PRELIMINARY TRAFFIC IMPACT STUDY

For the Proposed

Studio House School of the Arts

At

2306 Massachusetts Avenue, N.W.
Washington, DC

For

Mr. James and Dr. Julie Edmonds

DEC 30 AM 7:07

Conducted by

Everett C. Carter, Ph.D.
10509 Unity Lane
Potomac, MD 20854

December 17, 1999

BZA
Case No. 16554
Exhibit No. 7

Board of Zoning Adjustment
District of Columbia
CASE NO.16554
EXHIBIT NO.7

DEC 30 AM 10:08

I. INTRODUCTION

The site, 2306 Massachusetts Ave., N.W., is the Alice Pike Barney Studio House built in 1903 (see Exhibit 1). It was used by Ms. Barney to promote music, theater and art exhibitions in Washington at the turn of the century. Performances were provided in this historic residential building. It is proposed to modify the Studio House, basement level from 2 to 9 studios. This will operate as a teaching facility for individual music lessons. The 9 studios will allow for a total of nine music students to be taught at any one time. It is anticipated that these students will attend their lessons after school hours between 3:00 pm and 8:00 pm Monday through Thursday, 3:00 pm to 6:00 pm on Friday, and 9:00 am until 2:00 pm on Saturdays. In addition there will be up to six young children studying music from one instructor between 10 am and noon on weekdays, and up to eight art students in Monday- Wednesday evening classes (7 pm to 9 pm) from one instructor. Since the Studio House will not open until 10:00 am, only the midday and evening traffic will be affected. Considering all instruction, no more than 17 students along with 11 instructors would be located on the premises at any one time, and that level of usage would occur during the 7 pm to 8 pm period on weekdays. All evening music instructors will arrive at Studio House prior to 3 pm. The drop-off and pick-up periods for the instruction should not conflict with the PM peak, since the southern portion of Sheridan Circle has 2 movement lanes and 1 curb lane.

