	100%	0	1209	387	387	387	1.06%	0%	0.00%	0	0%	0.00%	0	100%	1.06%	387	0%	0.00%	0
7141	45%	1475	1372	1,442	649	649	1.78%	0%	0.00%	0	10%	0.18%	65	90%	1.60%	584	0%	0.00%	0
7142	100%	1441	1359	1,415	1,415	1,415	3.87%	0%	0.00%	0	10%	0.39%	142	90%	3.48%	1,274	0%	0.00%	0
7143	100%	2109	1934	2,053	2,053	2,053	5.62%	0%	0.00%	0	10%	0.56%	205	90%	5.06%	1,848	0%	0.00%	0
7144	95%	78	462	201	191	191	0.52%	0%	0.00%	0	10%	0.05%	19	90%	0.47%	172	0%	0.00%	0
7145	50%	590	1628	922	461	461	1.26%	0%	0.00%	0	10%	0.13%	46	90%	1.14%	415	0%	0.00%	0
7151	25%	1029	964	1,008	252	252	0.69%	0%	0.00%	0	0%	0.00%	0	20%	0.14%	50	80%	0.55%	202
7152	55%	1418	1324	1,388	763	763	2.09%	0%	0.00%	0	0%	0.00%	0	20%	0.42%	153	80%	1.67%	610
7153	100%	1420	1336	1,393	1,393	1,393	3.81%	0%	0.00%	0	0%	0.00%	0	50%	1.91%	697	50%	1.91%	697
7154	85%	1262	1156	1,228	1,044	1,044	2.86%	0%	0.00%	0	0%	0.00%	0	50%	1.43%	522	50%	1.43%	522
7155	90%	902	836	881	793	793	2.17%	0%	0.00%	0	0%	0.00%	0	50%	1.08%	397	50%	1.08%	397
7156	100%	1525	1415	1,490	1,490	1,490	4.08%	0%	0.00%	0	0%	0.00%	0	20%	0.82%	298	80%	3.26%	1,192
7157	95%	736	1232	895	850	850	2.33%	0%	0.00%	0	0%	0.00%	0	20%	0.47%	170	80%	1.86%	680
7201	100%	1826	2475	2,034	2,034	2,034	5.57%	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	100%	5.57%	2,034
7202	100%	106	214	141	141	141	0.39%	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	100%	0.39%	141
7203	100%	294	1362	636	636	636	1.74%	50%	0.87%	318	0%	0.00%	0	0%	0.00%	0	50%	0.87%	318
7204	100%	360	1666	778	778	778	2.13%	50%	1.06%	389	0%	0.00%	0	0%	0.00%	0	50%	1.06%	389
7231	15%	0	0	0	0	0	0.00%	100%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
7241	100%	0	647	207	207	207	0.57%	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	100%	0.57%	207
7242	100%	34	371	142	142	142	0.39%	50%	0.19%	71	0%	0.00%	0	0%	0.00%	0	50%	0.19%	71
7251	100%	117	374	199	199	199	0.54%	100%	0.54%	199	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
7252	100%	252	620	370	370	370	1.01%	50%	0.51%	185	50%	0.51%	185	0%	0.00%	0	0%	0.00%	0
7253	100%	1109	1249	1,154	1,154	1,154	3.16%	100%	3.16%	1,154	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
7254	100%	1631	1645	1,635	1,635	1,635	4.47%	50%	2.24%	818	50%	2.24%	818	0%	0.00%	0	0%	0.00%	0
7255	100%	894	2022	1,255	1,255	1,255	3.43%	25%	0.86%	314	75%	2.58%	941	0%	0.00%	0	0%	0.00%	0
7261	95%	333	475	378	359	359	0.98%	100%	0.98%	359	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
7262	45%	189	259	211	95	95	0.26%	100%	0.26%	95	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
7263	95%	192	518	296	281	281	0.77%	50%	0.38%	141	50%	0.38%	141	0%	0.00%	0	0%	0.00%	0
7264	100%	548	999	692	692	692	1.89%	50%	0.95%	346	50%	0.95%	346	0%	0.00%	0	0%	0.00%	0
				40,285	36,546	36,546	100.00%			**4,762**			**3,191**			**16,114**			**12,479**
										13.03%			8.73%			44.09%			34.15%

Bank of Albuquerque

(Carmel Ave / Wyoming Blvd)

Trip Distribution Map (%)

NTS



Terry O. Brown, P.E.
P.O. Box 92051
Albuquerque, NM 87199-2051
(505)883-8807 (Voice)
(505)212-0267 (Fax)

2008 Peak Hour Existing Conditions

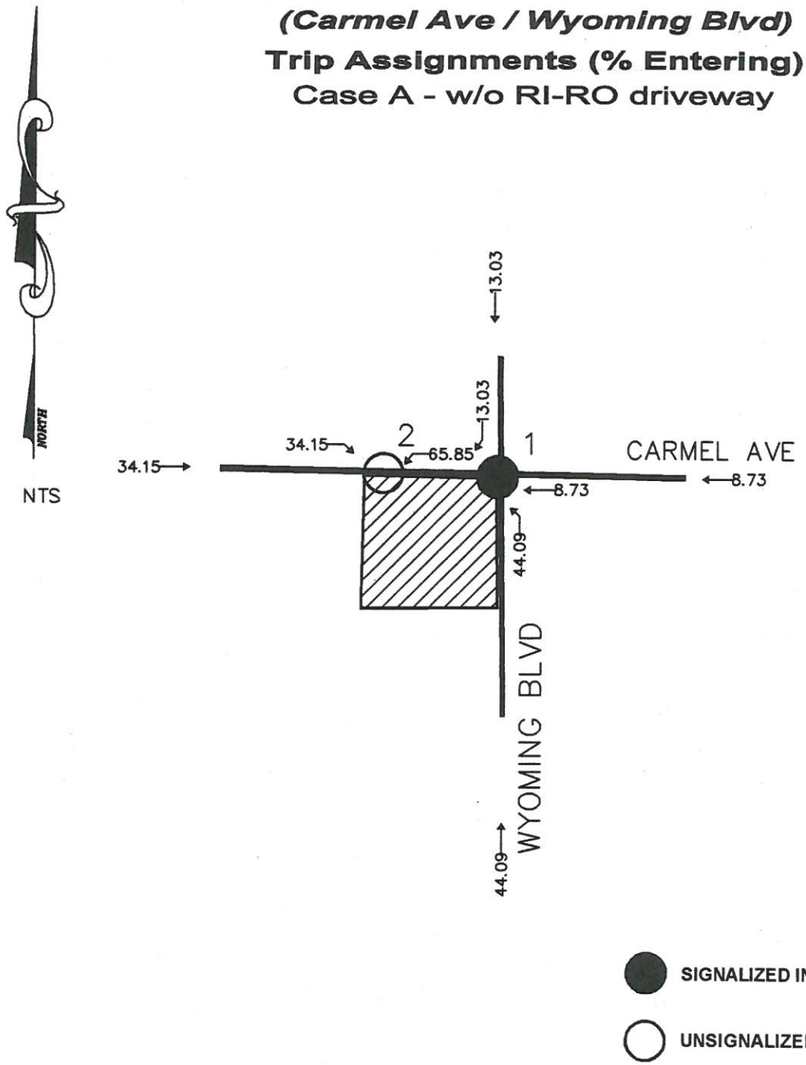
Case A – without RI-RO driveway

Bank of Albuquerque

(Carmel Ave / Wyoming Blvd)

Trip Assignments (% Entering)

Case A - w/o RI-RO driveway



SIGNALIZED INTERSECTION

UNSIGNALIZED INTERSECTION

Terry O. Brown, P.E.
P.O. Box 92051
Albuquerque, NM 87199-2051
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Bank of Albuquerque

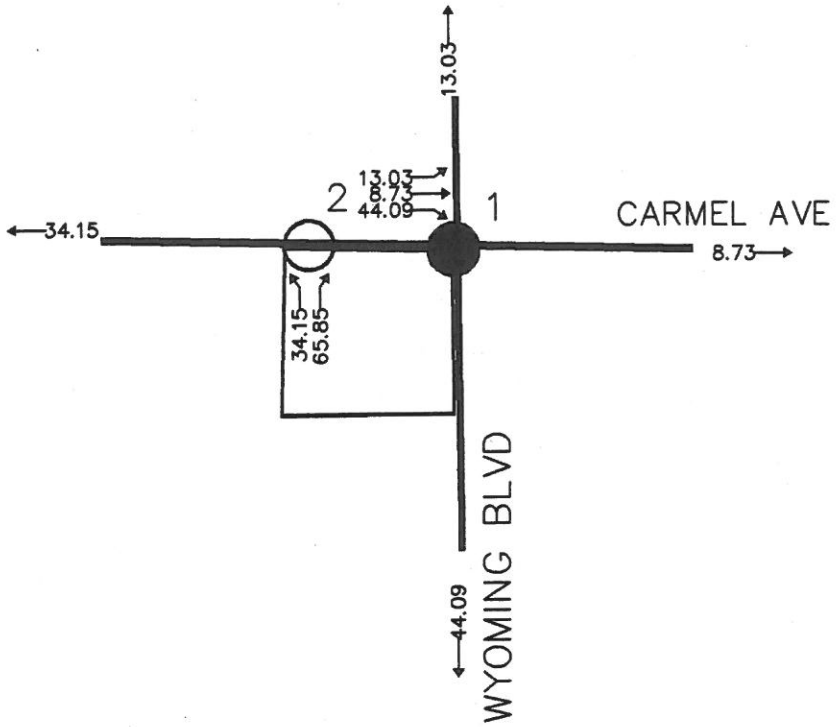
(Carmel Ave / Wyoming Blvd)

Trip Assignments (% Exiting)

Case A - w/o RI-RO driveway



NTS



SIGNALIZED INTERSECTION

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Bank of Albuquerque (Carmel Ave / Wyoming Blvd)

Projected Turning Movements SUMMARY

PROPOSED DEVELOPMENT (2008) - 100% Development

Case A - w/o RI-RO driveway

INTERSECTION: Summary

Carmel Ave / Wyoming Blvd

(1)

3.0% Truck

	0.71			0.95			0.86			0.87			PHF
	Eastbound (Carmel Ave)			Westbound (Carmel Ave)			Northbound (Wyoming Blvd)			Southbound (Wyoming Blvd)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2006)	15	21	12	144	48	84	33	443	45	96	671	13	
2008 (NO BUILD - A.M.)	*16*	*22*	*13*	*153*	*51*	*89*	*35*	*470*	*48*	*102*	*711*	*14*	
2008 (BUILD - A.M.)	***19***	***24***	***24***	***153***	***54***	***89***	***50***	***470***	***48***	***102***	***711***	***18***	

	0.72			0.88			0.95			0.95			PHF
	Eastbound (Carmel Ave)			Westbound (Carmel Ave)			Northbound (Wyoming Blvd)			Southbound (Wyoming Blvd)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2006)	30	87	26	247	42	127	113	731	72	169	453	9	
2008 (NO BUILD - P.M.)	*32*	*92*	*28*	*262*	*45*	*135*	*120*	*775*	*76*	*179*	*480*	*10*	
2008 (BUILD - P.M.)	***42***	***99***	***62***	***262***	***52***	***135***	***154***	***775***	***76***	***179***	***480***	***20***	

Carmel Ave / Driveway 'A'

(2)

