



## Site Threshold Analysis (STA)

According to NMAC 18.31.6.16, a traffic engineering evaluation shall be required for all land development proposals that may directly or indirectly impact a state highway facility. A Site Threshold Analysis (STA) is required of all developing or re-developing properties that directly or indirectly access a state roadway. The STA examines existing roadway volumes and anticipated site trip generation for the purpose of determining if additional analyses are required as defined by the District Traffic Engineer or designee. If the site characteristics and the trip generation estimate for a proposed development are greater than 100 trips in a peak hour, then requirements for a Traffic Impact Analysis (TIA) may be required as determined by the District Traffic Engineer or designee. See TIA outline for that scope.

The STA shall warrant one or all of the following conditions:

- May or may not warrant an additional traffic analysis.
- May or may not warrant off-site improvements.
- May require a TIA, which may or may not require off-site improvements.

If additional analysis is required based on the results of the STA, the District Traffic Engineer or designee, should indicate to the applicant the level of analysis that is required.

### Permit Applicant Information

Applicant Name: Bohannon Huston Inc

Business Name: Rancho Viejo Solar

Business Address: 4173 NM 14 Santa Fe NM 87508  
Street Address: City: State: Zip Code:

### Site Information (Attach Site Plan to include length of roadway frontage):

Site Description: 96 MegaWatt Solar Farm on ~800 acres

Site Address: 4173 NM 14 Santa Fe NM 87508  
Street Address: City: State: Zip Code:

NMDOT Roadway: NM 14 Milepost: 41.5 Roadway ADT: 5,841

Site Information (commercial, retail, industrial, residential, etc):

Development of 800 acres of land to contain 96 MegaWatt solar farm.

Minimal traffic to site after construction (See attached Memo)

Building Size (SF): 0 Parcel Size (acre): ~800

### Trip Generation:

ITE Trip Generation Land Use Category: See Attached Memo for Trip Generation

AM Peak Hour Trips Enter: 4 Exit: 0

PM Peak Hour Trips Enter: 0 Exit: 4

Exceeds Threshold for TIA (100 or more peak hour total trips):

Yes  See Attached memo for additional details for STA and

No  TIA determination

## MEMORANDUM

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87109-4335

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**TO:** Javier Martinez, PE, NMDOT District 5 Assistant District Engineer  
**FROM:** Carl Vermillion  
**DATE:** October 5, 2022  
**SUBJECT:** AES Rancho Viejo Solar Development – Traffic Assessment

Bohannon Huston has prepared a site threshold assessment for a proposed 800-acre solar farm to be developed by the AES corporation. This memorandum includes an assessment of the vehicle trip generation anticipated during typical operations after the project is build and traffic during project construction along with discussion on access points onto NM 14.

### Project Description

The proposed project is a new solar farm installation located in Santa Fe County east of NM 14 in the vicinity of the existing Turquoise Trail Charter school. Construction of the site will consist of a 96 Megawatt (MW) installation within an area of approximately 800 acres of land (see attached figure for location). This installation may incorporate a Battery energy storage system (BESS) on the property. The main assessment of traffic will result from the operational activities of the site after construction and the second traffic assessment will focus on traffic impacts related to the construction of the proposed facility including the BESS system.

Once operational, the site will be staffed with up to 4 permanent employees on-site to conduct operations and maintenance activities. As a result, the number of employee vehicle trips generated by the site during typical operations is considered negligible. The information provided will result in the following peak hour traffic generation distribution:

**AM Peak Hour: Entering** – 4 vehicles; Exiting – 0 vehicles

**PM Peak Hour: Entering** – 0 vehicles; Exiting – 4 vehicles

Based on the State Access Management Manual (SAMM) a TIA is required for developments that generate 100 or more peak hour total trips. As the worst case trip generation results in 4 vehicles per hour for either peak hour, a TIA for this development is not required.

