IV. BUILDING RECOMMENDATIONS

Programming Functional Needs

Two separate streams of thought became obvious during the data-gathering phase of this project. First, there was strong consensus that the City of Raleigh should establish a single location that will be designated as a Senior Center. Secondly, that since the current seniors involved in senior programs and activities have become accustomed to program offerings close to where they live, there is a sense that a single Senior Center would not serve the senior population as well as expansions of program spaces at existing locations, or perhaps some new facilities more conveniently located.

As a point of interest, the following are summaries of discussions in the various focus groups concerning important features, characteristics of contents of a new senior center:

Focus Group 1
The participants were asked to list things that they felt were important to have in a senior facility. These included handicap bathrooms, exercise area / equipment, a defibrillator with possibly a first-aid station and a nurse, a craft room, game rooms, a place to play cards and/or billiards, meals on wheels, a library with a reading room, a computer room, a social room with a television, possibly a lounge, and outside, perhaps basketball and horseshoes.

When asked to identify activities that would attract more men, they suggested horseshoes, bocce ball, mini golf, walking trails of at least one mile in length, billiards, a driving range, special 'men's day' programs, male-oriented crafts and access to a fishing pond or special fishing day trips.

Focus Group 2
The group was asked if they had accessibility or building issues that needed to be addressed, should a center be provided. They responded that quite often it was difficult to access a building. Bathrooms were a major issue – both in terms of the number of stalls and getting into and out of a stall. Parking also needs to be close to the building. Entry doors that are not heavy and hard to open need to be selected. The group categorically indicated that if the building was to be used by seniors, the 'music needs to be turned down and the lights turned up.' They would be willing to use an elevator if the building had multiple levels.

Focus Group 3
The attendees were asked to indicate what elements of these programs make them attractive. Bridge, and games in general, were favored due to their function of socialization, because they help to keep the brain sharp, they are fun to play, and they provide competition. Pools were favored by the entire group because of their influence on general health, their function of socialization, and the provision of low-impact exercise. An exercise room was favored due to the health benefits and aerobic exercise, and due to the benefit of socialization. Programs and trips provide a social and an educational function. Line dancing provides great exercise and is fun. A walking track would provide healthy exercise and a social function as well.

Focus Group 4

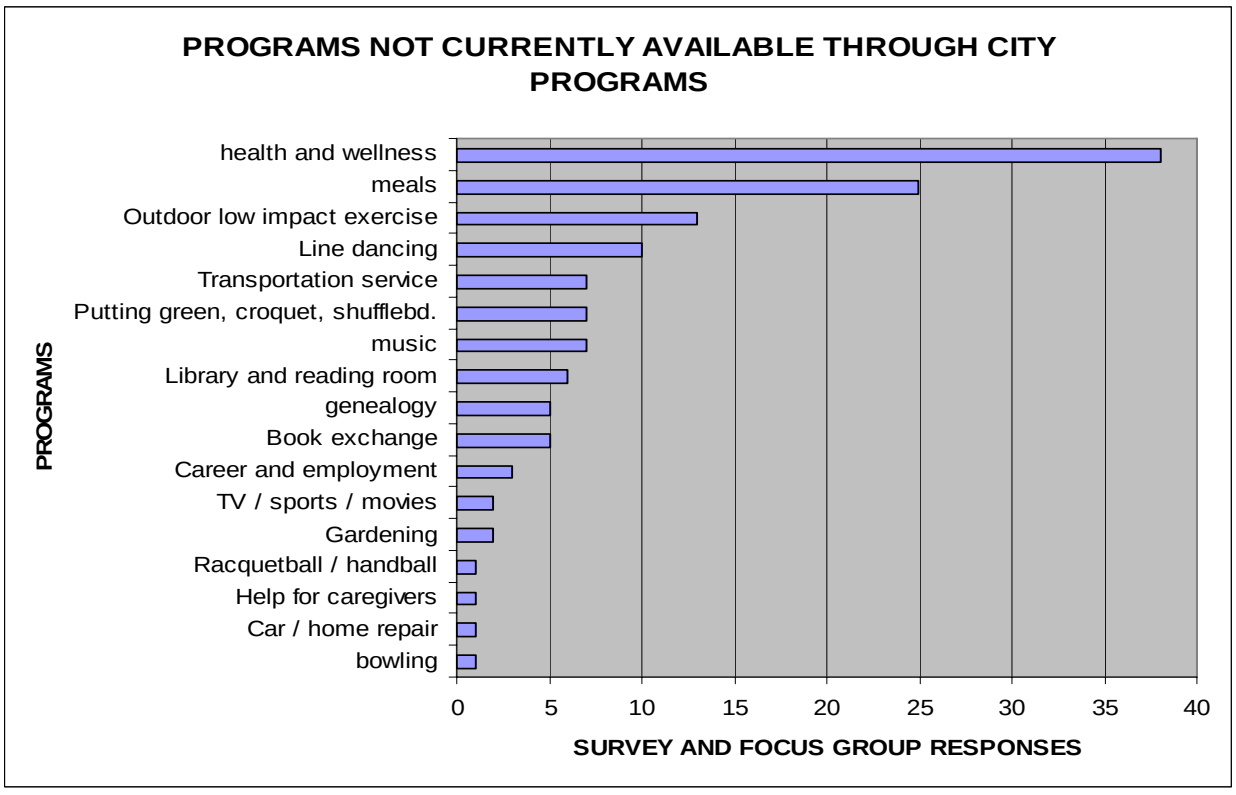
The group was asked to identify specific facilities, both indoor and outdoor, that they felt would be important to a senior center. They listed the following: swimming pool, Jacuzzi and sauna, a kitchen for food classes, an exercise equipment room, an exercise multi-purpose room, a games room, a room for small groups, a dining room, restrooms, locker rooms with showers and a change room, and comfortable seating.

