



June 18, 2008

Landscape Architecture

Urban Design

Community Planning

Civil Engineering

Sequoia Commons Phase 2 Traffic Management Plan Update

As a part of the analysis and recommendations for the Midvale Plaza redevelopment project the following traffic management related issues were addressed:

- A traffic impact analysis study was completed analyzing the existing conditions and future condition after the development is completed. The study found that the net result is that 60 more PM peak hour trips will be created with the new development than were generated by the original development when it was fully occupied.
- Existing traffic volumes on the adjacent street system include 18,000 ADT on Midvale Boulevard, 4600 on Tokay, 1400 on Caromar between Owen and Tokay, 880 on Caromar north of Owen, and 800 on Owen just east of Caromar.
- The recent traffic counts on Caromar and Owen were taken in June, 2008. City traffic engineering adjusted the counts to include an estimate of traffic from Queen of Peace School since that was not in session during the traffic counts. The adjusted counts increased Caromar to 1655 and 970 respectively and 685 on Owen.
- The development will increase the section of Caromar north of Owen by 40 trips during the PM peak hour and the section between Owen and Tokay by 70 trips.
- Improvements to the existing transportation system that will be constructed as a part of the development include:
 1. A new median cut will be constructed at Midvale Boulevard at the existing driveway entrance. This will provide partial midblock access to the development off of Midvale Boulevard. This will provide left turn inbound movement only and restrict left turn outbound movement. This improvement will reduce the potential increase to traffic volumes on Caromar by 25%.
 2. Pedestrian crosswalks will be added at the intersection of Caromar Drive and Owens Drive on all three legs of the intersection. The driveway approach into the development on the west side will have bump outs on either side of the drive to narrow the streets and reduce the time it takes for pedestrians to cross the intersection.
 3. Traffic calming measures have been incorporated in the main internal access drive within the development to reduce the potential for cut through traffic. These measures involve the

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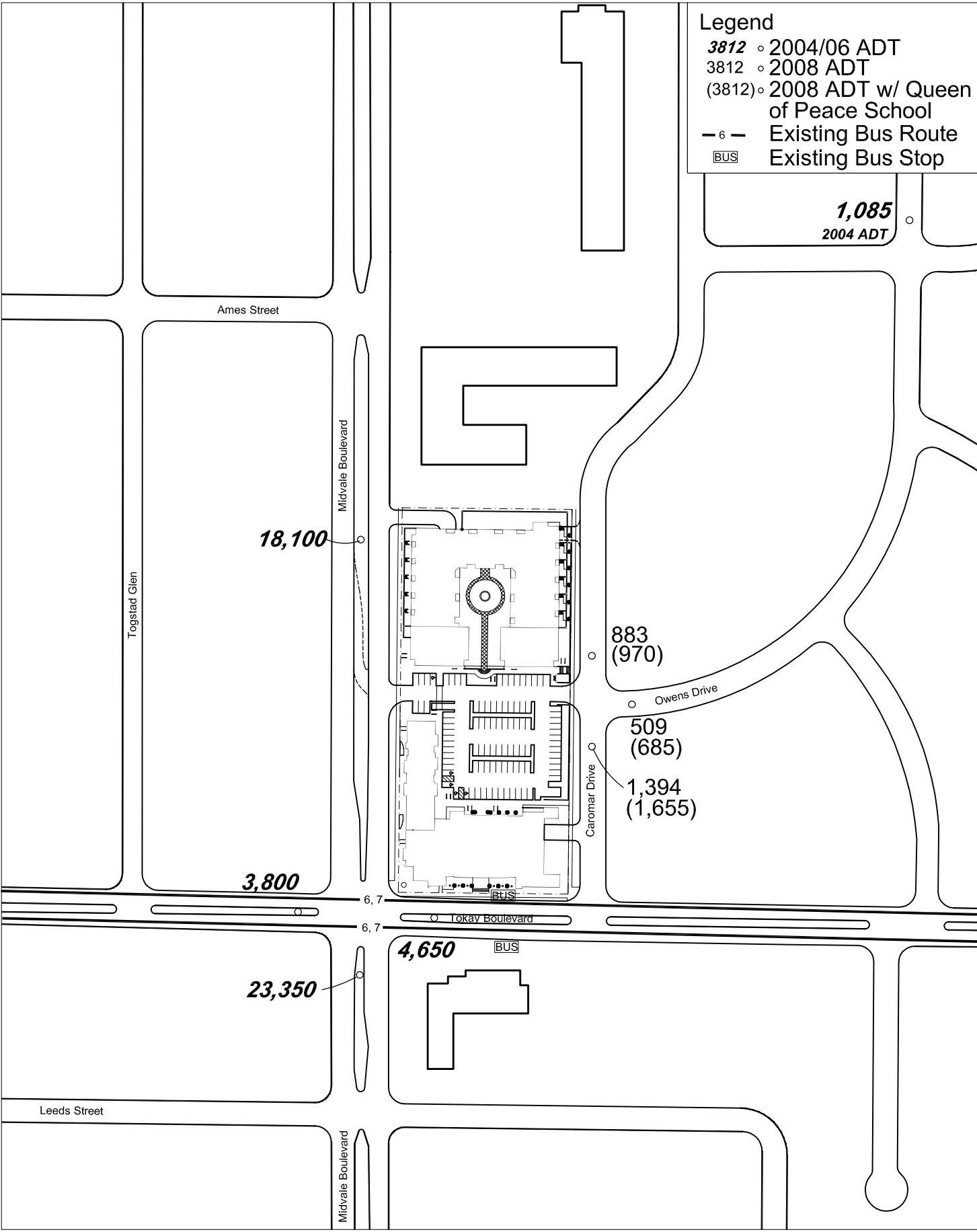
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construction of two speed humps on the main through drive connecting Caromar Drive with Midvale Blvd.