However, the primary traffic concern for the proposed project is associated with the potential temporary construction traffic impacts. The construction of the site is anticipated to last approximately 12 months. Construction is anticipated to require an estimated 190 workers on-site per day. The personnel will be local workforce and they will be encouraged to carpool to the site each day. Construction staff will be on-site between 7 AM to 4 PM Monday through Friday.

Similar to the construction of solar facilities in other locations, the number of employees for the first 2 months and the last 2 months of construction will be lower with peak on-site employment occurring for the eight months in the middle of the project schedule. The traffic generation values incorporate both the solar farm and the BESS. This estimate is considered conservative for this site since the BESS system may or may not be constructed as part of the solar facility.

The number and type of vehicles planned to be involved during peak construction are described as follows:

- 10 heavy haul trucks (ex: 18 wheeler deliveries, water trucks, garbage trucks) per day
- 75 to 150 work trucks (ex: crew, foreman, superintendents) per day
- 40 work trucks specifically for the BESS install per day

As construction activities will be a much higher generator than the day-to-day activities of the site, the NMDOT may want to consider traffic impacts based on the traffic during the construction phase. It is anticipated that 190 work trucks will arrive between 6:30 and 7AM and will depart the site at 4PM. The 10 heavy trucks will arrive on the site outside of the anticipated peak hours. At the adjacent intersection of NM 14 and NM 599 the peak hours are 7:30 to 8:30AM and 4:30 to 5:30PM. It is anticipated that some of the traffic associated with this site may arrive during the peak hour but the majority will travel prior to the AM and PM peak hours.

With the information provided above, peak hour trips were generated. This will result in the following traffic generation distribution:

**AM Peak Hour: Entering – 190 vehicles; Exiting – 0 vehicles**

**PM Peak Hour: Entering – 0 vehicles; Exiting – 190 vehicles**

It is Bohannon Huston's professional opinion that this is a conservative approach to account for all trips during the peak hour associated with the construction activities for the development site.

## **Vehicle Access**

An existing access point for the property has a gated entry on NM 14 1,300 feet to the north of the existing Turquoise Trail Charter School. This entry serves the development property today, but the development wants to improve and realign this access point to facilitate traffic for the construction of the solar farm. As part of this realignment, the access point will be moved to the north approximately 450 feet to align with the existing on site travel pattern. This new location will be located approximately 100 feet to the north of the existing driveway on the west side of NM 14. It is understood that this will require a new driveway permit with the NMDOT and this process will begin soon after this STH process is discussed and approved.

An analysis of the State Access Management Manual (SAMM) was done to determine if any criteria would be met based on requirements by the NMDOT. Criteria for deceleration lanes was validated with a design speed of 55 mph as is posted in the project area. Table 17.B-3 indicates that on a rural two-lane highway such as NM 14 in the project area, a left turn volume of 20 vehicles per hour requires a left turn deceleration lane.

The assessment for the operations of the site indicated a left turn deceleration lane is not warranted due to the small volume that will be traveling to the site. This assessment was also conducted for the site during construction, where a left turn deceleration lane is warranted due to the high volume of construction vehicles accessing the site. Since these traffic volumes will only be applicable during construction the project team believes that these deceleration lanes should not be implemented.

## **Assessment**

Based on our initial traffic evaluation and STA, Bohannon Huston has determined that additional traffic impact studies are not warranted per the SAMM, as the site is expected to generate 4 peak hour total trips during operations. Alternatively, during construction the site is expected to generate 190 peak hour total trips. Based on the SAMM a TIA is required for developments that generate 100 or more peak hour total trips. As this is a temporary condition due to the construction activity at the site, we believe a TIA should not be required for this development.

