The social center's function is diverse in that it accommodates many activities which influence the environment of the residents of Vista Pines Village. The social center is an area in which many functions relate to: commercial nodes, administrative, multi-purpose, dining and lounge, kitchen, and mechanical areas.

![Diagram showing floor plans]
Space Summary

There are four major, constructed activity spaces within the Vista Pines Village Project. These spaces are 1.) the health center 2.) apartments 3.) social center 4.) parking areas.

A tally of the space within the health center reveals a linear, one-story structure consisting of 120 total bed units, nursing stations and supporting areas with an allowable square footage of approximately 36,000. Supporting spaces within the health center should include administration, lounge and dining rooms, physical therapy, mechanical, electrical, and storage. Conventional interior equipment, such as telephone, computer terminal and link, internal communication system, mechanical service and distribution and receiving system comprise amenities to the health center.

In connection with the apartment complexes, an expanded tally of these spaces could read as follows: each apartment complex consisting of three stories of approximately 168,000 square feet. This space providing 200 self-contained units with amenities being emphasized on an individual level. For example, telephone, laundry, and mechanical and electrical services providing the individual resident with all facilities needed to maintain a comfortable living. In both cases, the apartment complexes and the health facility could provide expansion plans which are based on present occupancy level and projected future growth rate. It has been established that on the conclusion of a five plan period, the programs of the health center facility, focusing on the bed capacity, and the apartment complex, dealing with present and projected occupancy rates, will be revised to see if it is feasible to expand or phase in new programs and facilities.
The tally of spaces concerned with the social center focus on the activities of the center itself. This tally would read in the following manner: residential areas including dining rooms, a chapel, multi-purpose room, lounge, library, men's poolroom, game room, arts and crafts area, wood shop, and a tenant storage room. An administrative area with offices and lounges for the staff and commercial area involving shops such as a beauty shop, barber, bank, drug shop, and mail room. It could become possible that at the end of the first five year period an evaluation could show evidence to the need of expansion or an introduction of a phasing element to enlarge or more provisions for an entirely new structure servicing the needs of the occupants of the Vista Pines Village.

In tallying the space available to parking, it would seem that there would be no problem in allocating space because of the adequate size of project site itself. The need for mechanical service such as lighting and circulation plus the need for drainage must be addressed.
Costs Analysis

In relationship with the cost estimate analysis, the estimated cost for the facilities of the health center, apartments complex, and social center are:

1.) Square footages:
   1. Health center - 36,000
   2. Apartments - 168,000
   3. Social Center - 33,000

2.) Building cost:
   1. Health Center - 36,000 s.f. \div 50 eff. ratio
      = 72,000 gross area
      72,000 gross x $50/s.f. = $3,600,000
   2. Apartment - 168,000 s.f. \div 50 eff ratio
      = 336,000 gross area
      336,000 gross x $50/s.f. = $10,030,000
   3. Social Center - 33,000 s.f. \div 50 eff ratio
      = 66,000 gross area
      66,000 gross x $50 = $2,640,000

3.) Building cost of structures $16,320,000

4.) Fixed Equipment @ 20% = $3,264,000

5.) Site Development @ 15% = $2,448,000

6.) Total Construction $22,032,000

7.) Movable Equipment @ 20% $3,264,000

8.) Professional fees: @ 6% = $1,321,920

9.) Contingencies @ 10% = $2,202,200

10.) Administrative Costs @ 1% = $220,320

11.) Total Budget Required $29,041,440

Vista Pines Village
Richmond, Indiana
In reference to the individual resident, Vista Pines Village operates on the basis of life occupancy and monthly service fee. The life occupancy fee is a one-time payment, the sum depending on the type of housing accommodations and the number of occupants within the unit. The life occupancy fee includes a $1,500 non-refundable, per person, membership fee. Medical services, including in-patient nursing care in the health center are charged separately.

The life occupancy agreement conveys the right to lifetime occupancy in Vista Pines Village, including the use and enjoyment of all community and activity areas, and the security of guaranteed lifetime care.

Many retired people use the equity in their home to purchase a life occupancy agreement. A monthly service fee is almost always within the range of the most middle income retired people. Monthly service fees may be increased when justified by rising costs to the corporation, but in no event can an increase exceed 10% in a calendar year.

Financial information on concerning the costs of the apartments and their services provided are as follows:

<table>
<thead>
<tr>
<th>Apartments</th>
<th>Life Occup. Fee</th>
<th>Mo. Service Ch.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.) Studio</td>
<td>$14,000</td>
<td>$290.00</td>
</tr>
<tr>
<td>2.) one bedroom</td>
<td>$18,000</td>
<td>$300.00</td>
</tr>
<tr>
<td>3.) two bedroom</td>
<td>$23,500</td>
<td>$320.00</td>
</tr>
<tr>
<td>(includes three meals a day)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Additional person in unit $1,500 $175.00
Life occupancy fee includes $1,500 membership fee. Monthly service charge in the apartments includes meals, twice weekly cleaning of apartment, laundry, upkeep of grounds and drives, utilities except telephone, and the first 30 days in the health center in a calendar year.
Site Data and Analysis

Location

RICHMOND, INDIANA

population: 1976 - 42,500

UNITED STATES

INDIANA

Vista Pines Village

Richmond, Indiana
SITE COUNTIES

REGION IV

Consists of:

1. WAYNE County
2. Rush County
3. Fayette County
4. Union County
5. Franklin County
Site Analysis

Site Topography

scale: 1:3,000 ft.

Vista Pines Village

Richmond, Indiana
Site Section

Slopes run NW to SE.

Flat area wet to east.

Drainage area.

Heavy vegetation

Site Elevations
980 ft. — 1040 ft.
600 ft. in run of 1,800 ft.
Slope: .03

Vista Pines Village
Richmond, Indiana
1. Pedestrian Neighborhood Emphasis.

2. Open Corridors.


4. Automotive - Two Major Corridors.

Vista Pines Village
Richmond, Indiana
Vegetation and Water

LARGE DECIDUOUS TREES
MINIMUM GROUND COVER.

OPEN S.W. CORNER
GOOD SUMMER BREEZES.

WET AREA
POSSIBLE PONDING.

Vista Pines Village
Richmond, Indiana
Drainage Characteristics

Major Drainage Paths:

Flat Area
Major Run Off Area
South On Site.

Low Wet Area
Minimum Erosion Off Of Site.

Vista Pines Village
Richmond, Indiana
Views from Site

EXCELLENT VIEWS TO WOODED AREA.

GOOD VIEWS TO NEIGHBORHOOD AREAS.

EXCELLENT VIEWS TO COUNTRY CLUB AREA.

Vista Pines Village

Richmond, Indiana
Views into Site

OPEN VIEW OF FLAT AREA.

OPEN

FOCUS

GOOD

OPEN VIEW OF DOWNWARD SLOPE.

GOOD VIEW FROM TREES TO POSSIBLE POND AREA.

Vista Pines Village
Richmond, Indiana
Edge Conditions

SOFT AND NON-ENCLOSURE.

HARD EDGE

SOFT EDGE

HARD AND ENCLOSURE.

Vista Pines Village

Richmond, Indiana
Ingress / Egress

Elderly emphasis
Auto vs. Pedestrian.

Auto
Pedestrian

Major emphasis
Circulation, service,
Access and movement.

Vista Pines Village
Richmond, Indiana
Site Scale

Football Field
160 x 300 ft.

Football Field

Parking Required

Parking: 300 cars
Total 192,000 $.

Large herd of
100 Buffalo.

Vista Pines Village

Richmond, Indiana
Site Data

Site Data information on Richmond, Indiana is documented in this program with acknowledgment of credit with the Management Advisory Council (6/78) Richmond, Indiana. The description of the content in the analysis is as follows:

PHYSICAL AND DEMOGRAPHIC

Location
Climate
Population
Markets

EMPLOYMENT

Local Industries
Work Force and Wages
Manpower and Vocational Training

INDUSTRIAL RESOURCES

Industrial Support Services
Utilities
Transportation
Communications
Construction
Industrial Parks and Sites
Finance

COMMUNITY RESOURCES

Community Services
Education
Housing
Area Recreation and Attractions

GOVERNMENT

Government Bodies, Taxes, Planning and Zoning, Environmental Regulations

Vista Pines Village

Richmond, Indiana
Community Services .................................................. 10
Education .......................................................... 15
Housing .............................................................. 16
Area Recreation and Attractions ................................. 17

GOVERNMENT

Government Bodies .................................................. 18
Taxes .................................................................. 20
Planning and Zoning ............................................... 20
Environmental Regulations .................................... 21

MAP

Richmond Area ....................................................... 12, 13

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EASTERN INDIANA:

Eastern Indiana
59 miles east of Indianapolis
52 miles south of Fort Wayne
63 miles northwest of Cincinnati
40 miles west of Dayton

Latitude: 40°, 53-6’ N
Longitude: 979 ft.

Away Distances:
Chicago, Ill.
St. Louis, Mo.
Birmingham, Ala.
Detroit, Mich.
Cleveland, Ohio
Pittsburgh, Pa.

Temperature

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan.</td>
<td>36.0°</td>
<td>19.4°</td>
<td>33°</td>
<td>-20°</td>
</tr>
<tr>
<td>Feb.</td>
<td>46.7°</td>
<td>23.0°</td>
<td>33°</td>
<td>-3°</td>
</tr>
<tr>
<td>Mar.</td>
<td>51.7°</td>
<td>48.7°</td>
<td>55°</td>
<td>44°</td>
</tr>
<tr>
<td>Apr.</td>
<td>51.7°</td>
<td>51.7°</td>
<td>50°</td>
<td>44°</td>
</tr>
<tr>
<td>May</td>
<td>73.4°</td>
<td>51.7°</td>
<td>73°</td>
<td>12°</td>
</tr>
<tr>
<td>Jun.</td>
<td>75.4°</td>
<td>51.7°</td>
<td>73°</td>
<td>12°</td>
</tr>
<tr>
<td>Jul.</td>
<td>83.6°</td>
<td>61.0°</td>
<td>91°</td>
<td>32°</td>
</tr>
<tr>
<td>Aug.</td>
<td>83.6°</td>
<td>61.0°</td>
<td>91°</td>
<td>32°</td>
</tr>
<tr>
<td>Sep.</td>
<td>71.8°</td>
<td>51.7°</td>
<td>91°</td>
<td>32°</td>
</tr>
<tr>
<td>Oct.</td>
<td>48.9°</td>
<td>31.4°</td>
<td>73°</td>
<td>12°</td>
</tr>
</tbody>
</table>

Daytime: 90°F: 21
High: 122°F: 122
Precipitation: 8.4 in.
Annual average: 24.0 in.
Annual average: 38.4 in.
Annual number of sunny days: 191
Percentage of available sunshine: 58% (70% summer, 58% fall, 56% spring, 44% winter)

Additional information:
Annual avg. Heating degree days: 5,857
Annual avg. Cooling degree days: 702
Relative humidity averages: Jan. 75% Aug. 75%
                          Apr. 65% Oct. 72%
### Demographic Data

<table>
<thead>
<tr>
<th>Commuting Area**</th>
<th>11 Counties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Richmond</td>
<td></td>
</tr>
<tr>
<td>U.S.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>29.4 years</td>
</tr>
<tr>
<td>Black</td>
<td>28.1</td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Data is within 24 hours truck or rail delivery of 80 of the top 100 U.S. markets.**

- $10 million population: within 100-mile radius of Richmond
- $17.7 million population: within 200-mile radius of Richmond
- $44.5 million population: within 300-mile radius of Richmond
- $52.5 million population: within 400-mile radius of Richmond
- $89.2 million population: within 500-mile radius of Richmond

### Local Manufacturers ('50 Employees Or More):

<table>
<thead>
<tr>
<th>Company</th>
<th>Products</th>
<th>Employees</th>
<th>Union</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum Co. of America</td>
<td>Aluminum bottle &amp; jar closures and closure machinery</td>
<td>700</td>
<td>USW</td>
</tr>
<tr>
<td>Green Motor Corp.</td>
<td>Auto engine assembly</td>
<td>63</td>
<td>AFL-CIO</td>
</tr>
<tr>
<td>Union Mfg. Corp.</td>
<td>Flat plastic sheets</td>
<td>58</td>
<td>UCW</td>
</tr>
<tr>
<td>Ken Corporation</td>
<td>Electronic wiring cable</td>
<td>1222</td>
<td>None</td>
</tr>
<tr>
<td>Nash &amp; Co.</td>
<td>Plate bending rollers</td>
<td>115</td>
<td>UAW</td>
</tr>
<tr>
<td>Mericle Corp.</td>
<td>Camshafts, cylinder sleeves, piston rings</td>
<td>1000</td>
<td>UAW</td>
</tr>
<tr>
<td>Sign &amp; Mfg. Corp.</td>
<td>Dishwashers</td>
<td>376</td>
<td>UAW</td>
</tr>
<tr>
<td>Farm Mfg. Corp.</td>
<td>Farm equipment</td>
<td>143</td>
<td>UAW</td>
</tr>
<tr>
<td>Corporation</td>
<td>Loose gearings &amp; high performance gearings</td>
<td>296</td>
<td>IAM</td>
</tr>
<tr>
<td>NPC Corp.</td>
<td>Propane cylinders, Dairy and Material Handling equipment</td>
<td>325</td>
<td>UAW</td>
</tr>
<tr>
<td>Marineville Prod. Corp.</td>
<td>Fiberglass insulation</td>
<td>220</td>
<td>UAW</td>
</tr>
<tr>
<td>Simon Sheet Metal Works</td>
<td>Metal cabinet stampings and metal entrance doors</td>
<td>177</td>
<td>IAM &amp; AW</td>
</tr>
<tr>
<td>Minor Div.</td>
<td>Kitchen cabinets and bathroom vanities</td>
<td>750</td>
<td>USW</td>
</tr>
<tr>
<td>Tappan Company</td>
<td>Special tools and machinery</td>
<td>54</td>
<td>None</td>
</tr>
<tr>
<td>Brown Tool Co.</td>
<td>Production machinery</td>
<td>75</td>
<td>None</td>
</tr>
<tr>
<td>May Manufacturing Co.</td>
<td>Production machinery</td>
<td>754</td>
<td>IAM &amp; AW</td>
</tr>
<tr>
<td>Metal Automatic Tool Co.</td>
<td>Multiple spindle drilling, boring and honing machines, induction heating equipment</td>
<td>761</td>
<td>IAM &amp; AW</td>
</tr>
</tbody>
</table>