Focus Group 5

The attendees were then asked to discuss what they felt were the most important aspects and services that were provided by a senior center. They felt that a center was a source of advocacy for seniors. It was a place for people to get together to play games and socialize. Fitness and exercise were of prime importance. They stated that it allowed they the opportunity to participate in a variety of activities that they would not otherwise have available to them. It felt like a safe haven. Also of importance to several was the fact that they got meals at the center.

Recalling Figure 2 from Section 3, and Figures 4, 5, 6 and 7 from the previous section, the programming of space in a new building or additions to existing buildings, and the consequent costs, is driven by the activities it is enclosing and its total occupancy. As has been stated before, the City of Raleigh has offered a large number of the highly desired programs for a number of years through its senior clubs and recreation and leisure programs. Figure 2 shows the relative importance from the questionnaires and focus groups of the programs already offered by the City of Raleigh. Figure 8 below shows the same for programs NOT offered by the City of Raleigh.

FIGURE 8
Relative Importance to Seniors of Programs NOT Offered by City of Raleigh



Building Space Narrative

All of the above information begins to take its place in a descriptive form for a new building called a *space narrative*. The building space narrative, as the term implies, is a word description of a proposed facility, rather than floor plans, site plans and exterior renderings of a proposed building. The building space narrative extracts conceptual images of the space to be programmed or designed from conversations with perspective users and presents them first as Basic Design Space Observations, and then a descriptive Building Space Recommendation including other considerations. This is to allow a future designer of the facility maximum flexibility as to the exact appearance and design of a facility while still conveying the primary end-user's goal. To put these building and program space needs into an understandable language, we begin comparing the activity and program space needs with that provided in other senior centers in North Carolina.

Figure 9 illustrates the process used by this Feasibility Study and is the current practice for most buildings and facilities being planned, designed and constructed. The scope of this Feasibility Study was to determine a recommended size and budget for a senior center, not a design. The process reported on in this study then, is not the complete process described in Figure 9.