3.0% Truck

	0.71			0.71			0.85			0.85			PHF
	Eastbound (Carmel Ave)			Westbound (Carmel Ave)			Northbound (Driveway 'A')			Southbound (Driveway 'A')			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2006)	0	48	0	0	94	0	0	0	0	0	0	0	
2008 (NO BUILD - A.M.)	*0*	*51*	*0*	*0*	*100*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	
2008 (BUILD - A.M.)	***0***	***51***	***12***	***22***	***100***	***0***	***8***	***0***	***16***	***0***	***0***	***0***	

	0.72			0.72			0.85			0.85			PHF
	Eastbound (Carmel Ave)			Westbound (Carmel Ave)			Northbound (Driveway 'A')			Southbound (Driveway 'A')			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2006)	0	143	0	0	164	0	0	0	0	0	0	0	
2008 (NO BUILD - P.M.)	*0*	*152*	*0*	*0*	*174*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	
2008 (BUILD - P.M.)	***0***	***152***	***26***	***51***	***174***	***0***	***26***	***0***	***51***	***0***	***0***	***0***	

Bank of Albuquerque (Carmel Ave / Wyoming Blvd)

Projected Turning Movements Worksheet

Carmel Ave / Wyoming Blvd

Case A - w/o RI-RO driveway

INTERSECTION: E-W Street: **Carmel Ave** (1)

N-S Street: **Wyoming Blvd**

Year of Existing Counts 2006

Implementation Year **2008**

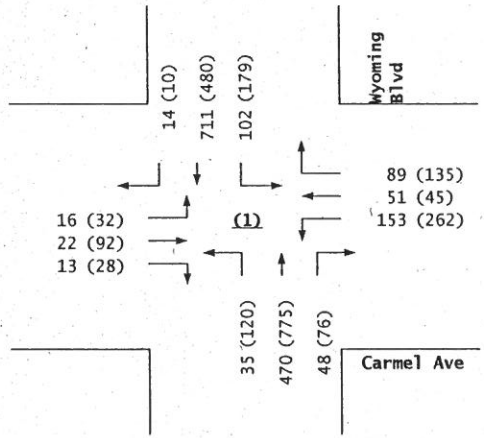
Growth Rates	3.00%			3.00%			3.00%			3.00%		
	Eastbound (Carmel Ave)			Westbound (Carmel Ave)			Northbound (Wyoming Blvd)			Southbound (Wyoming Blvd)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	15	21	12	144	48	84	33	443	45	96	671	13
Background Traffic Growth	1	1	1	9	3	5	2	27	3	6	40	1
Subtotal	16	22	13	153	51	89	35	470	48	102	711	14
Subtotal (NO BUILD - A.M.)	***16***	***22***	***13***	***153***	***51***	***89***	***35***	***470***	***48***	***102***	***711***	***14***
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*8.73%*	*0.00%*	*44.09%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*13.03%*
Percent Commercial Trips Generated(Exiting)	*13.03%*	*8.73%*	*44.09%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	3	2	11	0	3	0	15	0	0	0	0	4
Total AM Peak Hour BUILD Volumes	**19**	**24**	**24**	**153**	**54**	**89**	**50**	**470**	**48**	**102**	**711**	**18**

	Eastbound (Carmel Ave)			Westbound (Carmel Ave)			Northbound (Wyoming Blvd)			Southbound (Wyoming Blvd)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	30	87	26	247	42	127	113	731	72	169	453	9
Background Traffic Growth	2	5	2	15	3	8	7	44	4	10	27	1
Subtotal	32	92	28	262	45	135	120	775	76	179	480	10
Subtotal (NO BUILD - P.M.)	***32***	***92***	***28***	***262***	***45***	***135***	***120***	***775***	***76***	***179***	***480***	***10***
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*8.73%*	*0.00%*	*44.09%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*13.03%*
Percent Commercial Trips Generated(Exiting)	*13.03%*	*8.73%*	*44.09%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	10	7	34	0	7	0	34	0	0	0	0	10
Total PM Peak Hour BUILD Volumes	**42**	**99**	**62**	**262**	**52**	**135**	**154**	**775**	**76**	**179**	**480**	**20**

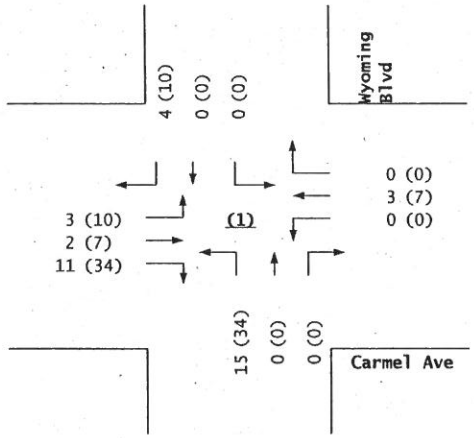
	Entering	Exiting		
Number of Commercial Trips Generated	**34**	**24**	A.M.	100% Commercial Development
	77	**77**	P.M.	

	Eastbound (Carmel Ave)			Westbound (Carmel Ave)			Northbound (Wyoming Blvd)			Southbound (Wyoming Blvd)		
2006 AM Peak Hr. Volumes	15	21	12	144	48	84	33	443	45	96	671	13
2006 PM Peak Hr. Volumes	30	87	26	247	42	127	113	731	72	169	453	9

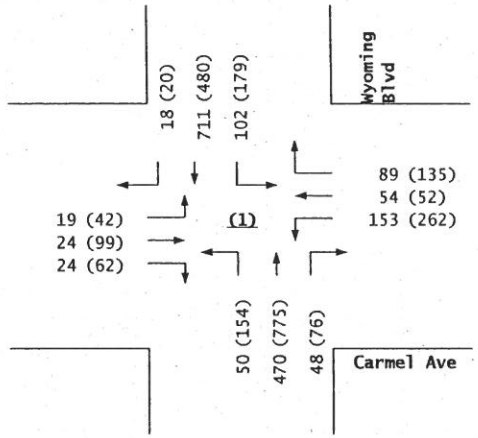
2008
NO BUILD



Trips



2008
BUILD



Carmel Ave / Wyoming Blvd

Bank of Albuquerque (Carmel Ave / Wyoming Blvd)

Projected Turning Movements Worksheet

Carmel Ave / Driveway 'A'

Case A - w/o RI-RO driveway

INTERSECTION: E-W Street: **Carmel Ave** (2)

N-S Street: **Driveway 'A'**

Year of Existing Counts 2006

Implementation Year **2008**

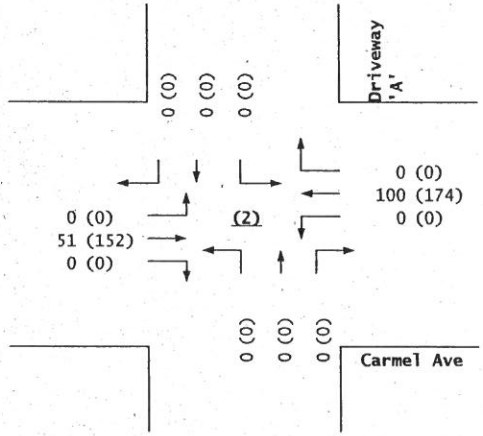
Growth Rates	3.00%			3.00%			3.00%			3.00%		
	Eastbound (Carmel Ave)			Westbound (Carmel Ave)			Northbound (Driveway 'A')			Southbound (Driveway 'A')		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	48	0	0	94	0	0	0	0	0	0	0
Background Traffic Growth	0	3	0	0	6	0	0	0	0	0	0	0
Subtotal	0	51	0	0	100	0	0	0	0	0	0	0
Subtotal (NO BUILD - A.M.)	***0***	***51***	***0***	***0***	***100***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*34.15%*	*65.85%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*34.15%*	*0.00%*	*65.85%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	0	0	12	22	0	0	8	0	16	0	0	0
Total AM Peak Hour BUILD Volumes	**0**	**51**	**12**	**22**	**100**	**0**	**8**	**0**	**16**	**0**	**0**	**0**

	Eastbound (Carmel Ave)			Westbound (Carmel Ave)			Northbound (Driveway 'A')			Southbound (Driveway 'A')		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	143	0	0	164	0	0	0	0	0	0	0
Background Traffic Growth	0	9	0	0	10	0	0	0	0	0	0	0
Subtotal	0	152	0	0	174	0	0	0	0	0	0	0
Subtotal (NO BUILD - P.M.)	***0***	***152***	***0***	***0***	***174***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*34.15%*	*65.85%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*34.15%*	*0.00%*	*65.85%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	0	0	26	51	0	0	26	0	51	0	0	0
Total PM Peak Hour BUILD Volumes	**0**	**152**	**26**	**51**	**174**	**0**	**26**	**0**	**51**	**0**	**0**	**0**

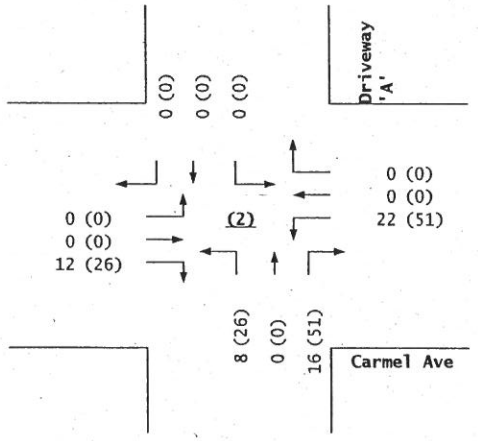
	Entering	Exiting		
Number of Commercial Trips Generated	**34**	**24**	A.M.	100% Commercial Development
	77	**77**	P.M.	

	Eastbound (Carmel Ave)			Westbound (Carmel Ave)			Northbound (Driveway 'A')			Southbound (Driveway 'A')		
2006 AM Peak Hr. Volumes	0	48	0	0	94	0	0	0	0	0	0	0
2006 PM Peak Hr. Volumes	0	143	0	0	164	0	0	0	0	0	0	0

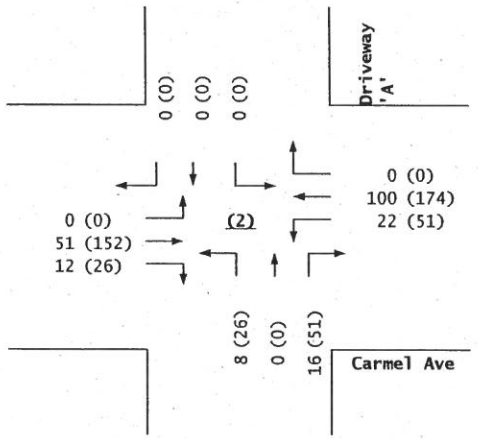
2008
NO BUILD



Trips



2008
BUILD



Carmel Ave / Driveway 'A'

Bank of Albuquerque (Carmel Ave / Wyoming Blvd)

Projected Turning Movements Worksheet

Driveway 'B' / Wyoming Blvd

INTERSECTION: E-W Street: **Driveway 'B'** (3)

N-S Street: **Wyoming Blvd**

Year of Existing Counts 2006

Implementation Year **2008**

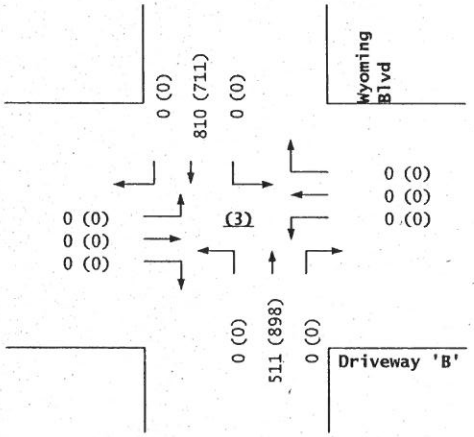
Growth Rates	-1.00%			-1.00%			-1.00%			-1.00%		
	Eastbound (Driveway 'B')			Westbound (Driveway 'B')			Northbound (Wyoming Blvd)			Southbound (Wyoming Blvd)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	0	0	0	0	0	0	521	0	0	827	0
Background Traffic Growth	0	0	0	0	0	0	0	-10	0	0	-17	0
Subtotal	0	0	0	0	0	0	0	511	0	0	810	0
Subtotal (NO BUILD - A.M.)	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***511***	***0***	***0***	***810***	***0***
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	0	0	0	0	0	0	0	0	0	0	0	0
Total AM Peak Hour BUILD Volumes	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**511**	**0**	**0**	**810**	**0**