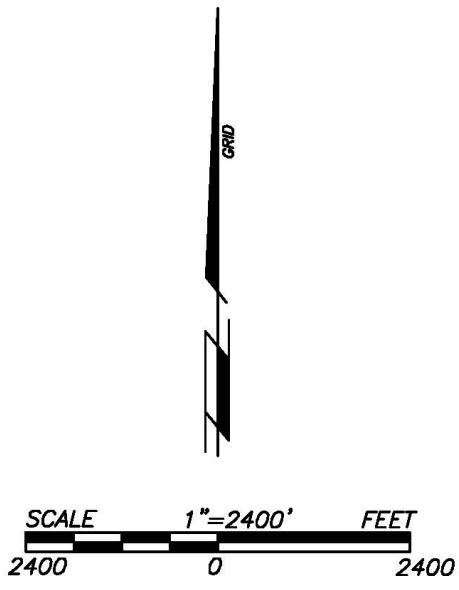
Javier Martinez, PE, Assistant District Engineer  
NMDOT District 5  
AES Rancho Viejo Solar Development – Traffic Assessment  
October 5, 2022  
Page 3 of 3

Additionally, a driveway permit will be required to move the access point to the north by 350 feet. Should future development activities propagate additional traffic evaluations, these will be conducted to assess those project-specific needs and traffic generation.

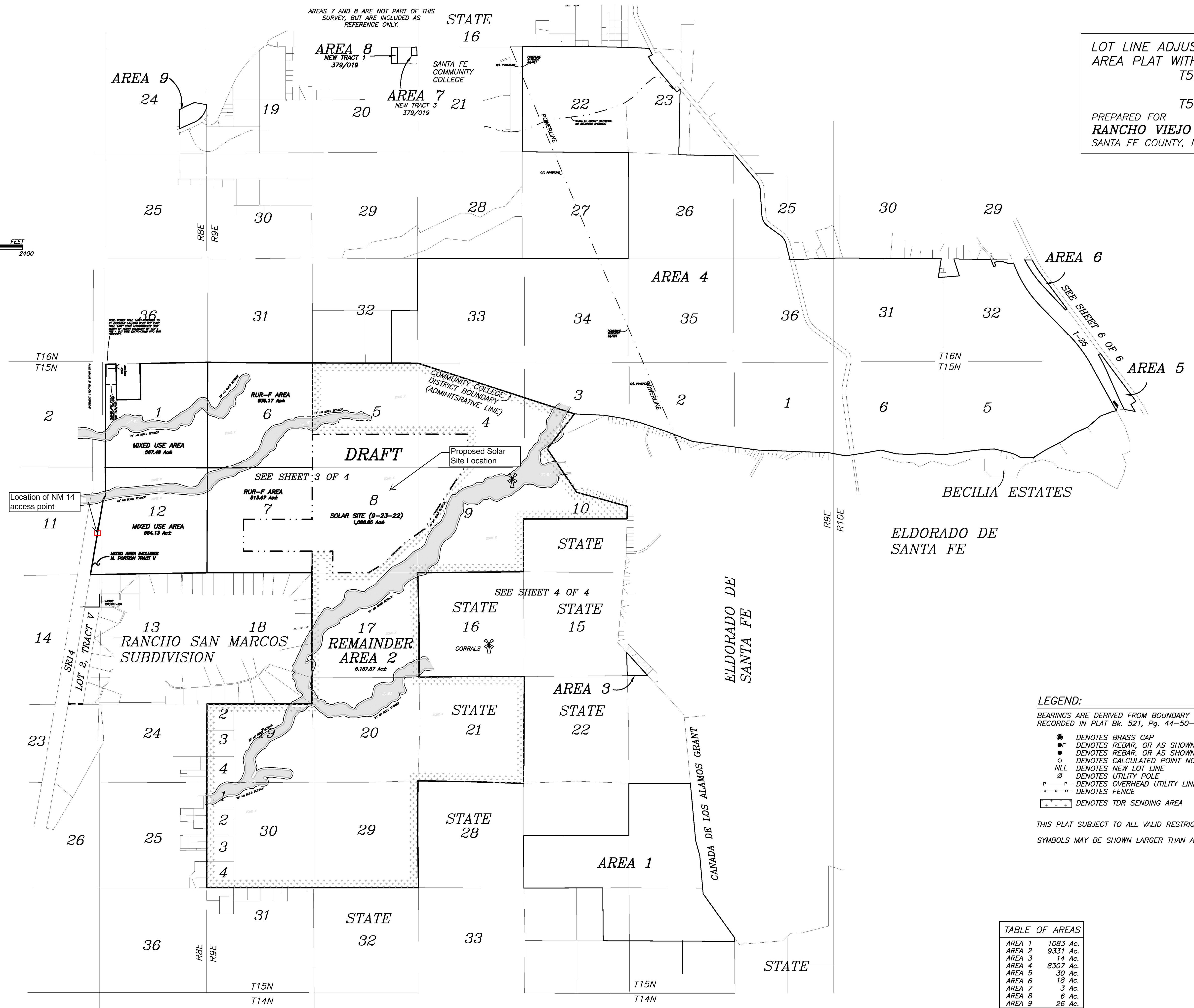
We kindly request formal concurrence that based on our traffic findings, NMDOT does not have any concerns related to traffic and new driveway access off NM 14. Please feel free to contact me at [cvermillion@bhinc.com](mailto:cvermillion@bhinc.com) ; 505-923-3318 to discuss. Thank you for your consideration.

