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May 26, 1993

Mr. Donovan Glassburn  
Fort Collins Bingo Parlor  
900 N. College Avenue  
Fort Collins, CO 80521

RE: Traffic Impact of Proposed Bingo Parlor  
900 N. College Avenue, Fort Collins, Colorado

Dear Mr. Glassburn:

As requested, I have investigated the traffic impacts associated with the above referenced project. Findings of this investigation are as summarized in the following sections of this letter.

#### CURRENT TRAFFIC CONDITIONS

The City of Fort Collins was contacted regarding current traffic volumes on College Avenue. The section of College between Vine and Conifer carries some 23,750 vehicles per day.

Directional traffic volumes were obtained from the City for the 7:00 to 8:00 P.M. and 10:00 to 11:00 P.M. periods. These time frames represent the periods during which most of the site traffic will be arriving/departing the Bingo Parlor. During the arrival period, approximately 450 northbound and 380 southbound vehicles are anticipated on College. At the time that traffic will be exiting the site, 210 northbound vehicles and 160 southbound vehicles are expected on College.

College Avenue currently has two through lanes in each travel direction and a shared left turn lane in the immediate area of the site. The posted speed limit is 40 miles per hour.

#### SITE GENERATED TRAFFIC

As currently proposed, the Bingo Parlor will accommodate some 175 patrons per session. Sessions will be held seven days per week. Weekday sessions will start at 7:30 P.M. and last some two and one-half hours. Late night sessions are also planned on Friday and Saturday nights starting at 11:30 P.M. Sunday night sessions are expected to start at 7:00 P.M.

A typical session is expected to generate some 90 vehicles averaging slightly less than 2 patrons per vehicle. The service area of the Bingo Parlor will include all of Fort Collins and Loveland. Given the site's geographic location within the service area, some 85 percent of the vehicles arriving at and departing from the site are expected to travel from/to the south.

Once at the Bingo Parlor, patrons will enter and exit the site via a proposed shared access (See Figure 1). This full movement access will serve both the Bingo Parlor and the property to the north which is currently vacant. Shared access agreements apparently have been executed between the Bingo Parlor and the property owner to the north. It should be stated that virtually all site generated traffic will occur outside the time frame associated with the highway peak-hours. Site generated traffic has been assigned to the available roadway system and is shown on Figure 2.

## TRAFFIC IMPACT OF PROPOSED PROJECT

The City of Fort Collins has asked that the signalized intersections north and south of the Bingo Parlor be reviewed. Accordingly, current College traffic was extended north and south of the site to the Conifer/Hickory and Vine intersections with College. Highway peak-hour turning movement counts provided by the City were used to approximate turning movement distribution during the 7:00 - 8:00 P.M. site peak-hour. The exiting site peak-hour (10:00 - 11:00 P.M.) is considered insignificant given the small amount of traffic on College Avenue at that time.

To visually assess the significance of site generated traffic, Figure 2 was reviewed. As shown, site traffic will, for the most part, use College travelling north/south through the Hickory/Conifer and Vine intersections. Site traffic turning at these intersections will largely be limited to some 20 right turns from Vine to College. The opposite movement (left turn from southbound College to Vine) is expected during the 10:00 - 11:00 P.M. time frame. Given the limited amount of traffic using College (830  $\pm$  vehicles from 7:00 - 8:00 P.M. and 370  $\pm$  vehicles from 10:00 - 11:00 P.M.) and the available geometry (2 through lanes each direction), a noticeable decline in operating conditions is not expected.

Driveway conditions were also evaluated with the Bingo Parlor operational. The proposed shared driveway is expected to have one inbound and one outbound lane. Capacity analyses at this unsignalized location were conducted for both the entering and exiting peak-hours. During the entering peak-hour (7:00 - 8:00 P.M.), some 15 southbound left turns are expected from College to the Bingo Parlor. These 15 vehicles will be opposed by approximately 450 northbound vehicles on College. Per the capacity

analysis, this critical movement will operate at level-of-service (LOS) "A".