II. TRAFFIC IMPACT

A. Existing Conditions

Contact was made with the District of Columbia, Department of Public Works,

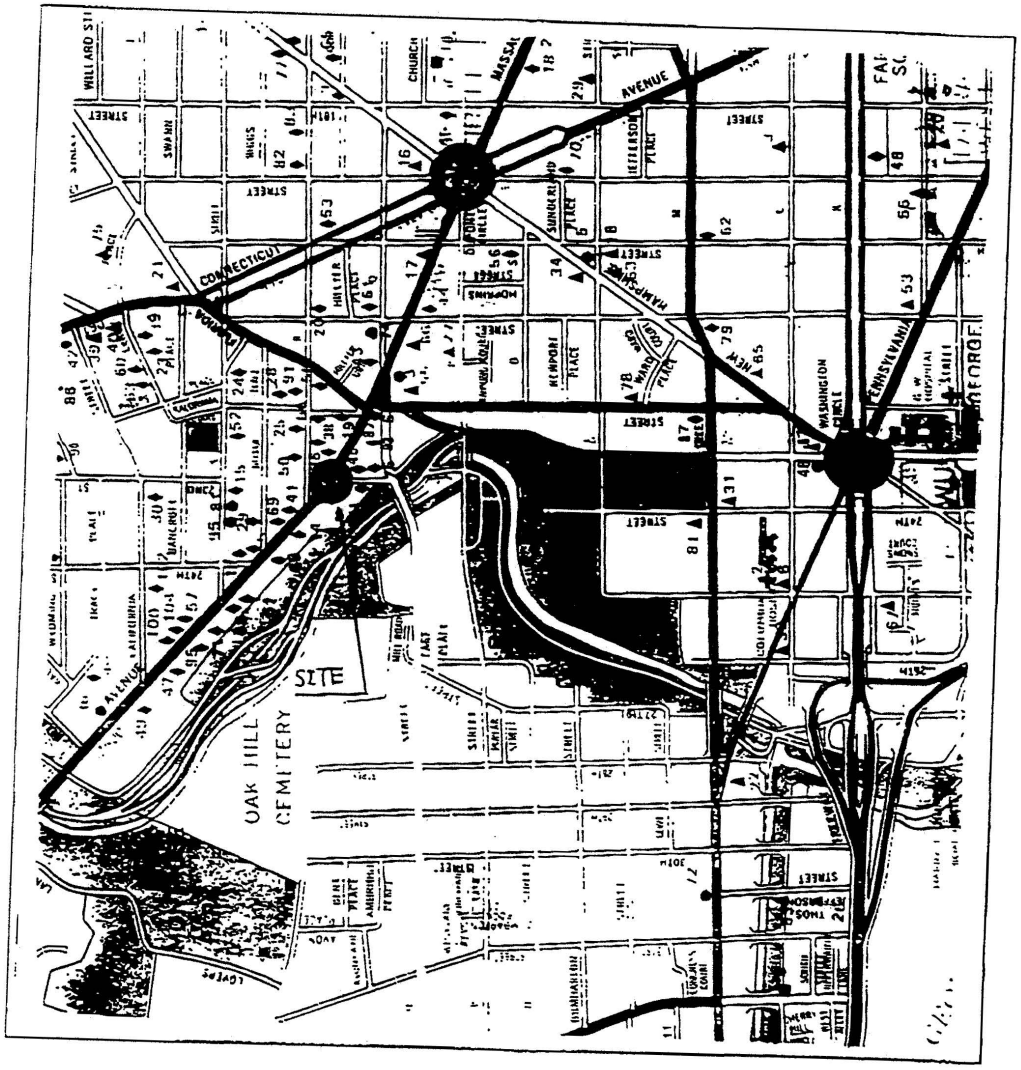


Exhibit 1. Site Location

(DCDPW) to obtain existing turning movement counts (TMC). The most recent TMC at Sheridan Circle was over 7 years old. Therefore new TMC's were collected on Thursday, December 9 from 4:30 to 6:15 pm (since the school will not open until 10:00 am it does not affect the AM flow). These counts are in Appendix A and Exhibit 2.

Lane Configuration - Sheridan Circle has two movement lanes around the entire circle, and two approach lanes exist on Massachusetts Avenue from the N.W. and S.E., while 23rd Street has a single lane to turn right from 23rd to the circle. See Exhibit 3, Lane Configuration.

Observations during both the AM and PM peaks indicated that Sheridan Circle operates quite well, with little queuing.

Parking – Curb parking is quite limited, primarily due to the operation of many embassies and chanceries of foreign governments – and diplomat-reserved parking. An inventory shows some limited curb parking within 2 – 3 blocks (mostly residential permit – 2 hour limits):

(1) Decatur Place – Massachusetts Avenue to Florida

(2) S St. - 24th to Florida

(3) Q St. – 23rd to Massachusetts Avenue (about 6 metered spaces)

The Studio School does not anticipate using curb parking during their normal operations, since students will be dropped off and picked up. During evenings (after 6:30 pm) and weekends, diplomat-restricted parking is not in effect, freeing some curb spaces.