/jma

Enclosures: Overall Map  
Traffic Signal Counts – NM 14 and NM 599



LOT LINE ADJUSTMENT AND TDR SENDING  
 AREA PLAT WITHIN AREA 2  
 T5N, R8E, NMPM,  
 AND  
 T5N, R9E, NMPM,  
 PREPARED FOR  
**RANCHO VIEJO LIMITED PARTNERSHIP**  
 SANTA FE COUNTY, NEW MEXICO



- LEGEND:**
- DENOTES BRASS CAP
  - DENOTES REBAR, OR AS SHOWN FOUND
  - DENOTES REBAR, OR AS SHOWN TO BE SET UPON RECORDING
  - DENOTES CALCULATED POINT NOT SET
  - DENOTES NEW LOT LINE
  - ⊕ DENOTES UTILITY POLE
  - +— DENOTES OVERHEAD UTILITY LINE
  - DENOTES FENCE
  - ▨ DENOTES TDR SENDING AREA

THIS PLAT SUBJECT TO ALL VALID RESTRICTIONS, COVENANTS AND EASEMENTS OF RECORD  
 SYMBOLS MAY BE SHOWN LARGER THAN ACTUAL SIZE FOR VIEWING PURPOSES.

TABLE OF AREAS	
AREA 1	1083 Ac.
AREA 2	9331 Ac.
AREA 3	14 Ac.
AREA 4	8307 Ac.
AREA 5	30 Ac.
AREA 6	18 Ac.
AREA 7	3 Ac.
AREA 8	6 Ac.
AREA 9	26 Ac.
<b>TOTAL</b>	<b>18818 Ac.</b>