The exiting peak-hour (10:00 - 11:00 P.M.) was also reviewed with the left turn from the driveway to southbound College being the critical movement. This movement is comprised of some 75 vehicles and is expected to operate at LOS "B".

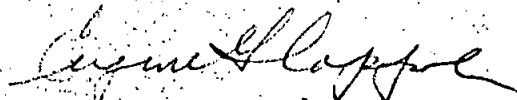
#### CONCLUSIONS

Based upon the above described analyses and investigation, the following can be concluded:

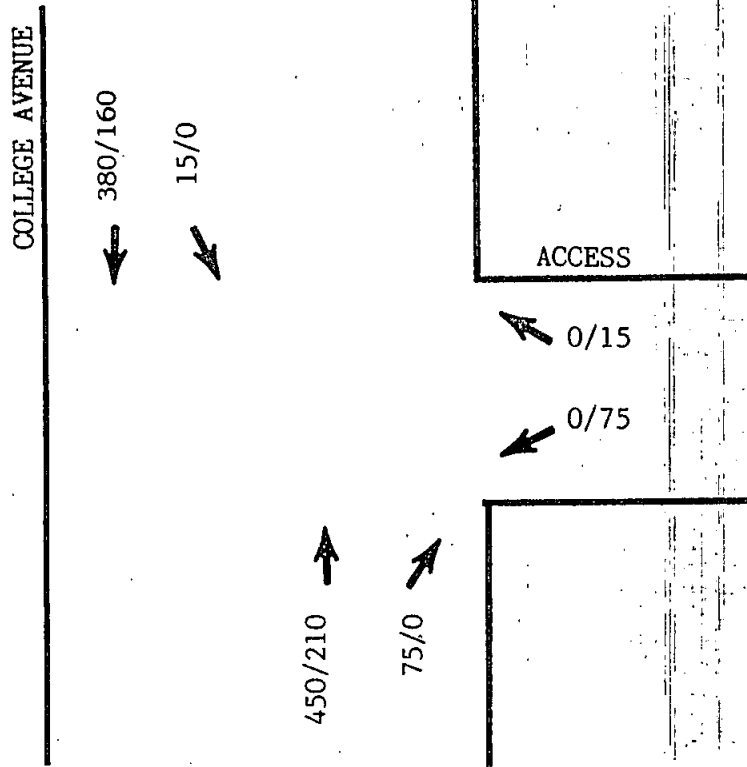
1. The proposed Bingo Parlor will operate at a time after highway peak-hour conditions have subsided. Accordingly, highway congestion and associated traffic volumes are expected to be at a minimum.
2. Site generated traffic volume (90 vehicles/hour) is considered minor.
3. All driveway movements are expected to operate at level-of-service B or better.
4. Nearby signalized intersections will not be noticeably impacted since most site traffic will be travelling straight through these intersections. The volume of site traffic making turns at the Vine intersection is considered insignificant.

I trust this letter report will met your immediate needs. However please do not hesitate to contact me, if you have any questions or need additional information.