---

*Region IX includes Fayette, Franklin, Rush, Union and Wayne Counties.*

*The Richmond commuting area includes Region IX plus Delaware, Henry and Randolph Counties in Indiana, and Butler, Darke and Preble Counties in Ohio.*

---

*1970 Census*
<table>
<thead>
<tr>
<th>Company</th>
<th>Products</th>
<th>Employees</th>
<th>Union</th>
</tr>
</thead>
<tbody>
<tr>
<td>Little Creek industries</td>
<td>Sainsbys, dryers, sofas, pillows, art reproductions, bedroom furniture and accessories</td>
<td>315</td>
<td>Upholsterers Intl.</td>
</tr>
<tr>
<td>Recording Company</td>
<td>Phonograph records and 4 and 8-track cassette tapes</td>
<td>590</td>
<td>IBEW</td>
</tr>
<tr>
<td>Purina Company</td>
<td>Animal food for laboratory research industry</td>
<td>55</td>
<td>IAM &amp; AW</td>
</tr>
<tr>
<td>Reynolds Combined Enterprises</td>
<td>Harnessing and other light manufacture employs hardtopples</td>
<td>125</td>
<td>None</td>
</tr>
<tr>
<td>Reynolds Homes, Inc.</td>
<td>Panelized leisure homes</td>
<td>53</td>
<td>UU of NA</td>
</tr>
<tr>
<td>Inc.</td>
<td>Custom transformers</td>
<td>222</td>
<td>USW</td>
</tr>
<tr>
<td>Wayne Robinson Company</td>
<td>Gray iron castings</td>
<td>130</td>
<td>IM &amp; AW</td>
</tr>
<tr>
<td>Transportation Div.</td>
<td>School bus bodies</td>
<td>1030</td>
<td>UAW</td>
</tr>
<tr>
<td>Cullen-Hayes Inc.</td>
<td>Railway Track Equipment</td>
<td>52</td>
<td>UAW</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>11-County Commuting Area</th>
<th>Labor Force</th>
<th>Unemployed</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Muscle (Met. Area)</td>
<td>57,100</td>
<td>2,400</td>
<td>4.2</td>
</tr>
<tr>
<td>Fayette</td>
<td>13,300</td>
<td>650</td>
<td>4.9</td>
</tr>
<tr>
<td>Franklin</td>
<td>6,630</td>
<td>430</td>
<td>6.5</td>
</tr>
<tr>
<td>Henry</td>
<td>23,200</td>
<td>950</td>
<td>4.1</td>
</tr>
<tr>
<td>Randolph</td>
<td>13,625</td>
<td>550</td>
<td>4.0</td>
</tr>
<tr>
<td>Rush</td>
<td>8,140</td>
<td>530</td>
<td>6.5</td>
</tr>
<tr>
<td>Union</td>
<td>2,650</td>
<td>140</td>
<td>5.3</td>
</tr>
<tr>
<td>Wayne</td>
<td>33,750</td>
<td>2,500</td>
<td>7.4</td>
</tr>
<tr>
<td>Butler</td>
<td>105,200</td>
<td>8,700</td>
<td>8.3</td>
</tr>
<tr>
<td>Darke</td>
<td>27,200</td>
<td>1,650</td>
<td>6.1</td>
</tr>
<tr>
<td>Pekin</td>
<td>14,800</td>
<td>700</td>
<td>4.7</td>
</tr>
<tr>
<td>Totals</td>
<td>365,895</td>
<td>19,200</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>State</th>
<th>U.S.</th>
<th>11-County Commuting Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ohio</td>
<td></td>
<td>Muscle (Met. Area)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fayette</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Franklin</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Henry</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Randolph</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rush</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Union</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wayne</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Butler</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Darke</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pekin</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Employment By Category, Wayne County:</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing</td>
<td>45.1%</td>
</tr>
<tr>
<td>Trade</td>
<td>22.2%</td>
</tr>
<tr>
<td>Real Estate</td>
<td>4.1%</td>
</tr>
<tr>
<td>Finance</td>
<td>4.0%</td>
</tr>
<tr>
<td>Professional Services</td>
<td>16.2%</td>
</tr>
<tr>
<td>Insurance &amp; Real Estate</td>
<td>4.7%</td>
</tr>
<tr>
<td>Communications &amp; Transportation</td>
<td>3.3%</td>
</tr>
<tr>
<td>Agriculture</td>
<td>4%</td>
</tr>
<tr>
<td>Total</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Information (Manufacturing)</th>
<th>Median Earnings</th>
<th>Middle Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing</td>
<td>$142/ wk</td>
<td>$120-$179/ wk</td>
</tr>
<tr>
<td>Meat</td>
<td>$135/ wk</td>
<td>$120-$169/ wk</td>
</tr>
<tr>
<td>Dairy</td>
<td>$173/ wk</td>
<td>$150-$199/ wk</td>
</tr>
<tr>
<td>Etc.</td>
<td>$165/ wk</td>
<td>$150-$179/ wk</td>
</tr>
<tr>
<td>Meat Products</td>
<td>$168/ wk</td>
<td>$150-$179/ wk</td>
</tr>
<tr>
<td>Packer Operator</td>
<td>$135/ wk</td>
<td>$120-$159/ wk</td>
</tr>
<tr>
<td>Paper Products</td>
<td>$127/ wk</td>
<td>$120-$159/ wk</td>
</tr>
<tr>
<td>Paper Products Inc.</td>
<td>$265/ wk</td>
<td>$200-$220/ wk</td>
</tr>
<tr>
<td>Die Maker</td>
<td>$5.05/ hr</td>
<td>$4.35-$6.24/ hr</td>
</tr>
<tr>
<td>Machine Operator</td>
<td>$5.00/ hr</td>
<td>$4.35-$6.24/ hr</td>
</tr>
<tr>
<td>Machinist</td>
<td>$7.03/ hr</td>
<td>$6.74-$7.24/ hr</td>
</tr>
<tr>
<td>Welder</td>
<td>$5.06/ hr</td>
<td>$4.75-$6.99/ hr</td>
</tr>
<tr>
<td>Electrician</td>
<td>$7.04/ hr</td>
<td>$5.75-$7.24/ hr</td>
</tr>
<tr>
<td>Electrician</td>
<td>$7.01/ hr</td>
<td>$5.00-$6.99/ hr</td>
</tr>
</tbody>
</table>


Information (manufacturing) (Cont'd.)

Category             Median Earnings (hr)     Middle Range (hr)
Skilled Production Worker  $4.97     $4.25-$5.19
Unskilled Production Worker  $4.52     $5.00-$7.24

Average Weekly Wage earnings in manufacturing: $926.50 wk.

Information (Service Employees)

<table>
<thead>
<tr>
<th>Job Category</th>
<th>Avg. Entry Wage</th>
<th>Avg. of All Workers</th>
</tr>
</thead>
<tbody>
<tr>
<td>X Operator</td>
<td>$2.90</td>
<td>$3.35</td>
</tr>
<tr>
<td>P Typist</td>
<td>2.75</td>
<td>2.97</td>
</tr>
<tr>
<td>P Reception</td>
<td>3.23</td>
<td>3.74</td>
</tr>
<tr>
<td>P Secretary</td>
<td>3.54</td>
<td>4.16</td>
</tr>
<tr>
<td>P punch Operator</td>
<td>2.94</td>
<td>3.40</td>
</tr>
<tr>
<td>P stenographer</td>
<td>3.84</td>
<td>4.50</td>
</tr>
</tbody>
</table>

National Training Facilities in Richmond:

Indiana Vocational Technical College (Ivy Tech)

Ivy Tech (Richmond) is one of 13 regional campuses in Indiana.

Faculty (full time): 37


Average student age: 24 years

In 1977, 95% of graduates found employment following graduation.

Richardson Public Schools

Vocational program: 150 students enrolled.

Six different occupational programs offered, including Auto Mechanics, Building Trades, Drafting, Machine Shop, Distributive Education, Interdisciplinary Cooperative Education.

Richmond Business College provides:

Business training in accounting, Business Administration, and Secretarial courses, including IBM Key Punch. About 50 students are enrolled, with four instructors. Works closely with industry in providing trained business help.

Manpower Placement and Counseling Services:

Indiana State Employment Security Division provides; Full testing for aptitude and clerical skills, employee placement, unemployment claims service, vocational counseling for veterans and welfare recipients, railroad retirement servicing, statewide placement services, special assistance for veterans.

Manpower, Inc. provides; employment contracting services, having a pool of temporary help, including office services, industrial, technical and data processing services. 1,000 persons supplied to fill needs in 1977.
### Industrial Resources (cont.)

**Trial Support Services**

<table>
<thead>
<tr>
<th>Service Type</th>
<th>No. of Local Firms</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General</strong></td>
<td>23</td>
</tr>
<tr>
<td>Heating</td>
<td>18</td>
</tr>
<tr>
<td>Landscaping</td>
<td>5</td>
</tr>
<tr>
<td>Mechanical</td>
<td>2</td>
</tr>
<tr>
<td>Painting</td>
<td>12</td>
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<tr>
<td>Plumbing</td>
<td>15</td>
</tr>
<tr>
<td>Roofing</td>
<td>11</td>
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<tr>
<td>Sheet metal</td>
<td>6</td>
</tr>
<tr>
<td>Stanley and duplicating</td>
<td>4</td>
</tr>
<tr>
<td>gene service</td>
<td>4</td>
</tr>
<tr>
<td><strong>Telecommunications</strong></td>
<td>1</td>
</tr>
<tr>
<td>Data processing equipment</td>
<td>2</td>
</tr>
<tr>
<td>Video processing</td>
<td>2</td>
</tr>
<tr>
<td>Data services</td>
<td>1</td>
</tr>
<tr>
<td>Executive agencies</td>
<td>1</td>
</tr>
<tr>
<td>Post mail services</td>
<td>1</td>
</tr>
<tr>
<td>Engineering firms:</td>
<td></td>
</tr>
<tr>
<td>Architectural</td>
<td>2</td>
</tr>
<tr>
<td>Civil</td>
<td>1</td>
</tr>
<tr>
<td>Consulting</td>
<td>3</td>
</tr>
<tr>
<td>Electronic</td>
<td>1</td>
</tr>
<tr>
<td>Land surveying</td>
<td>1</td>
</tr>
<tr>
<td>Employers agencies:</td>
<td></td>
</tr>
<tr>
<td>Private</td>
<td>3</td>
</tr>
<tr>
<td>Public</td>
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<tr>
<td><strong>Financial Services</strong></td>
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<tr>
<td>Banks</td>
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<td>Credit unions</td>
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<td>Savings and loan</td>
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<td>Stockbrokers</td>
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<td>Auditors</td>
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<tr>
<td><strong>Industrial Supplies</strong></td>
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<tr>
<td>Castings</td>
<td>3</td>
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<tr>
<td>Electrical</td>
<td>3</td>
</tr>
<tr>
<td>MOL supplies</td>
<td>1</td>
</tr>
<tr>
<td>Oil products and gases</td>
<td>14</td>
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<tr>
<td>Plastic moldings</td>
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<tr>
<td>Steel supplies</td>
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</tr>
<tr>
<td>Industrial waste disposal</td>
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<tr>
<td>Liquid waste (Industrial chem.)</td>
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<tr>
<td>Solid wastes</td>
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<tr>
<td>Insurance companies:</td>
<td></td>
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<tr>
<td>Brokers and general agents</td>
<td>36</td>
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<tr>
<td>National company offices</td>
<td>33</td>
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<tr>
<td>Janitorial services</td>
<td>8</td>
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<tr>
<td>Laboratories:</td>
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<tr>
<td>Dental</td>
<td>1</td>
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<td>Medical</td>
<td>1</td>
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<tr>
<td>Machine shops</td>
<td>2</td>
</tr>
<tr>
<td>Machine tools</td>
<td>4</td>
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<tr>
<td>Material handling equipment</td>
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</tr>
<tr>
<td>Metal fabricators</td>
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<tr>
<td>Metal Industrial buildings</td>
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<td>Metal stampings</td>
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<tr>
<td>Microfilm services</td>
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<tr>
<td>Moving and storage</td>
<td>4</td>
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<tr>
<td>Music, leased sound systems</td>
<td>1</td>
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<tr>
<td>Office equipment and furniture</td>
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<tr>
<td>Office supplies</td>
<td>1</td>
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<tr>
<td>Pattern makers</td>
<td>2</td>
</tr>
<tr>
<td>Photographers, commercial</td>
<td>3</td>
</tr>
<tr>
<td>Plating</td>
<td>1</td>
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<tr>
<td>Printing services</td>
<td>10</td>
</tr>
<tr>
<td>Radio communications equipment</td>
<td>3</td>
</tr>
<tr>
<td>Real estate, industrial-commercial</td>
<td>21</td>
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<tr>
<td>Riggers</td>
<td>1</td>
</tr>
<tr>
<td>Sand and gravel</td>
<td>4</td>
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<tr>
<td>Security firms</td>
<td>2</td>
</tr>
<tr>
<td>Telephone answering service</td>
<td>1</td>
</tr>
<tr>
<td>Temporary help agencies</td>
<td>2</td>
</tr>
<tr>
<td>Tool and die shops</td>
<td>9</td>
</tr>
<tr>
<td>Travel agencies</td>
<td>3</td>
</tr>
<tr>
<td>Truck leasing</td>
<td>5</td>
</tr>
<tr>
<td>Uniform supply</td>
<td>2</td>
</tr>
<tr>
<td>Welding shops</td>
<td>8</td>
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<tr>
<td>Welding supplies</td>
<td>3</td>
</tr>
<tr>
<td>Western Union</td>
<td>1</td>
</tr>
</tbody>
</table>

---

**Service Area:** Suburban and rural Wayne County and parts of 3 others.

**Power Source:** Purchased from Hoosier Energy Company (6 interconnections) and Indiana Michigan (2 interconnections).

**Customer Use:** 6,138 customers

- **Average monthly homeowner use:** 1,319 KW
- **Average monthly homeowner bill:** $26.69

**Industrial Rates:** Demand charge: $2.10 per KW
- Energy charge: $0.65 per KW
  - (first 1,000 hours) 2.50 per KW
  - (next 7,000 hours) 1.75 per KW
  - (next 80,000 hours) 1.70 per KW

**Generating Facilities:**

1. **Modern coal-fired plant:** 93,000 KW
2. **Indiana Michigan Electric Co., interconnect:** 100,000 KW

**Average Homeowner Use:**
- **Monthly Use:** 525 KW
- **Monthly Bill:** $19.80

**Commercial and Industrial Rates:** Furnished on request.
Service area: 89 counties, 506,000 customers.
Current system capacity: 4,416,000 KW
Current system demand: 3,358,000 KW (peak)
Average monthly use per customer: 860 KW
Average homeowner bill: $30.63 (includes space heating customers)

Water sources: Impounding reservoir, springs, 16 wells
Filtering capacity: 15.4 MG
Current daily use: 7.1 MGD; peak demand 14 MG
Storage capacity: 11.95 MG
Residential use: 5,235 gallons per month average
Average bill: $9.18

Public fire hydrants: $52
2-inch connection: $37
3-inch connection: $73
4-inch connection: $144
6-inch connection: $291
8-inch connection: $581
10-inch connection: $869
12-inch connection: $1,159

Sewer rates: Residential and industrial: 1.07 per $100 valuation
Average daily flow: 8 MGD
Current daily capacity: 18 MGD
System: 180 miles of sanitary and combined sewers
Type of system: Conventional activated sludge with effluent chlorination and phosphorus removal capability.
Planned improvements: Treatment plant additions to provide biological removal of ammonia and final effluent filtration. Separation of storm and sanitary sewers by construction of 20 miles of new sewers.

