A demographical study in order to relocate the Colorado Optometric Center

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Abstract
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A DEMOGRAPHICAL STUDY
IN ORDER TO RELOCATE
THE COLORADO OPTOMETRIC CENTER

presented to:
Dr. John Roggenkamp
Dr. Larry Clausen

by:
J. Alan Eickelman
I Introduction and Purpose of Study

This study was conducted in the summer of 1980, in Denver, Colorado, for the purpose of finding possible relocation spots for the Colorado Optometric Center. The Colorado Optometric Center is a nonprofit organization whose main purpose is to provide vision care for those who cannot afford such care normally and to provide special optometric services, such as low vision care, developmental training, and electrodiagnostic services, among others.

This study concerned itself more with identifying those areas of Denver whose population would most benefit from having the center in close proximity. Also, existing sites of private eye health care professionals were to be located. This was done so that any prospective possible locations would not impinge upon a practitioner's patient base area and provide undue competition.

Before any actual search for new locations can begin, the board of directors of the center must decide that a move of the center is a good idea and the Mile High United Way must be petitioned for funds to finance the move.
The following discussion concerns a specific study conducted in the summer of 1980. The purpose was to study the demographic characteristics of the various neighborhoods of the Denver metropolitan area. This study concerning demographics was part of a larger overall study currently being conducted by the Colorado Optometric Center.

The center went through a reorganization in October, 1979, when a new executive director was hired, and in January 1980, when the board of directors was reorganized. A part of this reorganization was the conduction of a long range study which was composed of three parts:

1. The demographic study, conducted by the author, and of which this paper is concerned.

2. An attempt to determine what vision care services are needed in the community and which of these the center could provide and how.

3. An effort to determine the image of the center in the community and how it could be improved.

Specifically concerning the demographic study, one of the main objectives was to locate the low income populations of the city. Serving low income patients who cannot afford conventional vision care is just one part of the services offered by the center. However, at the present location, the patient load was dropping and it was felt that, due to a number of reasons, the present location might not be visible or accessible enough to reach the low income patients which it serves. Some of these problems with the location are:

1. Building is not accessible to the handicapped.
2. Is not located along a bus route.
3. The center is not highly visible in the area.
4. The neighborhood of the present location is changing, and the area is losing potential patients.

In order to determine where the best possible location for the center could be, the demographical study will be trying to locate where the needy populations are located in the city, along with present eye care practitioners locations and accessibility to transit routes. The results of the demographic study concerning services needed in the community in planning the long range growth of the center. One decision of this will be whether a new facility is warranted and where it should be located.
II Methodology of Study

An initial list of contacts were obtained from the executive director of the center. These groups or organizations were deemed to be those who might have information that would be helpful in conducting a demographic study of the Denver area. These organizations were:

- Mile High United Way
- Denver Council of Regional Governments
- Health Planning Section, Denver General Hospital
- Planning Commission, Mayors Office

Each of these organizations were contacted and the purpose of the study was explained. The result of each meeting was as follows:

1. Phil Prettyman of Mile High United Way provided a list of human service studies pertaining to Denver that included a number of Demographic studies. These were available from the Denver Public Library and from the Center for Social Research and Development at the University of Denver. Also, a database for the Colorado Department of Social Services was obtained that included each division of the department and each division's head.

2. Denver Council of Regional Governments provided two studies concerning demographics of the Denver area based on 1970 census tract data.

3. Health Planning Section: an inquiry was made concerning the usefulness of a statistical study conducted by this organization concerning census tracts in the Denver area. Unfortunately, this study was found to be too statistical
for our use.

4. The Colorado Department of Social Services was contacted for any information they might have on a neighborhood basis that would be useful to a demographic study. Unfortunately, all data base available by this organization is collected on a county by county basis, which did not serve our purpose.

Having received information on where data useful to a demographic study of the Denver area could be found, the next step is to analyze each study available to determine it's usefulness to our particular study. Each study in the index of human service studies, received from Mile High United Way was gone through and analyzed to determine it's usefulness. These studies included:

- "Selected Characteristics of Denver Population, Employment and Housing" (1969)
- "DRCOG, "Home Health Care Services Surveyed" (1976)
- "Denver Neighborhood Analysis revised and updated with 1975 population estimates"
- Denver Urban Observatory, Urban Social Indicators, "Selected Conditions and Trends"

The index of human service studies, received from Phil Prettyman
at Nile High United Way, was gone over to locate those studies available that would be of help for our study. Those studies included those listed previously. Each of these studies was scrutinized for any information on a neighborhood basis rather than for the city or county alone. These two studies were:

- Denver Office of Policy Analysis; "Profiles of Denver Residents"
- DRCOG, "Profile of the Denver Region"

The "Profile of Denver Residents" study contained information pertaining to the eleven councilman districts in Denver. The type of information included were statistics pertaining to the eleven councilman districts in Denver. The type of information included were statistics pertaining to the median household income, percentage of lower and upper income households, unemployment rates, median monthly housing costs, age of the population and white collar-blue collar classification of jobs.

The study entitled, "DRCOG, Profile of the Denver Region, 1960-1970", contained similar information about the various census tracts in Denver, based on the 1970 census.

