

TRAFFIC STUDY INFORMATION

CITY OF ALBUQUERQUE

TRAFFIC IMPACT STUDY (TIS) FORM

APPLICANT: Silver Leaf Ventures, LLC DATE OF REQUEST: 10/26/11 ZONE ATLAS PAGE(S): E-12

CURRENT:

ZONING SU-1 for C-2, D-1 + PRD
PARCEL SIZE (AC/SQ. FT.) +/- 23.89 ac

LEGAL DESCRIPTION:

LOT OR TRACT # 1, 2 + 3 BLOCK # _____
SUBDIVISION NAME North Andaluia @ LaLuz

REQUESTED CITY ACTION(S):

ANNEXATION ☐

ZONE CHANGE ☐: From _____ To _____

SECTOR, AREA, FAC, COMP PLAN ☐

AMENDMENT (Map/Text) ☐

SITE DEVELOPMENT PLAN:

SUBDIVISION* ☒ AMENDMENT ☒

BUILDING PERMIT ☒ ACCESS PERMIT ☐

BUILDING PURPOSES ☐ OTHER ☐

*includes platting actions

PROPOSED DEVELOPMENT:

NO CONSTRUCTION/DEVELOPMENT ☐

NEW CONSTRUCTION ☒

EXPANSION OF EXISTING DEVELOPMENT ☐

GENERAL DESCRIPTION OF ACTION:

OF UNITS: 1

BUILDING SIZE: 98,911 (sq. ft.)

Note: changes made to development proposals / assumptions, from the information provided above, will result in a new TIS determination.

APPLICANT OR REPRESENTATIVE Kel D. Krueger DATE 10/26/11
(To be signed upon completion of processing by the Traffic Engineer)

Planning Department, Development & Building Services Division, Transportation Development Section -
2ND Floor West, 600 2ND St. NW, Plaza del Sol Building, City, 87102, phone 924-3994

TRAFFIC IMPACT STUDY (TIS) REQUIRED: YES ☒ NO ☐ BORDERLINE ☐

THRESHOLDS MET? YES ☒ NO ☐ MITIGATING REASONS FOR NOT REQUIRING TIS: PREVIOUSLY STUDIED: ☐

Notes: TIS completed & accepted by City of Albuquerque (June 2007). Proposed use apparently generates less traffic than use proposed in June 2007 study. An updated study to be completed based on proposed uses. Study to be submitted by November 7, 2011
- TIS will need to be accepted by City Prior to EPC HEARING of this case
If a TIS is required: a scoping meeting (as outlined in the development process manual) must be held to define the level of analysis needed and the parameters of the study. **Any subsequent changes to the development proposal identified above may require an update or new TIS.**

[Signature]
TRAFFIC ENGINEER

10-26-11
DATE

Required TIS **must be completed prior to applying to the EPC and/or the DRB.** Arrangements must be made prior to submittal if a variance to this procedure is requested and noted on this form, otherwise the application may not be accepted or deferred if the arrangements are not complied with. —

TIS -SUBMITTED / /
-FINALIZED / /

TRAFFIC ENGINEER

DATE

Andalucia, Tract 6 Development TRAFFIC IMPACT STUDY (UPDATE)

STUDY PURPOSE

The study is being conducted as an update to the former Traffic Impact Study entitled Montano Shoppes / Andalucia, Tract 6 (Montano Rd. / Coors Blvd.) Traffic Impact Study dated June 1, 2007. The former approved study was associated with development plans proposing two new commercial centers including the Andalucia, Tract 6 project as shown conceptually in the Appendix (Pages A-81) of this report. The approved Andalucia, Tract 6 plan is proposed to be amended to implement the current proposed plan as shown on Page A-3 in the Appendix of this report. The purpose of this study is to re-evaluate the impact of the current proposed development on the adjacent transportation system, and to make recommendations to mitigate any significant adverse impact on the adjacent transportation system resulting from the implementation of the site development plan. This study is being prepared to meet the requirements of the City of Albuquerque Transportation Development Section and the New Mexico Department of Transportation, District 3 Office.

STUDY PROCEDURES

A scoping meeting was held with City of Albuquerque staff including the City Engineer, the traffic engineer, prior to beginning the study to discuss scope and methodology to be utilized within the report. Specific items included format, intersections to be studied, intersection analysis procedures, existing traffic counts, trip distribution methodology, and implementation year definition. In reviewing the generated trips for the center a more conservative approach was used to separate the proposed Wal-Mart store into its components of grocery and discount, which resulted in more trips being generated than the stand alone store. Bosque School was considered as existing back ground traffic in the analysis.

The basic procedure followed is described as follows:

- 1) Calculate the generated trips for the proposed development consisting of the following described lane uses:
 - An approximately 40,000 S.F. Supermarket*
 - An approximately 59,000 S.F. Free-standing Discount Store*
NOTE: The Supermarket floor space and the Free-standing Discount Store floor space combined constitute the Walmart Store. These two land use categories were utilized in the determination of the trip generation rates for the project to provide a conservatively high trip generation rate. This trip generation calculation method results in a 25% or higher trip generation rate than a Supercenter Trip Generation Rate would yield.
 - Approximately 69,700 S.F. of general in line retail commercial building floor space
 - A Drive-In Bank (3 Drive-In Windows).

- *High Turnover Sit-Down Restaurants (Approximately 25,100 S.F. for three different facilities.)*
 - *A 345 unit Apartment Complex*
- 2) Analysis included in this Traffic Impact Study will consist of considering an implementation year of 2015 (full build out of the center will be accomplished over that time period).
 - 3) Calculate trip distribution for the newly generated trips by these developments. The new commercial trips will be distributed based on year 2015 population within a two (2) mile radius boundary of the proposed site as shown on Page A-16 in the Appendix of this report. In addition, an adjusted boundary was used for the proposed Walmart store based on locations of other adjacent Walmart stores. The new residential trips will be distributed based on year 2015 employment citywide inversely proportional to the distance of the employment subarea from the proposed project location.
 - 4) Determine Trip Assignments for the newly generated trips based on the results of the Trip Distribution Analysis and logical routing to and from the site (See Pages A-16 thru A-38 in the Appendix of this report).
 - 5) Acquire a recent traffic count for the intersection of Montano Rd. / Coors Blvd.
 - 6) Perform new traffic counts (turning movement counts) for the intersections of Dellyne Ave. / Coors Blvd., Montano Rd. / 4th St and Montano Rd. / Winterhaven Rd.
 - 7) A 1.2% growth rate was used in this study based on Traffic Flow data and recent traffic count data in the area based upon the historic traffic growth in the area.
 - 8) Determine 2015 NO BUILD Volumes by growing the existing turning movement counts to the year 2015 utilizing the appropriate annual historic growth rate for the area. Additionally, the trips generated by the U. S. New Mexico Credit Union project at Learning Rd. / Coors Blvd. were added in to the 2015 background volumes in this study.
 - 9) Add in data from Trip Assignments Maps and Tables to the 2015 NO BUILD Volumes to obtain 2015 BUILD Volumes for this project.
 - 10) Provide signalized and / or unsignalized intersection analyses for the following intersections:

INTERSECTION	TYPE CONTROL	NO BUILD	BUILD
3) Montano Rd. / Coors Blvd.	Traffic Signal	2015	2015
4) Dellyne Ave. / Coors Blvd.	Traffic Signal	2015	2015
7) Montano Rd. / 4 th St.	Traffic Signal	2015	2015
8) Montano Rd. / Winterhaven Rd.	Stop Sign	2015	2015
9) Montano Rd. / Antequera Rd	Stop Sign	N/A	2015
10) E-W Street / Coors Blvd.	Stop Sign	N/A	2015
11) Mirandela St / Coors Blvd.	Stop Sign	N/A	2015

PREVIOUS RELATED TRAFFIC IMPACT STUDIES

Included in the background traffic volumes for this project are the trips generated by the following previous Traffic Impact Study:

- 1) *U. S. New Mexico Credit Union at Dellyne Ave / Coors Blvd*

The Implementation Year Trips Generated Volumes from those reports were added into the 2015 Background Subtotal Volumes in this report to obtain the 2015 NO BUILD Volumes. The proposed U. S. New Mexico Credit Union project is being developed on a parcel of land that was included in the 2007 Traffic Impact Study for the Montano Shoppes / Andalucia, Tract 6 project. The Credit Union tract is located on the south end of the Andalucia project. This study considers the Credit Union trips as included in the 2015 background traffic volumes.