Sincerely,



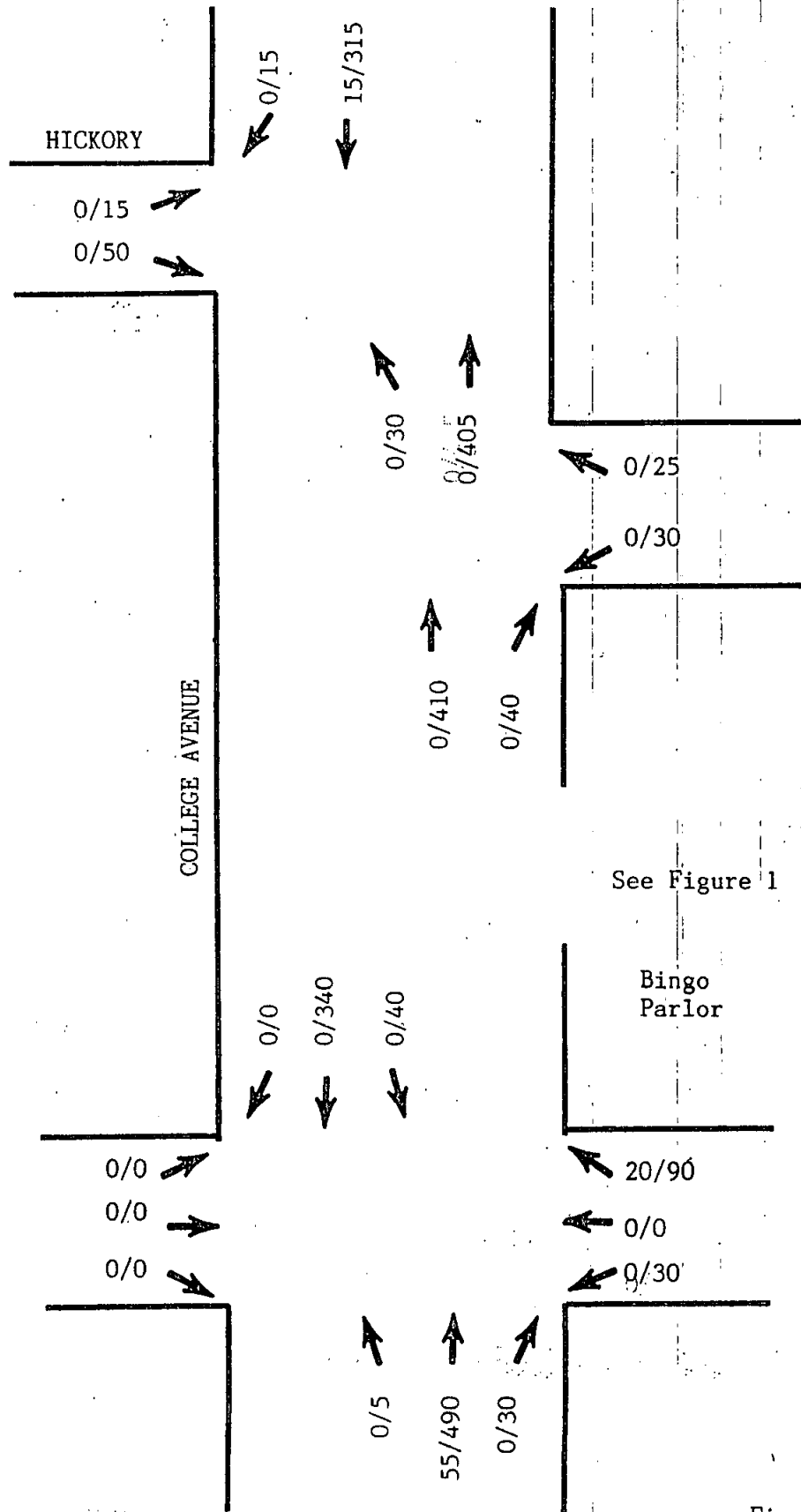
Eugene G. Coppola P.E.



Legend:

Enter Pk-Hr/Exit Pk-Hr

Figure 1  
Access Traffic Volumes



Legend:

xxx/xxx = site/total

See Figure 1

Bingo Parlor

Figure 2  
 Entering Peak-Hour Traffic  
 7:00 - 8:00 P.M.  
 1993

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IDENTIFYING INFORMATION

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AVERAGE RUNNING SPEED, MAJOR STREET.. 40  
 PEAK HOUR FACTOR..... 1  
 AREA POPULATION..... 150000  
 NAME OF THE EAST/WEST STREET..... ACCESS  
 NAME OF THE NORTH/SOUTH STREET..... COLLEGE  
 NAME OF THE ANALYST..... EGC  
 DATE OF THE ANALYSIS (mm/dd/yy)..... 05-25-1993  
 TIME PERIOD ANALYZED..... 7-8 PM  
 OTHER INFORMATION.....