Basic Design Space Observations

During the last quarter of 2006, the TWT team compiled the information obtained from the focus groups and began to formulate concepts on what the *space* in a new Senior Center needed to accommodate. To confirm these concepts and gather additional information, the team made site visits to a number of Senior Centers, both inside and outside the state of North Carolina. Information, photographs and floor plans of many of these centers will be provided to city Parks and Recreation staff outside of this report. The following is a list of the centers visited in North Carolina:

- Wake Forest, NC
- Wendell, NC
- Wilmington, NC
- Charlotte, NC
- Durham, NC
- Cary, NC
- Fayetteville, NC

During these visits, observations were made of the space allocation and operation of these facilities. Interviews were held with key staff members. The size and staffing varied among the researched centers. Each center had a common focus on health and the activities provided for seniors, but had other varied offerings that were primarily the result of the revenues available for their center and population that it served. It was observed that most centers offered a daily meal through satellite agencies such as "Meals-on-Wheels." One center actually prepared meals for their participants within the premises. All had some sort of physical exercises space with equipment. In many cases, it was allocated to space that would be considered very small. In all cases, the number one need was more space and staffing. Many of the activity spaces were fixed for a specific activity, such as a crafts or computer room. It was observed that spaces needed to be more flexible with more storage. In most cases, storage was within the activity space itself which diminished the size of the "usable" space. A few of the centers were linked to outside activity areas such as parks and trails, but most were not.

As the senior population changes with each generation, the activity space needs to be flexible to accommodate new services for the changing senior population. For example, "boomers" tend to be computer-literate; thus, the need for fixed computer training may not be necessary. Also, current and future generations are more involved in physical activities. An emphasis on these activities would define required space. Most activities that were derived from the focus groups

could be accommodated in a typical modular space that need not be defined for a specific fixed purpose.

In 2001, it was found that 63% of North Carolina centers are freestanding buildings and only 8% are located in recreational or community centers. Many senior centers (55%) are run by a local department, council, or office on aging. It is the recommendation of this Feasibility Study that the City of Raleigh consider a combination of both – additions (satellites) to community centers for answering more immediate needs, and a well-sited, freestanding Senior Center for meeting a more comprehensive list of needs. The freestanding center should be expandable, and the City should always consider additional satellite senior facilities to meet changes in population and programs. Table 4, below, shows relative sizes of several senior centers in the state.

TABLE 4
RELATIVE SIZES OF SOME EXISTING SENIOR CENTERS

City	2000 Pop. Over 55	Square Feet	Year Opened	Notes
Garner	3,435	6,700	1990	Building another 6,000 square feet
Wendell	847	6,000	1988	Sq. footage includes Total Life Center adult day care. More space needed for classrooms and storage.
Wake Forest	1,622	8,453	1994	More space is needed.
Cary	11,020	17,600	2000	Has room for expansion as needed.
Burlington	11,552	14,000	1999	
Chapel Hill	6,585	25,000	Under Const.	Already have 2 senior centers; outgrown 11,000 sq. ft.
Durham	29,127	44,000	2006	
Wilmington	18,097	30,000	1992	
Whittaker Mill (Raleigh)	53,701	7,975	1981	Usable space is approximately 2,200
Raleigh (Proposed)		*25,400*	*TBD*	

It is proposed that all spaces within the building have built-in flexibility and expandability. Whether the spaces be for activity or administrative uses, the spaces should be flexible and expandable to meet the growing population and the changing needs of that population. Our recommendation for spatial organization defines 4 major areas defined as “basic flexible cells” that have expansion capability, especially in the arrangement of activity spaces.

Building Space Recommendations

Our recommendation for the building portion of the Senior Center provides for 4 major areas. Seen conceptually in terms of the “Basic Flexible Cell” described above, they are as follows:

- Administrative
- Activities (Quiet)
- Activities (Noisy)
- Support

Exterior site activity areas are further addressed in other sections of the Study.

Administrative: Administrative Area supports the varied staff assignments that would be necessary for the full operation of the Center. The Administrative Area should be in a central location off of the main entrance. This would provide for a point of control over the facility and central access for service to new and existing members. The Administrative Area would support the positions of Director, Assistant to Director, Activities Coordinator, and Health Services Coordinator. There should be additional support spaces for Administrative Conference/Meeting, Storage (including copy area), and Staff Toilet. Further, this area should be expandable to support future growth of services.