4. Bicycle parking is provided in the underground parking area as well as bike racks located throughout the site. There are a total of 110 bike stalls included in Phase 1 and 2.
5. Bus stops are currently located on both Tokay Boulevard and Midvale Boulevard within one block walking distance of the development. Metro added new bus stops on the north side of Tokay Blvd west of Midvale Blvd, and on the west side of Midvale Blvd, south of Tokay Blvd.
6. The city has worked with the neighborhood to investigate traffic calming measures on both Caromar and Owens. The neighborhood has agreed to have speed humps constructed on Owens (which have been installed), but has elected not have anything done on Caromar Drive.
7. The developer has agreed to install a median at the underground parking access to help discourage drivers from turning left northbound on Caromar. An "No Left Turn" sign will also be posted at the driveway exit to discourage people from driving north on Caromar past the schools.
 - The developer has investigated access for the residential portion of the development on both Caromar and Midvale. The developer has safety concerns with the access onto Midvale Boulevard for the following reasons:
 1. The access drive slope onto Midvale is at 12% vs. 3% slope on Caromar. The steeper slope is at the recommended maximum and will lead to hazardous conditions in the winter with snow and ice.
 2. The access drive on Midvale has limited sight distance due to the increased setbacks on Caromar which pushed the building closer to the property line on Midvale. In addition, on street parking on Midvale further reduces sight distance for cars existing from the underground drive.
 3. Southbound traffic leaving the parking structure on Midvale will need to exit northbound and do a U turn on Ames. This will require weaving across two lanes of traffic in less than 300 feet and making a U turn on Ames which has limited sight distance for SB traffic. These movements are a safety concern.
 4. Southbound traffic entering the development will need to make a U turn into the new left turn median and weave across two lanes of traffic in less than 300 feet to enter the garage entry. This movement is also a safety concern.

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Legend

- 3812 ◦ 2004/06 ADT
- 3812 ◦ 2008 ADT
- (3812) ◦ 2008 ADT w/ Queen of Peace School
- 6 - Existing Bus Route
- BUS Existing Bus Stop

1,085
2004 ADT

18,100

3,800

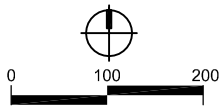
23,350

4,650

883
(970)

509
(685)

1,394
(1,655)



Volume Grand Totals

Average Hourly Volumes	
	Caromar
12:00 AM	3.7
1:00 AM	3.3
2:00 AM	1.0
3:00 AM	1.0
4:00 AM	1.0
5:00 AM	7.7
6:00 AM	19.7
7:00 AM	62.3
8:00 AM	114.3
9:00 AM	40.3
10:00 AM	40.0
11:00 AM	37.7
12:00 PM	49.0
1:00 PM	57.0
2:00 PM	63.7
3:00 PM	102.3
4:00 PM	57.3
5:00 PM	78.7
6:00 PM	49.3
7:00 PM	32.0
8:00 PM	28.7
9:00 PM	13.3
10:00 PM	12.3
11:00 PM	7.0
ADT	882.7