GENERAL AREA CHARACTERISTICS

The proposed requested site development plan is at the southeast corner of Montano Rd. / Coors Blvd. as shown on the Vicinity Map on Page A-1 of the Appendix of this report. Properties surrounding this site are a mix of commercial, school, and residential uses. The property to the east of Andalucia, Tract 6 is the existing Bosque Prep Private School. The proposed ABCWA (Albuquerque Bernalillo County Water Authority) treatment plan will generate nominal maintenance traffic and was considered to be included in the annual background traffic growth increases. Most of the land surrounding this site to the north and west is substantially developed or being developed. The property to the south is being developed into apartments and the school will have more expansion plans to the east of the site. In conversations with the property owner, the apartments should break ground for development this year. More detailed zoning information may be obtained upon inspection of the Vicinity Maps on Page A-1 and A-2 in the Appendix.

AREA STREET NETWORK

Coors Boulevard is classified as a Principal Arterial roadway south of Alameda Blvd. on the Long Range Roadway System for the Albuquerque Urban Area. It is generally a six lane paved urban roadway with curbs and gutters on both sides of the roadway and raised medians in the center. There is a paved shoulder and bicycle lanes on each side of Coors Blvd.

Montano Road is classified as a Limited Access Minor Arterial Roadway on the Long Range Roadway System for the Albuquerque Urban Area. It is a four lane paved urban section roadway with curbs and gutters on both side of the street and a raised median. The posted speed limit on Montano Rd. from Taylor Ranch Rd. to Coors Blvd. is 40 MPH.

Dellyne Ave. is classified as a Collector Street on the Long Range Roadway System for the Albuquerque Metropolitan Area. It is currently a two lane paved facility west of Coors Blvd.

4th St. from Central Ave. to Alameda Blvd. is classified as a Minor Arterial Roadway on the Long Range Roadway System for the Albuquerque Metropolitan Area. It is currently a four lane urban roadway with curbs and gutters on both sides of the street and raised medians.

EXISTING TRAFFIC VOLUMES

2010 Average Weekday Traffic Volumes (AWDT) for major streets in the site plan area are shown on Page A-5 of the Appendix.

Current turning movement volumes obtained during the AM and PM Peak Hours for this project were acquired from recent field counts conducted by the consulting engineer.

Existing AM and PM Peak Hour turning movement counts were provided by the City of Albuquerque for the following intersections:

Montano Rd. / Coors Blvd. (2010)

Additionally, AM and PM Peak Hour turning movement counts for 2011 were obtained by field traffic counts taken for the following intersections:

Dellyne Ave. (Learning Rd.) / Coors Blvd. (2011)

Montano Rd. / 4th St. (2011)

Montano Rd. / Winterhaven Rd. (2011)

EXISTING (2011) LEVELS OF SERVICE

The Highway Capacity Manual defines Level of Service (LOS) for signalized intersections in terms of average controlled delay per vehicle as follows:

LOS A	10.0" or less	Most Vehicles do not stop
LOS B	10.1 to 20.0"	Some Vehicles stop
LOS C	20.1 to 35.0"	Significant number of vehicles stop
LOS D	35.1 to 55.0"	Many vehicles stop.
LOS E	55.1 to 80.0"	Limit of acceptable delay.
LOS F	> 80.0"	Increased delay with multiple cycle waits .

Level of Service D is generally considered acceptable in urban areas and is the desirable base condition for analysis in a traffic study. In addition to consideration of the overall level-of-service of the signalized intersection, the levels-of-service of each individual movement should be considered.

The existing levels-of-service were not calculated for this report. An approximation of the existing levels of service can be acquired from the 2015 NO BUILD levels-of-service since the annual growth rates in this area are so low.

PROPOSED DEVELOPMENT

The proposed location is at the southeast corner of the existing signalized intersection of Montano Rd. / Coors Blvd. It is called Andalucia, Tract 6 in this study. This Traffic Impact Study Update considers the entirety of the Andalucia, Tract 6 land, but the primary application for approval by the City of Albuquerque Environmental Planning Commission is the retail commercial component on the north half of the project. The

following commercial uses are proposed for this property (as mentioned the proposed Wal-Mart store has been separated into its component parts):

- *An approximately 40,000 S.F. Supermarket**
- *An approximately 59,000 S.F. Free-standing Discount Store**
- *Approximately 69,700 S.F. of retail commercial building floor space*
- *A Drive-In Bank (3 Drive-In Windows).*
- *High Turnover Sit-Down Restaurants (Approximately 25,100 S.F.)*

**NOTE: The Supermarket floor space and the Free-standing Discount Store floor space combined constitute the Walmart Store. These two land use categories were utilized in the determination of the trip generation rates for the project to provide a conservatively high trip generation rate. This trip generation calculation method results in a 25% or higher trip generation rate than a Supercenter Trip Generation Rate would yield.*

See the conceptual site development plan on Page A-3 in the Appendix of this report to acquire more detailed information about the proposed development plan.

The site plan is conceptual at this point in time and is subject to minor changes as progress takes place in the design process. The plan and level of traffic generation should, however, provide a reliable basis upon which to analyze the impact of the development on the adjacent transportation system and provide guidelines for mitigating the impact and establishing access criteria. The conceptual site plan as it is shown in this report proposes four (4) primary access points or driveways into the sites from arterial roadways.

The proposed retail commercial plan will be accessed from Montano Rd. at Winterhaven Rd. and Antequera; from Coors Blvd. at two proposed driveways located between Dellyne Ave. and Montano Rd. The driveway at Mirandela / Coors Blvd. is an approved right-in, right-out, left-in only unsignalized driveway. A second proposed driveway to the north is designated as a right-in, right-out only access, and requires T.C.C. approval by the Mid-Region Council of Governments.

The proposed driveway configuration can be seen on the site development plan on Page A-3 in the Appendix of this study.

TRIP GENERATION

Projected trips were calculated from data in the Institute of Transportation Engineers Trip Generation report (8th Edition, 2008). Trips for the development were determined based on land uses defined on the Conceptual Site Development Plan on Page A-3 in the Appendix of this report. This project is rather unique in that it is an updated plan for Andalucia, Tract 6. The previous Andalucia, Tract 6 plan was proposed in 2005, and the previous Traffic Impact Study evaluated the trips generated by that plan. This study will consider not only the trips being generated under this new plan, but will provide a comparison to the trips generated in the 2007 Traffic Impact Study. The resulting number of trips generated for the currently proposed development (and comparison with the previous plan in the 2007 TIS) are summarized in the following table:

Andalucia, Tract 6 Update (Montano / Coors)
Trip Generation Data (ITE Trip Generation Manual - 8th Edition)