INTERSECTION TYPE AND CONTROL

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INTERSECTION TYPE: T-INTERSECTION  
 MAJOR STREET DIRECTION: NORTH/SOUTH  
 CONTROL TYPE WESTBOUND: STOP SIGN

TRAFFIC VOLUMES

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|       | EB | WB | NB  | SB  |
|-------|----|----|-----|-----|
| LEFT  | -- | 1  | 0   | 15  |
| THRU  | -- | 0  | 450 | 380 |
| RIGHT | -- | 1  | 75  | 0   |

NUMBER OF LANES

---

|       | EB | WB | NB | SB |
|-------|----|----|----|----|
| LANES | -- | 1  | 2  | 2  |

|            | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|------------|---------------|------------------|----------------------------------|-----------------------------------|
| EASTBOUND  | -----         | ---              | ---                              | -                                 |
| WESTBOUND  | 0.00          | 90               | 20                               | N                                 |
| NORTHBOUND | 0.00          | 90               | 20                               | N                                 |
| SOUTHBOUND | 0.00          | 90               | 20                               | N                                 |

VEHICLE COMPOSITION

|            | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|------------|----------------------|------------------------|---------------|
| EASTBOUND  | ---                  | ---                    | ---           |
| WESTBOUND  | 0                    | 0                      | 0             |
| NORTHBOUND | 0                    | 0                      | 0             |
| SOUTHBOUND | 0                    | 0                      | 0             |

CRITICAL GAPS

|              | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|--------------|-----------------------------|----------------|------------------------|--------------------|
| MINOR RIGHTS |                             |                |                        |                    |
| WB           | 5.90                        | 5.90           | 0.00                   | 5.90               |
| MAJOR LEFTS  |                             |                |                        |                    |
| SB           | 5.70                        | 5.70           | 0.00                   | 5.70               |
| MINOR LEFTS  |                             |                |                        |                    |
| WB           | 7.60                        | 7.60           | 0.00                   | 7.60               |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... ACCESS  
 NAME OF THE NORTH/SOUTH STREET.... COLLEGE  
 DATE AND TIME OF THE ANALYSIS..... 05-25-1993 ; 7-8 PM  
 OTHER INFORMATION.....



CAPACITY AND LEVEL-OF-SERVICE

| MOVEMENT     | FLOW-RATE<br>v (pcph) | POTEN-TIAL                | ACTUAL                                | SHARED | RESERVE                    |                               | LOS     |
|--------------|-----------------------|---------------------------|---------------------------------------|--------|----------------------------|-------------------------------|---------|
|              |                       | CAPACITY<br>c (pcph)<br>P | MOVEMENT<br>CAPACITY<br>c (pcph)<br>M |        | CAPACITY<br>c (pcph)<br>SH | CAPACITY<br>c = c - v<br>R SH |         |
| MINOR STREET |                       |                           |                                       |        |                            |                               |         |
| WB LEFT      | 1                     | 198                       | 195                                   | >      | 195                        | >                             | 194 > D |
|              |                       |                           |                                       | >      | 310                        | >                             | 308 > B |
| RIGHT        | 1                     | 759                       | 759                                   | >      | 759                        | >                             | 758 > A |
| MAJOR STREET |                       |                           |                                       |        |                            |                               |         |
| SB LEFT      | 17                    | 579                       | 579                                   |        | 579                        |                               | 562 A   |

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 DATE AND TIME OF THE ANALYSIS..... 05-25-1993 ; 7-8 PM  
 OTHER INFORMATION.....

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IDENTIFYING INFORMATION

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AVERAGE RUNNING SPEED, MAJOR STREET.. 40  
 PEAK HOUR FACTOR..... 1  
 AREA POPULATION..... 150000  
 NAME OF THE EAST/WEST STREET..... ACCESS  
 NAME OF THE NORTH/SOUTH STREET..... COLLEGE  
 NAME OF THE ANALYST..... EGC  
 DATE OF THE ANALYSIS (mm/dd/yy)..... 05-25-1993  
 TIME PERIOD ANALYZED..... 10-11 PM  
 OTHER INFORMATION....