Transit Service – The Dupont Circle Metrorail station is less than a 10 minute

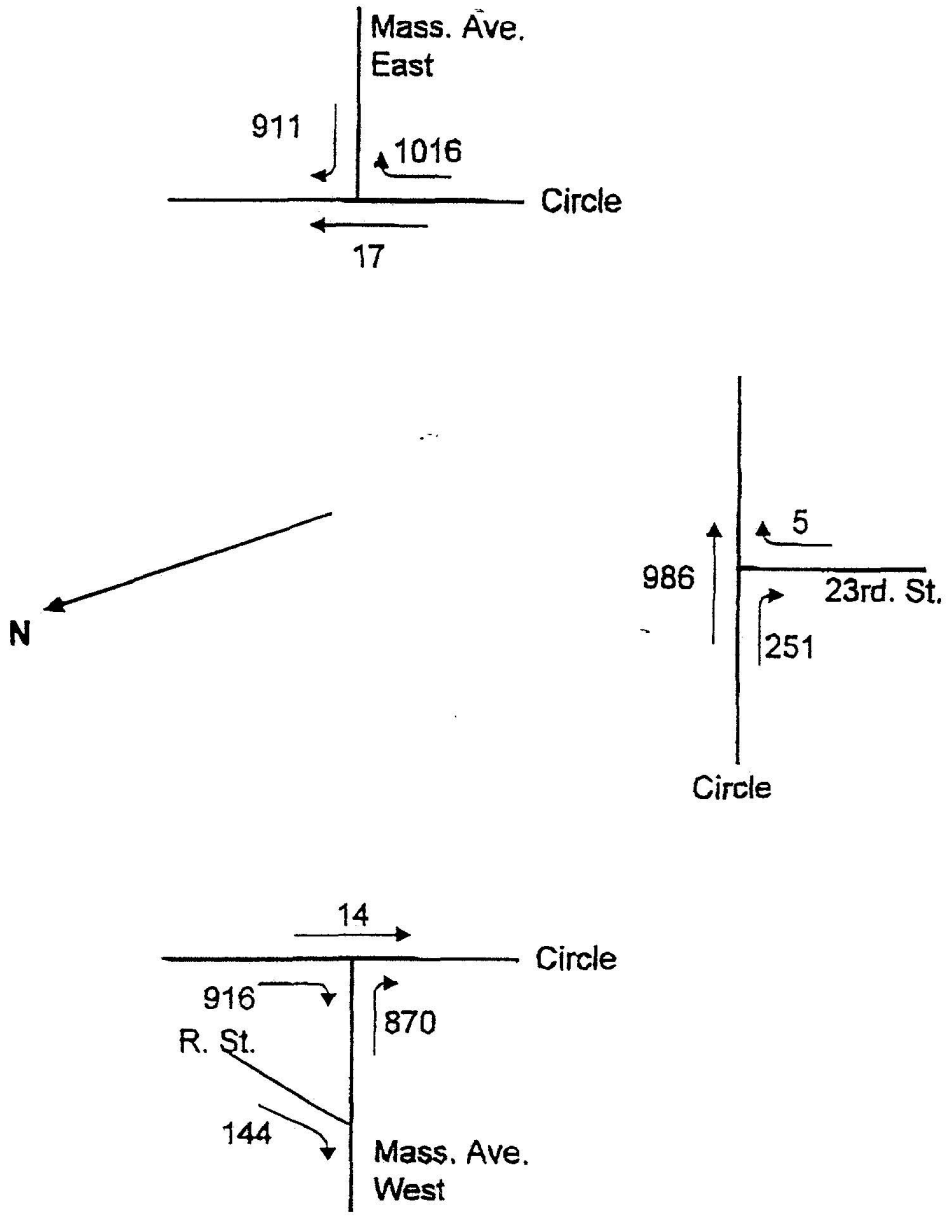


Exhibit 2. Vehicle Turning Movements at Sheridan Circle, 1999, PM Peak hr.