COMMENT	USE (ITE CODE)	24 HR VOL	A. M. PEAK HR.		P. M. PEAK HR.		
	DESCRIPTION	GROSS	ENTER	EXIT	ENTER	EXIT	
<u>Summary Sheet</u>		Units					
Walmart (Grocery)	Supermarket (850)	40.00	4,070	88	56	251	241
Walmart (Dry Goods)	Free-Standing Discount Store (815)	59.00	2,363	43	20	148	148
NORTH TRACT	Shopping Center (820)	70.24	5,398	76	49	246	256
NORTH TRACT	Drive-In Bank (912)	3	418	16	12	40	42
NORTH TRACT	High Turnover (Sit-Down) Restaurant (932)	24.10	3,064	144	133	159	110
SOUTH TRACT	Drive-In Bank (912)	12.37	1,833	86	67	160	160
SOUTH TRACT	General Office Building (710) - Less than 51,000 S.F.	10.00	147	18	2	4	20
Apartments	Apartment, Post-1973 (220)	345	2,214	35	138	135	73
Subtotal			19,507	506	477	1,143	1,050
Subtotal (Commercial Trips)			17,146	453	337	1,004	957
Pass-by Trip Reduction 30%			(5,144)	(136)	(101)	(301)	(287)
Net New Commercial Trips on Adjacent Transportation System			12,002	317	236	703	670
New Office Trips on Adjacent Transportation System			147	18	2	4	20
New Residential Trips on Adjacent Transportation System			2,214	35	138	135	73
Total New Trips on Adjacent Transportation System			14,363	370	376	842	763
Net New Trips Utilized in Original Traffic Impact Study			19,363	502	620	1,038	906
Net Increase (Decrease) in Traffic Generated			4,977(5,000)	(132)	(244)	(196)	(143)
Percentage Increase (-Decrease) in Traffic Generated			-26%	-26%	-39%	-19%	-16%

19353

Pass-by trip credits were taken for the 2015 analysis due to the size of the development considered and types of commercial uses. Pass-by trip credits taken for retail commercial uses only the ITE manual allows this percentage to grow as high as 50 percent but a more conservative 30 percent was used for this analysis.

NOTE: The Supermarket floor space and the Free-standing Discount Store floor space combined constitute the Walmart Store. These two land use categories were utilized in the determination of the trip generation rates for the project to provide a conservatively high trip generation rate. This trip generation calculation method results in a 25% or higher trip generation rate than a Supercenter Trip Generation Rate would yield.

More detailed information regarding trip generation rates for this project can be viewed in Pages A-6 thru A-15 in the Appendix of this report.

TRIP DISTRIBUTION

Primary and Diverted Linked Trips:

Trips were distributed as follows:

Commercial Land Use / Walmart Use

Primary and diverted linked trips for the both the commercial land use development were distributed proportionally to the 2015 projected population of Data Analysis Subzones within a two mile radius of the proposed development. Population data for the years 2015 and 2025 Data were taken from Mid-Region Council of Governments' 2035 Socioeconomic Forecasts by Data Analysis Subzones for the Mid-Region of New Mexico supplied by the Middle Rio Grande Council of Governments (MRGCOG). Population data from the years 2015 and 2025 was interpolated linearly to obtain 2015 population data to utilize for this analysis. Population Subzones were grouped based on

the most likely major street(s) or route(s) to the subject development. The trip distribution worksheets and associated map of subareas and data analysis subzones is shown on Appendix Pages A-16 and A-18 thru A-21.

In addition, the same analysis was performed for the Walmart store, but with an expanded and uneven boundary established approximately midway between this proposed Walmart facility and the nearest three adjacent existing Walmart facilities. See Trip Distribution Map on Page A-16 in the Appendix and Trip Distribution Worksheets on Pages A-22 thru A-24 in the Appendix of this report.

Residential Land Use

Primary and diverted linked trips for residential development have been distributed proportionally to the 2015 projected employment of Subareas citywide. Employment data for 2015 and 2025 Data were taken from Mid-Region Council of Governments' 2035 Socioeconomic Forecasts by Data Analysis Subzones for the Mid-Region of New Mexico supplied by the Middle Rio Grande Council of Governments (MRGCOG). Employment data was interpolated linearly between the 2015 and 2025 data to obtain 2015 values and adjusted for distance from the proposed new facility. The trip distribution worksheets and associated map of subareas and data analysis subzones are shown on Appendix Pages A-17 and A-25 thru A-28.

TRIP ASSIGNMENT

Trip assignments are made on a percentage basis derived from data established in the trip distribution determination process and logical routing. Those percentages are then applied to the projected trips to determine individual traffic movements. Percentage trip assignments including pass-by trip assignments are shown on Appendix Pages A-29 thru A-38.

BACKGROUND TRAFFIC GROWTH

The annual growth rate utilized in this Traffic Impact Study is 1.2% annually. This annual growth rate was determined by evaluating historic traffic flow data from the Mid-Region Council of Governments (MRCOG) annually published Traffic Flow Maps to determine a recent historic growth trend over the most recent five-year period of time (2006 – 2010). Most of the growth rate analyses yielded recent historic growth trends of less than 1%. It is the conclusion of this study that a 1.2% annual growth rate will be the best model of actual traffic growth in the area which again reflects a more conservative approach.

PROJECTED PEAK HOUR TURNING MOVEMENTS FOR 2015 BUILDOUT

The established growth rates were applied to the most recent peak hour traffic counts (furnished by the consulting engineer and conducted for this study), and then the trips from the *Credit Union (Dellyne Ave / Coors Blvd) Traffic Impact Study* were added in to establish the 2015 background NO BUILD traffic volumes. To these volumes, the generated trips based on implementation of the proposed Andalucia, Tract 6 development

was added to obtain 2015 BUILD volumes for the intersection analyses. See Appendix Pages A-39 thru A-54 for further information regarding 2015 turning movement counts. The 2015 BUILD Conditions turning movement counts include trips generated by 100% implementation of the Andalucia, Tract 6 development (currently proposed plan).

INTERSECTION CAPACITY ANALYSIS

Intersection capacity analyses were performed in accordance with the procedures for signalized and unsignalized intersections in the Highway Capacity Manual, Special Report 209, Transportation Research Board, 2000, using Synchro 7 software. Synchro 8 software has recently been released which conforms with the 2010 Highway Capacity Manual, but there are several significant inconsistencies or bugs in the software. Trafficware, Inc., producers of Synchro 8 software are working on the computational engine to rectify the known issues with the program. Fixes are not expected before the end of the year. Therefore, this analysis was performed using Synchro 7. For signalized intersections, the operational method of analysis was used for implementation year (2015) conditions (NO BUILD and BUILD).

Capacity analyses were performed for the following traffic conditions.

Andalucia, Tract 6 Implementation Year – 2015

Implementation Year (2015) - NO BUILD

Implementation Year (2015) – BUILD of 2005 Approved Plan

Implementation Year (2015) – BUILD of Current Proposed Plan

The results of the implementation year (2015) for the Andalucia, Tract 6 developments' capacity analyses are summarized in the following sections - *Results and Discussion of Intersection Capacity Analyses*.

CONCLUSIONS

The comparison of the NO BUILD with the BUILD condition results of this analysis for the adjacent transportation system associated with the proposed commercial / residential development indicate that there will be minimal increases in average intersection delays along Coors Blvd. at the intersections analyzed in this study. When compared with the approved 2007 Traffic Impact Study evaluating the 2005 plan (which generates more traffic than this plan), the implementation of the currently proposed 2011 Plan will result generally in less delay and more favorable conditions on the adjacent transportation system. The roadway improvements constructed by this developer at the intersection of Dellyne Ave. (Learning Rd.) / Coors Blvd. and at Montano Rd. / Coors Blvd. have reduced the impact of the additional traffic generated by the Andalucia, Tract 6 project (2005 and 2011 Plans).

The implementation year for this study was determined to be 2015 since that is the expected year that the project will be fully implemented. Consideration of the 2017 conditions would be very similar to those of the 2015 in this study since minimal background traffic growth is expected from 2015 to 2017, especially in this economic climate.