	Eastbound (Driveway 'B')			Westbound (Driveway 'B')			Northbound (Wyoming Blvd)			Southbound (Wyoming Blvd)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	0	0	0	0	0	0	916	0	0	726	0
Background Traffic Growth	0	0	0	0	0	0	0	-18	0	0	-15	0
Subtotal	0	0	0	0	0	0	0	898	0	0	711	0
Subtotal (NO BUILD - P.M.)	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***898***	***0***	***0***	***711***	***0***
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	0	0	0	0	0	0	0	0	0	0	0	0
Total PM Peak Hour BUILD Volumes	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**898**	**0**	**0**	**711**	**0**

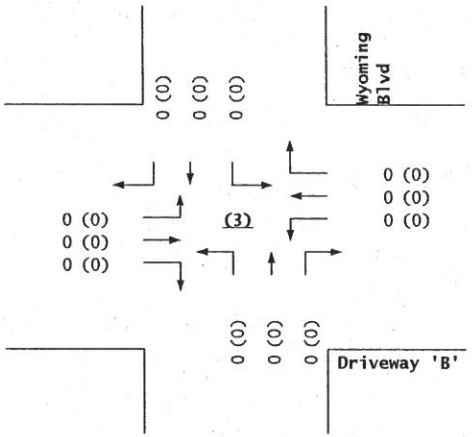
	Entering	Exiting		
Number of Commercial Trips Generated	**34**	**24**	A.M.	100% Commercial Development
	77	**77**	P.M.	

	Eastbound (Driveway 'B')			Westbound (Driveway 'B')			Northbound (Wyoming Blvd)			Southbound (Wyoming Blvd)		
2006 AM Peak Hr. Volumes	0	0	0	0	0	0	0	521	0	0	827	0
2006 PM Peak Hr. Volumes	0	0	0	0	0	0	0	916	0	0	726	0

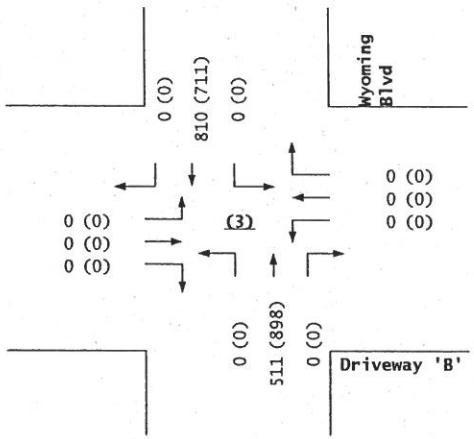
2008
NO BUILD



Trips



2008
BUILD

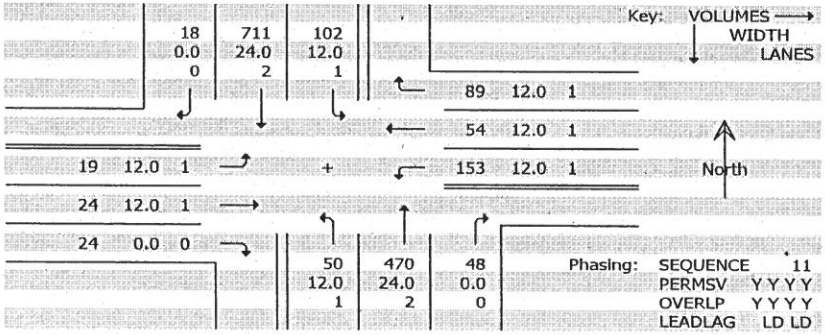


Driveway 'B' / Wyoming Blvd

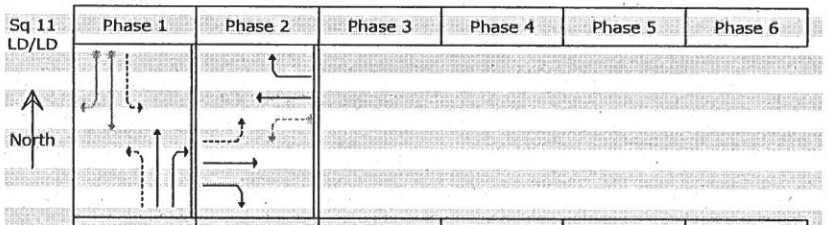
Bank of Albuquerque (Carmel Ave / Wyoming Blvd) 03/19/06
Analysis of Carmel Ave / Wyoming Blvd - [1A_08ABX] 15:16:40
2008 AM Peak BUILD Conditions-Case A (w/o RI-RO drive)

SIGNAL2000/TEAPAC[Ver 2.70.07] - HCM Input Worksheet

Intersection # 1 - Area Location Type: NONCBD



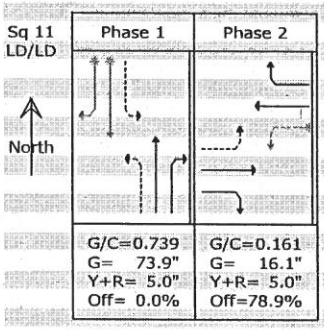
	SB RT	SB TH	SB LT	WB RT	WB TH	WB LT	NB RT	NB TH	NB LT	EB RT	EB TH	EB LT
Heavy veh, %HV	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Pk-hr fact, PHF	.87	.87	.87	.95	.95	.95	.86	.86	.86	.71	.71	.71
Pretimed or Act	A	A	A	A	A	A	A	A	A	A	A	A
Strtup lost, l1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Ext eff grn, e	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Arrival typ, AT	3	3	3	3	3	3	3	3	3	3	3	3
Ped vol, vped		0			0			0			0	
Bike vol, vbic		0			0			0			0	
Parking locatns		NO			NO			NO			NO	
Park mnvrs, Nm		0			0			0			0	
Bus stops, NB		0			0			0			0	
Grade, %G		.0			.0			.0			.0	



Bank of Albuquerque (Carmel Ave / Wyoming Blvd) 03/19/06
Analysis of Carmel Ave / Wyoming Blvd - [1A_08ABX] 15:16:40
2008 AM Peak BUILD Conditions-Case A (w/o RI-RO drive)

SIGNAL2000/TEAPAC[Ver 2.70.07] - Capacity Analysis Summary

Intersection Averages for Int # 1 -
Degree of Saturation (v/c) 0.31 Vehicle Delay 12.4 Level of Service B+



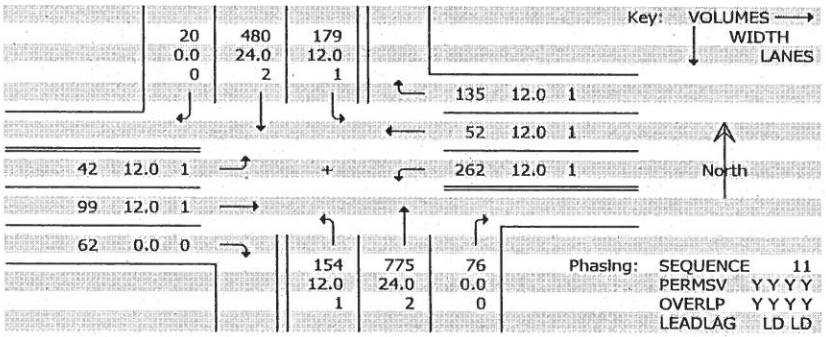
C=100 sec G= 90.0 sec = 90.0% Y=10.0 sec = 10.0% Ped= 0.0 sec = 0.0%

Lane Group	Width/ Lanes	g/C Reqd	g/C Used	Service Rate @D (vph)	Service Rate @E	Adj Volume	v/c	HCM Delay	LOS	Queue Model 1
SB Approach								4.5	A	
RT+TH	24/2	0.253	0.739	2586	2586	838	0.324	4.5	*A	202 ft
LT	12/1	0.202	0.739	574	574	117	0.204	4.2	A	51 ft
NB Approach								4.1	A	
RT+TH	24/2	0.193	0.739	2560	2560	603	0.236	4.2	A	135 ft
LT	12/1	0.151	0.739	437	438	58	0.132	3.9	A	24 ft
WB Approach								46.6	D	
RT	12/1	0.090	0.161	198	235	94	0.373	38.4	D+	112 ft
TH	12/1	0.053	0.161	239	282	57	0.192	36.6	D+	66 ft
LT	12/1	0.161	0.161	162	194	161	0.759	54.8	*D	221 ft
EB Approach								36.9	D+	
RT+TH	12/1	0.065	0.161	219	259	68	0.247	37.1	D+	79 ft
LT	12/1	0.000	0.161	164	196	27	0.126	36.2	D+	31 ft

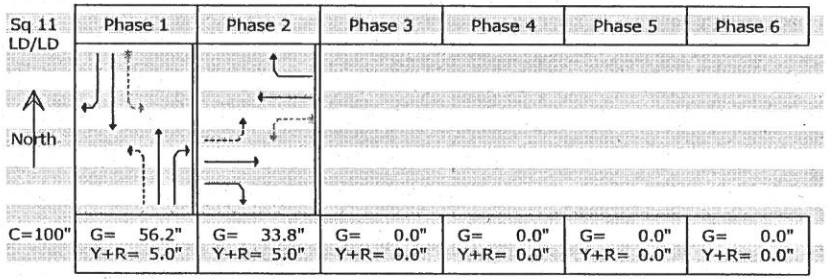
Bank of Albuquerque (Carmel Ave / Wyoming Blvd) 03/19/06
Analysis of Carmel Ave / Wyoming Blvd - [1A_08PBX] 15:19:52
2008 PM Peak BUILD Conditions-Case A (w/o RI-RO drive)

SIGNAL2000/TEAPAC[Ver 2.70.07] - HCM Input Worksheet

Intersection # 1 - Area Location Type: NONCBD



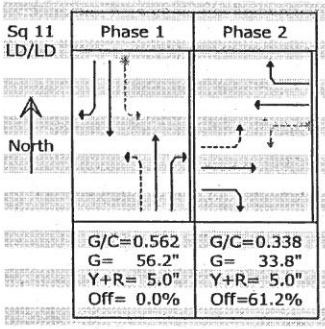
	SB RT	SB TH	SB LT	WB RT	WB TH	WB LT	NB RT	NB TH	NB LT	EB RT	EB TH	EB LT
Heavy veh, %HV	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Pk-hr fact, PHF	.95	.95	.95	.88	.88	.88	.95	.95	.95	.72	.72	.72
Pretimed or Act	A	A	A	A	A	A	A	A	A	A	A	A
Strtup lost, l1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Ext eff grn, e	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Arrival typ, AT	3	3	3	3	3	3	3	3	3	3	3	3
Ped vol, vped		0			0			0			0	
Bike vol, vbic		0			0			0			0	
Parking locatns		NO			NO			NO			NO	
Park mnvrs, Nm		0			0			0			0	
Bus stops, NB		0			0			0			0	
Grade, %G		.0			.0			.0			.0	



Bank of Albuquerque (Carmel Ave / Wyoming Blvd) 03/19/06
Analysis of Carmel Ave / Wyoming Blvd - [1A_08PBX] 15:19:52
2008 PM Peak BUILD Conditions-Case A (w/o RI-RO drive)