Activities (Quiet): The Activity (Quiet) Area would support activities that are basically quieter in nature, such as crafts, cards, lecture, etc. It is recommend that this Activity area be defined as an arrangement of 2 or 3 activity spaces that can be opened into one large space or defined by movable partitioning to break down into the individual activity spaces. Each space should have its own storage, a work area with wet sink, and pre-wired for audio-visual or computer connection within the space. This would allow for flexibility in how the space can be used as opposed to a fixed use that would not allow for maximum usage during the activity week. Furnishings should be light so that they are easily moveable by staff and members to rearrange space for specific activities. This could be accomplished by rolling tables and chairs, or light-weight folding tables. Computers could be stationed on rolling tables to move out of the way or could be laptops with wireless connections which would make it easier to store while utilizing furnishing that would suit varied activities.

Activities (Noisy): "Noisy" activities should not be adjacent to "quiet" activities, but located in a separate section of the building. This activity area would support Billiards/Sports/TV area, Fitness Equipment, Small and Large Multi-purpose areas. The Large and Small Multi-purpose areas could serve as a dining space for "Meals-on-Wheels" or for serving at other activities such as a dance or sports game. Within this area, and in proximity to the Large and Small Multi-purpose areas, would be a catering Kitchen. The Kitchen would be adequate for warming and serving pre-prepared meals such as those provided by "Meals-on-Wheels." It would also serve as a staging area to serve drinks and light food for events such as dances. Planning for a Nutrition Site Office for the nutritionist that is assigned to "Meals-on-Wheels" is also desirable.

The Small Multi-purpose area could be used for activities such as dance, yoga, physical fitness, and other similar programs. The Large Multi-purpose space could be used for half-court basketball, badminton, and other indoor team games. The two spaces could be combined for larger functions by the use of movable partitions. It has also been proven to be an asset to have a platform stage within the large space for plays, lectures, etc. There should be a audio-visual-lighting system installed within the Large Multi-purpose space and an audio system installed within the Small Multi-purpose space.

There should be a spacious fixed space suitable for physical fitness equipment. It is recommended that this room should be pre-wired for audio-TV cable connections to provide sound, music or video while exercising.

Support: The Support Area encompasses building support such as Rest Rooms, Janitorial, Sprinkler, Electrical and Mechanical Rooms. It further would include areas covered by the building proper such as Covered Porches and Drop-Off at the building entrance. It is important to have sufficient rest rooms that are spread throughout the facility. In planning the activity spaces, these support spaces of rest rooms and storage should be worked within the area.

FIGURE 9
CONCEPTUAL BUILDING PLANNING AND DESIGN PROCESS

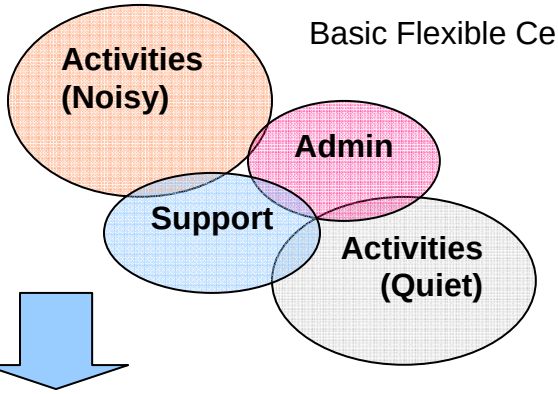
Basic Design Space Observations

- NEED – Administrative Space
- NEED – Activity Space (Quiet)
- NEED – Activity Space (Noisy)
- NEED – Support (Storage)