In summary, the proposed site development plans for the Andalucia, Tract 6 Project present minimal adverse impact to the adjacent transportation system provided that recommendations are implemented as follows:

RECOMMENDATIONS

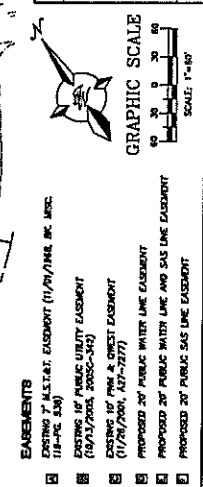
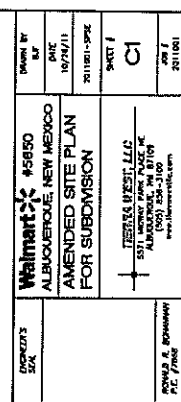
- All design and construction for this project shall insure that adequate site distances at the proposed driveways along Montano Rd. and along Coors Blvd. are provided.
- Driveways shall be constructed using a minimum of 25-foot radius curb returns or the minimum required by the City of Albuquerque Development Process Manual (D.P.M.) or the New Mexico Department of Transportation's *State Access Management Manual*. Larger radii may be required to accommodate delivery trucks.

General Access:

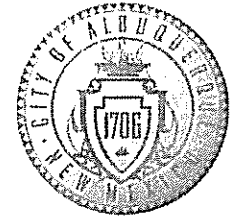
- The Andalucia, Tract 6 Commercial / Residential Development should be accessed via four existing or proposed intersections / driveways along Coors Blvd. and Montano Rd. The primary access to the commercial component at the extreme northwest corner of the project will be via an existing extension of Winterhaven Rd. (Mirandela) to the south of Montano Rd. and the existing approved right-turn-in, right-turn-out, left-turn-in driveway (Mirandela St.) on Coors Blvd. approximately midway between Montano Rd. and Dellyne Ave. (Learning Rd.). Additionally an existing right-turn-in, right-turn-out driveway approximately midway between Mirandela St. and Montano Rd. along the east side of Coors Blvd. will serve the commercial component of this development. The residential component (multi-family) of Andalucia, Tract 6 to the south of the commercial tract is accessed primarily via the existing signalized intersection of Dellyne Ave. (Learning Rd.) / Coors Blvd. as well as the previously mentioned right-turn-in, right-turn-out, left-turn-in driveway (Mirandela St.). Proposed access is demonstrated on the site plan on Page A-3 in the Appendix of this study.

For the 2015 Analysis:

- **Dellyne Ave. (Learning Rd.) / Coors Blvd.** – Lengthen the existing westbound dual left turn lanes as far as possible to try to achieve a total length of 200 feet plus transition. Extend the northbound left turn lane as far as possible to try to achieve a total length of 475 feet plus transition.
- **Montano Rd. / Winterhaven Dr. (Mirandela St.)** – lengthen the westbound left turn lane on Montano Rd. to a minimum total length of 175 feet plus transition.
- **Montano Rd. / Antequera** – Acquire approval from the Transportation Coordinating Committee to construct the driveway on Montano Rd. as a right-in, right-out unsignalized driveway.
- **Montano Rd. / Coors Blvd.** – construct pedestrian push buttons in the medians on Coors Blvd. (Widening of median may be necessary.)
- **Dellyne Ave. (Learning Rd.) / Coors Blvd.** - construct pedestrian push buttons in the medians on Coors Blvd. (Widening of median may be necessary.)

[illegible]

CITY OF ALBUQUERQUE



November 15, 2011

Terry Brown, P.E.
P.O. Box 92051
Albuquerque, New Mexico 87199

Subject: Andalucia Tract 6 (Montano/Coors) Traffic Impact Study Update,
Dated November 7, 2011

Dear Mr. Brown,

Following are my comments for the above referenced subject:

- 1) Provide an Executive Summary.
- 2) Provide an explanation for your intersection numbering system.
- 3) Table of Contents should be labeled as Page i.
- 4) Page 1 –
 - a. 2005 Plan should be referenced in the Appendix as Page A-81;
 - b. Delete "and the impact fee administrator" from STUDY PROCEDURES text;
 - c. Delete reference to horizon year analysis. There is no City requirement for this analysis;
 - d. Add explanation of why Supermarket and Free-Standing Discount Store were utilized to calculate the trip generation rate for the new Wal-Mart store.
- 5) Page 2 – change "building" to "build".
- 6) Page 4 – Add explanation of why Supermarket and Free-Standing Discount Store were utilized to calculate the trip generation rate for the new Wal-Mart store.
- 7) Page 5 –
 - a. Add text denoting that the second driveway on Montano Rd. requires TCC Approval;
 - b. "Page A-2" should read "Page A-3" with reference to the Conceptual Site Development Plan;
 - c. Change "plan proposed and approved in 2005" to read "trips generated in the 2007 TIS";
 - d. Last sentence parenthetical phrase – add "in the 2007 TIS" at end.

PO Box 1293

Albuquerque

NM 87103

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8) Page 6 and Appendix A-6 –

- a. Use pass-by trip reduction of 30% consistent with the 2005 Plan;
- b. Add explanation of why Supermarket and Free-Standing Discount Store were utilized to calculate the trip generation rate for the new Wal-Mart store.

9) Page 9 –

- a. Clarify Note under Montano Rd. / Coors Blvd. Existing Geometry Table (i.e. NB thru lanes vs. NB dual rt. turn lanes);
- b. Clarify description of developer's improvements at bottom of page (i.e. NB thru lanes vs. NB dual rt. turn lanes).

10) Page 13 – Second paragraph – "Montano Rd." should read "Dellyne Ave."

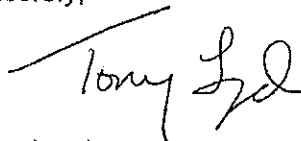
11) Page 15 – Explain why the description of percentage contribution of traffic to Montano / 4th St. is in report.

12) Page 21 – Revise wording of first sentence as discussed (i.e. approved and constructed under 2005 plan).

13) Page 22 – Clarify that you are comparing the 2015 NO BUILD with the BUILD conditions in the Conclusions (i.e. minimal operational problems along Coors Blvd. such as LOS and Delays are relatively consistent between proposals when 2015 No Build vs. Build are compared).

Should you have any questions, please feel free to contact me at 924-3934.

Sincerely,

A handwritten signature in black ink, appearing to read "Tony Loyd". The signature is fluid and cursive, with a long horizontal stroke at the beginning.

Tony Loyd
Impact Fee Administrator
Planning Department
Development Services Division
For Transportation Development Section

Andalucia, Tract 6 / Montano Shoppes Developments TRAFFIC IMPACT STUDY

STUDY PURPOSE

The study is being conducted in conjunction with a request for approval of two site development plans proposing two new commercial centers as shown conceptually in the Appendix (Pages A-2 & A-3) of this report. The purpose of this study is to identify the impact of the Developments on the adjacent transportation system, and to make recommendations to mitigate any significant adverse impact on the adjacent transportation system resulting from the implementation of the site development plan. This study is being prepared to meet the requirements of the City of Albuquerque Transportation Development Section.

STUDY PROCEDURES

A scoping meeting was held on Friday, September 24, 2004 with City of Albuquerque staff (Tony Loyd and Steele Nowak) prior to beginning the study to discuss scope and methodology to be utilized within the report. Tony Loyd summarized the meeting and defined the requirements and procedures for the study in his letter dated September XX, 2004 (See Appendix Page Z-1 thru Z-3). Specific items included format, intersections to be studied, intersection analysis procedures, existing traffic counts, trip distribution methodology, and implementation year definition. A horizon year analysis was not required for this study.