Runways: Main runway - 5500' long x 150' wide
Cross runways - 5500' long x 150' wide
Construction: Asphalt over concrete
Capacity: Maximum and largest plane fully loaded - 60,000 lbs. (OGWV)
Instrument Landing System: V.O.R. on field
Lighting System: (Dusk to dawn)
Approach lights: REIL (Strobe)
Main runway lights: Medium intensity
Taxiways: No lights on taxi-strips
Corporate aircraft hangared: 10
Private aircraft hangared: 30
Fixed base operator: Sky Tech Inc.
Services: Certified repair station Fuel: 100 octane, jet fuel, Charter service available
Repair and maintenance staff includes: 1 full-time mechanic (light maintenance available)
Repair and maintenance services available
Building sites available - Contact Mr. Paul Hedges, Mgr.

Source: Panhandle Eastern Pipe Line Company
Availability: Currently under industrial curtailment.
Industrial rates: Firm rate $1.62/mcf average in Dec. 1977
Interruptible rate $1.35/mcf average for Dec. 1977
Propane Availability: 4 area dealers.

Metered Use Per Month | Rate Per 1,000 Gallons
---|---
First | 24,750 gal. | $1.65
Next | 225,000 gal. | $1.137
Next | 2,750,250 gal. | $0.721
Over | 3,000,000 gal. | $0.60
Service:

Continental Trailways
Daily connections: 2 east, 2 west
Express freight (door-to-door)

ABC Lines
Daily connections: 2 (serves north via Muncie and Fort Wayne)
Charter bus service

Permits: 6 days; Monday through Saturday

Tickets: 3 tokens for $1.00
20 tokens for $6.00
Free transfers

Safeway Taxi
Licensed taxis rates 24 hours per day, 7 days per week
Restriction: Local - $1.50 (min) - $3.50 (fringe areas)
Airports - $22.50, Dayton (express freight, personal)

$45.00, Indianapolis (express freight, personal)

Bell System

General Telephone Company of Indiana
Union and Area Headquarters
Area calling area: 3 exchanges, 24,000 main stations, 41,000 total telephones
Bell Complete toll center and customer service center
Revision: $5 million electronic switching centers for both local and long distance service will be in service for 1978

Utility Service: Complete selection of telecommunications systems, including latest state-of-the-art computerized branch exchanges, centerx, WATS, mobile telephone service and pocket paging.
Complete staff of communications consultants.

American Postal Office is an associate of the Muncie Sectional Mail Processing Center
Postal mail dispatched to Muncie 3 times a day at 7 a.m., 3 p.m., and 6 p.m.
Postal mail received several times in 24-hour period.
Postal receipts for 1977 were 62,500,000. Mail is delivered to approximately 61,000 persons in the area.
Office employment: 90
Post Office building: 7,000 sq. ft.
Service postal center - Gateway Shopping Center

Local delivery once a day, six days a week
Delivery time: Approximately 150-mile radius - overnight, 1,400 mile radius - second day
Air mail dispatched 3 times per day

United Parcel Service: Services to all points. 9,000 sq. ft. local terminal, 20 trucks, 23 permanent employees, 20 part-time employees
Delivery Service: Several local firms provide delivery of packages, letters, crates and boxes
Western Union: Local office open 6 days a week, 8 hours a day.

Direct wire, Mailgram, and Moneygram service
Small package service: Greyhound and Trailways Buses

Richmond Newspapers:

The Palladium-Item (Subsidiary of Gannett Corp.)
Circulation: 30,000
Employees: 150 (40 editorial)
Editions: 1 daily, 7 days a week
New plant 1976

The Graphic
Editions: 3, once a week
Circulation: 45,000
Employees: 70

Metropolitan newspapers: The Indianapolis Star and Cincinnati Enquirer available on home delivery basis. Both publish 7 days a week.
local Stations: WHON-AM, 930 kc
WKBV-AM, 1490 kc
WRIA-FM, 101.3 mz
WGLK-FM, 88.1 mz
WEGI-FM, 91.5 mz

Area Stations: Several AM and FM stations received from Indianapolis, Muncie, Fort Wayne, Dayton and Cincinnati, Ohio.

Reception (outdoor antenna): 11 commercial channels (all networks) plus 3 P.B.S. channels from Indianapolis, Muncie, Oxford, Dayton and Cincinnati, Ohio.

Antenna requirements: Best reception requires antenna height of 30′ - 40′. Estimated cost installed: $200 - $350.

Table TV Company: Clearview Cable Company
No. of channels received: 20 (Indianapolis, Dayton, and Cincinnati), plus 1 channel for local events. 20 channels, including 1 satellite by mid 1978.

Installation charge: $15.00 (first time hook up); $10.00 after first time.

Construction firms specializing in industrial, commercial and government projects:

- Haley Construction Co., Inc.
- T.H. Juelich & Sons
- P.H. Associates, Inc.

Metal building types and techniques: A wide variety of industrial building types are used in this area, including concrete block, tilt-up, pre-cast concrete, metal buildings and pre-cast. Local metal building franchised dealers: Armco, Butler and Varco-Pruden.

Building codes:
- Uniform Building Code
- Uniform Plumbing Code
- National Electrical Code
- Uniform Mechanical Code

New industrial/commercial building plans:
- Map: Richmond or Wayne County Plan Commission (site only)
- Site: Administrative Building Council, Indianapolis

Industrial Park Information:
- Tenants: 3 manufacturers. Map No. 1.
- Park in Heberstown, southern edge of city on Indiana 1. Total size - 55 acres. Fully serviced with utilities. (12 miles west of Richmond) Map No. 8.

<table>
<thead>
<tr>
<th>Deposits</th>
<th>Area Branches</th>
</tr>
</thead>
<tbody>
<tr>
<td>First National</td>
<td>$78,101,922</td>
</tr>
<tr>
<td>Second National</td>
<td>161,911,744</td>
</tr>
<tr>
<td>Peoples State Bank</td>
<td>18,510,831</td>
</tr>
<tr>
<td>Wayne Trust Company</td>
<td>14,443,981</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Deposits</th>
<th>Area Branches</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Federal Savings &amp; Loan</td>
<td>$52,738,911</td>
</tr>
<tr>
<td>Peoples Savings &amp; Loan</td>
<td>42,530,072</td>
</tr>
<tr>
<td>West End Building &amp; Loan</td>
<td>30,853,281</td>
</tr>
</tbody>
</table>

Bank Brokerages:
- Chicago Board of Trade

Consumer Finance Companies: 11
Industrial Financing:

Industrial Revenue Bonds: Richmond and/or Hagerstown Economic Development Commissions. Department of city government - 3 members - authorized to issue tax exempt bonds to finance new industrial construction - includes land improvements and capital equipment. Pursuant to the Indiana Municipal Economic Development Act (Indiana Code 1971: 18.64.5 as amended). Approximate time frame from application to approval: 60 days. Applicant should have ability to sell bonds via private sale to local investors and/or through public sale via investment banking houses.
SBA: Loans and loan guarantees to $500,000. Indianapolis District Office.
FHA: Loans and loan guarantees for land construction, equipment and working capital. No limitations on size of project. Office: Indianapolis, Indiana.
Commercial and Mortgage financing through local financial institutions.

Total; 75. (Protestant - 70, Catholic -3, Jewish - 1, Mormon - 1.)


Community Organizations:

Total No.: 296
Business and Professional 25 Youth Organizations 11
Civic and Service 19 Minority and Ethnic 12
Lodges and Veterans 27 Special Interest 121
Sororities 10 United Way 18

Pre-school day-care: 7.
Pre-school for physically handicapped: 1.
Mentally Retarded Children: 1.

Boy's Club: gym, kids library, 2 game rooms, wood-working shop, outdoor basketball court.
Fairgrounds: 4-H fair, 4-H activities center (under construction), harness track, pole barns, exhibit areas.
Green Acres: gym, 6 classrooms, home economics room, work activity rooms, three residential housing units - 14 acres.
Junior Achievement: - 4 J.A. centers, 20 J.A. companies.
Townsend Center: gym, recreation rooms, meeting rooms.
YMCA - Camp: 88 acres; for 80 campers.
Downtown: 2 gyms, pool, health club, 3 handball courts, 3 racquet ball courts, 38 room hotel, game rooms, lounges, meeting rooms.
YWCA - pool, gym, meeting rooms, game room.

Per capita contribution in Wayne County is $8.11 for 1978.

<table>
<thead>
<tr>
<th></th>
<th>1978</th>
<th>1977</th>
<th>1976</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Goal</td>
<td>$562,474</td>
<td>$625,000</td>
<td>$502,914</td>
</tr>
<tr>
<td>Total Pledged</td>
<td>$490,928</td>
<td>$587,504</td>
<td>$391,259</td>
</tr>
<tr>
<td>% of Goal Reached</td>
<td>87.6%</td>
<td>94.0%</td>
<td>78.8%</td>
</tr>
</tbody>
</table>
Community Services (Cont'd.)

- Established in 1864, 80 North Sixth Street, open 65 hours per week.
- Building opened 1875 - 32,872 sq. ft.
- Capacity - 300,000 volumes
- Seating - reading and study - 250
  - meeting room - 150

Collections:
- Books 120,000 (in large print 1,181)
- Current periodical subscriptions 291
- Current newspapers 14
- Sound periodicals 5,932
- Government documents 36,581
- Sound recordings 4,307
- Microfilm - newspapers and
  - periodicals - reels 2,036

Library Services:
- Weekly bookmobile service to 10 townships in Wayne County.
- Monthly book delivery to aging and physically handicapped at home and in nursing and retirement homes.
- Film showings in nursing homes.

INDIS (Indiana Information Retrieval System): Computer terminal tie-in with Indiana School of Business for stored information social, economic and governmental data.

Telephone direct wire hook-up with 21 public libraries and 4 state universities in Indiana for interlibrary loan and information on reference questions.

Regional reference and interlibrary loan center for 5 counties, (Rush, Fayette, Union, Franklin, Wayne)

Children's Services: Two 6 week periods of story hours for 3, 4 and 5 year olds. Saturday morning specials, first and third Saturdays. Film, stories, entertainment involvement.

8 week summer bookmobile service to parks and playgrounds.

Weekly book and storytelling to Green Acres and the Learning Center.

DANZER, John

50,000 volumes
21,000 units of microfilm
35,000 art slides
1,300 periodicals - newspapers received regularly

Congressional Publications:
- Quaker History Archives, 10,000 items 1847-
- Tokonoma Japanese Prints Office Alcove
- Widener Science Library
- 27,000 books, periodicals, documents in fields of science
- Maps: Geological and Geographical

Completed in 1974, located at west and anc contiguous with the IU East facility.

For public use: 9,125 sq. ft.

Collections:
- Books and periodicals 20,000 volumes
- Disc recordings 2,100
- Filmstrips, slides and cassette tapes.

Art Association of Richmond: The Art Association of Richmond, the oldest in Indiana, was founded in 1898. It's present day home, McGuire Memorial Hall, located on the campus of Richmond Senior High School, is a unique facility. The memorial was made possible by a gift of the late Charles A. McGuire, Richmond industrialist, as a memorial to his mother. Richmond is the first city in the United States to have a civic art gallery associated with a community school.

The permanent collection has grown through the years by the gifts and purchases of many benefactors. It offers to the public original works of art by many acclaimed American and European artists, including distinguished Richmond artists. The collection includes prints, sculptures, drawings, photographs and decorative arts. Thousands of Richmond area students have enjoyed original art exhibits at the McGuire Memorial Hall.

A non-profit educational corporation that receives a small annual grant from Wayne County, but must depend upon donations, wills and bequests, annual membership dues, admission fees and gift shop sales. It could not exist but for the countless hours of volunteer help. Open 12 noon to 4 p.m. Tuesday through Friday - 1 p.m. - 5 p.m. Saturday and Sunday during the year. 1 - 5 p.m. daily except Monday during the non-school months. Closed mid-December to mid-February.

An organization dedicated to sponsoring theatrical presentations by and for the children of the Richmond area. Three productions per year are provided on either a season or single ticket basis. It was established in 1947 as an arm of RCT and in cooperation with RCT and the PTA groups of the community.