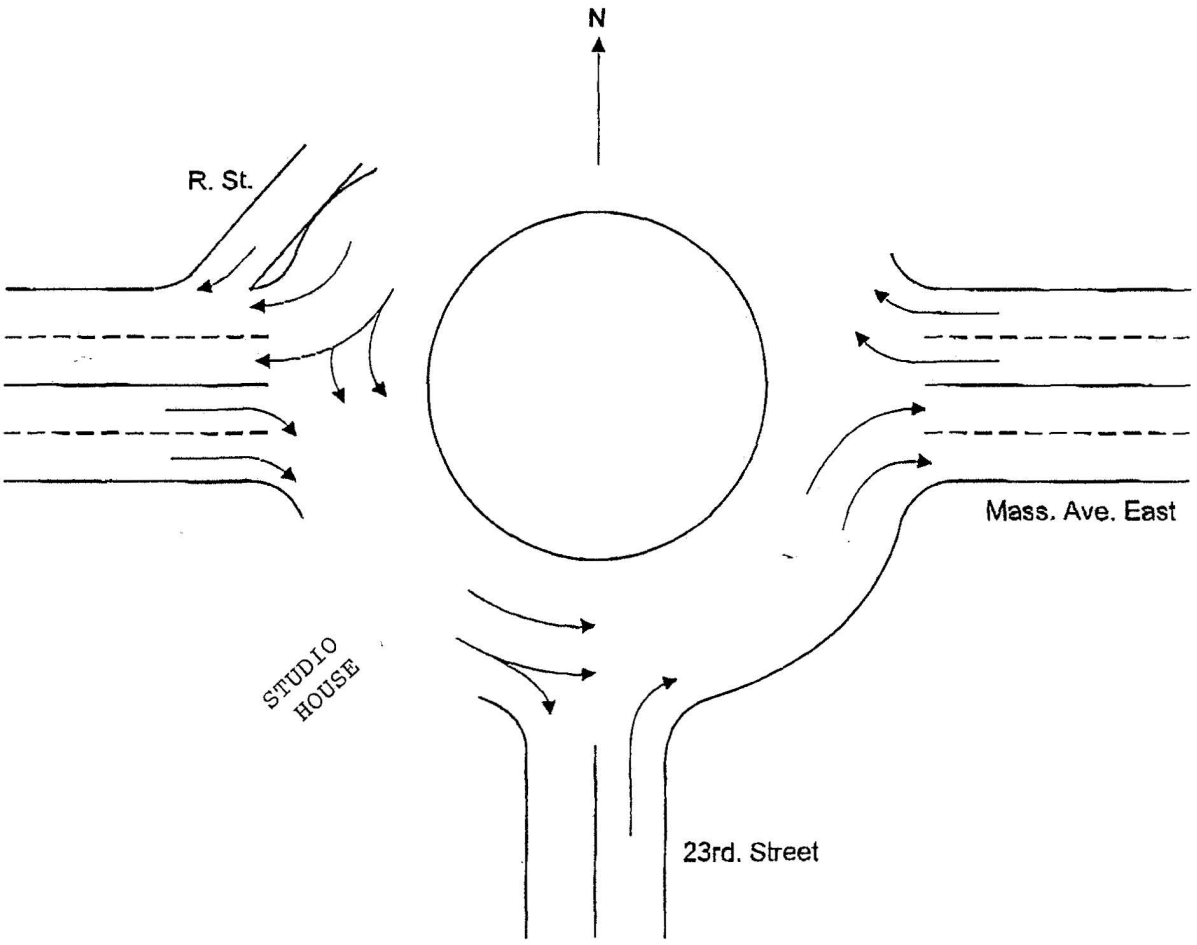


Exhibit 3. Lane Configuration

walk (about 0.5 miles). There are four metrobus routes serving Sheridan Circle : N2, N4, N6 and N7. Peak hours have a bus every 7 minutes – from 3 pm to 8 pm there are 44 buses scheduled. Thus, the Studio House School is well served by public transportation.

B. Analysis

Trip Generation – The ITE Trip Generation Manual (both the 5th and 6th Editions) does not address the specific type of land use contemplated by the School. Trips are made by employees (instructors) and by students, primarily. All instructors for the major program arrive before 3 pm and leave after 8 pm and have no trips during the PM peak. When the school is in full operation, all studios will be used which means during the PM peak (say 5 – 6 pm) there would be at least 10 trips to drop off students and 10 to pick-up students, for a total of 20 trips in the PM peak hour. This assumes no car pooling and no transit usage. Other programs of the school are anticipated for off peak times: (1) 10 am – noon; (2) Friday evening, after 7 pm; (3) Saturday; and (4) Sunday afternoon.

Total Trips – The total trips are existing peak hour trips (Exhibit 2) plus site generated trips. The site trips are assumed to be split, 10 from northwest on Massachusetts Avenue and 10 from southeast on Massachusetts Avenue. Because the school is on Sheridan Circle, 20 trips are added to each intersection. Even if the number of trips per hour were doubled from 20 to 40, the Level of Service ("LOS") would remain "A" or "B", which is an excellent level of service.

(1) Massachusetts Avenue, N.W. and Sheridan Circle

(2) Massachusetts Avenue, S.E. and Sheridan Circle

(3) 23rd Street and Sheridan Circle

Capacity/Level of Service – The Highway capacity Manual does not address unsignalized intersection with yield sign control, such as the 3 intersections on Sheridan Circle. Therefore these intersections were analyzed using the critical lane summation analysis (CLV) for (1) existing and (2) total traffic. The results are shown in Exhibits 2 and 4 and in Appendix B. These results are summarized in Table 1. This table shows that all intersections operate at Level of Service "B" or better for both current traffic and total traffic, which is an excellent level of service.

III. PARKING

In the Existing Conditions Section, curb parking was discussed. This section contains discussion of off-street parking.

