Memorandum

TO: Honorable Mayor and City Council Members

FROM: Thomas M. Moton, Jr., Assistant City Manager

DATE: September 2, 2011

SUBJECT: Report on Varying Greenville Passenger Center Projected Costs

At the August 22, 2011, City Council meeting, Council Member Joyner requested a report explaining the variation in the transportation center project cost. As I attempted to explain at that time, no construction costs have been incurred and at this point we are dealing with projected costs. One of factors causing the variation is difference between using 2006 dollars (Martin Alexiou Bryson) and 2008 dollars (Moser Mayer Phoenix). That is, 2008 dollars given inflation when compared to 2006 will be greater, all things being equal.

Another factor causing the variation is the increased specificity that was incorporated into the 2009 conceptual plan budget versus the 2006 capital cost estimate. Both the 2008 and 2006 projected costs relying heavily on stakeholder and steering committee aspirations. Enhanced design elements versus core transportation facility create a broad spectrum of projected cost differentials. For instance, basic transportation center versus a multipurpose civic building integrated in the urban downtown fabric will have a different projected cost. Another example that demonstrates how the cost projections can vary is the difference between a one-story facility and a two-story facility. Finally, the actual acreage to be acquired will impact the overall projected cost. The 2006 estimated capital costs report noted that downtown acreage varied between $100,000 per acre to $1,000,000 depending upon the exact downtown location. The 2006 MAB stated that $500,000 per acre was an expected average cost.

The 2008 MMP cost estimates are based on an actual site and acreage and using Pitt County Tax Assessor's 2006/07 assessed values with an applied factor for 2008 reassessment. Acquisition projected costs are based on the blocks bounded by Evans, Cotanche, East 8th and East 9th streets. Total acreage is 3.50 acres and the 2009 report projects land acquisition at $2.5 million or an average of $714,285 per acre.

All of this is to say that the actual variation between the 2006 Martin Alexiou Bryson report, entitled, *"Greenville Intermodal Transportation Center Feasibility Study: Final Report, March 2006"* and the 2009 Moser Mayer Phoenix report entitled, *"City of Greenville, North Carolina Intermodal (Bus) Transportation Center Site Selection and Conceptual Design Study February 13, 2009"* is reasonable when one takes into account the factors that vary depending upon actual land acquisition, design treatments, and the year that the city seeks construction bids.

In the 2006 MAB report, Table 11.2: Capital Cost Estimate shows that a one-story basic facility with or without rail costs are estimated to be in the $5.7 million to $8.2 million and adding a second story would raise the estimate by another $2.5 million or to the range of $8.2 million to $10.7 million. Land acquisition is listed $500,000 to $1 million. Using the 2006's report of a $500,000 per acre, that estimate yields one acre versus the 3.5 acres in the 2009 MAB report.

In the 2009 MMP report, a conceptual budget has been created based on the aspirations of the stakeholders and steering committee. The conceptual budget includes a two-story multipurpose facility with lease space and construction of a canopy. The envisioned canopy conceptual budget is $2 million and is clearly an aspiration and not a basic transportation component. MMP's total conceptual cost is projected to be $11,05, 811; given the larger acreage, two-story concept and covered bus bays, this cost is fairly close to the figures presented in the 2006 MAB feasibility study, which was conducted to demonstrate that constructing the facility was feasible. I believe the $11 million figure was conservative, meaning higher that we may have incurred if built in 2009.

Attached to this memorandum are excerpts of the 2006 MAB feasibility report (http://www.greenvillenc.gov/uploadedfiles/GreatNC/Final_Report_Complete_2006-03-03.pdf) and 2009 MMP site selection and conceptual design report (http://www.greenvillenc.gov/uploadedfiles/GreatNC/090213_Greenville_Study.pdf). Both reports are posted on the project website at www.greatnc.com.

Please contact me if you have any questions.

Respectfully submitted,

Thomas M. Moton, Jr.

bg

Attachments

cc: Wayne Bowers, City Manager
Dave Holec, City Attorney
Carol Barwick, City Clerk
Wes Anderson, Director of Public Works
Merrill Flood, Director of Community Development
Redevelopment Commission
Historic Preservation Commission
Public Transportation & Parking Commission
Greenville Bicycle & Pedestrian Commission

'2006'

11 Cost Estimates

This section describes the potential capital costs and ongoing operating costs for the center, based on the functional specification described above. At this stage, they are simply broad initial estimates rather than detailed costings. They would need to be refined once the location is decided and the design is developed.