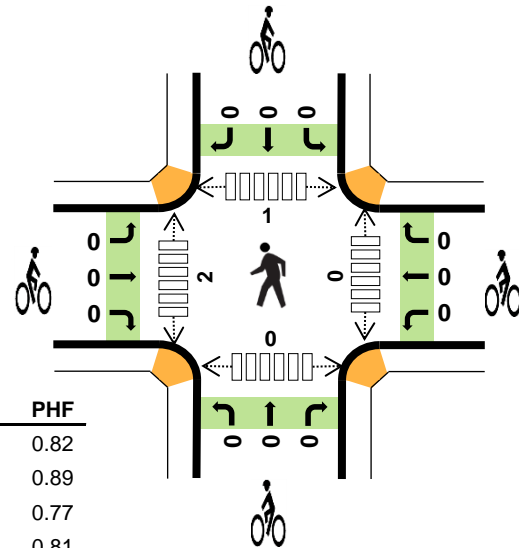
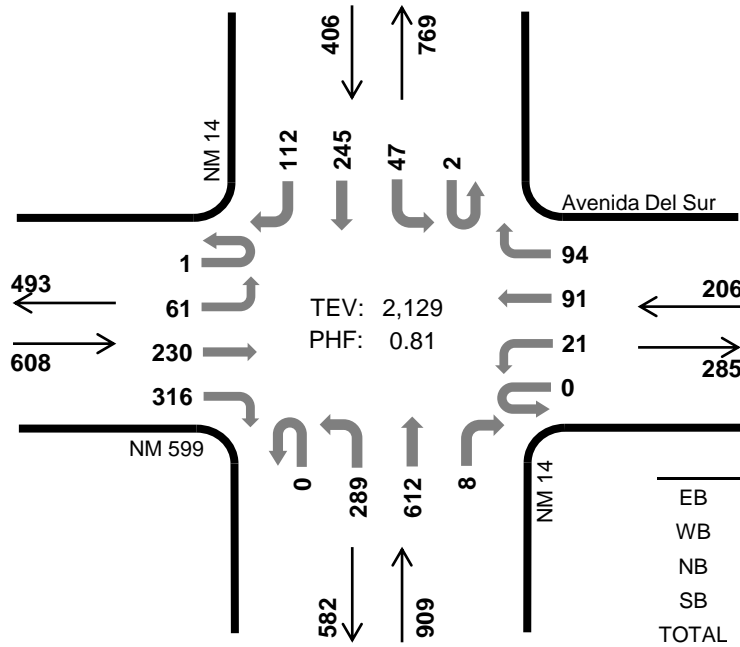
**DRAFT**  
 SHEET 2 of 4  
 DAWSON SURVEYS INC.  
 PROFESSIONAL LAND SURVEYORS  
 7505 MALLARD WAY, SUITE A  
 SANTA FE, N.M. 87507  
 FILE#10762\TDR DATE:09/26/2022

**NM 14  
NM 599**



Peak Hour

Date: 09/28/2022  
Count Period: 6:00 AM to 9:00 AM  
Peak Hour: 7:30 AM to 8:30 AM



	HV %:	PHF
EB	3.5%	0.82
WB	4.4%	0.89
NB	3.0%	0.77
SB	5.7%	0.81
TOTAL	3.8%	0.81

**Three-Hour Count Summaries**

Interval Start	NM 599				Avenida Del Sur				NM 14				NM 14				15-min Total	Rolling One Hour	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:30 AM	0	9	65	111	0	7	25	26	0	86	169	0	0	8	70	25	601	0	
7:45 AM	0	18	69	99	0	5	23	24	0	98	193	5	0	10	85	31	660	0	
8:00 AM	0	13	56	68	0	4	24	26	0	60	133	3	0	17	52	27	483	0	
8:15 AM	1	21	40	38	0	5	19	18	0	45	117	0	2	12	38	29	385	2,129	
Peak Hour	All	1	61	230	316	0	21	91	94	0	289	612	8	2	47	245	112	2,129	0
	HV	0	3	7	11	0	1	6	2	0	14	12	1	0	2	4	17	80	0
	HV%	0%	5%	3%	3%	-	5%	7%	2%	-	5%	2%	13%	0%	4%	2%	15%	4%	0

Note: For all three-hour count summary, see next page.