SIGNAL2000/TEAPAC[Ver 2.70.07] - Capacity Analysis Summary

Intersection Averages for Int # 1 -
Degree of Saturation (v/c) 0.45 Vehicle Delay 20.6 Level of Service C+



C=100 sec G= 90.0 sec = 90.0% Y=10.0 sec = 10.0% Ped= 0.0 sec = 0.0%

Lane Group	Width/ Lanes	g/C Reqd	g/C Used	Service Rate @D (vph)	Service Rate @E	Adj Volume	v/c	HCM Delay	LOS	Queue Model 1
SB Approach								14.6	B+	
RT+TH	24/2	0.171	0.562	1962	1962	526	0.268	11.4	B+	186 ft
LT	12/1	0.451	0.562	248	268	188	0.701	23.8	*C+	197 ft
NB Approach								13.0	B+	
RT+TH	24/2	0.271	0.562	1947	1947	896	0.460	13.1	B+	354 ft
LT	12/1	0.253	0.562	435	449	162	0.361	12.5	B+	121 ft
WB Approach								42.4	D+	
RT	12/1	0.132	0.338	493	530	153	0.289	24.6	C+	147 ft
TH	12/1	0.054	0.338	589	624	59	0.095	22.7	C+	53 ft
LT	12/1	0.338	0.338	298	333	298	0.890	55.4	*E+	416 ft
EB Approach								25.0	C+	
RT+TH	12/1	0.162	0.338	552	588	224	0.381	25.6	C+	220 ft
LT	12/1	0.073	0.338	410	448	58	0.129	23.0	C+	53 ft

Queueing Analysis Summary Sheet

Project: Bank of Albuquerque (Carmel Ave / Wyoming Blvd)
Intersection: **Carmel Ave / Wyoming Blvd**

CASE "A"

2008

Eastbound Approach	Left Turns # Lanes	Left Turns Vol.	Left Turns Length (Ft.)	Thru Movements # Lanes	Thru Movements Vol.	Thru Movements Length (Ft.)	Right Turns # Lanes	Right Turns Vol.	Right Turns Length (Ft.)
Existing Lane Length	*1*	*15*	*200*	*1*	*21*	*Cont*	*0*	*12*	*0*
AM NO BUILD Queue	1	16	50	1	22	50	0	13	50
AM BUILD Queue	**1**	**19**	**50**	**1**	**24**	**50**	**0**	**24**	**50**
Existing Lane Length	*1*	*30*	*200*	*1*	*87*	*Cont*	*0*	*26*	*0*
PM NO BUILD Queue	1	32	**75**	1	92	175	0	28	**75**
PM BUILD Queue	**1**	**42**	**100**	**1**	**99**	**175**	**0**	**62**	**125**

Westbound Approach	# Lanes	Vol.	Length (Ft.)	# Lanes	Vol.	Length (Ft.)	# Lanes	Vol.	Length (Ft.)
Existing Lane Length	*1*	*144*	*190*	*1*	*48*	*Cont*	*1*	*84*	*0*
AM NO BUILD Queue	1	153	200	1	51	100	1	89	125
AM BUILD Queue	**1**	**153**	**200**	**1**	**54**	**100**	**1**	**89**	**125**
Existing Lane Length	*1*	*247*	*190*	*1*	*42*	*Cont*	*1*	*127*	*0*
PM NO BUILD Queue	1	262	375	1	45	100	1	135	225
PM BUILD Queue	**1**	**262**	**375**	**1**	**52**	**100**	**1**	**135**	**225**

Northbound Approach	# Lanes	Vol.	Length (Ft.)	# Lanes	Vol.	Length (Ft.)	# Lanes	Vol.	Length (Ft.)
Existing Lane Length	*1*	*33*	*250*	*2*	*443*	*Cont*	*0*	*45*	*0*
AM NO BUILD Queue	1	35	75	2	470	300	0	48	75
AM BUILD Queue	**1**	**50**	**100**	**2**	**470**	**300**	**0**	**48**	**75**
Existing Lane Length	*1*	*113*	*250*	*2*	*731*	*Cont*	*0*	*72*	*0*
PM NO BUILD Queue	1	120	**200**	2	775	550	0	76	150
PM BUILD Queue	**1**	**154**	**250**	**2**	**775**	**550**	**0**	**76**	**150**

Southbound Approach	# Lanes	Vol.	Length (Ft.)	# Lanes	Vol.	Length (Ft.)	# Lanes	Vol.	Length (Ft.)
Existing Lane Length	*1*	*96*	*N/A*	*2*	*671*	*Cont*	*0*	*13*	*0*
AM NO BUILD Queue	1	102	150	2	711	425	0	14	50
AM BUILD Queue	**1**	**102**	**150**	**2**	**711**	**425**	**0**	**18**	**50**
Existing Lane Length	*1*	*169*	*N/A*	*2*	*453*	*Cont*	*0*	*9*	*0*
PM NO BUILD Queue	1	179	275	2	480	375	0	10	50
PM BUILD Queue	**1**	**179**	**275**	**2**	**480**	**375**	**0**	**20**	**50**

	AM	PM
Cycle Length:	100	130

CHAPTER 17 - TWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET

Analysis Summary

General Information ***Site Information***

Analyst	Nancy	Jurisdiction/Date	City of ABQ 3/2/2006
Agency or Company	Terry Brown, P.E.	Major Street	Carmel Ave
Analysis Period/Year	AM Peak Hour 2008	Minor Street	Driveway 'A'
Comment	2008 AM Peak BUILD Conditions-Case A (w/o RI-RO drive)		

Input Data

Lane Configuration	EB	WB	NB	SB
Lane 1 (curb)	TR	LT	LR	
Lane 2				
Lane 3				
Lane 4				
Lane 5				

	EB			WB			NB			SB		
Movement	1 (LT)	2 (TH)	3 (RT)	4 (LT)	5 (TH)	6 (RT)	7 (LT)	8 (TH)	9 (RT)	10 (LT)	11 (TH)	12 (RT)
Volume (veh/h)		51	12	22	100		8		16			
PHF		0.71	0.71	0.71	0.71		0.85		0.85			
Percent of heavy vehicles, HV		3	3	3	3		3		3			
Flow rate		72	17	31	141		9		19			
Flare storage (# of vehs)												
Median storage (# of vehs)							1					

Signal upstream of Movement 2 _____ ft Movement 5 _____ ft

Length of study period (h) 0.25

Output Data

	Lane	Movement	Flow Rate (veh/h)	Capacity (veh/h)	v/c	Queue Length (veh)	Control Delay (s)	LOS	Approach Delay and LOS
NB	1	LR	28	869	0.032	0	9.3	A	9.3 A
	2								
	3								
SB	1								
	2								
	3								
EB		(1)							
WB		(4)	31	1501	0.021	0	7.4	A	

CHAPTER 17 - TWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET

Analysis Summary

General Information ***Site Information***

Analyst	Nancy	Jurisdiction/Date	City of ABQ 3/2/2006
Agency or Company	Terry Brown, P.E.	Major Street	Carmel Ave
Analysis Period/Year	PM Peak Hour 2008	Minor Street	Driveway 'A'
Comment	2008 PM Peak BUILD Conditions-Case A (w/o RI-RO drive)		

Input Data

Lane Configuration	EB	WB	NB	SB
Lane 1 (curb)	TR	LT	LR	
Lane 2				
Lane 3				
Lane 4				
Lane 5				

	EB			WB			NB			SB		
Movement	1 (LT)	2 (TH)	3 (RT)	4 (LT)	5 (TH)	6 (RT)	7 (LT)	8 (TH)	9 (RT)	10 (LT)	11 (TH)	12 (RT)
Volume (veh/h)		152	26	51	174		26		51			
PHF		0.72	0.72	0.72	0.72		0.85		0.85			
Percent of heavy vehicles, HV		3	3	3	3		3		3			
Flow rate		211	36	71	242		31		60			
Flare storage (# of vehs)												
Median storage (# of vehs)							1					

Signal upstream of Movement 2 _____ ft Movement 5 _____ ft

Length of study period (h) 0.25

Output Data

	Lane	Movement	Flow Rate (veh/h)	Capacity (veh/h)	v/c	Queue Length (veh)	Control Delay (s)	LOS	Approach Delay and LOS
NB	1	LR	91	679	0.134	0	11.1	B	11.1 B
	2								
	3								
SB	1								
	2								
	3								
EB		(1)							
WB		(4)	71	1313	0.054	0	7.9	A	

HiCAP™2.0.0.1
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2008 Peak Hour Existing Conditions

Case B – with RI-RO driveway

Bank of Albuquerque

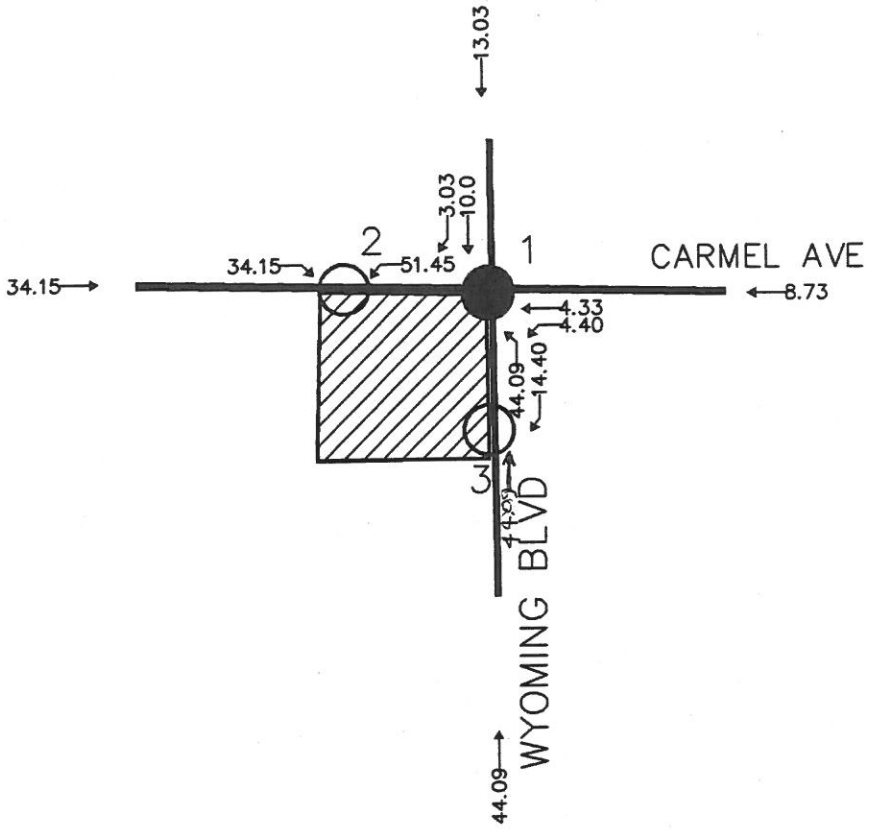
(Carmel Ave / Wyoming Blvd)

Trip Assignments (% Entering)

Case B - with RI-RO driveway



NTS



SIGNALIZED INTERSECTION

UNSIGNALIZED INTERSECTION

Terry O. Brown, P.E.
P.O. Box 92051
Albuquerque, NM 87199-2051
(505)883-8807 (Voice)
(505)212-0267 (Fax)