11.1 Capital Costs

Land

The center would probably be built on land that the City either owned already or had bought specifically for the center. The City already owns some land in the downtown and tobacco district, and is currently buying more land for revitalization purposes as opportunities allow. However, for cost purposes it should be assumed that a site will need to be bought for the center.

Land prices have a wide range, depending on the location, the value of any existing buildings on the site, and other factors. Based on the City's tax records, it is estimated[24] that the cheapest land (which is broadly the area from Dickinson Avenue to the CSX railroad) in downtown or the tobacco district could cost under $100,000 per acre, but the most expensive land (on prime sites with existing modern buildings) could cost over $1 million per acre. The average is around $500,000 per acre.

It should be noted that ECU has significant land holdings in the area, including the parking lots on the eastern edge of downtown and various sites in the tobacco district. As well as the possibility of buying land from ECU, there may be opportunities for joint developments.

Detailed Design

The specification for the center would need to be developed into a full design, resulting in architect's fees and other professional fee costs.

Site Clearance and Remediation

An allowance must be made for site clearance, including demolition of any existing buildings that will not be re-used. In addition, remediation may be needed, particularly if a former warehousing or industrial site is chosen.

Construction

Table 11.1 shows estimates for construction costs. These estimates assume new-build (renovation of an existing building would have a different cost structure) and they cover the full

[24] Estimates based on the tax values of a sample of 65 parcels in the tobacco district and the southern/eastern parts of downtown. The tax values were established from the City's Spatial Data Explorer (http://map.greenvillenc.gov/index.html). The estimates include a 20% uplift on the tax value, in line with the City's estimating policy.

'2006'

specification rather than just the minimum initial facilities. They also include the cost of site paving, lighting and landscaping, based on the larger of the generic designs presented in Section 9.

Four estimates are presented. Two are for a single-storey transportation-only building, with and without space for rail facilities. The other two represent the construction of additional lease space, by assuming that a second storey is built – again with or without space for rail facilities. The estimates with rail facilities include the corresponding building-space, but assume that the railroad platform and canopy are not initially constructed as part of the center.

Stakeholders have indicated that the building should be of high quality, particularly in its external appearance, to reflect City policy and in line with the City's recent public buildings. This aspiration is reflected in the estimated structure cost, which is at the upper end of the range. The total construction cost per square foot appears high because it includes a large area of paving and landscaping outside the building and also extensive canopies for the bus bays.

Construction of a single-storey center with the facilities aimed at riders (café, news-stand, etc.) but with no additional lease space is estimated to cost around $4-5 million. The incremental cost of providing building-space for rail (included in this range) is therefore relatively small. A second storey that could be leased out would bring the cost to around $6.5-7.5 million.

As with all building construction projects, variations are possible that would raise or lower the cost. In particular, the initial cost could be reduced by building only for current needs and leaving space for growth. Other options include higher-quality or lower-quality finishes, more generous or less generous spaces, and more or less leasable space. All these issues would be considered further as the design is developed.

'2006

Table 11.1: Construction Cost Estimates

Item	Unit	Unit cost	Single-story				Second story, containing leasable space *				Notes
			Without rail		With rail		Without rail		With rail		
			Quantity	Subtotal	Quantity	Subtotal	Quantity	Subtotal	Quantity	Subtotal	
Structure (assuming new-build)	square feet	$116	13,715	$1,584,094	16,078	$1,856,963	27,430	$3,168,188	32,155	$3,713,926	Includes contractor's and architect's fees. Unit cost = $150 (conservative estimate for high-quality building - see note below) x 0.77 location factor for Eastern NC
Paving, drainage and landscaping	lump sum	N/A		$231,000		$303,000		$231,000		$303,000	Estimate prepared for generic large site design. The incremental cost of rail is assumed to be the extra parking space required.
Site lighting	pole	$2,200	50	$110,000	50	$110,000	50	$110,000	50	$110,000	Unit cost based on Means BCCD 2006 for 20' poles. Quantity is allowance for large site.
Exterior building canopies (over buses etc.)	square feet	$40	23,500	$940,000	23,500	$940,000	23,500	$940,000	23,500	$940,000	Unit cost based on Means BCCD 2006, uprated to reflect scale of canopies. Area based on generic large site design, which includes large canopy over bus island.
Elevators	each	$60,000	0	$0	0	$0	2	$120,000	2	$120,000	Unit cost based on Means BCCD 2006 for hydraulic 2-floor elevator.
Interior furnishing / equipment	square feet	$20	13,715	$274,302	16,078	$321,552	13,715	$274,302	16,078	$321,552	Allowance to cover fittings not included in the structure cost (ticket counter, benches, poster cabinets, etc.) Furnishing of leasable space is not included
Subtotal - building costs				$3,139,396		$3,531,515		$4,843,490		$5,508,478	
Design contingency	pro-rata	10%		$313,940		$353,151		$484,349		$550,848	
Price escalation contingency	pro-rata	5%		$156,970		$176,576		$242,175		$275,424	
Subtotal - construction bid cost				$3,610,305		$4,061,242		$5,570,014		$6,334,749	
Construction contingency	pro-rata	10%		$361,031		$406,124		$557,001		$633,475	
Subtotal - construction cost				$3,971,336		$4,467,366		$6,127,015		$6,968,224	
Administrative cost (professional fees etc.)	pro-rata	5%		$198,567		$223,368		$306,351		$348,411	Excludes architect's fees, which are included in the structure cost
Total				**$4,169,903**		**$4,690,735**		**$6,433,368**		**$7,316,635**	
Per sq ft of building				**$304**		**$292**		**$235**		**$228**	