RCH Inc.: A non-profit organization which was formed in 1972 by local citizens to preserve Richmond's architectural heritage. Its primary purpose is housing rehabilitation. As a part of its concern for the preservation and improvement for Richmond's older neighborhoods and historic landmarks, it has worked with various Richmond neighborhood associations, city agencies and the Richmond Area Chamber of Commerce.
A non-profit organization dedicated to bringing the finest of music, drama and comedy to Richmond area audiences through the volunteer efforts of many talented artists, directors and technicians available. Six productions per year, plus special events, are staged in its own home, the Norbert Silbiger Theatre, named for the founder and establishing director. RCT was established in 1941 and is now one of the oldest continually producing community theater organizations in the U.S.

Richmond Symphony Orchestra - The Richmond Symphony Orchestra is one of this area’s most distinguished cultural organizations, was founded in 1938 as a combination of the former Richmond Civic Orchestra and the Earlham College orchestra. Manfred Blum, professor of music at Earlham College, German-born and trained violinist, founded the symphony and has been its music director and conductor continuously since the founding. The orchestra grows yearly in support and membership and has brought such great artists to Richmond as Roberta Peters, Jerome Hines, George Shearing, John Browning and Eugene Fodor. The 80-piece orchestra has a 100-piece Richmond Symphony Chorus that joins in orchestral-choral works.

Whitewater Opera Company - A non-profit community organization. All operas are performed in English and the performers are auditioned from area talent. By staging operas with orchestra, this group enjoys the support of the Lilly Endowment, the Gannett Foundation and the Indiana Arts Commission. Through exchange programs with nearby universities, the company is serving as a training ground for vocalists and instrumentalists as well as for students in technical and stage design.

- 3 with a total of 74 lanes; 55 organized leagues, privately operated.
- 18-hole par 70 golf course with total yardage of 6,219. Olympic size swimming pool, dining room and cocktail lounge.

Available for sale by drink or bottle Monday through Saturday, 8 a.m. through 3 a.m. Sunday, by drink only in restaurants holding special Sunday permit.

Total acres: 1,000.

- 194 acres. 20 shelters; 600 picnic tables with outdoor grills; a children’s zoo with 60 species of animals; a performing arts center; archery range; children’s and tiny-tot playground; and a park lake and golf course.

- 2 Olympic size, 1.
- 2 Olympic size, 35 (lighted).
- 2 Olympic size, 10 (lighted), 2 lighted.
- 2 Glen Miller - 3 hole, center city, Highland Lake - 18 hole, I-70 & U.S. 27.
- 177 acre lake, Middlefork Reservoir.
- 3 shuffle board courts - 3, playground equipment dot neighborhood parks.

Service area pop.: 125,000

- Emergency room; 24-hour physician coverage.
- Equipped for emergency care, trauma care, minor surgery.
- Operating rooms: 11
- X-ray, cobalt therapy, ultra-sound diagnosis, nuclear medicine, respiratory care, EKG, EEG, ENG, EMG, physical therapy.
- Adequate living quarters for residents and family of patients.
- Conference facilities for statewide and regional educational seminars.

Accredited by Joint Commission on Accreditation of Hospitals.

Physicians:

- Pediatricians 6
- Obstetricians 7
- Radiologists 4
- General Surgeons 9
- Neurologists 1
- Ophthalmologists 1
- Orthopedics 5
- Internists 11
- Family practice 17
- Gastroenterologist 1

Total medical staff: 110
Active physicians: 85
3 orthodontists, 4 oral surgeons, 2 children's specialists, 2 dental laboratories.

Service Area pop.: 18 counties
Total staff: 60
Medical staff: 10 physicians, 1 dentist, 8 psychiatrists, 2 G.P.'s
117 beds for Acute Intensive Treatment Service
36 beds for Children's Service
103 beds for General Psychiatry

Richmond, Muncie and Ft. Wayne for referral and counseling and follow-up

A regional clinic that serves residents of four counties who seek treatment of mental health problems. Emergency service and hospitalization are offered patients who are undergoing stress.

General Data

School year: 181 student days
Summer term optional:
Grades 10-12: 8 weeks (1/5 day). Required courses or electives.
School Transportation: 3,300 plus students bussed to and from schools. Over 33 buses. No bussing for integration.

All teaching staff: 476 teachers.
All teachers have master's degree or higher (greater than state or national average).
All teacher-pupil ratio: 14:1.
Average salaries: $6,975 to $18,077 (1977 schedule)

Special Education

Unenrolled: 1977-78
Teachers: 1977-78
33 High School diploma annually awarded
Vocational program offered in the evenings. More than 100 course offerings, credit and non-credit. Areas included are:
GED Program
Special interest courses
Community related courses
Apprenticeship programs

Libraries: (library) at each school.
Special education programs in several schools with special education center for handicapped students.
Special shops in the secondary schools.
Laboratories: Physics, chemistry, biology in secondary schools.
Art studio in high school.
Language laboratories.
Central kitchen.

Occupational courses: Auto Mechanics, Building Trades, Drafting, Machine Shop, Distributive Education (retail), Interdisciplinary Coop Education

Educational Excellence

Merit scholars (1978): 3 winners
7 finalists
8 semi-finalists
% of graduating seniors enrolling in universities: 53%
National SAT/ACT scores: Combined average score: 875
National Average: 899
Student Participation: 308

Total Capital Investment: $11,371,397
Capital investment per pupil: $1,583
Total attendance centers: 23: Built in last 5 years: 1
 Built in last 10 years: 5
Built in last 20 years: 16

School Facilities

Elementary: Play areas and equipment at all schools, gym at all schools
Secondary: Football fields, baseball fields, gyms at all schools
Swimming pools: 2
High school seating capacity:
Richmond Senior High School - Basketball 4,300

Football 6,000

School Finance

1977 Operating Budget: $10,753,535.00
Operating cost per pupil: 1,154.96
Bonded long-term debt: 0
School tax levy: 1978: $3.18 general, 75¢ cumulative.
$3.93 total (school corporation has not been in debt for many years; builds all of its schools on a cash basis).
School tax levy, last 5 years

3.93 4.04 3.90 4.11 4.16
(Note: 11 no debt - school corporation builds all of its schools on a cash basis .75¢ of the above rate is set aside for future building needs.)
### Education (Cont'd.)

<table>
<thead>
<tr>
<th>School</th>
<th>Type</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>St. John North Catholic</td>
<td>Catholic</td>
<td>K-4</td>
</tr>
<tr>
<td>St. John South Catholic</td>
<td>Catholic</td>
<td>9-12</td>
</tr>
<tr>
<td>Holy Family</td>
<td>Catholic</td>
<td>K-8</td>
</tr>
</tbody>
</table>

- Founded: 1847

- Average age of student body: 18-21.
- School year: 9 1/2 months.
- Faculty: 100
- Total course offering: Fall - 215 courses, 265 sections
  Spring - 215 courses, 265 sections
- Average student-teacher ratio: 11:1
- Tuition: $3,350/yr.
- Undergraduate/cost/credit: $395
- Typical annual costs for full-time student, 3 terms, including room and board: $5,621

- Enrollment: 60; graduate studies leading to a Master of Arts degree or a Master of Divinity.
- Tuition: $2100 credit course, $2200 2 credits, $4253 3 credits.

### Indiana University

- Serving East Central Indiana offering 2 year Associate Degrees and Bachelor of General Studies Degrees from I.U. and Purdue University.
- Average age of student body: 27.3 years.
- School year: 10 months.
- Total course offering: Fall - 137 courses, 199 sections
  Spring - 151 courses, 191 sections
- Average student-to-teacher ratio: 22:1
- Day and evening classes: 85% of classes and course work offered in evening: 5:30 p.m. to 8:00 p.m.; 8:00 p.m. to 10:30 p.m.
- Tuition:
  - In-State Resident: $23/yr.
  - Out-of-State Resident: $50/hr.
- Typical annual costs for full-time student, 2 semesters, including books: $840.

### Universities in the Area

- Butler University
- DePauw University
- Franklin College
- Hanover College
- Indiana Central College
- Indiana State University
- Purdue University
- Rose-Poly Institute of Technology
- University of Notre Dame
- Wabash College

### Housing

- Older homes: Many available, 30-75 years old. Several areas where restoration and neighborhood improvement are occurring.
- Apartments: Downtown apartments are available in former single-family residences.
- Subdivisions: 15 subdivisions have been created on the city's fringe in the past 25 years. 23 subdivisions have been created in the city during the same period of time.

### Population

- Within 15 miles of Richmond there are 13 towns with populations ranging from 250 to 3,000.

### Rural Developments

- Fifty rural subdivisions developed in the past 10 years within 6 miles of Richmond. Lots range from 8,000 sq. ft. to 12 acres, with the typical lot being about 1 acre. About one-half of those subdivisions have public water and sewage facilities, the other half having private facilities.

- There are hundreds of farms within 20 miles of the city. There is a brisk market in the sale of small farms 5-20 acres. Costs range from $1200 to $2500 per acre.
Housing Starts:

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>City</td>
<td>80</td>
<td>58</td>
<td>46</td>
<td>48</td>
</tr>
<tr>
<td>County</td>
<td>140</td>
<td>116</td>
<td>75</td>
<td>85</td>
</tr>
</tbody>
</table>

Subdivisions - City
- High: $18,000
- Median: $12,000
- Low: $3,000

Subdivisions - County
- 1 acre
- High: $13,000
- Median: $7,500
- Low: $5,000

Example: Based on 1977 construction costs for 1,800 sq. ft. living space new 3-bedroom frame home, full basement, enclosed 2-car garage, carpet, fireplace, central air conditioning, landscaped, excluding lot - $54,000.

Rentals:

<table>
<thead>
<tr>
<th></th>
<th>Avg. No. Listings Per Month</th>
<th>Avg. Monthly Rental Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Houses:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-bedroom</td>
<td>5</td>
<td>$200</td>
</tr>
<tr>
<td>3-bedroom</td>
<td>10</td>
<td>250</td>
</tr>
<tr>
<td>4-bedroom</td>
<td>4</td>
<td>325</td>
</tr>
</tbody>
</table>

Apartments: Large complexes in Richmond
- 7 Complexes: 672 units
- Typical Rent: 1 bedroom: $195
- 2 bedroom: $220
- 3 bedroom: $250

Several additional subdivisions are being planned or have received preliminary approval. New Interfaith sponsors low cost housing for elderly and low-income families. Programs in rent subsidy and rehabilitation of sub-standard housing.

Southview: 50 units
Norwood: 100 units
Westwood: 50 units
Greenwood: 103 units
Sycamore Square: 104 units

The lake, the state's second largest body of water, was built by the U.S. Army Corps of Engineers as a flood control project. Boating, fishing, water skiing, swimming, camping and picnicking attract thousands to the 16,445 acre site.

The lake and family campgrounds are popular from early May until early November.

Levi Coffin House at Fountain City was built in 1839 and made famous as a slave hideaway on the 8 Martindale Fishing Area in Western Wayne County.

The Schrader-Weaver Woods in Fayette County, one of the few remaining stands of native trees.

White Water Canal on U.S. 52 shows an early means of transportation.

Waverly State Park features an archaeological excavation of the period around 10-50 A.D.

Camping and fishing are available on the 250-acre facility.

Tombeau Overlook provides a 400-foot bluff overlooking the Ohio River off Indiana 107, with more than 11 miles of moderate to rugged hiking trails and a spectacular view of the river valley.

Ohio has 3,500 acres of rugged timberland surrounding a lake that is one of the area's chief sailing centers. There is a 53 million lodge for park visitors.
Fishing And Hunting:
The Hoosier State has a multitude of attractions for outdoor enthusiasts. Two of the state’s best camping areas are located within 30 miles of Richmond. Also nearby are Marion Lake and Wilbur Wright fishing areas. Not too far distant are some of Indiana’s 1,000 lakes.

Resident fishing license: $3.50; Hunting and fishing license: $8.25

Game fish available: Bluegill, smallmouth bass, crappie, catfish.
Hunting season established for: wild turkey, squirrel, rabbit, deer, quail, pheasant and grouse.

Sports and Entertainment:

Major conference in Mid-American Conference
"Cradle of Coaches"

Another Mid-American Conference entry in football, basketball, track and other major sports.

Famous for 500-mile Speedeway classic. Other tracks feature USAC sprint car racing, midget, sports car and drag racing.

Pro basketball: Indiana Pacers of NBA
Pro hockey: Indianapolis Racers of WHA
Pro baseball: Indianapolis Indians of American Association

U.S. Pro Football:
Pro baseball: Cincinnati Reds of National League
Pro football: Cincinnati Bengals of NFL
Pro hockey: Cincinnati Stingulls of WHA
Thoroughbred racing at River Downs
University of Cincinnati and Xavier University

Kentucky Derby first Saturday in May
University of Louisville
Pari-mutual thoroughbred racing; two tracks
Pari-mutual trotters and pacers; one track

The Downtown Richmond, completed in 1932, is the cornerstone of the business community and was a national landmark for its steel construction. A mall block was added in 1978 to extend its attractive park atmosphere to the government buildings. The Whitewater River gorge, a geological focal point, is being preserved as part of the city’s Greenbelt area. Among Richmond’s former residents were C. Francis Jenkins, who won attention in 1894 for his development of the first motion pictures; Joseph E. Maddy, organizer of the first high school orchestra in the 1920s and founder of Interlochen Music Camp; and Harry “Singin’ Sam” Frankel (the Barbasol Man). Nearby Centerville has 18 antique shops. Ten miles north is Fountain City, where the restored Levi Coffin House recalls its place as a "station" on the Underground Railroad era of the Civil War period.

Governing:

Richmond is a Council type city, governed by a City Council of 9 members and a full-time Mayor, all elected for 4 year terms. Other elected officials: City Judge, Clerk, Township Assessor and Township Trustee.