Bank of Albuquerque

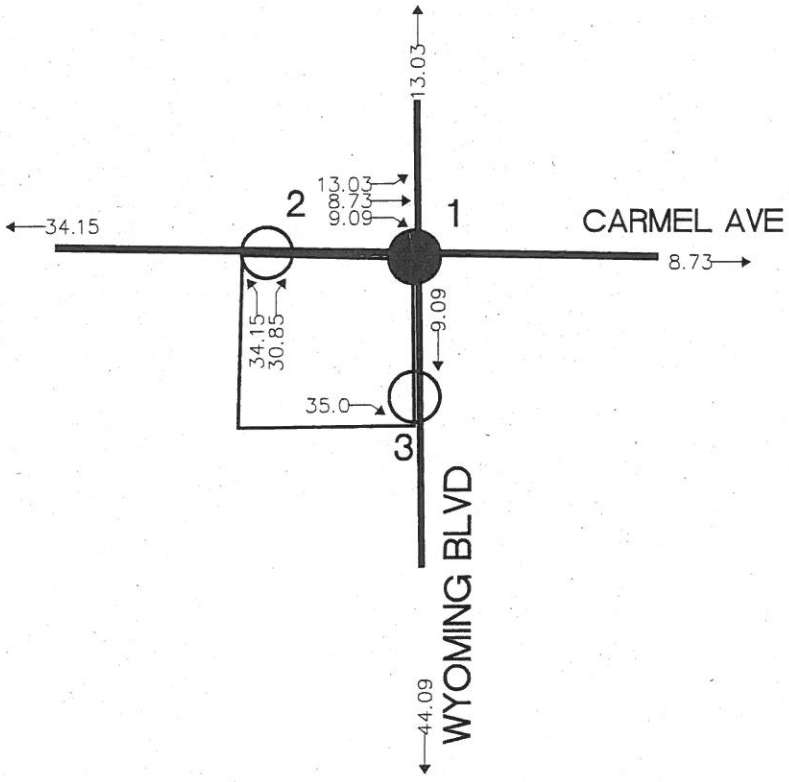
(Carmel Ave / Wyoming Blvd)

Trip Assignments (% Exiting)

Case B - with RI-RO driveway



NTS



SIGNALIZED INTERSECTION

UNSIGNALIZED INTERSECTION

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Bank of Albuquerque (Carmel Ave / Wyoming Blvd)

Projected Turning Movements SUMMARY

PROPOSED DEVELOPMENT (2008) - 100% Development

Case B - with RI-RO driveway

INTERSECTION: Summary

Carmel Ave / Wyoming Blvd

(1)

3.0% Truck

	0.71			0.95			0.86			0.87			PHF
	Eastbound (Carmel Ave)			Westbound (Carmel Ave)			Northbound (Wyoming Blvd)			Southbound (Wyoming Blvd)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2006)	15	21	12	144	48	84	33	443	45	96	671	13	
2008 (NO BUILD - A.M.)	*16*	*22*	*13*	*153*	*51*	*89*	*35*	*470*	*48*	*102*	*711*	*14*	
2008 (BUILD - A.M.)	***19***	***24***	***15***	***154***	***52***	***89***	***50***	***470***	***48***	***102***	***714***	***15***	

	0.72			0.88			0.95			0.95			PHF
	Eastbound (Carmel Ave)			Westbound (Carmel Ave)			Northbound (Wyoming Blvd)			Southbound (Wyoming Blvd)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2006)	30	87	26	247	42	127	113	731	72	169	453	9	
2008 (NO BUILD - P.M.)	*32*	*92*	*28*	*262*	*45*	*135*	*120*	*775*	*76*	*179*	*480*	*10*	
2008 (BUILD - P.M.)	***42***	***99***	***35***	***265***	***48***	***135***	***154***	***775***	***76***	***179***	***488***	***12***	

Carmel Ave / Driveway 'A'

(2)

3.0% Truck

	0.71			0.71			0.85			0.85			PHF
	Eastbound (Carmel Ave)			Westbound (Carmel Ave)			Northbound (Driveway 'A')			Southbound (Driveway 'A')			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2006)	0	48	0	0	94	0	0	0	0	0	0	0	
2008 (NO BUILD - A.M.)	*0*	*51*	*0*	*0*	*100*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	
2008 (BUILD - A.M.)	***0***	***51***	***12***	***17***	***100***	***0***	***8***	***0***	***7***	***0***	***0***	***0***	

	0.72			0.72			0.85			0.85			PHF
	Eastbound (Carmel Ave)			Westbound (Carmel Ave)			Northbound (Driveway 'A')			Southbound (Driveway 'A')			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2006)	0	143	0	0	164	0	0	0	0	0	0	0	
2008 (NO BUILD - P.M.)	*0*	*152*	*0*	*0*	*174*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	
2008 (BUILD - P.M.)	***0***	***152***	***26***	***40***	***174***	***0***	***26***	***0***	***24***	***0***	***0***	***0***	

Driveway 'B' / Wyoming Blvd

(3)

3.0% Truck

	0.85			0.85			0.86			0.86			PHF
	Eastbound (Driveway 'B')			Westbound (Driveway 'B')			Northbound (Wyoming Blvd)			Southbound (Wyoming Blvd)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2006)	0	0	0	0	0	0	0	521	0	0	827	0	
2008 (NO BUILD - A.M.)	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*552*	*0*	*0*	*877*	*0*	
2008 (BUILD - A.M.)	***0***	***0***	***8***	***0***	***0***	***0***	***0***	***567***	***0***	***0***	***879***	***5***	

	0.85			0.85			0.95			0.95			PHF
	Eastbound (Driveway 'B')			Westbound (Driveway 'B')			Northbound (Wyoming Blvd)			Southbound (Wyoming Blvd)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2006)	0	0	0	0	0	0	0	916	0	0	726	0	
2008 (NO BUILD - P.M.)	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*971*	*0*	*0*	*770*	*0*	
2008 (BUILD - P.M.)	***0***	***0***	***27***	***0***	***0***	***0***	***0***	***1,005***	***0***	***0***	***777***	***11***	

Bank of Albuquerque (Carmel Ave / Wyoming Blvd)

Projected Turning Movements Worksheet

Carmel Ave / Wyoming Blvd

Case B - with RI-RO driveway

INTERSECTION: E-W Street: **Carmel Ave** (1)

N-S Street: **Wyoming Blvd**

Year of Existing Counts 2006

Implementation Year **2008**

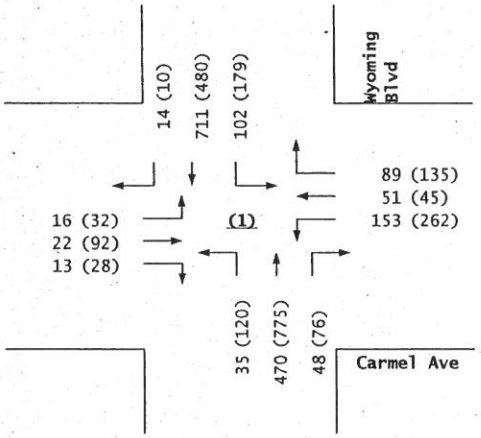
Growth Rates	3.00%			3.00%			3.00%			3.00%		
	Eastbound (Carmel Ave)			Westbound (Carmel Ave)			Northbound (Wyoming Blvd)			Southbound (Wyoming Blvd)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	15	21	12	144	48	84	33	443	45	96	671	13
Background Traffic Growth	1	1	1	9	3	5	2	27	3	6	40	1
Subtotal	16	22	13	153	51	89	35	470	48	102	711	14
Subtotal (NO BUILD - A.M.)	***16***	***22***	***13***	***153***	***51***	***89***	***35***	***470***	***48***	***102***	***711***	***14***
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*4.40%*	*4.33%*	*0.00%*	*44.09%*	*0.00%*	*0.00%*	*0.00%*	*10.00%*	*3.03%*
Percent Commercial Trips Generated(Exiting)	*13.03%*	*8.73%*	*9.09%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	3	2	2	1	1	0	15	0	0	0	3	1
Total AM Peak Hour BUILD Volumes	**19**	**24**	**15**	**154**	**52**	**89**	**50**	**470**	**48**	**102**	**714**	**15**

	Eastbound (Carmel Ave)			Westbound (Carmel Ave)			Northbound (Wyoming Blvd)			Southbound (Wyoming Blvd)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	30	87	26	247	42	127	113	731	72	169	453	9
Background Traffic Growth	2	5	2	15	3	8	7	44	4	10	27	1
Subtotal	32	92	28	262	45	135	120	775	76	179	480	10
Subtotal (NO BUILD - P.M.)	***32***	***92***	***28***	***262***	***45***	***135***	***120***	***775***	***76***	***179***	***480***	***10***
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*4.40%*	*4.33%*	*0.00%*	*44.09%*	*0.00%*	*0.00%*	*0.00%*	*10.00%*	*3.03%*
Percent Commercial Trips Generated(Exiting)	*13.03%*	*8.73%*	*9.09%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	10	7	7	3	3	0	34	0	0	0	8	2
Total PM Peak Hour BUILD Volumes	**42**	**99**	**35**	**265**	**48**	**135**	**154**	**775**	**76**	**179**	**488**	**12**

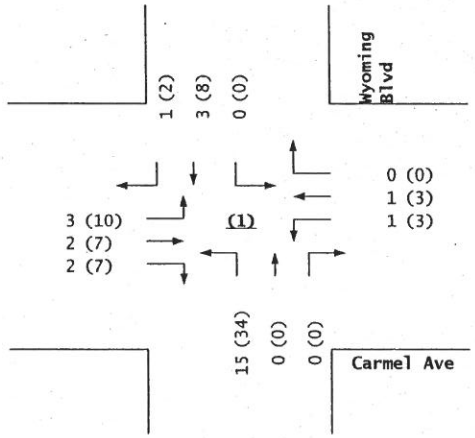
	Entering	Exiting		
Number of Commercial Trips Generated	**34**	**24**	A.M.	100% Commercial Development
	77	**77**	P.M.	

	Eastbound (Carmel Ave)			Westbound (Carmel Ave)			Northbound (Wyoming Blvd)			Southbound (Wyoming Blvd)		
2006 AM Peak Hr. Volumes	15	21	12	144	48	84	33	443	45	96	671	13
2006 PM Peak Hr. Volumes	30	87	26	247	42	127	113	731	72	169	453	9

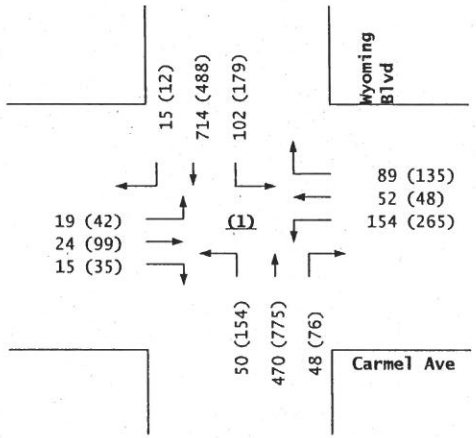
2008
NO BUILD



Trips



2008
BUILD



Carmel Ave / Wyoming Blvd

Bank of Albuquerque (Carmel Ave / Wyoming Blvd)

Projected Turning Movements Worksheet

Carmel Ave / Driveway 'A'

Case B - with RI-RO driveway

INTERSECTION: E-W Street: **Carmel Ave** (2)