The basic procedure followed is described as follows:

- 1) Calculate the generated trips for the proposed development consisting of the following described lane uses:
 - Montano Shoppes Development
 - *Approximately 25,000 S.F. of retail commercial building floor space.*
 - *An automobile parts store (7,000 S.F. Floor Area)*
 - *Drive-In Bank (4 Drive-In Windows)*
 - Andalucia, Tract 6
 - *An approximately 44,000 S.F. Supermarket*
 - *Approximately 46,000 S.F. of Specialty Retail Commercial Floor Space*
 - *A Drive-In Bank (4 Drive-In Windows)*
 - *Approximately 134,000 S.F. of retail commercial building floor space.*
 - *A Drive-In Bank (5 Drive-In Windows)*
 - *High Turnover Sit-Down Restaurants (Approximately 38,000 S.F.)*
- 2) Analysis included in this Traffic Impact Study will consist of considering two implementation years. The first implementation year will be the anticipated year of full implementation of the Montano Shoppes (2006). It will consider 100% implementation of the Montano Shoppes development and 10% development of Andalucia, Tract 6. The second implementation year will be the anticipated year of full development of Andalucia, Tract 6. It will consider 100% implementation of both the Montano Shoppes and Andalucia, Tract 6.
- 3) Calculate trip distribution for the newly generated trips by these developments. The new commercial trips will be distributed based on year 2006 population within a two

(2) mile radius boundary of the proposed site as shown in Appendix "C" of this report. The new Residential trips will be distributed based on year 2006 employment citywide inversely proportional to the distance of the employment subarea from the proposed project location.

- 4) Determine Trip Assignments for the newly generated trips based on the results of the Trip Distribution Analysis and logical routing to and from the site (See Appendix C of this report).
- 5) Acquire recent traffic counts for the intersections of Western Trail / Coors Blvd., Dellyne Ave. / Coors Blvd., Montano Rd. / Coors Blvd., Montano Plaza / Coors Blvd., La Orilla Rd. / Coors Blvd., Montano Rd. / Taylor Ranch Rd., and Montano Rd. / 4th St.
- 6) Perform new traffic counts (turning movement counts) for the intersections of Montano Rd. / Winterhaven Rd. and Montano Rd. / existing driveway west of Winterhaven Rd.
- 7) Calculate historic growth rates based on 1999 – 2003 Traffic Flow Data from the Mid-Region Council of Governments (MRCOG) or by utilizing established growth rate for the area (3.3% per year) from the Fortis Development Traffic Impact Study (DRAFT) dated March 11, 2004.
- 8) Consider trips generated from the following recently approved developments that have not been fully implemented at this time
 - a) Andalucia, Phase 1
 - b) Fortis Development
 - c) La Orilla / Coors Commercial Developments
- 9) Determine 2006 NO BUILD Volumes by growing the existing turning movement counts to the year 2006 utilizing the appropriate annual historic growth rate for the area, and then adding in generated traffic volumes from the other two approved projects.
- 10) Add in data from Trip Assignments Maps and Tables to the 2006 NO BUILD Volumes to obtain 2006 BUILD Volumes for this project. The 2006 BUILD Volumes will include 100% of the traffic generated by the Montano Shoppes project plus 10% of the total trips generated by Andalucia, Tract 6.
- 11) Determine 2010 NO BUILD Volumes by growing the existing turning movement counts to the year 2010 utilizing the appropriate annual historic growth rate for the area, and then adding in generated traffic volumes from the other two approved projects.
- 12) Add in data from Trip Assignments Maps and Tables to the 2010 NO BUILD Volumes to obtain 2010 BUILD Volumes for this project. The 2010 BUILD Volumes will include 100% of the traffic generated by the Montano Shoppes project plus 100% of the total trips generated by Andalucia, Tract 6.

- 13) Provide signalized and / or unsignalized intersection analyses for the following intersections:

INTERSECTION	TYPE CONTROL	NO BUILD	BUILD
1) Western Trail / Coors Blvd.	Traffic Signal	2006 / 2010	2006 / 2010
2) Dellyne Ave. / Coors Blvd.	Traffic Signal	2006 / 2010	2006 / 2010
3) Montano Rd. / Coors Blvd.	Traffic Signal	2006 / 2010	2006 / 2010
4) Montano Plaza / Coors Blvd.	Traffic Signal	2006 / 2010	2006 / 2010
5) La Orilla Rd. / Coors Blvd.	Traffic Signal	2006 / 2010	2006 / 2010
6) Montano Rd. / Taylor Ranch Rd.	Traffic Signal	2006 / 2010	2006 / 2010
7) Montano Rd. / 4 th St.	Traffic Signal	2006 / 2010	2006 / 2010
8) New Signal / Coors Blvd.*	Traffic Signal	2006 / 2010	2006 / 2010
9) Montano Rd. / Winterhaven Rd.	Stop Sign	2006 / 2010	2006 / 2010
10) Driveway "A" / Coors Blvd.	Stop Sign	2006 / 2010	2006 / 2010

* New Signal installed with Andalucia, Phase 1

- 14) Evaluate the intersection of Montano Rd. / Winterhaven Rd. to determine if it is appropriate to construct a new traffic signal at the intersection.
- 15) Evaluate the intersection of Driveway "A" / Coors Blvd. to determine if it is appropriate to construct the new driveway as a right-turn-in, right-turn-out, left-turn-in only intersection.

PREVIOUS RELATED TRAFFIC IMPACT STUDIES

Base data for this Traffic Impact Study were obtained from the previous Traffic Impact Study:

- 1) *Andalucia Traffic Impact Study* by BHI.
- 2) *Fortis Development Traffic Impact Study (DRAFT)* by BHI dated March 11, 2004.
- 3) *La Orilla / Coors Commercial Developments (DRAFT)* by Terry O. Brown, P.E. dated August 19, 2004.

The Implementation Year Trips Generated Volumes from those reports were added into the 2006 and 2010 Background Subtotal Volumes in this report to obtain the 2006 and 2010 NO BUILD Volumes.

GENERAL AREA CHARACTERISTICS

The proposed requested site development plans are for two different properties. One is at the northwest corner of Montano Rd. / Winterhaven Rd. as shown on the Vicinity Map on Page A-1 of Appendix A of this report. The second one is at the southeast corner of Montano Rd. / Coors Blvd. as shown on the Vicinity Map on Page A-1 of Appendix A of this report. Properties surrounding this site are a mix of commercial, school, and residential uses. The property to the east of Andalucia, Tract 6 is the existing Bosque Prep Private School. Most of the land surrounding this site is substantially developed or being developed. More detailed zoning information may be obtained upon inspection of the Vicinity Maps on Page A-1 in Appendix A.

AREA STREET NETWORK

Coors Boulevard is classified as a Principal Arterial roadway south of Alameda Blvd. on the Long Range Roadway System for the Albuquerque Urban Area. It is currently a six lane paved urban roadway with no curbs and gutters on either side of the roadway and raised medians in the center. There is a paved shoulder on each side of Coors Blvd.

Montano Road is classified as a Limited Access Principal Arterial Roadway on the Long Range Roadway System for the Albuquerque Urban Area. It is a four lane paved urban section roadway with curbs and gutters on both side of the street and a raised median. The posted speed limit on Montano Rd. from Taylor Ranch Rd. to Coors Blvd. is 40 MPH.

Dellyne Ave. is classified as a Collector Street on the Long Range Roadway System for the Albuquerque Metropolitan Area. It is currently a two lane paved facility west of Coors Blvd.

Taylor Ranch Rd. / Golf Course Rd. from Montano Rd. to Paseo del Norte is classified as a Minor Arterial Roadway on the Long Range Roadway System for the Albuquerque Metropolitan Area. It is currently a four lane urban roadway with curbs and gutters on both sides of the street and raised medians.