Upon careful analysis of both studies, it was decided that our demographic study would be based on the statistics from the "Profiles of Denver Residents" study. This was done for two reasons. First of all, this study was based on statistics that pertained to 1977, whereas the DRCOG study was based on statistics gathered from the 1970 census. It seemed more appropriate to go with the most recent data. The second reason for choosing
the Profiles study was because the census tracts on which the DRCOG study was based, each included a population too small to represent a "neighborhood" concept onto itself, whereas, the councilman districts each included an area which could safely be thought of as an area that was characteristically a neighborhood onto itself. Each district comprised an area that had statistics on ethnic makeup, median family income, housing costs and other types of information that could characterize it as an area of the city different in those areas from the others. It was felt that a census tract was too small an area to serve that purpose.

From this study, the following statistics were deemed important for our purposes:

1. Average number of persons per household
2. 1977 median household income
3. Percentage of lower and upper income households
4. Median monthly housing costs
5. Percentage of renter and owner households
6. Age of the population
7. Ethnicity of the population
8. Sex of the population
9. Educational level of the population
10. Median individual earned income
11. Labor force participation rates
12. Unemployment rates
13. White collar-blue collar classification of jobs
On each of the eleven councilman districts, statistics on each of these categories was compiled and listed under the particular district. For three categories, ethnicity of the population, 1977 median household income, and median monthly housing costs, special maps were made that illustrated the various statistics on a color scaled map.

A large map of the Denver area was obtained and on this, the councilman districts were demarcated by a black line indicating the boundaries. Also on the map, the various public transportation routes were located from schedules obtained from the Regional Transportation District and transposed onto the larger map. Finally, listings of all the Optometrists and Ophthalmologists in the Denver area were localized and were each identified on the map, OD's with a black star and MD's with a star surrounded by a circle. This was to identify areas of high eye care concentration and those areas of low eye health care concentration.
IV Discussion

The data collected contains information concerning the average income, age, ethnicity makeup and current manpower of the district in question. By looking at this information, we can determine the demographical makeup of the district in question.

For easier comparison of the various districts in terms of demographical makeup and in order to aid in a decision concerning possible relocation, the following decision factors were developed into a matrix:

1. Income of district: (median household income)
   
   **High:** $\geq 16,000$
   
   **Average:** $8,000 \text{ to } 16,000$
   
   **Low:** $< 8,000$

2. Percentage of elderly residents in district: (over 65)

   **High:** $> 14\%$

   **Average:** $8\% \text{ to } 14\%$

   **Low:** $< 8\%$

3. Percentage of unemployed residents in district:

   **High:** $> 12\%$

   **Average:** $5\% \text{ to } 12\%$

   **Low:** $< 5\%$

Ⅳ Conclusion

Although the long range study conducted by the center, of which the demographical study is one part, there have already have been some concrete developments as a result. Outgrowths of the study are:

1. A home vision care program designed to provide visual care for those patients unable to leave their residence.
2. A new exam site at the community college of the Denver north campus. This will be in conjunction with the optometric assistance program there. The goal is to reach students who cannot normally afford conventional visual care.

3. Expansion of the low vision program. This includes contacting various civic organizations in the Denver area to educate them about what type of low vision services are available to them and also financial assistance.

4. A part time social worker was hired for the reasons of trying to find ways to make the center more visible to the general public and also social service organizations.

Concerning the demographic study, the author feels that the district in which the center is currently located, is the district in which it should remain for a number of reasons:

1. This district has a large percentage of low income residents and minorities, which is the population the center is trying to reach.

2. This district has a high concentration of mass transit routes in the district, and would be easier to locate a location on a transit route in this area.

3. The number of eye care practitioners in the area is small when compared to the other sections of Denver.

Due to the above reasons, the author suggests a location in the same district located along a transit route.

However, before any decision is made, the author suggests plotting the current patient load, in order to determine where the current patients are coming from. This is to determine
if in fact the area around the center is the main contributor of patients or if the majority of patients are coming from another area of town.

The study concerning demographics and the data associated with it have been presented to the directors of the Colorado Optometric Center, and a decision on relocation will be made by that group.
### Summary of Data used in Study:

<table>
<thead>
<tr>
<th>District</th>
<th>1977 Median Income</th>
<th>Percentage of Elderly in Population</th>
<th>Ethnicity of Population</th>
<th>Unemployment Rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>District 1</td>
<td>$10,900</td>
<td>21.2</td>
<td>25.0</td>
<td>7.8</td>
</tr>
<tr>
<td>District 2</td>
<td>$16,500</td>
<td>7.6</td>
<td>17.0</td>
<td>5.6</td>
</tr>
<tr>
<td>District 3</td>
<td>$10,000</td>
<td>11.3</td>
<td>9.0</td>
<td>9.4</td>
</tr>
<tr>
<td>District 4</td>
<td>$19,200</td>
<td>8.0</td>
<td>7.4</td>
<td>4.7</td>
</tr>
<tr>
<td>District 5</td>
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<td>17.6</td>
<td>13.0</td>
<td>3.8</td>
</tr>
<tr>
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<td>14.0</td>
<td>7.5</td>
<td>3.2</td>
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<td>2.0</td>
<td>6.1</td>
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<td>76.0</td>
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<tr>
<td>District 9</td>
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<td>6.0</td>
<td>14.0</td>
</tr>
<tr>
<td>District 10</td>
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<td>16.8</td>
<td>9.7</td>
</tr>
<tr>
<td>District 11</td>
<td>$14,200</td>
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<td>66.7</td>
<td>7.3</td>
</tr>
</tbody>
</table>

-data compiled from study entitled; "Profile of Denver Residents"