N-S Street: **Driveway 'A'**

Year of Existing Counts 2006

Implementation Year **2008**

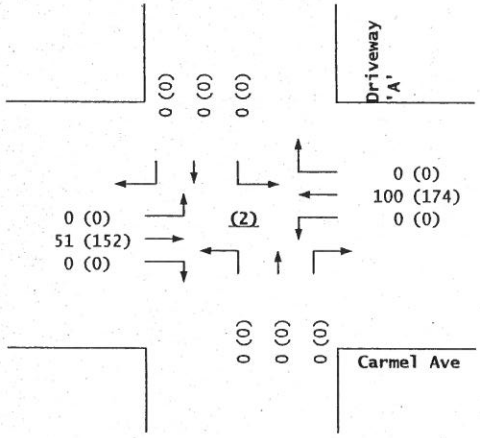
Growth Rates	3.00%			3.00%			3.00%			3.00%		
	Eastbound (Carmel Ave)			Westbound (Carmel Ave)			Northbound (Driveway 'A')			Southbound (Driveway 'A')		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	48	0	0	94	0	0	0	0	0	0	0
Background Traffic Growth	0	3	0	0	6	0	0	0	0	0	0	0
Subtotal	0	51	0	0	100	0	0	0	0	0	0	0
Subtotal (NO BUILD - A.M.)	***0***	***51***	***0***	***0***	***100***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*34.15%*	*51.45%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*34.15%*	*0.00%*	*30.85%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	0	0	12	17	0	0	8	0	7	0	0	0
Total AM Peak Hour BUILD Volumes	**0**	**51**	**12**	**17**	**100**	**0**	**8**	**0**	**7**	**0**	**0**	**0**

	Eastbound (Carmel Ave)			Westbound (Carmel Ave)			Northbound (Driveway 'A')			Southbound (Driveway 'A')		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	143	0	0	164	0	0	0	0	0	0	0
Background Traffic Growth	0	9	0	0	10	0	0	0	0	0	0	0
Subtotal	0	152	0	0	174	0	0	0	0	0	0	0
Subtotal (NO BUILD - P.M.)	***0***	***152***	***0***	***0***	***174***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*34.15%*	*51.45%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*34.15%*	*0.00%*	*30.85%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	0	0	26	40	0	0	26	0	24	0	0	0
Total PM Peak Hour BUILD Volumes	**0**	**152**	**26**	**40**	**174**	**0**	**26**	**0**	**24**	**0**	**0**	**0**

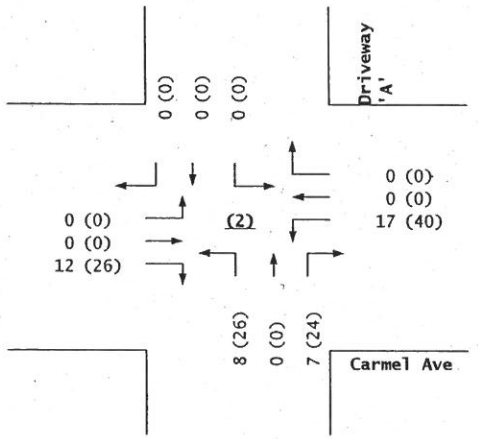
	Entering	Exiting		
Number of Commercial Trips Generated	**34**	**24**	A.M.	100% Commercial Development
	77	**77**	P.M.	

	Eastbound (Carmel Ave)			Westbound (Carmel Ave)			Northbound (Driveway 'A')			Southbound (Driveway 'A')		
2006 AM Peak Hr. Volumes	0	48	0	0	94	0	0	0	0	0	0	0
2006 PM Peak Hr. Volumes	0	143	0	0	164	0	0	0	0	0	0	0

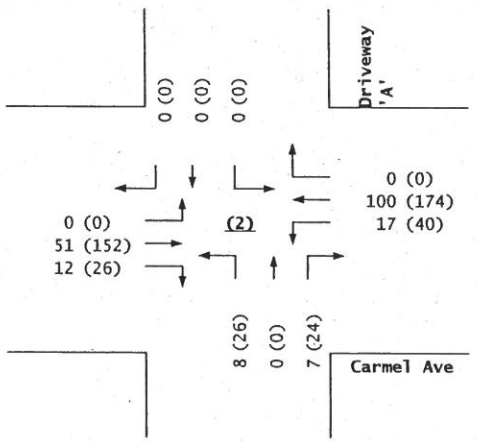
2008
NO BUILD



Trips



2008
BUILD



Carmel Ave / Driveway 'A'

Bank of Albuquerque (Carmel Ave / Wyoming Blvd)

Projected Turning Movements Worksheet

Driveway 'B' / Wyoming Blvd

Case B - with RI-RO driveway

INTERSECTION: E-W Street: **Driveway 'B'** (3)

N-S Street: **Wyoming Blvd**

Year of Existing Counts 2006

Implementation Year **2008**

Growth Rates 3.00% 3.00% 3.00% 3.00%

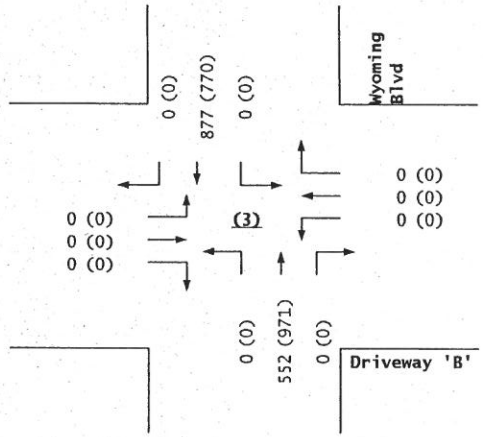
	Eastbound (Driveway 'B')			Westbound (Driveway 'B')			Northbound (Wyoming Blvd)			Southbound (Wyoming Blvd)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	0	0	0	0	0	0	521	0	0	827	0
Background Traffic Growth	0	0	0	0	0	0	0	31	0	0	50	0
Subtotal	0	0	0	0	0	0	0	552	0	0	877	0
Subtotal (NO BUILD - A.M.)	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***552***	***0***	***0***	***877***	***0***
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***44.09%***	*0.00%*	*0.00%*	*0.00%*	***14.40%***
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	***35.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***9.09%***	*0.00%*
Total Trips Generated	0	0	8	0	0	0	0	15	0	0	2	5
Total AM Peak Hour BUILD Volumes	**0**	**0**	**8**	**0**	**0**	**0**	**0**	**567**	**0**	**0**	**879**	**5**

	Eastbound (Driveway 'B')			Westbound (Driveway 'B')			Northbound (Wyoming Blvd)			Southbound (Wyoming Blvd)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	0	0	0	0	0	0	916	0	0	726	0
Background Traffic Growth	0	0	0	0	0	0	0	55	0	0	44	0
Subtotal	0	0	0	0	0	0	0	971	0	0	770	0
Subtotal (NO BUILD - P.M.)	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***971***	***0***	***0***	***770***	***0***
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***44.09%***	*0.00%*	*0.00%*	*0.00%*	***14.40%***
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	***35.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***9.09%***	*0.00%*
Total Trips Generated	0	0	27	0	0	0	0	34	0	0	7	11
Total PM Peak Hour BUILD Volumes	**0**	**0**	**27**	**0**	**0**	**0**	**0**	**1,005**	**0**	**0**	**777**	**11**

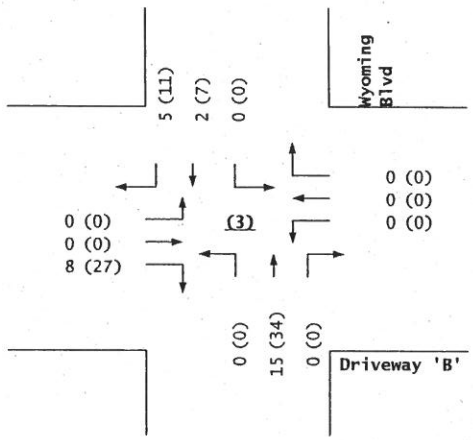
	Entering	Exiting		
Number of Commercial Trips Generated	**34**	**24**	A.M.	100% Commercial Development
	77	**77**	P.M.	

	Eastbound (Driveway 'B')			Westbound (Driveway 'B')			Northbound (Wyoming Blvd)			Southbound (Wyoming Blvd)		
2006 AM Peak Hr. Volumes	0	0	0	0	0	0	0	521	0	0	827	0
2006 PM Peak Hr. Volumes	0	0	0	0	0	0	0	916	0	0	726	0

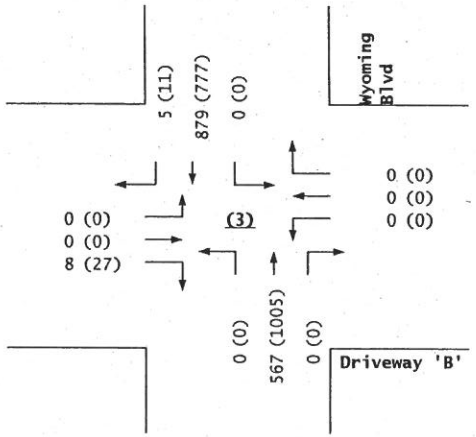
2008
NO BUILD



Trips



2008
BUILD

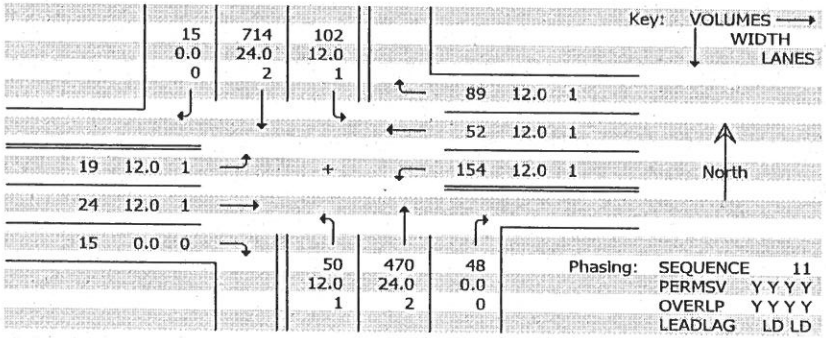


Driveway 'B' / Wyoming Blvd

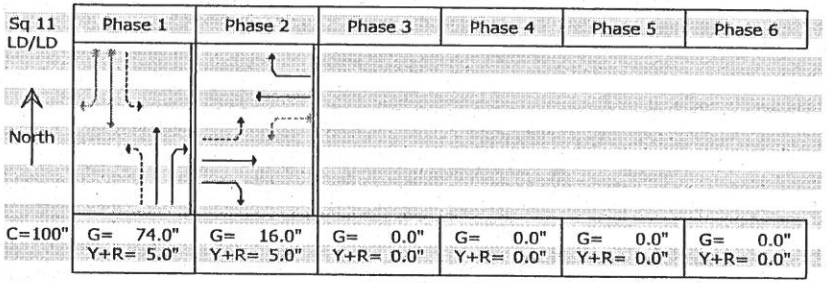
Bank of Albuquerque (Carmel Ave / Wyoming Blvd) 03/19/06
Analysis of Carmel Ave / Wyoming Blvd - [1B_08ABX] 15:36:17
2008 AM Peak BUILD Conditions-Case B (with RI-RO drive)

SIGNAL2000/TEAPAC Ver 2.70.07] - HCM Input Worksheet

Intersection # 1 - Area Location Type: NONCBD



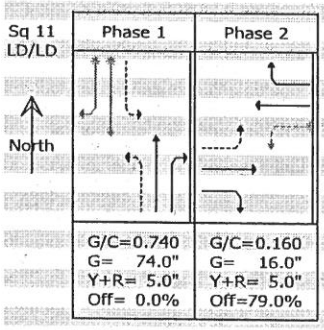
	SB			WB			NB			EB		
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
Heavy veh, %HV	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Pk-hr fact, PHF	.87	.87	.87	.95	.95	.95	.86	.86	.86	.71	.71	.71
Pretimed or Act	A	A	A	A	A	A	A	A	A	A	A	A
Strtup lost, l1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Ext eff grn, e	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Arrival typ, AT	3	3	3	3	3	3	3	3	3	3	3	3
Ped vol, vped		0			0			0			0	
Bike vol, vbic		0			0			0			0	
Parking locatns		NO			NO			NO			NO	
Park mnvrs, Nm		0			0			0			0	
Bus stops, NB		0			0			0			0	
Grade, %G		.0			.0			.0			.0	