Site Parking – A maximum of 8 nine-by-nineteen ft. parking spaces can be laid out on the school property west of the Barney House, resulting in 9 total spaces if one includes the space in a detached (existing) garage. According to Zoning Regulations, Ch. 21, Section 2101.1, the regular afternoon program would require 2 spaces for each 3 teachers (10 teachers) for a total of 7 spaces plus 1 space for every 10 classroom seats for a total of 2 spaces (1 seat for nine music students plus 1 seat for 8 art students), thus requiring 9 spaces overall.

As discussed earlier, the operating policy of drop-off and pick-up of students means that additional non-faculty parking would be in demand only during evenings or weekends, when recitals are contemplated. After 6:30 pm, some of the diplomatic parking restrictions in the area are lifted, thus freeing up

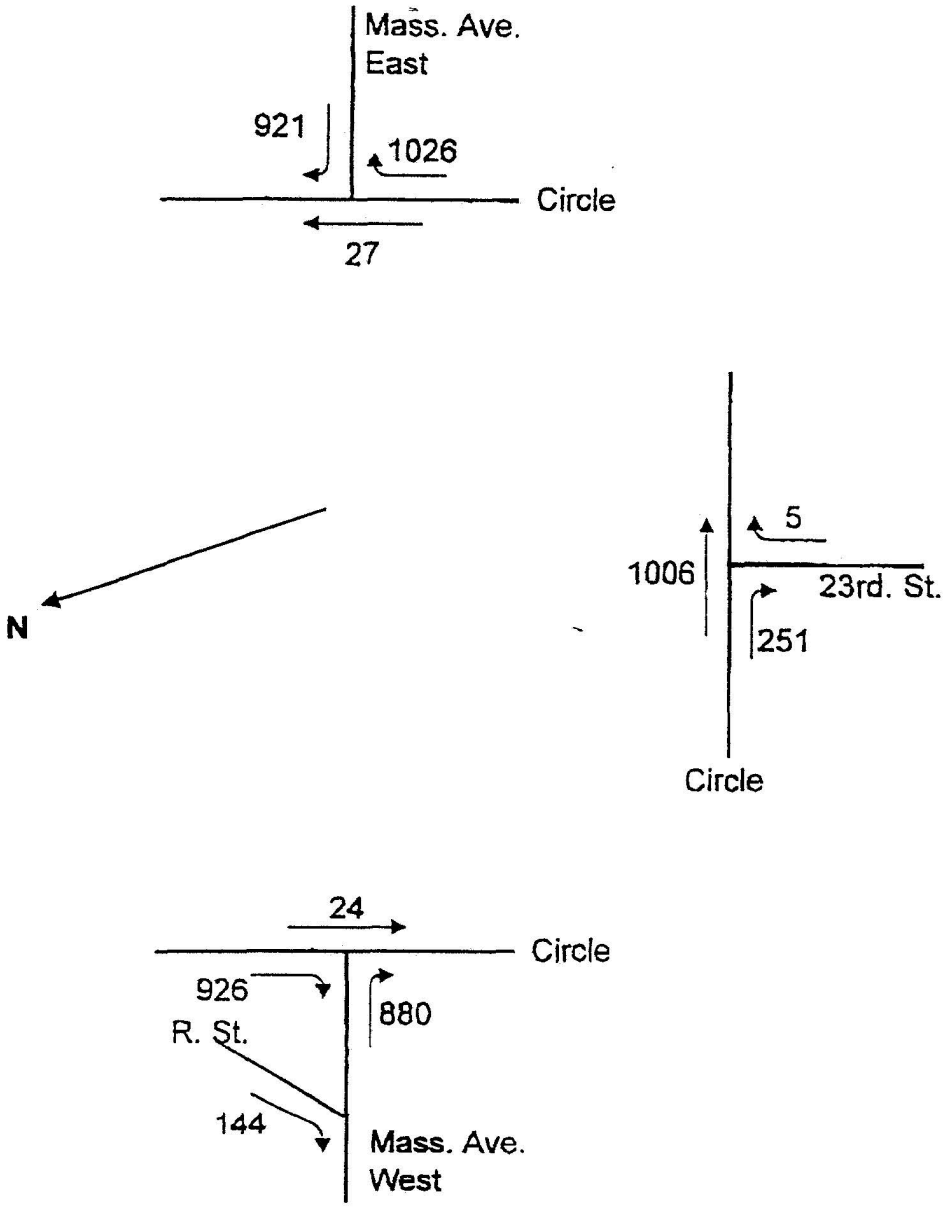


Exhibit 4. Vehicle Turning Movements at Sheridan Circle – Total Vehicle PM Peak Hour

more on-street spaces during these off-peak periods when embassy staff are not at work.