Notes

All costs are in 2006 Dollars. *Means* BCCD = *Means Building Construction Cost Data*.
Costs not included: land acquisition, demolition, clearance and environmental rectification, renovations to existing buildings, utility diversions, construction management, railroad platform and canopy
* Leasable space scenarios assume that all transportation facilities are on the first floor and a complete second floor is constructed for office or retail space. This is simply one example of possible designs
Structure cost. *Means Square Foot Costs 2006* gives the basic square foot cost for a bus terminal as $116. It reports completed project costs ranging from $56 to $135 per square foot
Means BCCD 2005 reports that public buildings with a similar basic cost have an upper quartile cost (which may include some site and equipment costs) of $140 to $153
For this table, the upper quartile cost of the public buildings is used to represent the cost of a high quality building

'2006'

Summary of Capital Cost

Table 11.2 summarizes the estimated capital cost, which includes not just construction costs but also allowances for detailed design, land purchase, site clearance and remediation. The cost of the transportation facilities might be between $6 million and $8 million. The range is wide at this stage because of the uncertainty over potential land and site costs as well as over the building design. Additional lease space (unrelated to transportation) would increase the building cost.

Table 11.2: Capital Cost Estimate

Item	Basis of estimate	Estimated costs ($ millions)
Detailed design	Allowance as per TIP	$0.5m
Land purchase	Range. See text	$0.5m to $1.5m
Site clearance and remediation	Allowance	$0.5m to $1.5m
Building, paving and landscaping	See detailed table and text	$4.2m to $4.7m
Total		$5.7m to $8.2m

Building, paving and landscaping cost is for the single-story building with/without rail. Additional leasing space is not included.

11.2 Operating Costs

Table 11.3 shows estimates for the annual operating costs of the transportation facilities. The table shows new costs that are associated with the center, but not existing staff or other costs that would be carried through into the center. The estimated annual cost – before allowing for any income – is just over $400,000. The staffing costs, which make up the majority of the operating cost, are based on stakeholders' aspirations for staffing levels. A building manager and a GREAT ticketing/information agent are required. Security officers have also been specified, but these could be reduced or omitted if a police presence were established on-site. The city directly employs cleaning and maintenance staff for public buildings, and the center would likely follow that arrangement.

Table 11.3: Operating Cost Estimate

Based on center without rail and without additional leasing space

Item	Unit	Quantity (without rail)	Unit wage (1)	Unit cost (2)	Subtotal	Notes
Building manager	FTE	1	$41,500	$62,250	$62,250	BLS code 43-1011
GREAT Ticketing / info person	FTE	1.5	$31,000	$46,500	$69,750	Main person plus weekend/vacation relief. BLS code 43-4181
Security patrol	FTE	2	$22,000	$33,000	$66,000	Assume one person on duty at all operating hours. May be reduced or omitted if police presence is available BLS code 33-9032
Trailways ticketing / info person	FTE	0		$0	$0	Assume existing arrangements roll over
Janitor	FTE	1	$18,540	$27,810	$27,810	BLS code 37-2011
Building technician	FTE	0.5	$32,270	$48,405	$24,203	BLS code 32-270
Subtotal - staffing					$250,013	
Housekeeping and repair supplies, equipment contracts and utilities	sq ft	13,715	-	$5.00	$68,576	Conservative estimate, based on comparable data
Grounds & platform maintenance	sq ft	130,680	-	$0.50	$65,340	Quantity assumes a generic 3 acre site. Unit cost based on Marsolan figure of 20c-50c per sq ft.
Reserves for replacements	lump sum	-	-	$50,000	$50,000	E.g. re-roofing, remodening and repainting. Based on Marsolan recommendation of 1% of capital cost.
Subtotal - utilities, cleaning and maintenance					$183,916	
Total					$433,928	