Bank of Albuquerque (Carmel Ave / Wyoming Blvd) 03/19/06
Analysis of Carmel Ave / Wyoming Blvd - [1B_08ABX] 15:36:17
2008 AM Peak BUILD Conditions-Case B (with RI-RO drive)

SIGNAL2000/TEAPAC Ver 2.70.07] - Capacity Analysis Summary

Intersection Averages for Int # 1 -
Degree of Saturation (v/c) 0.31 Vehicle Delay 12.2 Level of Service B+



C=100 sec G= 90.0 sec = 90.0% Y=10.0 sec = 10.0% Ped= 0.0 sec = 0.0%

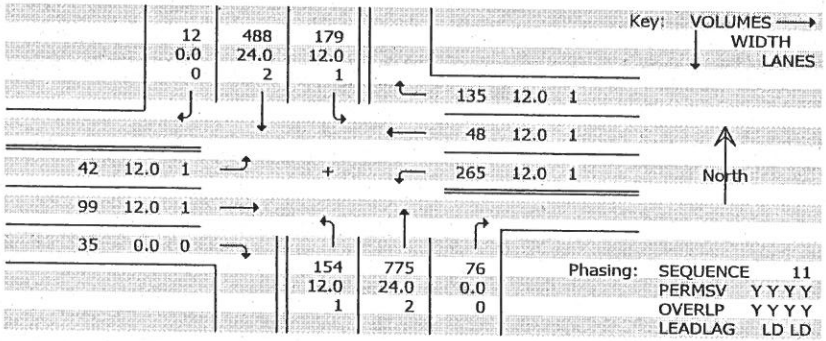
Lane Group	Width/ Lanes	g/C Reqd	g/C Used	Service Rate @D (vph)	@E	Adj Volume	v/c	HCM Delay	LS	Queue Model 1
SB Approach								4.5	A	
RT+TH	24/2	0.253	0.740	2592	2592	838	0.323	4.5	*A	201 ft
LT	12/1	0.202	0.740	575	575	117	0.203	4.1	A	51 ft
NB Approach								4.1	A	
RT+TH	24/2	0.193	0.740	2564	2564	603	0.235	4.1	A	135 ft
LT	12/1	0.151	0.740	438	439	58	0.132	3.9	A	24 ft
WB Approach								46.8	D	
RT	12/1	0.090	0.160	196	233	94	0.376	38.5	D+	113 ft
TH	12/1	0.051	0.160	237	280	55	0.186	36.7	D+	63 ft
LT	12/1	0.160	0.160	163	195	162	0.761	55.0	*D	223 ft
EB Approach								36.6	D+	
RT+TH	12/1	0.054	0.160	221	262	55	0.198	36.8	D+	64 ft
LT	12/1	0.000	0.160	163	195	27	0.127	36.3	D+	31 ft

Bank of Albuquerque (Carmel Ave / Wyoming Blvd)
Analysis of Carmel Ave / Wyoming Blvd - [1B_08PBX]
2008 PM Peak BUILD Conditions-Case A (w/o RI-RO drive)

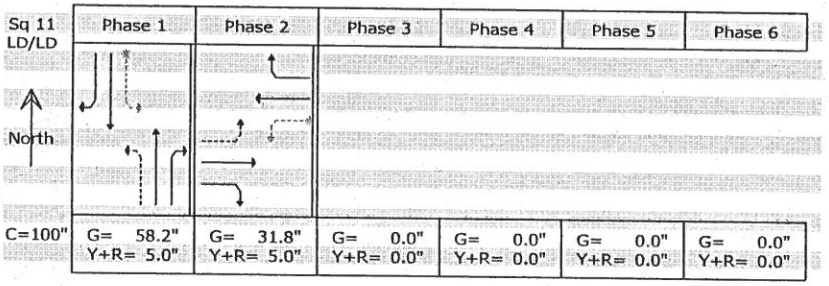
03/19/06
15:37:18

SIGNAL2000/TEAPAC Ver 2.70.07] - HCM Input Worksheet

Intersection # 1 - Area Location Type: NONCBD



	SB RT	SB TH	SB LT	WB RT	WB TH	WB LT	NB RT	NB TH	NB LT	EB RT	EB TH	EB LT
Heavy veh, %HV	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Pk-hr fact, PHF	.95	.95	.95	.88	.88	.88	.95	.95	.95	.72	.72	.72
Pretimed or Act	A	A	A	A	A	A	A	A	A	A	A	A
Strtup lost, l1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Ext eff grn, e	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Arrival typ, AT	3	3	3	3	3	3	3	3	3	3	3	3
Ped vol, vped		0			0			0			0	
Bike vol, vbic		0			0			0			0	
Parking locatns		NO			NO			NO			NO	
Park mnvrs, Nm		0			0			0			0	
Bus stops, NB		0			0			0			0	
Grade, %G		.0			.0			.0			.0	

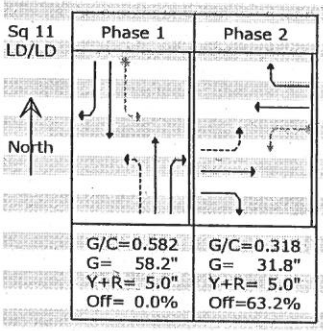


Bank of Albuquerque (Carmel Ave / Wyoming Blvd)
Analysis of Carmel Ave / Wyoming Blvd - [1B_08PBX]
2008 PM Peak BUILD Conditions-Case A (w/o RI-RO drive)

03/19/06
15:37:18

SIGNAL2000/TEAPAC Ver 2.70.07] - Capacity Analysis Summary

Intersection Averages for Int # 1 -
Degree of Saturation (v/c) 0.44 Vehicle Delay 19.8 Level of Service B



C=100 sec G= 90.0 sec = 90.0% Y=10.0 sec = 10.0% Ped= 0.0 sec = 0.0%

Lane Group	Width/ Lanes	g/C Reqd	g/C Used	Service Rate @D (vph)	Service Rate @E	Adj Volume	v/c	HCM Delay	LOS	Queue Model 1
SB Approach								12.9	B+	
RT+TH	24/2	0.171	0.582	2035	2035	527	0.259	10.4	B+	178 ft
LT	12/1	0.441	0.582	265	284	188	0.662	19.9	*B	184 ft
NB Approach								11.9	B+	
RT+TH	24/2	0.271	0.582	2015	2015	896	0.445	12.0	B+	339 ft
LT	12/1	0.251	0.582	456	468	162	0.346	11.4	B+	116 ft
WB Approach								43.0	D+	
RT	12/1	0.132	0.318	459	499	153	0.307	26.1	C+	151 ft
TH	12/1	0.051	0.318	548	587	55	0.094	24.0	C+	51 ft
LT	12/1	0.318	0.318	301	338	301	0.883	55.0	*E+	417 ft
EB Approach								25.9	C+	
RT+TH	12/1	0.138	0.318	525	564	187	0.332	26.3	C+	185 ft
LT	12/1	0.073	0.318	384	424	58	0.137	24.4	C+	55 ft

Queueing Analysis Summary Sheet

Project: Bank of Albuquerque (Carmel Ave / Wyoming Blvd)
Intersection: **Carmel Ave / Wyoming Blvd**

CASE "B"

2008

Eastbound Approach	Left Turns # Lanes	Left Turns Vol.	Left Turns Length (Ft.)	Thru Movements # Lanes	Thru Movements Vol.	Thru Movements Length (Ft.)	Right Turns # Lanes	Right Turns Vol.	Right Turns Length (Ft.)
Existing Lane Length	*1*	*15*	*200*	*1*	*21*	*Cont*	*0*	*12*	*0*
AM NO BUILD Queue	1	16	50	1	22	50	0	13	50
AM BUILD Queue	**1**	**19**	**50**	**1**	**24**	**50**	**0**	**15**	**50**
Existing Lane Length	*1*	*30*	*200*	*1*	*87*	*Cont*	*0*	*26*	*0*
PM NO BUILD Queue	1	32	**75**	1	92	175	0	28	75
PM BUILD Queue	**1**	**42**	**100**	**1**	**99**	**175**	**0**	**35**	**75**

Westbound Approach	# Lanes	Vol.	Length (Ft.)	# Lanes	Vol.	Length (Ft.)	# Lanes	Vol.	Length (Ft.)
Existing Lane Length	*1*	*144*	*190*	*1*	*48*	*Cont*	*1*	*84*	*0*
AM NO BUILD Queue	1	153	200	1	51	100	1	89	125
AM BUILD Queue	**1**	**154**	**200**	**1**	**52**	**100**	**1**	**89**	**125**
Existing Lane Length	*1*	*247*	*190*	*1*	*42*	*Cont*	*1*	*127*	*0*
PM NO BUILD Queue	1	262	375	1	45	100	1	135	225
PM BUILD Queue	**1**	**265**	**375**	**1**	**48**	**100**	**1**	**135**	**225**

Northbound Approach	# Lanes	Vol.	Length (Ft.)	# Lanes	Vol.	Length (Ft.)	# Lanes	Vol.	Length (Ft.)
Existing Lane Length	*1*	*33*	*250*	*2*	*443*	*Cont*	*0*	*45*	*0*
AM NO BUILD Queue	1	35	75	2	470	300	0	48	75
AM BUILD Queue	**1**	**50**	**100**	**2**	**470**	**300**	**0**	**48**	**75**
Existing Lane Length	*1*	*113*	*250*	*2*	*731*	*Cont*	*0*	*72*	*0*
PM NO BUILD Queue	1	120	**200**	2	775	550	0	76	150
PM BUILD Queue	**1**	**154**	**250**	**2**	**775**	**550**	**0**	**76**	**150**

Southbound Approach	# Lanes	Vol.	Length (Ft.)	# Lanes	Vol.	Length (Ft.)	# Lanes	Vol.	Length (Ft.)
Existing Lane Length	*1*	*96*	*N/A*	*2*	*671*	*Cont*	*0*	*13*	*0*
AM NO BUILD Queue	1	102	150	2	711	425	0	14	50
AM BUILD Queue	**1**	**102**	**150**	**2**	**714**	**425**	**0**	**15**	**50**
Existing Lane Length	*1*	*169*	*N/A*	*2*	*453*	*Cont*	*0*	*9*	*0*
PM NO BUILD Queue	1	179	275	2	480	375	0	10	50
PM BUILD Queue	**1**	**179**	**275**	**2**	**488**	**375**	**0**	**12**	**50**

	AM	PM
Cycle Length:	100	130

CHAPTER 17 - TWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET

Analysis Summary

General Information | ***Site Information***

Analyst	Nancy	Jurisdiction/Date	City of ABQ 3/19/2006
Agency or Company	Terry Brown, P.E.	Major Street	Carmel Ave
Analysis Period/Year	AM Peak Hour 2008	Minor Street	Driveway 'A'
Comment	2008 AM Peak BUILD Conditions-Case B (with RI-RO drive)		

Input Data

Lane Configuration	EB	WB	NB	SB
Lane 1 (curb)	TR	LT	LR	
Lane 2				
Lane 3				
Lane 4				
Lane 5				