4th St. from Central Ave. to Alameda Blvd. is classified as a Minor Arterial Roadway on the Long Range Roadway System for the Albuquerque Metropolitan Area. It is currently a four lane urban roadway with curbs and gutters on both sides of the street and raised medians.

Montano Plaza Drive and Bosque Meadows are not classified on the Long Range Roadway System for the Albuquerque Urban Area. Montano Plaza Drive is currently a paved urban roadway with curbs and gutters on both sides of the street and no median. Bosque Meadows is a two-lane paved roadway with curbs and gutters on both sides of the street and no medians.

EXISTING TRAFFIC VOLUMES

2003 Average Weekday Traffic Volumes (AWDT) for major streets in the site plan area are shown on Page A-4 of the Appendix.

Current turning movement volumes obtained during the AM and PM Peak Hours for this project were acquired from recent field counts conducted by the Mid-Region Council of Governments (M.R.C.O.G.).

Existing AM and PM Peak Hour turning movement counts were provided by the City of Albuquerque for the following intersections:

Western Trail / Coors Blvd. (2003)
Dellyne Ave. / Coors Blvd. (2003)
Montano Rd. / Coors Blvd. (2003)
Montano Plaza Dr. / Coors Blvd. (2002)
Montano Rd. / Taylor Ranch Rd. (2001)
Montano Rd. / 4th St. (2002)

Additionally, AM and PM Peak Hour turning movement counts for 2004 were obtained by field traffic counts taken for the following intersections:

Montano Rd. / Winterhaven Rd.
Montano Rd. / Walgreen's Driveway

The counts are included after the City of Albuquerque Transportation Development Division Scoping Letter in Appendix Z.

EXISTING (2004) LEVELS OF SERVICE

The Highway Capacity Manual defines Level of Service (LOS) for signalized intersections in terms of average controlled delay per vehicle as follows:

LOS A	10.0" or less	Most Vehicles do not stop
LOS B	10.1 to 20.0"	Some Vehicles stop
LOS C	20.1 to 35.0"	Significant number of vehicles stop
LOS D	35.1 to 55.0"	Many vehicles stop.
LOS E	55.1 to 80.0"	Limit of acceptable delay.
LOS F	> 80.0"	Unacceptable delay.

Level of Service D is generally considered acceptable in urban areas and is the desirable base condition for analysis in a traffic study. In addition to consideration of the overall level-of-service of the signalized intersection, the levels-of-service of each individual movement should be considered.

Following is a series of tables indicating the current (2004) levels-of-service being experienced by the intersections targeted for analysis in this report:

Existing Geometry (Western Trail / Coors Blvd.)

Approach	Left Turn Lanes	Thru/Lefts	Thru Lanes	Thru/Rights	Right Turn Lanes
EB Western Trail	1	0	0	1	0
WB Namaste	1	0	0	1	0
NB Coors Blvd.	1	0	3	0	1
SB Coors Blvd.	1	0	3	0	1

Western Trail / Coors Blvd.	Existing Conditions (2004)	
	A.M.	P.M.
Existing Geometry	A - 4.0	A - 9.0

D - 30.7 - Bold Italicized Level-of-Service indicates that one or more individual turning movements is Level-of-Service E or worse.

Existing Geometry (Dellyne Ave. / Coors Blvd.)

Approach	Left Turn Lanes	Thru/Lefts	Thru Lanes	Thru/Rights	Right Turn Lanes
EB Dellyne Blvd.	1	0	0	1	0
WB Learning Dr.	1	0	1	0	1
NB Coors Blvd.	1	0	3	0	1
SB Coors Blvd.	1	0	3	0	1

Dellyne Ave. / Coors Blvd.	Existing Conditions (2004)	
	A.M.	P.M.
Existing Geometry	C - 30.2	C - 29.1

D - 30.7 - Bold Italicized Level-of-Service indicates that one or more individual turning movements is Level-of-Service E or worse.

Existing Geometry (Montano Rd. / Coors Blvd.)

Approach	Left Turn Lanes	Thru/Lefts	Thru Lanes	Thru/Rights	Right Turn Lanes
EB Montano Rd.	2	0	2	0	1
WB Montano Rd.	2	0	1	1	0
NB Coors Blvd.	2	0	3	0	1
SB Coors Blvd.	2	0	3	0	1

Montano Plaza Dr. / Coors Blvd.	Existing Conditions (2004)	
	A.M.	P.M.
Existing Geometry	<i>D - 54.1</i>	<i>E - 65.7</i>

D - 30.7 - Bold Italicized Level-of-Service indicates that one or more individual turning movements is Level-of-Service E or worse.

Existing Geometry (Montano Plaza / Coors Blvd.)

Approach	Left Turn Lanes	Thru/Lefts	Thru Lanes	Thru/Rights	Right Turn Lanes
EB Montano Plaza	1	0	1	0	1
WB Montano Plaza	1	0	1	0	1
NB Coors Blvd.	1	0	3	0	1
SB Coors Blvd.	1	0	2	1	0

* - Right turns are free rights that are subject to a Yield sign and not the signal.

Montano Plaza / Coors Blvd.	Existing Conditions (2004)	
	A.M.	P.M.
Existing Geometry	B - 12.3	<i>D - 43.6</i>

D - 30.7 - Bold Italicized Level-of-Service indicates that one or more individual turning movements is Level-of-Service E or worse.

Existing Geometry (La Orilla Rd. / Coors Blvd.)

Approach	Left Turn Lanes	Thru/Lefts	Thru Lanes	Thru/Rights	Right Turn Lanes
EB La Orilla Rd.	1	0	0	1	0
WB La Orilla Rd.	1	0	0	1	0
NB Coors Blvd.	1	0	2	1	0
SB Coors Blvd.	1	0	3	0	1

La Orilla Rd. / Coors Blvd.	Existing Conditions (2004)	
	A.M.	P.M.
Existing Geometry	B - 14.7	A - 8.2

D - 30.7 - Bold Italicized Level-of-Service indicates that one or more individual turning movements is Level-of-Service E or worse.

Existing Geometry (Montano Rd. / Taylor Ranch Rd.)

Approach	Left Turn Lanes	Thru/Lefts	Thru Lanes	Thru/Rights	Right Turn Lanes
EB Montano Rd.	2	0	1	1	0
WB Montano Rd.	1	0	2	0	1
NB Taylor Ranch Rd.	1	0	1	0	1
SB Taylor Ranch Rd.	2	0	1	0	1

Montano Rd. / Taylor Ranch Rd.	Existing Conditions (2004)	
	A.M.	P.M.
Existing Geometry	C - 29.7	D - 36.5

D - 30.7 - Bold Italicized Level-of-Service indicates that one or more individual turning movements is Level-of-Service E or worse.

Existing Geometry (Montano Rd. / 4th St.)

Approach	Left Turn Lanes	Thru/Lefts	Thru Lanes	Thru/Rights	Right Turn Lanes
EB Montano Rd.	1	0	2	0	1
WB Montano Rd.	1	0	1	1	0
NB 4 th St.	1	0	2	0	1
SB 4 th St.	1	0	1	1	0

Montano Rd. / 4 th St.	Existing Conditions (2004)	
	A.M.	P.M.
Existing Geometry	D - 39.2	F - 105

D - 30.7 - Bold Italicized Level-of-Service indicates that one or more individual turning movements is Level-of-Service E or worse.

PROPOSED DEVELOPMENT

There are two separate locations of land proposed for development addressed by this study. The first location is at the northwest corner of the existing unsignalized intersection of Montano Rd. / Winterhaven Rd. This proposed development is approximately 4.0 acres developed into approximately 38,000 S.F. of retail commercial floor space. The floor-area ratio is approximately 0.22. The following uses are proposed for this property:

- a) *A Banking Facility with 4 Drive-In Windows*
- b) *An Auto Parts Store (7,000 S.F. Floor Area)*
- c) *Various retail commercial businesses (25,000 S.F.)*

See the conceptual site development plan on Page A-2 in the Appendix of this report to acquire more detailed information about the proposed development at the northwest corner of Montano Rd. / Winterhaven Rd.