IV. CONCLUSION

The Proposed Studio House School of the Arts will not have a significant impact on the street system. Sheridan Circle is one of the smoothest operating circles in Washington, and the small number of site trips does not change the very good level of service. Off-street parking minimum requirements can be met on site. With limited use of curb spaces and use of nearby off-street parking, the school should operate smoothly, from a transportation point of view.

Therefore this application should be approved by the BZA.

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Everett C. Carter

Table 1 Capacity/Level of Service

Intersection	Existing		Total Traffic	
	CLV	LOS	CLV	LOS
Massachusetts and Sheridan Circle	1030	B	1046	B
23rd Street Sheridan Circle	661	A	666	A
Massachusetts And Sheridan Circle	954	A	970	A

CLV = Critical Lane Volume

KIS = Level of Service

Appendix A

Appendix A. Traffic Counting Data on Sheridan Circle (12/9/99)

Traffic Counting: 15 min Intervals **Weather: Clear**

No.	Time	R.T from Sheridan to 23rd St.	Through on Circle	R.T from 23rd St.
1	4:30-4:45	79	187	4
2	4:45-5:00	52	221	1
3	5:00-5:15	63	236	0
4	5:15-5:30	58	237	1
5	5:30-5:45	69	280	3
6	5:45-6:00	53	227	1
7	6:00-6:15	71	242	0
Peak hour	5:15 - 6:15	251	986	5

No.	Time	R.T from R. St.	R.T. From Sheridan	Through on Circle	R.T from Mass.West
1	4:30-4:45	34	165	2	200
2	4:45-5:00	59	189	8	197
3	5:00-5:15	55	277	6	207
4	5:15-5:30	37	232	4	218
5	5:30-5:45	37	212	1	215
6	5:45-6:00	43	225	3	213
7	6:00-6:15	27	247	6	224
Peak hour	5:15 - 6:15	144	916	14	870

No.	Time	R.T from Sheridan	Through on Circle	R.T from Mass. East
1	4:30-4:45	218	12	156
2	4:45-5:00	232	6	184
3	5:00-5:15	238	6	277
4	5:15-5:30	254	2	232
5	5:30-5:45	274	8	205
6	5:45-6:00	237	3	225
7	6:00-6:15	251	4	249
Peak hour	5:15 - 6:15	1016	17	911

. Note:

1. East bound vehicle queus at the circle a few times on Mass. Ave.
2. One illegal E. B. vehicle U-turn on Mass. Ave.
3. Near accident car merging from R. St. on W. B. Mass. Ave. (5:25)
4. Near accident car merging from R. St. on W. B. Mass. Ave. (6:00)
5. Near accident car merging from R. St. on W. B. Mass. Ave. (6:15)