INTERSECTION TYPE AND CONTROL

---

INTERSECTION TYPE: T-INTERSECTION  
 MAJOR STREET DIRECTION: NORTH/SOUTH  
 CONTROL TYPE WESTBOUND: STOP SIGN

TRAFFIC VOLUMES

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|       | EB | WB | NB  | SB  |
|-------|----|----|-----|-----|
| LEFT  | -- | 75 | 0   | 0   |
| THRU  | -- | 0  | 210 | 160 |
| RIGHT | -- | 15 | 0   | 0   |

NUMBER OF LANES

---

|       | EB | WB | NB | SB |
|-------|----|----|----|----|
| LANES | -- | 1  | 2  | 2  |

|            | PERCENT<br>GRADE | RIGHT TURN<br>ANGLE | CURB RADIUS <sup>2</sup> (ft)<br>FOR RIGHT TURNS | ACCELERATION LANE<br>FOR RIGHT TURNS |
|------------|------------------|---------------------|--|--------------------------------------|
| EASTBOUND  | ----             | ---                 | ---  | -                                    |
| WESTBOUND  | 0.00             | 90                  | 20   | N                                    |
| NORTHBOUND | 0.00             | 90                  | 20   | N                                    |
| SOUTHBOUND | 0.00             | 90                  | 20   | N                                    |

## VEHICLE COMPOSITION

|            | % SU TRUCKS<br>AND RV'S | % COMBINATION<br>VEHICLES | % MOTORCYCLES |
|------------|-------------------------|---------------------------|---------------|
| EASTBOUND  | ---                     | ---                       | ---           |
| WESTBOUND  | 0                       | 0                         | 0             |
| NORTHBOUND | 0                       | 0                         | 0             |
| SOUTHBOUND | 0                       | 0                         | 0             |

## CRITICAL GAPS

|              | TABULAR VALUES<br>(Table 10-2) | ADJUSTED<br>VALUE | SIGHT DIST.<br>ADJUSTMENT | FINAL<br>CRITICAL GAP |
|--------------|--------------------------------|-------------------|---------------------------|-----------------------|
| MINOR RIGHTS |                                |                   |                           |                       |
| WB           | 5.90                           | 5.90              | 0.00                      | 5.90                  |
| MAJOR LEFTS  |                                |                   |                           |                       |
| SB           | 5.70                           | 5.70              | 0.00                      | 5.70                  |
| MINOR LEFTS  |                                |                   |                           |                       |
| WB           | 7.60                           | 7.60              | 0.00                      | 7.60                  |

## IDENTIFYING INFORMATION

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NAME OF THE NORTH/SOUTH STREET..... COLLEGE  
DATE AND TIME OF THE ANALYSIS..... 05-25-1993 ; 10-11 PM  
OTHER INFORMATION.....

CAPACITY AND LEVEL-OF-SERVICE

| MOVEMENT     | FLOW-RATE<br>v (pcph) | POTEN-TIAL | ACTUAL   | SHARED   | RESERVE  |          | LOS     |
|--------------|-----------------------|------------|----------|----------|----------|----------|---------|
|              |                       | CAPACITY   | MOVEMENT |          | CAPACITY | CAPACITY |         |
|              |                       | c (pcph)   | c (pcph) | c (pcph) | c (pcph) | c - v    |         |
|              |                       | P          | M        | SH       | R        | SH       |         |
| MINOR STREET |                       |            |          |          |          |          |         |
| WB LEFT      | 83                    | 470        | 470      | >        | 470      | >        | 387 > B |
|              |                       |            |          | >        | 511      | >        | 412 > A |
| RIGHT        | 17                    | 910        | 910      | >        | 910      | >        | 893 > A |
| MAJOR STREET |                       |            |          |          |          |          |         |
| SB LEFT      | 0                     | 843        | 843      |          | 843      |          | 843 A   |

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