Full-time city employees: 525

Sq. miles inside city: 15.0 miles

Richmond (Civil City, Park, Airport, Sanitary District)

1977 Operating Expense: $7,394,244.00
1976 Operating Expense: $7,121,759.00
1975 Operating Expense: $6,561,679.00
1974 Operating Expense: $5,956,942.00
1973 Operating Expense: $5,392,010.00

Operating cost per capita (1976): $168.05
Bonded long-term debt: $5,060,000.00
Long-term debt per capita: $116.00
Revenue Sources:

<table>
<thead>
<tr>
<th>Source</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Property tax</td>
<td>37.5%</td>
</tr>
<tr>
<td>1% option tax</td>
<td>12.5%</td>
</tr>
<tr>
<td>Revenue Sharing</td>
<td>8.7%</td>
</tr>
<tr>
<td>State tax reimbursement</td>
<td>2.0%</td>
</tr>
<tr>
<td>Utility dividend</td>
<td>8.3%</td>
</tr>
<tr>
<td>Motor vehicle funds</td>
<td>7.0%</td>
</tr>
<tr>
<td>State &amp; federal aid</td>
<td>17.5%</td>
</tr>
<tr>
<td>Bond Revenues (capital proj)</td>
<td>0.0%</td>
</tr>
<tr>
<td>Corporate revenues</td>
<td>5.0%</td>
</tr>
<tr>
<td>Interest income</td>
<td>0.9%</td>
</tr>
<tr>
<td>Aviation receipts</td>
<td>0.6%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100.00%</strong></td>
</tr>
</tbody>
</table>

Revenue Uses:

<table>
<thead>
<tr>
<th>Use</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>State</td>
<td>10%</td>
</tr>
<tr>
<td>County</td>
<td>15.38%</td>
</tr>
<tr>
<td>Township</td>
<td>5.20%</td>
</tr>
<tr>
<td>Schools</td>
<td>42.60%</td>
</tr>
<tr>
<td>City</td>
<td>25.13%</td>
</tr>
<tr>
<td>Sanitation</td>
<td>11.89%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100.00%</strong></td>
</tr>
</tbody>
</table>

The city police and Sheriff's office, is a federally approved jail built in 1968 and can house 118, all of whom attend the Indiana law enforcement academy on duty training programs, five juvenile officers, a narcotic unit and a community crime prevention program. Staff of 33 - includes 14 deputies, 1 detective, 13 jail personnel. There are also 30 special volunteer deputies and a volunteer mounted patrol of 20.

A staff of 35, 7 days per week, 24 hours a day, with full time emergency medical technicians and two ambulances. They work closely with the police and fire departments and Reid Memorial Hospital. A rescue unit is on 24-hour call from the fire department.

The total fire fighting personnel is 83 and there are six fire stations located in the city with the following equipment:

1. 35' Aerial rescue pumpers
2. 35' Aerial ladder
3. Pompers
4. Water Wagens
5. Rescue unit
6. Grass fire rig

There are 112 call alarm boxes that are 100% wireless and most industries have radio alarm systems hooked into the fire equipment. The water pressure in industrial areas is 70-90 pounds, plus booster backup pumps. There are 18 Wayne County rural fire departments and all are under a mutual fire aid system.

Unpaved roads: none. Traffic Control by the Wayne Public Works Department.

Professional consulting firms are called in on occasions. Street Department provides maintenance and sweeps all streets an average of 15 times per year. Special crew for street signs and markings. Parking enforcement for city residents without charge, once a week, with 18 compactor trucks and 3 dump trucks, with 80 employees. Business area waste is serviced three times weekly, no charge. There are private waste disposal companies serving industry and business. A modern liquid waste plant can handle 18 million gallons a day, receiving on an average, half that amount.

3 county commissioners, 7 members of the county council, auditor, treasurer, Circuit Court judge, 2 Superior Court judges, prosecuting attorney, sheriff, coroner, recorder, assessor and surveyor.

Responsible for tax assessments, county tax rate and collections, constructs and maintains county roads and bridges, enforces the law, provides legal functions, maintains public records and records land transactions.

Wayne County:

- Employment Security Division
- Revenue Department
- State Highway Commission
- Vocational Rehabilitation Services
- Conservation Department
- Health Department
- Department of Revenue
- 4th District Congressman
- United States Senate
- Board of County Commissioners
- United States Congress
- Indiana General Assembly
- U.S. Department of Agriculture
- Veterans Administration
Property tax: Total tax levy frozen by 1973 state tax reform in counties adopting local option income tax. Wayne County adopted 1% option income tax.

1978 Rate Per $100 of Assessed Valuation

5-Year Property Tax Trends

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Richmond City</td>
<td>$7.32</td>
<td>$7.30</td>
<td>$7.02</td>
<td>$7.46</td>
<td>$7.62</td>
</tr>
<tr>
<td>Township $0.48</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School District $0.93</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sanitary District $0.67</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>State $0.01</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total $3.23</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Property tax reducer (20.7282%)</td>
<td>$7.32</td>
<td>$7.30</td>
<td>$7.02</td>
<td>$7.46</td>
<td>$7.62</td>
</tr>
</tbody>
</table>

Property tax reducer: Due to frozen levy and increasing valuations, each tax bill reduced to collectively equal the frozen levy. 1978 tax reduction factor: 20.7282%.

Assessment method: State uniform system. Professional appraisers used. Re-assessment intervals: 8 years.

Local option income tax: 1% of adjusted gross personal income (not imposed on corporations). Deducted by employer, collected by state and reimbursed to county.

Family tax example: (Family of 4 with 2 dependent children, total gross income of $20,000, with standard deductions. Own home with market value of $50,000, 1979 4-door sedan).

| Income tax (includes county 1%): | $525.00 |
| Annual property tax:              | $535.60 |
| Auto license and registration:     | $108.25 |
|                                  | $1,218.85 |

Sales Tax: 4% (Exceptions for food, prescription drugs, and items consumed or used in the manufacturing process).

Personal income tax: 2% flat rate on adjusted gross individual income. Exemptions: $500 each for taxpayer, spouse, each dependent, $500 additional exemptions for over 65 and blindness. Tax withheld by employer.

Corporate income taxes: Indiana manufacturing corporations currently calculate three income taxes, but pay on two calculations (the corporate adjusted gross income tax being gradually phased out by 2007 at rate of .05% per year.)

1. Corp. Adj. Gross Inc. Tax: 3%
2. Corporate Gross Inc. Tax: 1.5% Pay higher of the two calculations
3. Corp. Supplemental Net Inc. Tax: .3%

National tax comparisons:

<table>
<thead>
<tr>
<th>Indiana</th>
<th>U.S. Avg.</th>
<th>Indiana Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Par capita State and Local tax spending: $715</td>
<td>$939</td>
<td>47th</td>
</tr>
<tr>
<td>Expenditures for welfare: $51</td>
<td>$117</td>
<td>44th</td>
</tr>
<tr>
<td>Per capita personal income tax: $54</td>
<td>$75</td>
<td>23rd</td>
</tr>
<tr>
<td>Per capita State and Local payrolls: $11</td>
<td>$18</td>
<td>47th</td>
</tr>
<tr>
<td>Per capita State debt: $115</td>
<td>$282</td>
<td>34th</td>
</tr>
</tbody>
</table>

Unemployment Compensation Tax: Amount in fund - $261 million (end of 1977)

Beginning rate for new employer: 2.7% of first $5000 in wages. Benefits: $74 to $124 weekly with 4 dependents. Maximum payments: 26 weeks. Indiana employer contribution rates average 1.88% of taxable payroll.

Worker's Compensation Tax: Ranked lowest state in U.S. on basis of average annual payment per employee.

Other state taxes:

Gasoline tax: 8 cents per gallon
Liquor tax: $2.52 per gallon, beer - 9.5 cents per gallon, wine - 45 cents per gallon
Tobacco tax: 10.5 cents per package

City of Richmond

The City of Richmond and Wayne County have separate boards for zoning and traffic. Some rules have been adopted in 1958 and have been updated several times. Some special meetings are scheduled.

Zoning changes and variances: Richmond and Wayne County have separate boards to hear zoning appeals. The city board meets the second Thursday of each month and the county board meets the second Wednesday of each month.
1. Discussion with zoning staff
2. File application
3. Commission action (public hearing)
4. Approval by City Council or County Commissioners

Office of City Planning Director: Three planning professionals on a staff of six.
Office of County Plan Administrator: Staff of three

Zoning Classifications:
- M-1 Light manufacturing
- M-2 Heavy manufacturing

Local Plan Committees:
Fifteen members - three from each county. Two professional staff members.

Local zoning codes contain sections setting forth general protective standards affecting the following nuisances:
- Air pollution
- Water pollution
- Waste matter
- Electrical disturbance
- Vibration
- Noise
- Odor
- Heat and glare

State Board of Health: Administers program, policies and laws affecting the health of Indiana residents. Coordinates the following environmental protection agencies:
- Air Pollution Control Board: 7-member board. Contains government, public, engineering, industry and agricultural representatives.
- Stream Pollution Control Board: 7-member board. Contains government, public, technical, industrial and agricultural representatives.

Pollution control equipment and facilities can be financed by the use of tax-exempt industrial revenue bonds without regard for the $5 million federal limit imposed on typical industrial projects.

Pollution control equipment and facilities may be exempted from the payment of property taxes.
Building Type Study

Introduction

Within the time frame of future years, an increasing proportion of houses, apartments, and institutional accommodations will be constructed for elderly persons than any previous period in our history. There are several documented reasons focusing on this. First, and probably most important, is the fact the life-span of mankind has increased by the advances in medical science; therefore, the proportion of older people in the population has increased. Second, more elderly persons are living by themselves and breaking the concept of the "three generation household" and therefore separate housing accommodations are in more demand. Third, the increase of private pension plans and social security benefits tend to enable more aged people the opportunity to pay for suitable accommodations. Also, the effort expressed by many nonprofit groups, those being church, labor, and fraternal organizations, charitably supported groups, and tax-supported bodies, help provide and secure housing specifically for the elderly.

In the case of design criteria, it is increasing evident that ordinary housing attributes are insufficient in the dealings with the needs and demands of the aged. Obviously important are the needs caused by physical deterioration in old age which influence the need for special design treatments and facilities. In planning the design criteria for the elderly, it is important to be aware of certain basic psychological and sociological principles. These principles focus on the concepts that
people sharing this age group generally do not want to break their ties with family and neighborhood, thus be transplanted in a new and foreign environment. The elderly want to become an active body participating in community functions and decisions. The focus of these principles should always encourage and support the continued patterns of living, daily routines, personal care habits, and recreational activities of the aged people. The central theme of all aged persons is to maintain independent living for as long as possible.

Space

A health care facility for the elderly should be planned primarily for the benefit of the patients. The dominant goals of efficiency, economy, and administrative convenience are very important but they should never be overemphasized to the degree that it restrains the patient's well-being, personal dignity or privacy.

As an architect, I feel a challenge in the health care area to house patients and provide adequate space for staff and supporting activities. I feel that a real contribution to the well-being of the patient can be attained by providing a cheerful atmosphere, small intimate interiors rather than large institutional spaces, fine vistas, and uncluttered communal rooms.
In considering the space and design principles of a project of this type, Mr. W. Russell Parker, Architect states in Time-Saver Standards for Building Types, "in very general terms the criteria for planning housing accommodations for the aged are:

1. Small size and compactness for convenience and economy.

2. Fireproof construction planned for maximum safety.

3. Minimizing of the problems and effort of housekeeping and daily activities.


5. A high degree of privacy.

6. Careful avoidance of an institutional look."

The central issue dealing with space and its attributes in a facility for the elderly is whether patients should be housed in single or double rooms. It is suggested by directors, nurses, and social workers usually favor single rooms. Doctors also like single rooms for ambulatory patients, but accept multiple-occupancy rooms for the bedrestricted sick. Elderly patients generally prefer single rooms. They have lived independently all their lives and don't want to have to adjust to a strange roommate.

Research has found that a single room means privacy and a degree of independence, two things which mean a lot to an institutionalized person. Very few will willingly go into a double room, unless they feel insecure alone, or unless the roommate is a good friend or relative. For the highest standards, elderly health care facilities should have about 90% of residents in single rooms, and only the very sick 10% in multiple
occupancy rooms. If there are enough staff and personnel available, it was found that an institution composed entirely of single rooms would be ideal.

Since it is desirable to avoid the excessively long corridors needed for a floor with only single rooms, the current practice of high-standard health facilities is to house two-thirds of the residents in single rooms, and one-third in double rooms.
Structure

A facility for the elderly should be constructed of materials that are easy to maintain and will not require excessive repairs. The pressure of constant use is an important factor which must be emphasized and should be designed so that when repairs are necessary, they can be made easily and without disrupting the operation of the facility.

The choice of construction methods and finish materials will strongly affect both construction and operational budgets. For institutions such as facilities for the elderly, greater emphasis is normally placed on operational and maintenance considerations than on first construction costs, this is because operational savings over the life of a building will repay many times over the increased construction costs required to yield these savings.

It was strongly emphasized in my research material that the structural frame should be fire-resistant construction—either skeleton or wallbearing. In the selection of an appropriate structural system, it is important that future changes within the building or additions to it should be kept in mind. Obviously, the dominant factors should be in relation to a functional layout and economy of means.

The object of many of the building industry's research programs is to find better ways to "face" buildings. Speed of erection, minimum labor on the site, less space consumption, and better heat insulation all contribute to better building at lower cost. Building insulation against heat loss and heat gain aids comfort and also reduces fuel consumption. In every case, roofs need insulation, if nothing more as in some parts of the country, to restrict structural movement of the roof deck and struc-
ture. Research has found that the type of roof system ultimately selected should reflect other structural decisions, such as what floor system are to be used in multistory buildings. Also for example, if future vertical expansion is planned, easy removal of roofing and insulation is very important.

Long-term wearability and ease of maintenance are two critical factors when considering wall finishes in a facility for the elderly. While at the same time the finishes should not be so repetitive that the facility will have an institutional character. Another consideration is the need to stretch the construction dollar as far as possible.

We, as designers, must keep in mind that walls and floors of facilities for the elderly have special requirements. For example, carts used to distribute supplies can mar walls and floors. Also older people are likely to touch corridor walls for support or loss of balance at times. The floors must provide a sure footing for the residents.