The second location is at the southeast corner of the existing signalized intersection of Montano Rd. / Coors Blvd. It is called Andalucia, Tract 6 in this study. This proposed development is approximately 51 acres developed into approximately 275,000 S.F. of retail commercial floor space plus approximately 500 residential apartments. The following uses are proposed likely land uses for this property:

- a) *A Supermarket (44,000 S.F. Floor Area)*
- b) *Specialty Retail Floor Space (46,000 S.F. Floor Area)*
- c) *Drive-In Bank Facility with 4 Drive-In Windows*
- d) *General Retail Commercial Businesses (134,000 S.F. Floor Area)*
- e) *Drive-In Bank Facility with 5 Drive-In Windows*
- f) *High Turnover Sit-Down Restaurants (38,000 S.F. Floor Area Total)*

See the conceptual site development plan on Page A-3 in the Appendix of this report to acquire more detailed information about the proposed development of Andalucia, Tract 6 at the southeast corner of Montano Rd. / Coors Blvd.

Both site plans are conceptual at this point in time and are subject to some changes as progress takes place in the design process. The plans should, however, provide a reliable basis upon which to analyze the impact of the development on the adjacent transportation system and provide guidelines for mitigating the impact and establishing access criteria. The conceptual site plans as they are shown in this report propose four (4) primary access points or driveways into the sites.

The Montano Shoppes project will be access from Montano Rd. at Winterhaven and at the existing driveway to the west of Winterhaven next to the existing Walgreen's store. Additionally, the Montano Shoppes can be access from within the Montano Plaza Shopping Center parking lot. However, that is not assumed in this study. The intersection of Montano Rd. / Winterhaven Rd. is a full access unsignalized intersection. The driveway to the west of Montano Rd. / Winterhaven Rd. is a right-turn-in, right-turn-out driveway onto Montano Rd.

Andalucia, Tract 6 will be access from Montano Rd. at Winterhaven Rd. and from Coors Blvd. at Learning Drive (Dellyne Ave.) and at a proposed right-turn-in, right-turn-out, left-

turn-in only driveway located approximately midway between Dellyne Ave. and Montano Rd.

The proposed driveway configuration can be seen on two site development plans on Pages A-2 and A-3 in Appendix "A" of this study.

TRIP GENERATION

Projected trips were calculated from data in the Institute of Transportation Engineers Trip Generation report (7th Edition, 2003). Trips for the development were determined based on land uses defined on the Conceptual Site Development Plan on Pages A-2 and A-3 in the Appendix of this report. The resulting number of trips generated for the proposed development are summarized in the following tables:

Montano Shops (Montano Rd. / Winterhaven Dr.)

Trip Generation Data

USE (ITE CODE)	24 HR VOL	A. M. PEAK HR.		P. M. PEAK HR.		
		ENTER	EXIT	ENTER	EXIT	
DESCRIPTION	GROSS					
Summary Sheet		Units				
Shopping Center (820)	25.00	2,758	42	27	121	131
Automobile Parts Sales (843)	7.00	416	7	7	20	21
Drive-In Bank (912)	4.00	1,563	54	41	127	127
Subtotal		4,737	103	75	268	279

Andalucia Tract 6 - Daskalos Development

Trip Generation Data

COMMENT	USE (ITE CODE)	24 HR VOL	A. M. PEAK HR.		P. M. PEAK HR.	
	DESCRIPTION	GROSS	ENTER	EXIT	ENTER	EXIT
	Summary Sheet	Units				
Bldg. A	Supermarket (850)	44.00	4,337	92	59	249
Bldg. B, C, E, H, M	Specialty Retail Center (814)	46.00	2,006	150	191	58
Bldg. D	Drive-In Bank (912)	4.00	1,563	54	41	127
Bldg. F, G, L	Shopping Center (820)	134.00	8,214	114	73	366
Bldg. S	Drive-In Bank (912)	5.00	2,101	67	51	158
Bldg. J, K, N, P, Q, R	High Turnover (Sit-Down) Restaurant (832)	38.00	4,953	183	169	248
	Subtotal Commercial		23,174	660	584	1,206
	Pass-by Trip Adjustment	30%	(6,952)	(198)	(175)	(362)
	Adjusted Commercial Trips		16,222	462	409	844
Residential	Apartment, Post-1973 (220)	500.00	3,131	40	211	194
	Total New Trips		19,353	502	620	1,038
						906

Pass-by trip credits were taken for the 2010 analysis but not the 2006 analysis due to the size of the development considered at those levels.

TRIP DISTRIBUTION

Primary and Diverted Linked Trips:

Trips were distributed as follows:

Commercial Land Use

Primary and diverted linked trips for the both the commercial land use development were distributed proportionally to the 2006 projected population of Data Analysis Subzones within a two mile radius of the proposed development. Population data for the years 2005 and 2020 were taken from the 2020 Socioeconomic Forecasts for Data Analysis Subzones in State Planning and Development District 3, TR-125 (March, 1997), Appendix C and Appendix D, supplied by the Middle Rio Grande Council of Governments (MRGCOG). Population data from the years 2005 and 2020 was interpolated linearly to obtain 2006 population data to utilize for this analysis. Population Subzones were grouped based on the most likely major street(s) or route(s) to the subject development. The trip distribution worksheets and associated map of subareas and data analysis subzones is shown in Appendix C.

Residential Land Use

Primary and diverted linked trips for residential development have been distributed proportionally to the 2006 projected employment of Subareas citywide. Employment data for 1995 and 2005 were taken from the 2020 Socioeconomic Forecasts for Data Analysis Subzones in State Planning and Development District 3, TR-125 (March, 1997), Appendix B, supplied by the Middle Rio Grande Council of Governments (MRGCOG). Employment Data was interpolated linearly between the 1995 and 2005 data to obtain 2006 values and adjusted for distance from the proposed new facility. The trip distribution worksheets and associated map of subareas and data analysis subzones are shown in Appendix C.

TRIP ASSIGNMENT

Trip assignments are made on a percentage basis derived from data established in the trip distribution determination process and logical routing. Those percentages are then applied to the projected trips to determine individual traffic movements. Percentage trip assignments are shown in Appendix C.

BACKGROUND TRAFFIC GROWTH

In order to remain consistent with recent Traffic Impact Studies performed in the area, the established annual growth rate from the Fortis Development Traffic Impact Study was utilized for this study. The annual growth rate utilized in the Fortis Development Traffic Impact Study and for this study is 3.3% annually. Historic growth rates were calculated for this project specifically using 1999 thru 2003 traffic flow data. The results were substantially consistent with the 3.3% area rate utilized in the Fortis Development Traffic Impact Study.

PROJECTED PEAK HOUR TURNING MOVEMENTS FOR 2006 and 2010 BUILDOUT

The established growth rates were applied to the most recent peak hour traffic counts (furnished by the City of Albuquerque and conducted for this study), and then the trips from the *Andalucia Traffic Impact Study*, *Fortis Development Traffic Impact Study*, and the *La Orilla / Coors Commercial Development Traffic Impact Study* were added in to establish the 2006 and then the 2010 background NO BUILD traffic volumes. To these volumes, the generated trips based on implementation of the proposed Montano Shoppes and Andalucia, Tract 6 developments were added to obtain 2006 and 2010 BUILD volumes for the intersection analyses. See Appendix E for further information regarding 2006 and 2010 turning movement counts. The 2006 BUILD Conditions turning movement counts include trips generated by 100% implementation of the Montano Shoppes development plus 10% of the Andalucia, Tract 6 development. The 2010 BUILD Conditions turning movement counts include trips generated by 100% implementation of the Montano Shoppes development plus 100% of the Andalucia, Tract 6 development.