Appendix B

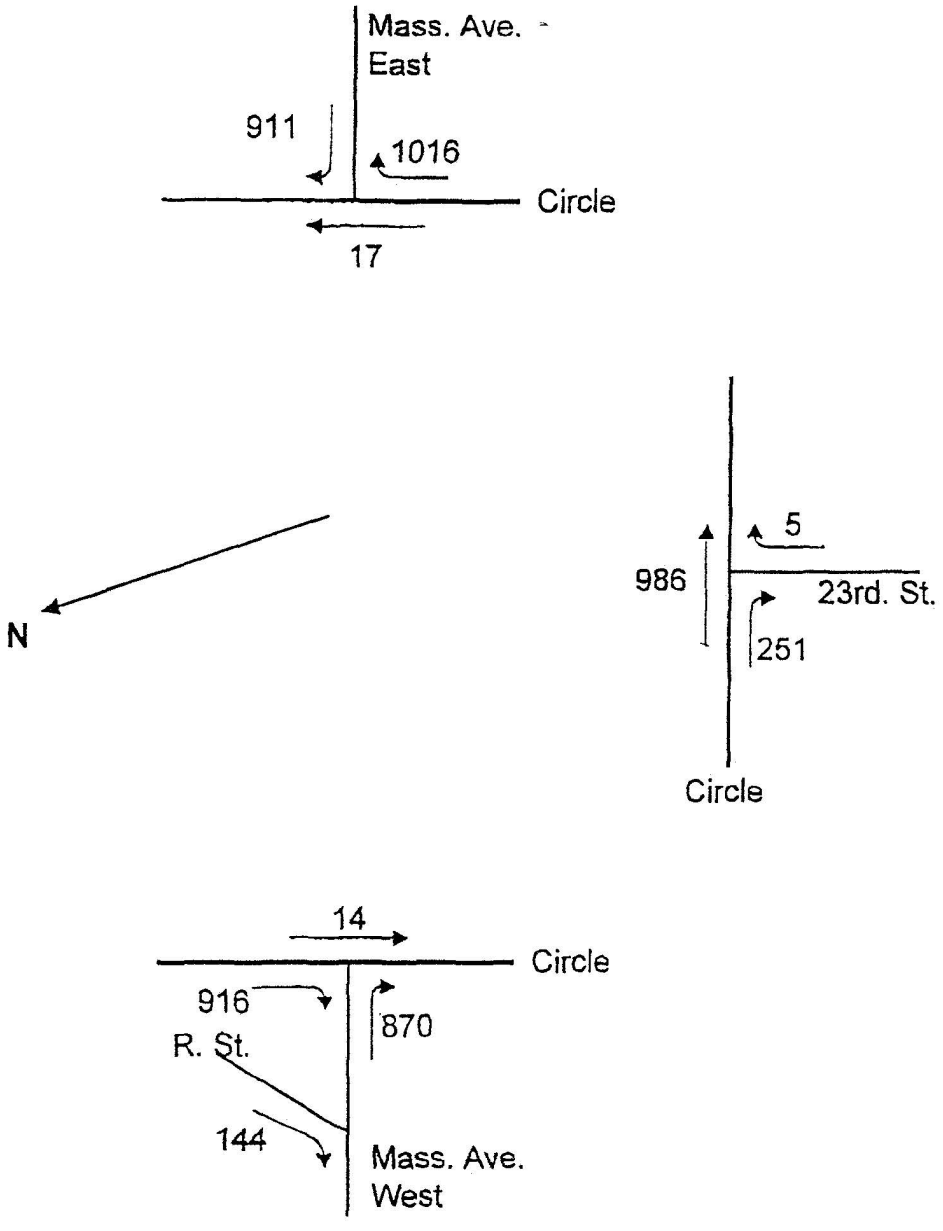


Exhibit 2. Vehicle Turning Movements at Sheridan Circle, 1999, PM Peak hr.

Critical Lane Analysis : Current Traffic

❑ Mass. Ave. East

- Right turn from Mess. Ave. East (2 lane)

  911*0.53 = 483

- Through on Circle (2lane) & R.T. from Sheridan (shared lane)

  (17 + 1016) * 0.53 = 547

- Sum of Critical Lane Volume = 1030
- LOS = B

❑ 23rd Street

- Through on Circle (2 lane) & R.T. from Sheridan (1lane)

  (986 + 251) *0.53 = 656

- Right turn from 23rd St. (1 lane)

  5 * 1.0 = 5

- Sum of Critical Lane Volume = 661
- LOS = A

❑ Mass. Ave. West

- Through on Circle (2 lane) & R.T. from Sheridan (1 lane)

  (14 + 916) *0.53 = 493

- Right turn from Mess. Ave. West (2 lane)