Ceilings in corridors, dining rooms, kitchens, utility room, bathrooms, residence rooms, offices, and miscellaneous rooms used by the residents should have acoustic ceilings. It is the principle of arresting noise at its source that might imply that all ceilings should act as sound barriers. In areas such as lounges, recreational room, lobbies, and other activity orientened spaces, finishes that require little maintenance can still provide color, warmth, and interest.

The most important of basic principles dealing with structural attributes in facilities for the elderly focus on the element of fire safety and it's role within the total design package. First of all, the proper selection of materials and equipment can reduce the chance of a fire starting in the first place, and also help centralize it once started.
The Public Health Service Regulations on sprinkler systems are as follows:

"To reduce the danger from fire, it is desirable to provide automatic sprinkler systems in those areas that are considered hazardous from a fire safety point of view. Such hazardous areas may include the soiled linen rooms, basement corridors, paint shops, woodworking shops, trash rooms, storage rooms, accessible attics, laundry and trash chutes, and entire nonfireproofed buildings." 2

It seems evident that all buildings housing the elderly should be equipped with automatic fire detection and alarm systems. Systems typically in use today are triggered by heat and some by smoke. Every facility for the elderly should also be equipped with a proper number and kind of portable fire extinguishers. No new structure should be built without at least a one-hour fire rating throughout, and it is also suggested that a first rate fire alarm system.
Circulation

In response to circulation criteria, the corridors designed into elderly health care facilities should be wide enough to permit the passage of wheel-chairs, while if meals are served in the rooms there should be sufficient space to maneuver the food trolleys and trays. Therefore, the corridors giving access to the housing units should be 5 feet wide. It is recommended that corridors with room on one side should be made 5 feet wide and corridors with rooms on both sides 6 feet wide. In the case of patients in wheel-chairs passing each other in the corridors, an allowance should be made for a width of 6 feet. Also to be considered should be the visual aspect of the corridor itself, especially the length or tunnel effect.

It is considered that handrails should be fitted in the corridors at a height of approximately 3 feet. Also space should be provided for parking of wheel-chairs. This parking space is essential near the "community spaces", such as the dining and recreational areas.

Another dominant factor playing equal importance with corridor space and it's circulation are the elements of stairs and the fact of their physical restrictions. Stairs must be easy to walk on and properly lighted. The treads should not be slippery.

In the instance of a multi-story building servicing the elderly, it is critical that the circulation paths focus on both elevators and ramps. It should be realized that walking up and down stairs is undesirable even for some old people living on their own.
It is recommended whenever possible that facilities for the elderly should be on one level and should be located on the ground floor. This aspect can be expanded if they are provisions for elevators and ramps. If the design of the facility for the elderly is of a low, one story structure where elevators are uneconomical, the residents should not be expected to climb more than one flight. A 5 per cent slope on ramps would seem adequate.
Site

A facility servicing the elderly should be situated in a neighborhood which displays all the attributes and amenities of a good neighborhood. Those characteristics involving basically a residential environment, displaying an adequate range of community facilities, public transportation being offered and available, and ideally having few land forms that are threatening to the circulation of the elderly. To an elderly person, an ideal neighborhood is one in which possesses many attributes which he or she has lived in previously.

For example, the community itself plays a vital role upon the elderly. A well-established community presents many advantages to the elderly, such as more existing facilities and generally better public transportation.

Other elements which are influencing factors of the site and its attributes are expressed by Russel Parker, architect in Time-Saver Standards for Building Types: “the selection of an actual site involves the following considerations:

1. The topography should be as level as possible to minimize the need for steep walks, ramps, or stairs. Relatively level sites encourage walking—a highly desirable exercise.
2. The site should not be bounded on all sides by major traffic arteries. It should be possible to go shopping or to the park without having to cross a major street.
3. Essential commercial facilities should be close at hand and easily accessible—supermarkets, cleaners, laundries, shoe repairs, drug stores, and the like.
4. Basic community facilities such as churches, libraries, health services, and recreation facilities should also be close at hand.
5. Public transportation should be immediately available at the site.
6. The site should be large enough to permit the development of adequate outdoor areas, for both active and passive recreation. Ideally, these areas would be in addition to, and out of the way of, those areas used by other residents, particularly children."
Projects of Similar Interest

With concern of this portion of the facility program, I have documented projects of similar interest from Joseph Weiss' book, Better Buildings For The Aged.

The projects I have selected from this source of reference show, in some architectural emphasis, characteristics and attributes I feel are dominant issues when dealing with a health care facility for the elderly.

The projects of similar interest are:

1. Four Seasons Home, Columbus, Indiana
2. Jewish Orthodox Home for the Aged, Beechwood, Ohio
A pattern of pitched roofs and sheds, games and gardening, a bird sanctuary and an arboretum: these are a few of the elements that grace the architects' conception of a suburban residence dwelling on a long, flat site.

A well-reasoned complex of land connected by terraces and paths is appropriate for a well-populated area of eighth and sixty years. The residential building contains 10 dozen 1- or 2-room apartments for single or married persons.

A heart of the complex is a chapel with sharply peaked roof towers and the other buildings on the site. This is the central core facility that houses the kitchen and a series of dining rooms surrounding a open interior court. In addition, the building contains administrative offices, a lounge with a library and game room, a center for arts and crafts, a barber and beauty shop, a laundry and a soda fountain to be enjoyed by the residents.

The north end of the site is a health center with separate dining and kitchen facilities. The 16 double rooms are designed for residents needing intensive care and single rooms for the chronically ill. A pair of interior living rooms to be used for relaxation or employment is a municipal hospital away in case of emergency.

Glass and brick are used for the covering of the buildings, which are steel frame with bar joist roofs. Interior partitions are dry-wall and floor is vinyl asbestos tile. There is storage in the central core areas and station corridors. Special hardfacing the convenience of safety of residents is employed throughout. Buildings are air-conditioned.
With the aim of establishing a sense of privacy and a residential rather than an institutional feeling, the architects of this multi-purpose nursing home designed a series of 1-story pavilions surrounding a main activities building. The individual units, each with a nursing staff to serve 25 to 35 residents, offer a range from minimal to maximal medical and intensive psychiatric care.

The buildings are grouped around landscaped courtyards and linked by covered walkways. They occupy the highest point on the site. Retaining walls made of railroad ties and filled with plantings lie at the west end of the property. Next to the main parking lot an artificial lake has been created for esthetic reasons but also to collect rain water.

The central building serves day care patients as well as permanent residents. This extends the function of the home to that of a community geriatric center. Among the facilities available are a sheltered workshop, occupational and physical therapy departments, an X-ray unit and laboratory, and a variety of special medical clinics including dental and
Care has been taken in the choice of color and furnishings for the home. Instead of the metallic dressers, beds, and desks that are the hallmark of many institutions, warm wooden wall units were chosen for the bedrooms. The activity rooms, which face the courtyards, were kept light and airy with furnishings that would be appropriate in or out of doors. With due consideration for the failing eyesight of the aged, wall colors are generally light to increase reflectivity and to contrast with darker floors. All colors are more vivid than normal.

Typical residents' rooms. Two-thirds of the rooms are singles.
1. View towards the main entrance and chapel from landscaped courtyard.
2. The folded plate roofs were chosen to convey a residential feeling.
3. Sunny activities room flanks courtyard.
1 Looking from the nurses' station toward a lounge in one of the maximum care pavilions
2 View across the central court from the main lobby
The crisp lines of pitched-and flat-roofed buildings, courts, and L-shaped wings will create an interesting architectural contrast to the gently rolling farmland area of upstate New York. This site for a nursing home is part of county property which also includes a jail. Architects solved the unhappy contiguity problem by placing the service drive, facilities, and administrative offices of the home on the west side of the site with sufficient landscaping to screen the buildings from each other. This portion of the site is on a slope so that all offices and service areas of the home are at a lower level. The upper floor is exclusively reserved for nursing units and related activities.

Each of the two L-shaped patient wings consists of 18 double rooms and four singles supervised by nursing stations at the corners of the L’s. There is a solarium at the end of each corridor and a TV room opposite each nursing station. A third and fourth nursing unit at the opposite sides of the building are planned for...
Asbestos tile and carpeted floors are used in corridors. Ceilings in dining rooms and solariums are acoustical plaster.

An interesting feature of the design is that all the pitched-roof buildings are used for communal activities—chapel, meeting room, physical and occupational therapy rooms—in contrast to the flat roofs which mark the nursing units. Thus the shape of the roof not only keys the function but also provides extra light and air in the areas where they are most needed.
FIRST PRIZE

Joe J. Jordan, Philadelphia
Hanford Yang, School of Architecture and Planning,
Massachusetts Institute of Technology

Comments by the contestants

The site: A relatively level plot in the north-east section of Philadelphia provides an area of more than 12 acres covered with fine trees and zoned for institutional use. To the north a well-established shopping center is still expanding, while the adjacent property to the south is being held for a new elementary school. It is recommended that the existing street between be closed. A recently dedicated city park borders the eastern property line, and across the street a middle-class residential area completes the fine list of neighbors.

The plan: The three residential units, arranged in a cluster about the main lounge area of the central building, provide intimate outdoor sitting spaces. Within the units, residents' rooms are grouped two and three together, creating pleasant circulation areas that lead to indoor facilities and the small communal gardens. The all-purpose room, chapel, shop, and library are closely related to the residents' rooms, so they should be well used. Beyond the open court lie the main entrance and the administrative suite. Service elements complete the north end of the central building. The glazed corridor connecting with the infirmary also serves as staff entrance.

The buildings: The exposed steel frame is sheathed with lightweight steel panels and plate glass. A 50-ft. module regulates the plan, with columns generally on 20-ft. centers. Natural light admitted through the clerestories dramatizes the administration and assembly areas. All space is air conditioned.

Comments by the architectural editor

This plan is a clear and direct expression of the functions the building is to perform, and fits within a clean, economical structure. The relationship between various areas and functions has been carefully studied, circulation is logical and direct, and obvious thought has everywhere been given to make this a pleasant place to live.

Common living facilities are located at the heart of the residential areas, and serve as a focal point for the home. The fact that all traffic to and from each residence unit passes through the main lounge will add to the sense of activity and interest. The residence units themselves are excellent examples of small-scale planning for a large-scale home. Each corridor is short, with at most nine rooms opening on it. Because the four corridors are offset about a central point, a resident can see only
his own, and consequently a feeling of identity with the individual wing, rather than with the entire unit, is encouraged. Each wing has its own covered garden patio, and everywhere there is a feeling of freedom to go in and out at one's own pleasure.

The individual residence room is of adequate size, but the closet location prevents the use of a precious inside corner for furnishings.

Infirmary and health facilities are well related for services and visitors, but it is not desirable to have to pass through these facilities to get to the rooms. The central court lends an air of graciousness, but is otherwise somewhat difficult to justify.

The service entrance and functions are admirably isolated from all other parts of the home from the standpoint of vision and noise. The kitchen feeds both the dining area and the infirmary from its central location. Residents' storage has good access.

It would be impossible to relate the administration area more directly to the main entrance.

This single-story scheme, though it encloses a relatively large volume, should be inexpensive to build because of the simple structural framework and clean exterior lines.

The exterior of the building articulates the difference in scale between the high central block, housing group activities, and the low residential wings. The effect is one of quietness and restraint, and as the building is viewed from both inside and out, breaks in the walls and the use of large amounts of glass affirm the easy relationship that exists between indoors and outdoors.
Architectural Thesis Proposal

Submitted on the following two pages is a written response detailing exactly what I have chosen to deal with in the architectural thesis proposal.
TECTURAL THESIS PROPOSAL

Title: VISTA-PINES VILLAGE

Description of Project:
The project involves development of a center for elderly people in which health care and nursing care would be available, as well as comfortable housing facilities.

Client/User Description:
The entire development would focus on a long term health care facility for the elderly. Also the combination of patient - staff will influence long term planning.

Context Description:

On Site: The center will encompass a medical office building, client housing structure, a neighborhood shopping center and recreational facilities.

Adjacent environment: The adjacent environment offers many options: private and public golf clubs, tennis court facilities, shuffleboard, plus independent living units could maintain own gardens and plants.

Student's background or research in topic area:
Background consists of first, personal experience with such a project in connection with an Indianapolis Arch. Firm, James Associates.

Reasons for Choosing Project:

1. I feel "Health Care Facility" is more than just a current trend. One which many of us must face in the future.

2. I also feel that "Health Care" is an important issue which is certainly open to change because of its emphasis.

3. I am doing a health care facility in connection with James Associates because of the emphasis of my employer seeing my personal growth.

Student's Signature: Steven E. Stone
Date: 9/8/78
TECTURAL THESIS PROPOSAL

Experience Profile:

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Experience: (indicate length of project in weeks and approx. size in sq. ft.)

EX: 9wks/3000 sq.ft.)

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Types:

- Bonta
- Gaming
- Theory
Appendix
11.1 ACKNOWLEDGEMENTS

11.1.1 The Scottish Development Department acknowledges the co-operation of the Scottish Home and Health Department and the Ministry of Housing and Local Government in the preparation of this Bulletin and wishes to thank the many interested professionals in local government and private practice who generously contributed time and advice.

11.1.2 Special acknowledgement is made to MA (Cantab), ARIBA, author of and to RIBA Publications Ltd for permission to reproduce diagrams for this publication.

11.1.3 Anthropometric data in diagrams 1-4 are based on information in BS 4467: 1969 published by the British Standard Institution.

11.2 BIBLIOGRAPHY

11.2.1 (2nd edition)

This is the most comprehensive document on this subject and should be a standard reference for those involved in providing accommodation for the disabled. The bibliography and list of organisations associated with the welfare of the disabled, included in this publication, is similarly comprehensive.

11.2.2 DB2: A sociological study (Metric edition)

MHLG, HMSO London 1968

DB11: An account of the project with an appraisal.

MHLG, HMSO London 1968

Bulletin 1 is a useful introduction to designing for old people.

Bulletins 2 and 11 develop and illustrate the concept of grouped accommodation.