Notes

(1) Source: Bureau of Labor Statistics. November 2004 rates for NC. http://www.bls.gov/oes/current/oes_nc.htm

(2) Unit cost = 1.5 x wage, to allow for fringe costs

12006'

11.3 Comparison of Capital Costs with TIP Estimates

The Transportation Improvement Program (TIP) includes items for detailed design, land acquisition and construction. The detailed design is listed at $500,000 and this figure has been carried forward unaltered into the estimates above. The land acquisition is listed as $1 million, and the estimates above have used a range of $0.5 to $1.5 million. The construction is listed as $6m, and the estimates above (including site clearance/remediation and building) gave a range of $4.7 to $6.2 million.

The estimates for land acquisition and construction are necessarily broad at this stage, but they confirm that the TIP entries for these are broadly realistic for the type of center to which stakeholders aspire.

'2009'

MOSER
MAYER
PHOENIX
ASSOCIATES, PA

City of Greenville
Intermodal (Bus) Transportation Center
Site Selection and Conceptual Design Study

Project Budget
February 13, 2009

Background

With the project scope now reasonably well defined, the Moser Mayer Phoenix Associates (MMPA) team, prepared a project budget defining the cost parameters of the ITC project. Cost information included in this budget came from a variety of sources:

- Recent demolition and environmental remediation costs of similar scope performed by the City of Greenville. These costs were used as a basis for determining the demolition and environmental costs for site preparation for the Intermodal Transportation Center.
- Building and site construction estimates were based on current information from a similar project in North Carolina being designed by MMPA.
- Other related building "outfitting costs" were developed from MMPA's cost database.
- Soft costs were based on typical market conditions.

This project budget includes several contingencies for project unknowns appropriate for this stage of design. The costs shown are in 2008 dollars.

12009'

GREENVILLE INTERMODAL

CONCEPTUAL PROJECT BUDGET

DESCRIPTION	BUDGET	REMARKS
Hard Costs		
Land Acquisition/Demolition/Environmental		
Land Cost	$ 2,500,000.00	City estimate using 2006-7 Pitt County assessed values with a factor for 2008 reassessment
Demolition	$ 210,000.00	City estimates based upon recent redevelopment project experience. 13 total structures.
Environmental	$ 218,000.00	City estimates based upon recent redevelopment project experience. 13 total structures.
Construction		
Building	$ 1,487,500.00	8500 GSF @ $ 175/SF
Canopy	$ 2,000,000.00	20,000 SF @ $100/SF
Site Construction	$ 2,328,000.00	11.64 Acres @ $200,000/Acre
LEED Certification items	$ 290,775.00	5% of construction cost
Other		
Furniture	$ 45,000.00	3% of construction costs
Artwork/Accessories/Plants	$ 5,000.00	Allowance
Data/Com Equipment & Wiring	$ 22,000.00	$2.50/SF Allowance
Misc. Equipment/Appliances	$ 10,000.00	Allowance
Security Equipment & Wiring	$ 170,000.00	$2.00/SF Allowance
Audio Visual Equipment & wiring	$ 5,000.00	Allowance
Window Coverings	$ 5,000.00	Allowance
Subtotal	$ 9,296,275.00	
Contingency @ 10%	$ 929,627.50	
Subtotal of Hard Costs	$ 10,225,902.50	
Soft Costs		
Surveys		
Topo	$ 10,000.00	
Geotechnical	$ 10,000.00	
Design Fees		
Programming/Feasibility Studies	$ 115,030.00	Current contract
Building/Site/Canopy	$ 581,550.00	10% of construction cost
FFE	$ 5,000.00	Allowance
Re-imbursable Expenses	$ 15,000.00	Allowance
Construction Testing	$ 50,000.00	Allowance
Subtotal	$ 786,580.00	
Contingency @ 5%	$ 39,329.00	
Subtotal of Soft Costs	$ 825,909.00	
PROJECT TOTAL	$ 11,051,811.50	2008 Dollars

great greenville area transit

WENDEL DUCHSCHERER ARCHITECTS & ENGINEERS

MOSER MAYER PHOENIX ASSOCIATES, PA