	EB			WB			NB			SB		
Movement	1 (LT)	2 (TH)	3 (RT)	4 (LT)	5 (TH)	6 (RT)	7 (LT)	8 (TH)	9 (RT)	10 (LT)	11 (TH)	12 (RT)
Volume (veh/h)		51	12	17	100		8		7			
PHF		0.71	0.71	0.71	0.71		0.85		0.85			
Percent of heavy vehicles, HV		3	3	3	3		3		3			
Flow rate		72	17	24	141		9		8			
Flare storage (# of vehs)												
Median storage (# of vehs)							1					

Signal upstream of Movement 2 _____ ft Movement 5 _____ ft

Length of study period (h) 0.25

Output Data

	Lane	Movement	Flow Rate (veh/h)	Capacity (veh/h)	v/c	Queue Length (veh)	Control Delay (s)	LOS	Approach Delay and LOS
NB	1	LR	17	820	0.021	0	9.5	A	9.5 A
	2								
	3								
SB	1								
	2								
	3								
EB		(1)							
WB		(4)	24	1501	0.016	0	7.4	A	

CHAPTER 17 - TWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET

Analysis Summary

General Information | ***Site Information***

Analyst	Nancy	Jurisdiction/Date	City of ABQ	3/19/2006
Agency or Company	Terry Brown, P.E. .	Major Street	Carmel Ave	
Analysis Period/Year	PM Peak Hour 2008	Minor Street	Driveway 'A'	
Comment	2008 PM Peak BUILD Conditions-Case B (with RI-RO drive)			

Input Data

Lane Configuration	EB			WB			NB			SB		
Lane 1 (curb)		TR			LT			LR				
Lane 2												
Lane 3												
Lane 4												
Lane 5												

	EB			WB			NB			SB		
Movement	1 (LT)	2 (TH)	3 (RT)	4 (LT)	5 (TH)	6 (RT)	7 (LT)	8 (TH)	9 (RT)	10 (LT)	11 (TH)	12 (RT)
Volume (veh/h)		152	26	40	174		26		24			
PHF		0.72	0.72	0.72	0.72		0.85		0.85			
Percent of heavy vehicles, HV		3	3	3	3		3		3			
Flow rate		211	36	56	242		31		28			
Flare storage (# of vehs)												
Median storage (# of vehs)							1					

Signal upstream of Movement 2 _____ ft Movement 5 _____ ft

Length of study period (h) 0.25

Output Data

	Lane	Movement	Flow Rate (veh/h)	Capacity (veh/h)	v/c	Queue Length (veh)	Control Delay (s)	LOS	Approach Delay and LOS
NB	1	LR	59	640	0.092	0	11.2	B	11.2 B
	2								
	3								
SB	1								
	2								
	3								
EB		(1)							
WB		(4)	56	1313	0.042	0	7.9	A	

CHAPTER 17 - TWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET

Analysis Summary

General Information | ***Site Information***

Analyst	Nancy	Jurisdiction/Date	City of ABQ 3/19/2006
Agency or Company	Terry Brown, P.E.	Major Street	Wyoming Blvd
Analysis Period/Year	AM Peak Hour 2008	Minor Street	Driveway 'B'
Comment	2008 AM Peak BUILD Conditions-Case B (with RI-RO drive)		

Input Data

Lane Configuration	NB	SB	WB	EB
Lane 1 (curb)	T	TR		R
Lane 2	T	T		
Lane 3				
Lane 4				
Lane 5				

	NB			SB			WB			EB		
Movement	1 (LT)	2 (TH)	3 (RT)	4 (LT)	5 (TH)	6 (RT)	7 (LT)	8 (TH)	9 (RT)	10 (LT)	11 (TH)	12 (RT)
Volume (veh/h)		567			879	5						8
PHF		0.86			0.86	0.86						0.85
Percent of heavy vehicles, HV		3			3	3						3
Flow rate		659			1022	6						9
Flare storage (# of vehs)												
Median storage (# of vehs)										1		

Signal upstream of Movement 2 _____ ft Movement 5 _____ ft

Length of study period (h) 0.25

Output Data

	Lane	Movement	Flow Rate (veh/h)	Capacity (veh/h)	v/c	Queue Length (veh)	Control Delay (s)	LOS	Approach Delay and LOS
WB	1								
	2								
	3								
EB	1	R	9	503	0.018	0	12.3	B	12.3
	2								
	3								B
NB		(1)							
SB		(4)							

CHAPTER 17 - TWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET

Analysis Summary

General Information ***Site Information***

Analyst	Nancy	Jurisdiction/Date	City of ABQ 3/19/2006
Agency or Company	Terry Brown, P.E.	Major Street	Wyoming Blvd
Analysis Period/Year	PM Peak Hour 2008	Minor Street	Driveway 'B'
Comment	2008 PM Peak BUILD Conditions-Case B (with RI-RO drive)		

Input Data

Lane Configuration	NB	SB	WB	EB
Lane 1 (curb)	T	TR		R
Lane 2	T	T		
Lane 3				
Lane 4				
Lane 5				

	NB			SB			WB			EB		
Movement	1 (LT)	2 (TH)	3 (RT)	4 (LT)	5 (TH)	6 (RT)	7 (LT)	8 (TH)	9 (RT)	10 (LT)	11 (TH)	12 (RT)
Volume (veh/h)		1005			777	11						27
PHF		0.95			0.95	0.95						0.85
Percent of heavy vehicles, HV		3			3	3						3
Flow rate		1058			818	12						32
Flare storage (# of vehs)												
Median storage (# of vehs)										1		

Signal upstream of Movement 2 _____ ft Movement 5 _____ ft

Length of study period (h) 0.25

Output Data

	Lane	Movement	Flow Rate (veh/h)	Capacity (veh/h)	v/c	Queue Length (veh)	Control Delay (s)	LOS	Approach Delay and LOS
WB	1								
	2								
	3								
EB	1	R	32	584	0.055	0	11.5	B	11.5
	2								
	3								B
NB		(1)							
SB		(4)							

HiCAP ™2.0.0.1
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Traffic Count Data Sheet

Bank of Albuquerque

Year Counts Taken: **2006** E-W Street **Carmel** Speed Limit (Carmel)= **25** MPH

N-S Street: **Wyoming** Speed Limit (Wyoming)= **40** MPH

UNSIGNALIZED Date of Count: **2/14/06**

Begin Time	End Time	Eastbound (Carmel)			Westbound (Carmel)			Northbound (Wyoming)			Southbound (Wyoming)		
		L	T	R	L	T	R	L	T	R	L	T	R
7:00 AM	7:15 AM	2	2	3	30	14	17	0	131	5	16	171	4
7:15 AM	7:30 AM	5	2	4	41	6	23	3	104	7	22	168	3
7:30 AM	7:45 AM	5	9	3	34	15	24	21	120	10	28	191	4
7:45 AM	8:00 AM	3	8	2	39	13	20	9	88	23	30	141	2
8:00 AM	8:15 AM	~~2~~	~~9~~	~~1~~	~~44~~	~~8~~	~~17~~	~~9~~	~~85~~	~~17~~	~~29~~	~~137~~	~~2~~
8:15 AM	8:30 AM	~~3~~	~~9~~	~~2~~	~~57~~	~~9~~	~~16~~	~~14~~	~~105~~	~~15~~	~~31~~	~~98~~	~~2~~
8:30 AM	8:45 AM	~~2~~	~~4~~	~~3~~	~~56~~	~~8~~	~~7~~	~~14~~	~~70~~	~~27~~	~~24~~	~~110~~	~~3~~
8:45 AM	9:00 AM	~~11~~	~~18~~	~~11~~	~~60~~	~~0~~	~~15~~	~~9~~	~~96~~	~~21~~	~~34~~	~~142~~	~~4~~
AM Peak Hour Volumes		**15**	**21**	**12**	**144**	**48**	**84**	**33**	**443**	**45**	**96**	**671**	**13**
% of Total Traffic		0.9%	1.3%	0.7%	8.9%	3.0%	5.2%	2.0%	27.3%	2.8%	5.9%	41.3%	0.8%
% Directional			3.0%			17.0%			32.1%			48.0%	
AM Peak Hour Factor			***0.71***			***0.95***			***0.86***			***0.87***	

Begin Time	End Time	Eastbound (Carmel)			Westbound (Carmel)			Northbound (Wyoming)			Southbound (Wyoming)		
		L	T	R	L	T	R	L	T	R	L	T	R
4:00 PM	4:15 PM	~~4~~	~~10~~	~~2~~	~~73~~	~~16~~	~~16~~	~~15~~	~~157~~	~~17~~	~~38~~	~~89~~	~~0~~
4:15 PM	4:30 PM	~~8~~	~~24~~	~~7~~	~~61~~	~~11~~	~~27~~	~~25~~	~~152~~	~~25~~	~~35~~	~~118~~	~~1~~
4:30 PM	4:45 PM	~~2~~	~~9~~	~~5~~	~~59~~	~~10~~	~~37~~	~~21~~	~~127~~	~~15~~	~~39~~	~~137~~	~~3~~
4:45 PM	5:00 PM	3	21	7	41	16	30	26	191	23	39	125	2
5:00 PM	5:15 PM	12	19	4	77	6	35	27	171	21	51	104	3
5:15 PM	5:30 PM	5	21	1	77	6	35	24	183	16	45	110	2
5:30 PM	5:45 PM	10	26	14	52	14	27	36	186	12	34	114	2
5:45 PM	6:00 PM	~~6~~	~~17~~	~~2~~	~~65~~	~~10~~	~~42~~	~~29~~	~~182~~	~~20~~	~~48~~	~~93~~	~~2~~
PM Peak Hour Volumes		**30**	**87**	**26**	**247**	**42**	**127**	**113**	**731**	**72**	**169**	**453**	**9**
% of Total Traffic		1.4%	4.1%	1.2%	11.7%	2.0%	6.0%	5.4%	34.7%	3.4%	8.0%	21.5%	0.4%
% Directional			6.8%			19.8%			43.5%			30.0%	
PM Peak Hour Factor			***0.72***			***0.88***			***0.95***			***0.95***	

Intersection Data Sheet

Intersection: **Carmel Ave / Wyoming Blvd**

Posted Speed Limit (E-W Street): 30E / 25W Date: 3/1/2006

Eastbound Approach: Carmel Ave

Left Turn Lanes	Thru/Left Lanes	Thru Lanes	Thru/Right Lanes	Right Turn Lanes
1	0	0	1	0

Length: 175' Length:

Left Turn Arrow?	Thru Green?	Right Turn Arrow?
N	Y	N

Is there a right turn slip lane that by-passes the traffic signal? **No**

Westbound Approach: Carmel Ave

Left Turn Lanes	Thru/Left Lanes	Thru Lanes	Thru/Right Lanes	Right Turn Lanes
1	0	1	0	1

Length: 190' Length:

Left Turn Arrow?	Thru Green?	Right Turn Arrow?
N	Y	N

Is there a right turn slip lane that by-passes the traffic signal? **No**

Posted Speed Limit (N-S Street): 40

Northbound Approach: Wyoming Blvd

Left Turn Lanes	Thru/Left Lanes	Thru Lanes	Thru/Right Lanes	Right Turn Lanes
1	0	1	1	0

Length: Length:

Left Turn Arrow?	Thru Green?	Right Turn Arrow?
N	Y	N

Is there a right turn slip lane that by-passes the traffic signal? **No**

Southbound Approach: Wyoming Blvd

Left Turn Lanes	Thru/Left Lanes	Thru Lanes	Thru/Right Lanes	Right Turn Lanes
1	0	1	1	0

Length: Length:

Left Turn Arrow?	Thru Green?	Right Turn Arrow?
N	Y	N

Is there a right turn slip lane that by-passes the traffic signal? **No**