11.2.3 Planning Research Unit, Department of Urban Design and Regional Planning, Edinburgh University


BS:CP 96, Part I, 1961

BSI, London

These documents augment the information available in designing for the disabled within the range of possible variables.
11.2.4 NSHH B1 Metric Space Standards
SDD, HMSO Edinburgh 1968

DB6 Space in the home (Metric edition)
MHLG, HMSO London 1968

DB14. A guide to user needs with a check list.
MHLG, HMSO London 1968

These Bulletins apply to housing in general but the findings apply equally to old peoples housing.

11.2.5 BS4330 1968, Recommendations for the Co-ordination of Dimensions in Building-Controlling Dimensions.
BSI London

DB16 Co-ordination of components in housing (Metric dimensional framework)
MHLG, HMSO London 1968

NSHH B1 Supplementary Note – Metric Dimensional Framework
SDD, HMSO Edinburgh 1970

11.3 LEGISLATION AND REGULATIONS

11.3.1 The Building (Scotland) Act 1963
The Building Standards (Scotland) Regulations and Amendments 1963–67 Explanatory Memoranda 1–15 and Metric Equivalents of Dimensions are published by SDD.

11.3.2 The Social Work (Scotland) Act 1968
The Social Work departments, established within Local Authorities under the above act, are now responsible for the provision of ‘homes’ for the elderly formerly provided under Part III of the National Assistance Act 1948. Design guidance on this type of accommodation may be found in Local Authority Building Note 2, published by the Ministry of Health.

11.3.3 The present document generally supersedes the information on designing for elderly people contained in Housing of Special Groups, a report by the Scottish Housing Advisory Committee, HMSO Edinburgh 1952.
In the coming years, a greater proportion of houses, apartments, and institutional accommodations will be built for elderly persons than at any previous time in our history. There are several reasons for this. First is the well-known fact that the life-span of mankind has increased through advances in medical science; thus the proportion of older people in the population is higher. Second, with the passing of the three-generation household, more elderly persons are living by themselves and therefore require separate housing accommodations. Third, increased medical security benefits and private pension payments have enabled more aged people to pay for suitable accommodations. Finally, many older groups such as church, labor, and fraternal organizations, charitably supported groups, and tenant-supported bodies are and will continue to be engaged in the provision of housing specifically for the elderly.

Ordinary design criteria do not always apply to housing for the aged. One of the most striking differences is the high concentration of one- and two-person families as a result of children leaving home or the death of one spouse. Also important are the needs caused by physical deterioration in old age, which requires special design, treatments and facilities.

In addition, certain basic psychological and sociological principles should be observed in planning for the elderly. People in this age group usually do not want to break their ties with family and neighborhood and be placed in a new and foreign environment. They need activities, but merely hobbies, and they want to participate in community functions. The objectives, programs, and physical facilities for the housing of the aged should encourage and support the continuance of earlier patterns of living, daily routines, personal care habits, social contacts, and recreational activities. An important objective is to maintain independent living as long as possible.

A desirable neighborhood for the elderly should have many of the characteristics of any good neighborhood. It should be basically residential, possess the normal range of community facilities, have convenient public transportation, and be removed from particularly objectionable land uses. In terms of the individual aged person, the ideal neighborhood is one in which he has lived most of his life. The development of a broad program and the selection of a particular site should give consideration to established neighborhoods where many of the aged are likely to be living and to have their roots.

From the point of view of the community itself, there are also many advantages in housing the aged in well-established neighborhoods, where there are more existing facilities such as schools, churches, libraries, health services, and recreation facilities. Another advantage, which is frequently overlooked, is the sympathy and help that are extended to friends and neighbors, young and old alike.

The selection of an actual site involves the following considerations:

1. The topography should be as level as possible to minimize the need for steep walks, ramps, or stairs. Relatively level sites encourage walking—a highly desirable exercise.
2. The site should not be bounded on all sides by major traffic arteries. It should be possible to go shopping or to the park without having to cross a major street.
3. Essential commercial facilities should be close at hand and easily accessible—supermarkets, cleaners, laundries, shoe repair shops, drug stores, and the like.
4. Basic community facilities such as churches, libraries, health services, and recreation facilities should also be close at hand. In this connection it should be noted that a half-mile is the maximum walking radius of many aged persons.
5. Public transportation should be immediately available at the site, since many of the aged persons, such as special services or specialized medical attention, will in all likelihood be located elsewhere. Transportation is also important for obtaining part-time work, for visiting distant relatives or friends, and generally for maintaining a spirit of self-sufficiency.
6. The site should not be immediately adjacent to a school building or any other active recreation area used by teenagers or adults.
7. The site should be large enough to permit the development of adequate outdoor areas for both active and passive recreation. Ideally, these areas would be in addition to and out of the way of those areas used by other residents, particularly children.

Because the aged are generally retired, a comfortable and pleasant living area is highly important. Particular pains should be taken in the design of these spaces because they are not only intensively used but also tend to be quite small. Some suggested state standards, for example, call for living areas of 40 to 90 sq ft for single-person occupancy. Interesting views and southern exposure should be provided if possible. Extra-wide window sills for plants and built-in shelves and storage space are desirable. Privacy from the front door should be provided. If a dining area is included as a part of the living area, it should permit la-
A separate bedroom is necessary for two-person occupancy, but a sleeping alcove or a combined living-sleeping arrangement is often satisfactory for single persons. The separate bedroom should always be large enough to accommodate twins, and it is often desirable to have the room in two with a screen. (See Figs. 1 to 4.)

A combined living-sleeping arrangement is the most economical in terms of space but has the disadvantages of lack of privacy and a tendency to be untidy. The sleeping alcove is a generally satisfactory compromise, since it offers almost the same economy as the combined arrangement but without its drawbacks. The alcove should be large enough to accommodate all the essential items of any sleeping area - bed, night table, storage chest, closet, and chair - and it should be possible to close off this area from the living area if desired. There should always be an operable window in the alcove for light and ventilation.

Regardless of which arrangement is used, certain details should receive attention:

1. Adequate space should be provided in bedrooms for getting into bed from each side, making the bed, using the dresser or chest of drawers, cleaning the room, using the closet, and dressing. In the following sketches, the recommended amount of space for these activities is given.

2. To provide for the degree of comfort and convenience, the bedroom must be about 11 ft 2 in. wide and 9 ft 10 in. or 10 ft 4 in. long, depending on whether space is provided at the

A "limited space" allows space to open closet door and remove garment. "Liberal space" allows space to open closet door, remove garment, and put it on.

Fig. 3

Touring the bed for dressing or just for opening the closet door. If twin beds are to be used, the width of the room (with the furniture arranged as shown) would be increased to 15 ft. This would give space for two twin beds, each 29 in. wide, with 22 in. between them. (See Fig. 8.)

Fig. 4

In the case of two-person occupancy, where more space is available, 3 ft is often regarded as the clear distance between beds, and some agencies recommend an allowance of at least 5 ft at one side of the bed for a wheelchair.

- Whenever possible, there should also be space for an oversized bedside table to hold medicines, water, and other items of daily use.

- The plan should permit placement of the bed so that a handicapped person can see out the window.

- It is desirable to provide a bell or buzzer near the bed so that a person can summon assistance.

- In close proximity to the bed there should be a convenience outlet which is hooked up with a switch at the door or the entrance to the space. Thus a bed lamp could serve as the essential nightlight. Because of the two-way switching possible, this arrangement is preferable to the use of a single-switch ceiling or wall fixture.

- There must be a short and direct access from the bed to the bathroom.

Bathrooms for older people should be ample in size and planned for safety. Many of the elderly need assistance in the bathroom, so a wheelchair should be always within easy reach. A minimum area of 35 to 40 sq ft is acceptable, but because of the possibility that a chair or wheelchair may be needed, 40 to 60 sq ft is often recommended.

Where there are windows and a bath fixture, a wide sink is desirable, and a wheelchair can be moved about easily. The floor should be level to the outside, and it should be possible to close off this area from the living space if desired. There should always be an operable window in the alcove for light and ventilation.

A bathtub installed at a height of 33 in. is more comfortable to use than one installed at the customary 34-in. height. For a person in a wheelchair, however, the 31-inch height is better. Lavoratories should be well-supported, and held firmly in place.

The shower and tub faucets should be placed so that a person can reach them easily both before and after stepping into the tub. Showers should have a support bar and a soap dish for easy access.

- The shower should be at least 2 ft wide, with a sliding door or other firmly installed and self-closing, and a seat, either built-in or removable, is desirable for both tub and shower. There should be a low side and flat, non-slip bottom.

The toilet should be placed next to the tub, if a tub is used, so it can be used as a seat when filling the tub or simply for resting, and grab bars should be provided at the toilet and tub or shower.

- All grab bars and hand holds should be of noncorrosive material. A 1 in. in diameter, and mounted to withstand a pull of at least 500 lb.

Towel racks and rods should also be strong and securely mounted because older people sometimes use them as grab bars to steady themselves. Glass towel rods should not be used.

- Medicine cabinets should be extra large and preferably recessed. Projecting accessories should be avoided whenever possible. It should be possible to lock the door from the outside in an emergency.

Bathroom Arrangements

Figures 6 to 9 are suggested arrangements for bathrooms with tub and shower stalls. The
Fig. 5 Bathrooms with tubs.

Because kitchens are potentially as dangerous as bathrooms, equal care should be given to their layout and design. In locating the kitchen in the plan, provide easy access to the outside and direct access to the dining space, which could be a portion of the living room. In some plans, space can be provided in the kitchen for dining. In these cases, however, an additional 20 to 40 sq ft are necessary. Interior locations are acceptable if mechanical ventilation is provided.

Do not plan extremely compact kitchens for older people; they desire and need ample work space. If the kitchen is too compact, storage space is limited and much of it is either too high or too low to be reached comfortably. Shelves should be no higher than 63 in. from the floor, and no lower than 12 in. Too little counter space leads to crowded work surfaces, which in turn can create hazardous working conditions.

Clearance between facing equipment and counters should be a minimum of 3 ft for two persons. To permit two people to work and pass each other, the between-counter clearance should be 4 ft.

Equipment should be electric for greatest safety and should be arranged for maximum efficiency. Ranges should be provided with front rather than back controls. Heating elements should visibly glow when hot. In placing the range, consider allowing extra space for ease in making minor repairs and cleaning. A welloven set at waist height is desirable. Although refrigerators need not be larger than 18 or 7 cu ft capacity, they should have a large freezing compartment and should be self-defrosting. Do not place the refrigerator too low—as under a counter. In choosing the conventional type of refrigerator, consider the amount of stooping and reaching that will be necessary.

Double sinks or sink-and-tray combinations should be provided to facilitate hand laundering. Consideration should be given to the provision of complete laundry facilities, particularly in projects. If full laundry facilities are not possible, at least drying racks should be provided.

Storage spaces should be arranged as nearly as possible so that the bulk of the regular-use items can be stored between 37 and 43 in. from the floor. Ideally, stored items should be visible as well as physically accessible. Storage spaces over ranges and refrigerators should be avoided. Sliding cabinet doors are preferable to swinging doors.

Provide adequate lighting over all work surfaces; provide an exhaust fan to assure adequate ventilation and to carry off cooking odors; select floors or floor coverings that will

Fig. 7 Bathrooms with showers.
Fig. 8  Suggested locations of grab bars at the tub.

Fig. 9  Grab and towel-bar fastening devices

- Wood backing
- Plaster on lath
- Wood screw
- Thru wall plate
- Clamps
- Thru Studs
- Integral anchor
- Toggle bolt
- Tile
- Glazed structural block
- Flexible tie
- Thru Gusset Plate
- Gypsum block
- Plaster on metal studs
- Plaster on block
Residential
HOUSING FOR THE AGED

Table, certain minimum clearances around it should be provided. Allow 36 in. between the wall or a piece of furniture and the table in order to edge past a seated person. Serving requires 44 in. from table to wall; 32 in. is needed for rising from a chair at the table. (See Fig. 15.)

General Storage
Ample, lighted closets should be provided for clothes, linens, and miscellaneous household items. Closets should either have sliding doors or be arranged for the use of curtains or screens. Provision must also be made for general storage of bulky items, such as trunks and furniture.

CONSTRUCTION, EQUIPMENT, AND FURNISHINGS

In designing housing for the aged, special consideration must also be given to the selection of materials, hardware, and equipment. Just as a particular space arrangement can contribute materially to the comfort and safety of an elderly person, so can a particular material or item of equipment. Some criteria that persons using crutches. Precautions should be taken to see that doors fit properly and do not stick, and thresholds should be eliminated. Threshold doors should not have locks, provide easy latches instead. Large, easy-to-grasp doorknobs or lever-type handles should be used. Reaching and double-acting doors and automatic door closers are particularly dangerous and should be avoided. In projects, outside doors should be master-keyed and all devices will in nature be natural, the work should be prohibited. It is also desirable to provide peepholes or vision panels. Sliding doors, slippery surfaces, and automatic window lifters in small units and eliminate the danger of working into half-open doors.

Whenever possible, windows should look out on an interesting view. In housing for older people, the height of the window is important, particularly in the living room, dining area, and bedroom. Sitting and looking out of the window is a daily activity for many of the elderly.

The living room windows should be low so that a person sitting in a lounge chair can see out. The bottom of the window should be no higher than 3 ft 2 in. from the floor and can be as low as 1 ft. For window walls, it is desirable to include a guard rail at a height that will not interfere with viewing but that will give a feeling of security. To permit viewing from a sitting position, the window should extend to a height of 6 ft 9 in. (See Fig. 16.)

For dining areas, the eye-level zone is determined by the sitting height. The sill of the window should be between 2 ft 6 in. and 6 ft 8 in. from the floor. (See Figs. 17 and 18.)

For bedrooms, one window should be low enough to permit a person in bed to look out. In addition to making the room more pleasant, a low window provides an emergency exit. The eye-level zone suggested for the dining areas is also appropriate for the bedroom arrangement that produce a uniform distribution of light are preferable to a sporty placement of light. Choose windows that are easily operated. Except for over the bathtub and similar locations, double-hung windows are satisfactory. But in hard-to-reach places, windows that are opened and closed by turning a crank are easier to operate. Many windows have been designed to operate so that the exterior side of the glass can be turned to be washed from the inside. This is an important safety factor for those who find it difficult to reach or climb. Insect screens, weather stripping, and storm sash.
When the mix center extends around the corner, one arm of the counter should be 24 to 36 in. wide.