INTERSECTION CAPACITY ANALYSIS

Intersection capacity analyses were performed in accordance with the procedures for signalized and unsignalized intersections in the Highway Capacity Manual, Special Report 209, Transportation Research Board, 2000, using TEAPAC Signal 2000, Version 2.02 for signalized intersections and HiCAP2000 version 2.0 for unsignalized intersections. For signalized intersections, the operational method of analysis was used for implementation year (2007) conditions (NO BUILD and BUILD).

Capacity analyses were performed for the following traffic conditions.

Montano Shoppes Implementation Year – 2006:
Implementation Year (2006) - NO BUILD
Implementation Year (2006) – BUILD

Andalucia, Tract 6 Implementation Year – 2010
Implementation Year (2010) - NO BUILD
Implementation Year (2010) – BUILD

The results of the implementation year (2006 and 2010) for the Montano Shoppes / Andalucia, Tract 6 developments' capacity analyses are summarized in the following sections - *Results and Discussion of Intersection Capacity Analyses*.

CONCLUSIONS

The results of this analysis of the adjacent transportation system associated with these two proposed commercial / residential developments indicate that there will be moderate operational problems along Coors Blvd. at the intersections analyzed in this study. The major factor contributing to these problems is the shortage of thru lanes on Coors Blvd. from Dellyne Ave. to Paseo del Norte. Coors Blvd. should be an eight-lane facility north of Western Trail to accommodate 2010 NO BUILD volumes. Most of the capacity shortfalls revealed in this study were as a result of the NO BUILD Volumes. The Montano Shoppes Commercial Development is a smaller project that will generate significantly less traffic than will Andalucia, Tract 6. Therefore, the impact of the Montano Shoppes Commercial Development will be significantly less than the impact of Andalucia, Tract 6.

In summary, the proposed site development plans for these developments present minimized adverse impact to the adjacent transportation system if the recommendations (for the years 2006 and 2010) are implemented as follows:

RECOMMENDATIONS

- All design and construction for this project shall insure that adequate site distances at the proposed driveways along La Orilla Rd. and along Coors Blvd. are provided.
- Driveways shall be constructed using a minimum of 25-foot radius curb returns or the minimum required by the City of Albuquerque Development Process Manual (D.P.M.).

General Access:

- The Montano Shoppes Commercial Development should be accessed via the existing unsignalized full access intersection of Montano Rd. / Winterhaven Rd. and the existing unsignalized right-turn-in, right-turn-out driveway onto Montano Rd. east of Coors Blvd. Site specific driveways to the Montano Shoppes site should intersection with Winterhaven Rd. north of Montano Rd. and the driveway east of Coors north of Montano Rd. Proposed access is demonstrated on the site plan on Page A-2 in Appendix "A" of this study.
- The Andalucia, Tract 6 Commercial / Residential Development should be accessed via four existing or proposed intersections / driveways along Coors Blvd. or Montano Rd. The primary access to the commercial component at the extreme northwest corner of the project will be via an extension of Winterhaven Rd. to the south of Montano Rd. and a proposed new right-turn-in, right-turn-out, left-turn-in driveway (Driveway "A") on Coors Blvd. approximately midway between Montano Rd. and Dellyne Ave. (Learning Rd.). Driveway "A" should be located approximately 1,425 feet south of Montano Rd. (centerline to centerline). Additionally a right-turn-in, right-turn-out driveway is proposed approximately midway between Driveway "A" and Montano Rd. along the east side of Coors Blvd. that will serve the commercial component of this development. The residential component (multi-family) of Andalucia, Tract 6 is access primarily via the existing signalized intersection of Dellyne Ave. (Learning Rd.) / Coors Blvd. as well as the previously mentioned right-turn-in, right-turn-out, left-turn-in driveway (Driveway "A"). Proposed access is demonstrated on the site plan on Page A-3 in Appendix "A" of this study.

For the 2006 Analysis:

- **Montano Rd. / Coors Blvd.** – Construct a fourth northbound and southbound thru lane on Coors Blvd. and a third eastbound and westbound thru lane on Montano Rd. This recommendation is consistent with the mitigation measures considered in the Andalucia, Phase 1 Traffic Impact Study dated March 21, 2004.
- **Montano Rd. / 4th St.** – Construct a third eastbound, westbound, northbound, and southbound thru lane at each of the four legs of the intersection. Also, construction dual northbound left turn lanes on 4th St. at Montano Rd.

For the 2010 Analysis:

- **Western Trail (Namaste) / Coors Blvd.** – Construct a fourth northbound thru lane on Coors Blvd. at Western Trail (Namaste). This recommendation is similar to, but somewhat different than the mitigation measures considered in the Andalucia, Phase 1 Traffic Impact Study dated March 21, 2004. The major difference appears to stem from the fact that the Andalucia, Phase 1 Traffic Impact Study utilized 2000 traffic count data as a basis for their analysis. This study utilized October, 2003 traffic count data.
- **Dellyne Ave. (Learning Rd.) / Coors Blvd.** - Modify the existing intersection to provide the geometry summarized in the following table:

Existing Geometry (Dellyne Ave. / Coors Blvd.)

Approach	Left Turn Lanes	Thru/Lefts	Thru Lanes	Thru/Rights	Right Turn Lanes
EB Dellyne Ave.	2	0	1	0	1
WB Learning Rd.	2	0	1	0	1
NB Coors Blvd.	2	0	4	0	1
SB Coors Blvd.	2	0	4	0	1

- **Montano Rd. / Coors Blvd.** - Modify the existing intersection to provide the geometry summarized in the following table:

Existing Geometry (Montano Rd. / Coors Blvd.)

Approach	Left Turn Lanes	Thru/Lefts	Thru Lanes	Thru/Rights	Right Turn Lanes
EB Montano Rd.	3	0	3	0	1
WB Montano Rd.	3	0	2	1	0
NB Coors Blvd.	3	0	4	0	1
SB Coors Blvd.	2	0	4	0	1

It is important to note that the intersection of Montano Rd. / Coors Blvd. is designated as a future interchange on the Long Range Roadway System Map for the Albuquerque Metropolitan Planning Area.

- **Montano Plaza / Coors Blvd.** - Construct a 4th northbound thru lane and dual southbound left turn lanes at the intersection of Montano Plaza / Coors Blvd.
- **Montano Rd. / Taylor Ranch Rd.** - Convert the northbound right turn lane on Taylor Ranch Rd. to a northbound thru / right turn lane and construct dual westbound right turn lanes at the intersection of Montano Rd. / Taylor Ranch Rd. An alternative to constructing dual westbound right turn lanes would be to construct a westbound free right turn with a northbound add lane.

- **Montano Rd. / 4th St.** – Construct a third eastbound, westbound, northbound, and southbound thru lane at each of the four legs of the intersection. Also, construct dual northbound left turn lanes on 4th St. at Montano Rd., dual eastbound left turn lane on Montano Rd. at 4th St., and westbound and southbound exclusive right turn lanes.

Site Data: Tract 6

Tract	Acres	Use
6.1	3.3	O-1: Office / Light Commercial
6.2	9.0	PRD: Multi-Family Residential
6.3	16.2	PRD: Multi-Family Residential
6.4	0	Not Used
6.5	3.7	PR: Bosque School Parking
6.6	0.3	Open Space
6.7	11.6	C-2: Commercial, Phase 1
6.8	11.3	C-2: Commercial, Phase 2
6.9	8.9	O-1 or PRD: Bosque School
6.10	2.2	Parking for Open Space