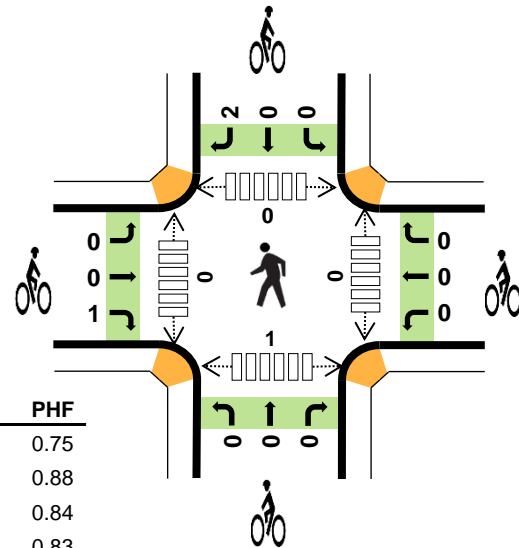
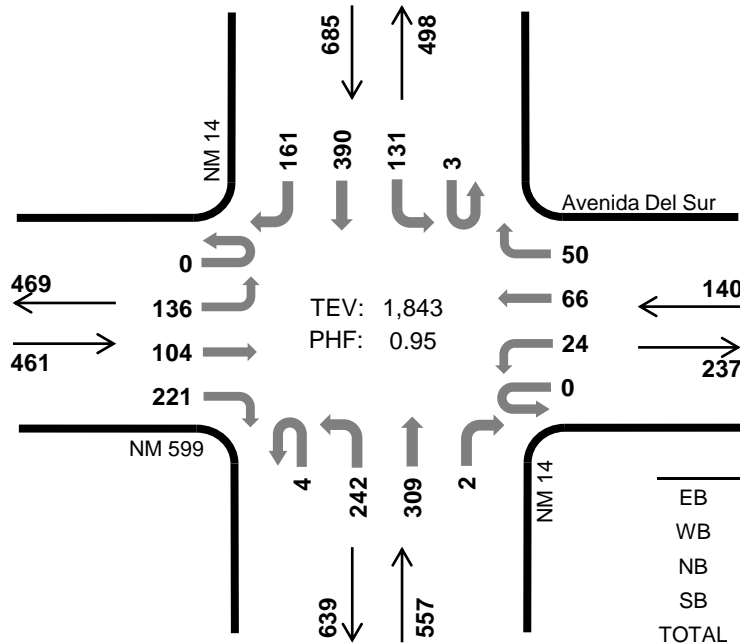
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:30 AM	8	5	5	10	28	0	0	0	0	0	0	0	0	0	0
7:45 AM	3	0	11	6	20	0	0	0	0	0	0	2	1	0	3
8:00 AM	5	3	7	2	17	0	0	0	0	0	0	0	0	0	0
8:15 AM	5	1	4	5	15	0	0	0	0	0	0	0	0	0	0
Peak Hour	21	9	27	23	80	0	0	0	0	0	0	2	1	0	3

**NM 14  
NM 599**



Peak Hour

Date: 09/28/2022  
Count Period: 3:00 PM to 6:00 PM  
Peak Hour: 4:30 PM to 5:30 PM



	HV %:	PHF
EB	3.9%	0.75
WB	1.4%	0.88
NB	2.9%	0.84
SB	2.0%	0.83
TOTAL	2.7%	0.95

**Three-Hour Count Summaries**

Interval Start	NM 599				Avenida Del Sur				NM 14				NM 14				15-min Total	Rolling One Hour	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:30 PM	0	35	16	46	0	9	16	15	2	74	90	0	2	34	91	37	467	0	
4:45 PM	0	31	25	49	0	6	21	10	0	56	77	0	0	28	82	26	411	0	
5:00 PM	0	28	26	51	0	4	17	15	1	58	102	1	0	26	94	58	481	0	
5:15 PM	0	42	37	75	0	5	12	10	1	54	40	1	1	43	123	40	484	1,843	
Peak Hour	All	0	136	104	221	0	24	66	50	4	242	309	2	3	131	390	161	1,843	0
	HV	0	9	0	9	0	0	2	0	0	9	7	0	0	5	3	6	50	0
	HV%	-	7%	0%	4%	-	0%	3%	0%	0%	4%	2%	0%	0%	4%	1%	4%	3%	0

Note: For all three-hour count summary, see next page.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:30 PM	7	1	5	5	18	0	0	0	0	0	0	0	0	0	0
4:45 PM	7	1	5	4	17	0	0	0	0	0	0	0	0	0	0
5:00 PM	2	0	3	3	8	0	0	0	1	1	0	0	0	1	1
5:15 PM	2	0	3	2	7	1	0	0	1	2	0	0	0	0	0
Peak Hour	18	2	16	14	50	1	0	0	2	3	0	0	0	1	1