Study Grand Totals
Caromar
2648

Volume Grand Totals

Average Hourly Volumes	
	Caromar
12:00 AM	5.3
1:00 AM	3.3
2:00 AM	1.0
3:00 AM	1.0
4:00 AM	2.7
5:00 AM	11.3
6:00 AM	44.3
7:00 AM	103.3
8:00 AM	154.3
9:00 AM	72.3
10:00 AM	78.3
11:00 AM	71.7
12:00 PM	79.0
1:00 PM	78.0
2:00 PM	92.0
3:00 PM	139.0
4:00 PM	104.0
5:00 PM	122.7
6:00 PM	77.0
7:00 PM	54.3
8:00 PM	52.0
9:00 PM	24.7
10:00 PM	15.3
11:00 PM	7.0
ADT	1394.0

Study Grand Totals
Caromar
4182

Volume Grand Totals

Average Hourly Volumes	
	Owen
12:00 AM	1.7
1:00 AM	1.3
2:00 AM	0.3
3:00 AM	0.0
4:00 AM	0.7
5:00 AM	1.3
6:00 AM	12.0
7:00 AM	37.0
8:00 AM	46.3
9:00 AM	30.3
10:00 AM	32.3
11:00 AM	29.7
12:00 PM	21.0
1:00 PM	29.3
2:00 PM	32.0
3:00 PM	42.0
4:00 PM	31.3
5:00 PM	53.3
6:00 PM	36.7
7:00 PM	22.3
8:00 PM	24.3
9:00 PM	15.3
10:00 PM	4.0
11:00 PM	4.0
ADT	508.7

Study Grand Totals	
	Owen
	1526

**MIDVALE PLAZA
ORIGINAL DEVELOPMENT TRIP GENERATION**

Land Use	Peak Hour Trip Generation Rate			AM		PM		SATURDAY	
				IN	OUT	IN	OUT	IN	OUT
Medical Office 5,000 Square Feet	Weekday AM 2.48 trips per 1,000 sf	Weekday PM 3.72 1 trips per 1,000 sf	Saturday 8.96 trips per 1,000 sf	79%	21%	27%	73%	50%	50%
Subtotal	12	19	45	9	3	5	14	23	22
Library 11,500 Square Feet (sf)	Weekday AM .1 trip per 1,000 sf	Weekday PM 7.1 trips per 1,000 sf	Saturday 6.8 trips per 1,000 sf	72%	28%	48%	52%	53%	47%
Subtotal	12	82	78	9	3	39	43	41	37
Specialty Retail 27,000 sf	N/A	PM 2.7 trips per 1,000 sf	Saturday 4.2 trips per 1,000 sf	N/A		44%	56%	50%	50%
Subtotal	0	73	113	0		32	44	57	56
Total Trips Generated	24	174	236	18	6	76	101	121	115
(10%) Linked Trips	2.4	17.4	23.6	1.8	0.6	7.6	10.1	12.1	11.5
(10%) Pass By Trips	2.4	17.4	23.6	1.8	0.6	7.6	10.1	12.1	11.5
Total New Trips	19.2	139.2	188.8	14.4	4.8	60.8	80.8	96.8	92
Existing Trips									
Net Additional Trips									

**MIDVALE PLAZA
TRIP GENERATION ASSUMPTIONS**

Land Use	Peak Hour Trip Generation Rate			AM		PM		SATURDAY	
				IN	OUT	IN	OUT	IN	OUT
Mid Rise Apartments 142 Units	Weekday AM .3 trips per DU	Weekday PM .4 trips per DU	Saturday .5 trips per DU	31%	69%	58%	42%	58%	42%
Subtotal	43	57	71	13	30	33	24	41	30
Library 20,000 Square Feet (sf)	Weekday AM .1 trip per 1,000 sf	Weekday PM 7.1 trips per 1,000 sf	Saturday 6.8 trips per 1,000 sf	72%	28%	48%	52%	53%	47%
Subtotal	20	142	136	14	6	68	74	72	64
Specialty Retail 19,000 sf	N/A	PM 2.7 trips per 1,000 sf	Saturday 4.2 trips per 1,000 sf	N/A		44%	56%	50%	50%
Subtotal	0	52	80	0		23	29	40	40
Total Trips Generated	63	251	287	27	36	124	127	153	134
(10%) Linked Trips	-6	-25	-28	-3	-3	-12	-12	-15	-13
(10%) Pass By Trips	-6	-25	-28	-3	-3	-12	-12	-15	-13
Total New Trips	51	201	231	21	30	100	103	123	108
Existing Trips								-79	-70
Net Additional Trips								44	38