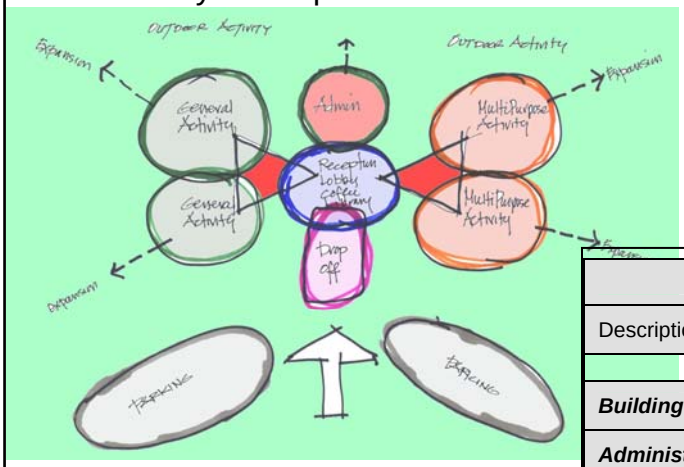
Building Space Recommendations

- Expandability
- Administration and support space increases with activities spaces
- Every facility needs to either accommodate both noisy and quiet activities at different times or provide separated space for quiet activities and noisy

Basic Flexible Cell



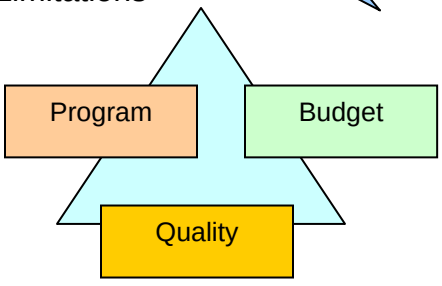
Basic Facility Concept



Building Matrix

RALEIGH SENIOR CENTER - NEW CENTER							
Description	Size		Qty	Net Area	Unit	Unit Cost	Net Cost
Building Space Costs							
Administrative							
Director	12	X 12	1	144	SF	175	25,200
Assistant To Director	12	X 12	1	144	SF	175	25,200

Competing Programming Needs and Limitations



Recommended Facility Size and Budget

Other Considerations

Building Security: Another significant recommendation would be one of access and security. The main entrance to the building should be the open entrance to the building while others should be secure except for emergency egress or controlled access to outdoor activity areas. Security is one of the chief concerns of seniors.

Entrance and Gathering Area: An entry to the building should be one that is open, full of light, and inviting. This could be a space that adjoins a Library that is combined with a Social and Coffee service area. It could also be an area that adjoins a Craft Shop where crafts and art made by the senior participants could be displayed and sold. This combination would make for an active entry spurring conversation, social interaction, and a special feeling of support. The administrative areas, including reception, should be near this area. These serve as a monitor of the entrance while serving as a greeting and information point for new and existing seniors.

Material Selection and Building Design: The building should be one that reflects a sensitivity to the natural environment; both in the selection of materials and the building design itself. It is recommended that selection of materials should be one that involves Green Building principals. The spaces themselves should take into consideration orientation, natural lighting, and energy savings design principals, all of which should be geared to providing a healthy building for its occupants. Further, material selection should be one that would provide for easy maintenance and a durable life. The building should be designed for long term use as most public buildings.

Furnishings: Building furniture should be selected based on good design and suitability for seniors. Chairs should be light and cushioned. Tables should be suitable for the activity and flexibility of use. All furniture should be selected based on its flexibility for movement and storage. Typical heavy folding tables should not be used since they are difficult for staff to move. Adequate storage for moveable furniture should be provided throughout the facility in separate areas from the activity areas.

Building Matrix - Organizing and Sizing Spaces

The following figure demonstrates very conceptually how a Senior Center building could be configured to allow expansion. No size is depicted; however, from the basic flexible pod described above, the facility can be expanded by adding “pods” of both types of activity spaces along with associated administrative and support spaces. Figure 13 shows *conceptually* how the total building begins to take shape based on functional areas and the basic flexible pod described above.

When a multitude of programs have been identified for inclusion in a facility following the functional or modular process described above, the following matrix shown in Tables 5 and 6 is useful to arrive at a quick estimate for the size of a facility and its approximate budget cost. Net costs (probable costs of construction) are divided into two major categories: Table 5 - *Building Space Costs* and Table 6 - *External Development Costs*

As the matrix shows, for a Senior Center housing the needed activity and program space described above, the building would be approximately 25,400 square feet in size, with a probable construction cost of $3,700,000. The associated external development, testing, consultant fees and costs would be approximately $4,000,000.