  870 * 0.53 = 461

- Sum of Critical Lane Volume = 954
- LOS = A

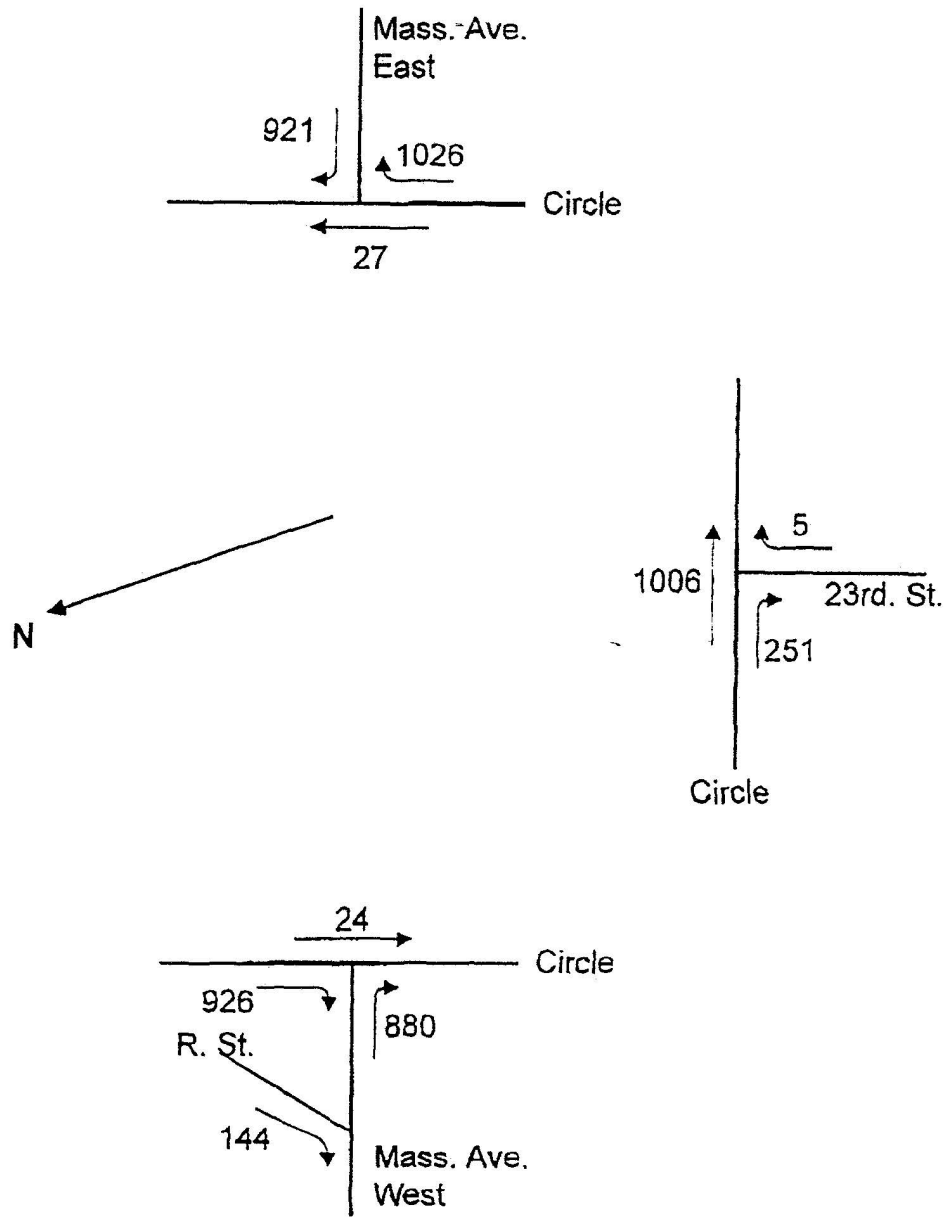


Exhibit 4. Vehicle Turning Movements at Sheridan Circle – Total Vehicle PM Peak Hour

Critical Lane Analysis : Total Traffic

❑ Mass. Ave. East

- Right turn from Mess. Ave. East (2 lane)

  921*0.53 = 488

- Through on Circle (2lane) & R.T. from Sheridan (shared lane)

  (27 + 1026) * 0.53 = 558

- Sum of Critical Lane Volume = 1046
- LOS = B

❑ 23rd Street

- Through on Circle (2 lane) & R.T. from Sheridan (1lane)

  (1006 + 251) *0.53 = 666

- Right turn from 23rd St. (1 lane)

  5 * 1.0 = 5

- Sum of Critical Lane Volume = 671
- LOS = A

❑ Mass. Ave. West

- Through on Circle (2 lane) & R.T. from Sheridan (1 lane)

  (24 + 926) *0.53 = 504

- Right turn from Mess. Ave. West (2 lane)

  880 * 0.53 = 466

- Sum of Critical Lane Volume = 970
- LOS = A