Provide a counter at the latch side of the refrigerator for foods being placed in or taken from it.

Provide a counter 18 to 36 in. wide to the left and 24 to 36 in. to the right of the sink. If a dishwasher is desired, allow 24 in. for it either to the left or to the right of the sink. Provide elsewhere for base storage use.

Provide at least 16 in. of clearance between the latch side of the refrigerator and the turn of the counter—the space needed to stand when opening the refrigerator.

Provide at least 14 in. of clearance between the center of the sink bowl and the turn of the counter for standing.

Provide at least 14 in. of clearance between the center of the front unit or burner and the turn of the counter for standing.

Illumination levels should be approximately double those generally used in residential practice. Light sources should always be shielded. Ceiling-mounted fixtures are not recommended because of the dangers inherent in cleaning the fixtures and changing bulbs. As indicated earlier, it is highly desirable to plan lighting layouts so that lights can always be switched on from a doorway. Wall switches should control all light fixtures. Switched outlets are particularly important in bedrooms or sleeping alcoves so that the elderly person need not stumble around in the dark when looking for the switch or after turning off the light.

Place a convenience outlet for use of a night-light between bed and bath. A night-light in a central location is often useful, as are luminous switch plates. Convenience outlets should never be located less than 18 in. above the floor, 30 to 40 in. above the floor is preferable.

Have the entrance well-lighted so that steps (if any) can be clearly seen and keyholes can be located.

The aged generally require a higher temperature level than the standard; approximately
Residential

HOUSING FOR THE AGED

Fig. 16 Eye-level zone for living rooms.

Fig. 17 Eye-level zone for dining areas.

Fig. 18 Eye-level for kitchens and bathrooms.

80°. The heating system should be quick-
acting and arranged to provide a uniform distri-
bution of heat. If the aged are to be housed in
structures with younger occupants, considera-
tion should be given to the provision of sepa-
rate temperature controls or supplementary
heat sources. If steam or hot water systems are
used, exposed radiators and risers should be
avoided. Exposed radiators under operable win-
dows are particularly hazardous. Although
cold floors are to be avoided, radiant panel
floors seem to be undesirable because they ag-
grave conditions of impaired blood circula-
tion in the legs.

While a certain degree of aesthetic privacy is
necessary in any building, it is perhaps more
important in housing for the aged than in other
residential work. There is a strong desire on
the part of the aged to protect their privacy
and to be assured of quiet during their rest
periods and in the event of illness. Elderly oc-
cupants tend to be especially sensitive to the
noises of children.

In any building devoted exclusively to housing
the aged, an automatic fire alarm system
should be provided. Because of the difficul-
ties many elderly persons experience in bed-
rooms and bathrooms, particularly at night, it is desir-
able to provide some form of signaling device
whereby they can summon help. Usually the
device sounds in a neighboring apartment or in
a resident manager’s or superintendent’s
suite. In buildings or projects devoted exclu-
sively to the aged, it may also be desirable to
provide a conveniently located public telephone
booth, since many aged cannot afford a private
telephone. When installed in the dwelling,
however, locate a telephone conveniently near
the bed. Several outlets would be most helpful.

Whenever possible, accommodations for the
aged should be on one level and, unless ele-
avators are used, located on the ground floor.
In the case of low buildings where elevators are
uneconomical, the aged should not be ex-
pected to climb more than one flight. For small un-
avoidable changes in level, ramps with flat
slope not over 5 percent are preferable to
stairs. Where stairs must be used, the fol-
lowing precautions should be observed:
1. Risers should not be more than 7 in.
   high.
2. The proper proportion of run to rise
   should be scrupulously observed.
3. Fewer than two risers should be avoided.
4. Winders or curved treads should never
   be used.
5. Non-slip nosings should be used and
   should be of a contrasting color.
6. Continuous handrails should be pro-
   vided on both sides of the stairs.
7. Handrails should be of the proper
   height, of a cross section which is easily
   grasped, and sturdy in appearance as well
   as in fact.
8. Stairs should not be less than 3 ft 3 in.
   in clear width.
9. No doors should open directly onto the
   stairs.
10. Traffic should not cross the top or
    bottom of the stairs.
11. The stairs should be well lighted with
    shielded sources.
Some special considerations should also be
observed with respect to elevators:
1. Self-operated elevators should be
    equipped with automatic doors.
2. A signaling device should be provided to
    summon assistance.
3. Continuous handrails should be provided,
    and, if the car is sufficiently large, a small
    bench should be considered.
4. An automatic leveling device is neces-
    sary and should be inspected frequently.
5. If there is any possibility of use by a di-
    abled person in a wheelchair, the control panel
    should be mounted low enough to be
    reached from a sitting position.
(See Figs. 19 to 21.)
Residential Housing for the Aged

Fig. 19 Typical plans. Scale: 1/4 in. = 1 ft.

Fig. 20 Living sleeping arrangement (with sleeping alcove) for single-person occupancy. Scale: 1/4 in. = 1 ft.

Key
1. Allowance should be made for a partition between sleeping alcove and living area.
2. A minimum clearance of 18 in. is necessary on three sides of bed.
3. An oversize bedside table is desirable.
4. A window in alcove is necessary for light, ventilation, and view from bed.
5. A closet with sliding doors is desirable.
6. Dresser.
7. An area of 50 to 60 sq ft is necessary if crutches or wheelchair are to be accommodated.
8. A smaller adjacent to tub is desirable as seat.
9. Extra large medicine cabinets.
10. The desirable location of dining table is at window; it also serves as desk and work table.
11. The kitchen should have an area of 40 to 50 sq ft; the pull-down type is not recommended because of the dangerous reaches and steps required.

Fig. 21 Separate bedroom arrangement for two-person occupancy. Scale: 1/4 in. = 1 ft.

Key
1. A kitchen 40 to 60 sq ft is recommended. An additional 20 to 40 sq ft is necessary if eating space is to be provided here.
2. The bathroom requires a minimum of 40 sq ft; 50 to 60 sq ft is necessary if crutches or wheelchair are to be accommodated.
3. A built-in seat is desirable for use with tub.
4. A minimum clearance of 18 in. is necessary on three sides of bed (5 ft is necessary at one side if wheelchair is to be accommodated). Three feet between beds is recommended so that room can be divided by a screen.
5. Combined living and dining area of 155 to 190 sq ft is recommended.
Work sequence
1 Arrangement of working area should provide an uninterrupted sequence of work surface/cooker/work surface/sink/work surface, closely related to storage and eating areas (Para. 14).

Position of cooker
2 The cooker should not be immediately next to a window or door (Para. 15).

Doors
3 Doors to the kitchen should be placed to minimise through traffic (Para. 16).
4 The swings of all doors and cupboard doors in the kitchen should be planned to avoid collision (Para. 17).

Worktop height
5 Worktops on each side of the cooker should be the same height as the boiling plate or rings (Para. 18).

Fittings above cooker
6 A ceiling-mounted airer or a cupboard should not be fixed directly over the cooker or boiler (Para. 19).

Lighting
7 Lighting of working areas should be arranged to avoid shadow (Para. 20).

Storage
8 Storage space within normal reach should be provided for all articles in daily use (Para. 21).

Play space
9 Play space for children should be planned within sight of kitchen (Para. 22).

Dining space
10 There should be enough table or counter space in the kitchen for a casual meal to be eaten (Para. 23).

Clothes line
17 The route to the clothes line should be direct and free from unnecessary changes of level (Para. 36).

Storage
18 Enough storage space should be provided within normal reach for articles in frequent use (Para. 38).
19 The roof space should be provided with artificial light switched at the access (Para. 39).

Fuel store and dustbin
20 Routes to the fuel store and dustbin should be under cover and well lit (Para. 40).

Storage
21 Storage space should be provided for a reasonable amount of leisure equipment (Para. 42).

Workshops
22 Workshops and garden sheds should have lockable doors (Para. 43).

Children's play space
23 A play space for children out of doors should be provided into which they can be shut with reasonable security (Para. 44).

Water
24 Water tanks and butts should be fitted with secure covers (Para. 45).

Light switches
25 A light should be provided by each bed (Para. 48).
26 Light switches between bedroom and w.c. should be placed so that the way ahead can be lit from either direction. Pull switches in bathrooms and w.c.s. should be low enough for a child to reach (Para. 49).
27 Illuminated switches in circulation areas are desirable (Para. 49).

Electrical Installations in bathrooms
28 I.E.E. Regulations for bathrooms should be carefully followed (Para. 49).
29 Some space heating for the bathroom should be provided (Para. 50).

Medicine cupboard
30 A lockable cupboard should be provided for medicines, out of small children's reach (Para. 51).

Baths
31 A bath with flat bottom and grab rail or other device for steadying the balance should be provided (Para. 52).

Floor finish
32 The bathroom floor should be non-slippery in wet conditions (Para. 52).
W.c. and bathroom doors
33 Locks on w.c. and bathroom doors should be openable from outside in an emergency (Para. 53).

Handrails
34 Fixed handrail should be continuous on at least one side of staircase (Para. 56).
35 Gaps of more than 90 mm between balustrades or railings should be avoided (Para. 57).

Single steps
36 Single steps should be avoided; if inevitable they should be differentiated by change of colour (Para. 58).

Shallow steps
37 Steps less than 75 mm in height should be avoided (Para. 59).

Winders and spiral stairs
38 Tapered steps must not provide too small a going (Para. 60).
39 Winders are better avoided (Para. 60).

Top and bottom steps
40 Top and bottom steps of a flight should not encroach on to circulation areas (Para. 61).

Open risers
41 A staircase with open risers has special hazards (Para. 62).

Lighting
42 Artificial lighting should shine towards stairs to obviate shadow (Para. 63).
43 Windows and lighting fittings on staircases should be within normal reach (Para. 63).

Doors in circulation spaces
44 Doors or cupboard doors obstructing circulation spaces should be avoided (Para. 64).

Thresholds
45 Thresholds to internal doors should be detailed to minimise tripping (Para. 65).

Pivot and swing doors
46 Off-centre pivot doors need special detailing to avoid trapped fingers. Swing doors should be glazed sufficiently for people approaching from the other side to be seen (Para. 66).

Glazed doors
47 Doors and panels glazed to the floor should be made obvious by the use of obscured glass or a guard rail (Para. 67).
48 Glazing in doors must be strong enough to withstand slaming (Para. 67).

Floor finishes
49 Floor finishes in circulation areas should be non-slip. Near entrances they should be non-slip in wet conditions (Para. 68).

Mat wells
50 Mat wells should be provided at entrance doors (Para. 69).

Layout
51 Layout should separate pedestrian and vehicle traffic. Parking and turning space must be adequate for the traffic expected (Para. 73).

Thresholds
52 Thresholds should be designed to form the nosings of steps (Para. 74).

External steps and ramps
53 The dimensions of external steps should be designed to give easy going, but shallow steps less than 75 mm should be avoided (Para. 75).
54 Single external steps and unexpected ramps should be avoided; if inevitable they should be conspicuously marked by a change of colour or material or a handrail (Paras. 76, 77).
55 Measures should be taken to prevent ramps and open access stairways becoming slippery in winter conditions (Paras. 77, 78).

Open stair wells
56 Open stair wells should be avoided. If they are inevitable the balustrade should be unclimbable (Para. 79).

Lifts
57 In blocks of flats there should be no change of level between lift and flat entrance door (Para. 80).

Balconies
58 Balcony railings should be unclimbable and bulky enough to give reassurance. There should be no room for a small child's head or toes between the members of balustrades (Para. 81).

Paving
59 Paved external surfaces need to be non-slippery when wet and in garages and car-parking areas when wet and greasy. Drainage of paved areas needs careful consideration (Paras. 82, 83).

Paths
60 Paths should be kept away from buildings by a separating strip which is uncomfortable for walking on (Para. 84).
61 Paths used at night should be lighted (Para. 84).

Fences and gates
62 Fences and gates should be so designed that small children find them difficult to climb or open (Para. 85).
63 Very low fences must be designed to be clearly visible (Para. 86).

Electricity
64 I.E.E. Regulations should be carefully followed (Para. 87).

Electrical layout
65 The layout must be adequate for the different activities involved, with particular reference to the kitchen, circulation spaces, and areas immediately outside the house. Provision should never be less than the minimum recommended in Homes for today and tomorrow (Paras. 88, 89).
Meters
66 Meters, main switches and fuse boxes should be fixed at a height within normal reach. Switches should be readily accessible, preferably near the entrance (Para. 90).

Gas
67 British Standard Codes of Practice for gas installations should be strictly followed (Para. 93).

Standards
68 Homes should be equipped with some form of heating installation capable of giving 13°C in kitchen and circulation areas, and 18°C in living areas (Para. 95).

Position of appliances
69 Fixed radiant fires should be avoided in small rooms unless they are at high level (Para. 98).

Solid fuel
70 If an open fire is provided there should be a permanent fixing to enable a guard of standard design to be installed. The edge of the hearth should be raised. Mantels above an open fireplace must be avoided (Paras. 99, 100).

Windows should be reversible through approximately 180° so that they can be cleaned entirely from inside. This includes high level vents if these are glazed. A fixed light below the safety level of 1100 mm (Para. 110) must not extend beyond 550 mm because of cleaning difficulties (Paras. 110, 111).

Window controls
77 2000 mm is the absolute maximum height for hand-operated controls. This should be reduced if there are fixed obstructions below the window. Fastenings to casement and pivot windows above ground level should limit the initial opening to 100 mm and provide continuous control of the window's movement (Para. 113).

78 Windows which are reversible for cleaning should have locking bolts to fix them in the fully reversed position. Independent fastenings at each side of such windows, far enough apart to be beyond a child's reach, should be considered (Para. 114).

The non-slip performance of floors must be considered in relation to the particular use to which the floor will be subject (Para. 116). A table of finishes is appended (Page 116).
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