Table 5
BUILDING MATRIX – BUILDING SPACE COSTS

RALEIGH SENIOR CENTER - NEW CENTER							
Description	Size		Qty	Net Area	Unit	Unit Cost	Net Cost
Building Space Costs							
Administrative							
Director	10 X 12		1	120	SF	175	21,000
Assistant To Director	8 X 12		1	96	SF	175	16,800
Activities Coordinator	8 X 12		1	96	SF	175	16,800
Fitness Coordinator	8 X 12		1	96	SF	175	16,800
Health Services Coordinator	8 X 12		1	96	SF	175	16,800
Admin. Conference/Meeting	12 X 12		1	144	SF	175	25,200
Admin Storage	12 X 12		1	144	SF	175	25,200
Staff Toilet	8 X 8		1	64	SF	175	11,200
Activities - Quiet							
Activity Room 1	24 X 32		1	768	SF	150	115,200
Activity Room 2	24 X 32		1	768	SF	150	115,200
Activity Room 3	24 X 32		1	768	SF	150	115,200
Activity Room 4	24 X 32		1	768	SF	150	115,200
Activity Room 5	24 X 32		1	768	SF	150	115,200
Activity Room 6	24 X 32		1	768	SF	150	115,200
Activity Storage	8 X 24		6	1,152	SF	125	144,000
Library / Social / Coffee	16 X 16		1	256	SF	175	44,800
Lobby / Reception	16 X 16		1	256	SF	175	44,800
Health Screening Room	12 X 12		1	144	SF	175	25,200
Activities - Noisy							
Billiards / Sports / TV	24 X 32		1	768	SF	175	134,400
Fitness Equipment Room	24 X 32		1	768	SF	175	134,400
Small Multipurpose	24 X 32		1	768	SF	150	115,200
Large Multipurpose	72 X 72		1	5,184	SF	150	777,600
Activity Storage	15 X 30		2	900	SF	125	112,500
KITCHEN (Catering Type) (Incl. Storage)	16 X 32		1	512	SF	200	102,400
Nutrition Site Office	12 X 12		1	144	SF	175	25,200

Support						
Rest Rooms	10 X 20	4	800	SF	200	160,000
Janitorial	10 X 10	2	200	SF	65	13,000
Sprinkler Room	12 X 8	1	96	SF	65	6,240
Electrical Room	8 X 6	1	48	SF	65	3,120
Mechanical	24 X 24	1	576	SF	65	37,440
Covered Drop-Off	24 X 24	1	576	SF	75	43,200
Covered Outdoor (Porches)	8 X 60	1	480	SF	65	31,200
Net Total Building			19,092			
Corridors/ Halls/ Access Walls, Chases, Etc.			6,364	SF	125	795,500
Sprinkler System	25,456	1		SF	2.60	66,186
Sub-Total Building			***25,456***	***SF***	***143.67***	***3,657,386***
Occupancy is based on Occupancy Classification for Building as B (Business) per NC Code						

TABLE 6
EXTERNAL DEVELOPMENT COSTS

External Development Costs					
Land Development -					
Clearing & Grubbing			6%	6%	134,000
Grading		55,500	CY		278,500
Erosion Control			5%	5%	100,000
Stormwater			11%	11%	234,000
Paving - Car		78,200	SF	10	782,000
Walks / Paths		26,500	SF	10	265,000
Landscape -					
Trees		150	each	250	37,500
Shrubs		1,070	each	30	32,100
Civil Work -					
Sewer			11%	11%	234,000
Water			14%	14%	300,000
Lighting			5%	5%	100,000
Subtotal External Costs					**$ 2,497,100**
Professional Fees					**$ 593,990**
Survey w/ Trees		5	ACRE	3,500	**$ 17,500**
Geotechnical / Soils					**$ 80,000**
Contingencies			3%	3%	**$ 201,790**
Building Up-fit					**$110,000**
Total Probable Cost (Rounded)					**$ 7,157,766**

Variations In Building Construction Costs

Building costs have long been thought of in terms of competing sides of the triangle shown in Figure 9 where the three critical factors:

- Program - space and function requirements,)
- Quality - the quality of finishes and construction materials used in the facility
- Budget -funding allocated for the acquisition or construction of a facility including furnishings and long term operations

Theoretically, all three factors can be adjusted but, in reality, at least one is fixed and another strongly influenced. Consequently, if the budget is fixed and the program is growing, the quality of construction materials and finishes will be pushed down. Or, if the budget is fixed and a particular quality is desired, as the value of finishes and equipment rise, the amount of program space diminishes.

Facility Size and Budget Recommendations

As can be seen in Tables 5 and 6 above, a single, stand-alone Senior Center fulfilling the needs expressed in the interviews and questionnaires conducted in this study will be a building of approximately 25,400 gross square feet on 5 acres of land. The budget estimate for the building is approximately $3,657,000 and for the land development, another $2,500,000, not including acquisition of land, assuming a suitable, city-owned parcel of land is available in a location recommended by this study. An additional $890,000 in design costs and contingencies and $110,000 in up-fit and furnishings should be included in the budget. As shown above, a total budget of $7,158,000 (rounded) is recommended for a stand-alone Senior Center.

As stated at the beginning of this section, the alternate or parallel strategy is to plan either separate Senior Center Additions at existing Community Centers in suitable locations. Using the Building Matrix and the process outlined above with the *basic flexible cells* it is possible to develop an alternative budget for Senior Center additions.

TABLE 7
SENIOR CENTER ADDITIONS

RALEIGH SENIOR CENTER – COMMUNITY CENTER ADDITION						
Description	Size	Qty	Net Area	Unit	Unit Cost	Net Cost
Building Space Costs						
Administrative						
Fitness Coordinator	12 X 12	1	144	SF	175	25,200
Admin Storage	12 X 12	1	144	SF	175	25,200
Staff Toilet	8 X 8	1	64	SF	175	11,200
Activities - Quiet						
Activity Room 1	24 X 32	1	768	SF	150	115,200
Lobby / Reception	16 X 16	1	256	SF	175	44,800
Activities - Noisy						
Small Multipurpose	24 X 32	1	768	SF	150	115,200
Support						
Covered Drop-Off	24 X 24	1	576	SF	75	43,200
Net Total Building			2,720			380,000
Corridors/ Halls/ Access Walls, Chases, Etc.			900	SF	125	112,500
Sprinkler System	3,620	1		SF	2.60	9,400
Sub-Total Building			***3,620***	***SF***	***139***	***501,900***

TABLE 8

EXTERNAL DEVELOPMENT COSTS FOR SENIOR CENTER ADDITIONS

External Development Costs – Community Center Addition					
Land Costs		0	ACRES	300,000	0
Land Development -					
Clearing & Grubbing			6%	6%	16,800
Grading		7,000	CY		35,700
Erosion Control			5%	5%	14,000
Stormwater			11%	11%	30,800
Paving - Car		11,500	SF	10	115,000
Walks / Paths		3,900	SF	10	39,000
Trees		20	each	250	37,500
Shrubs		150	each	30	32,100
Civil Work -					
Sewer			11%	11%	30,800
Water			14%	14%	39,200
Lighting			5%	5%	14,000
Subtotal External Costs					**$ 404,900**
Professional Fees					**$ 136,000**
Survey w/ Trees		1	ACRE	3,500	**$ 3,500**
Geotechnical / Soils					**$ 10,000**
Contingencies			3%	3%	**$ 27,200**
Building Up-fit					**$15,000**
Total Probable Cost (Rounded)					**$ 1,098,500**

As can be seen in Tables 7 and 8 above, an addition to an existing Community Center, to serve as a satellite Senior Center fulfilling a portion of the needs expressed in the interviews and questionnaires conducted in this study, will be an addition of approximately 3,600 gross square feet on 0.5 acre of land. The budget estimate for the building is approximately $502,000, and for the land development, another $405,000 – not including acquisition of land. An additional $192,000 in design costs and contingencies is required. As shown above, and total budget of $1,098,500 is recommended for a satellite Senior Center.