Fan Trolley Barns
Site Redevelopment Plan

Prepared for Richmond Redevelopment & Housing Authority

Prepared by Stuart Squier
Studio II Capstone Project
Master of Urban and Regional Planning Program
Wilder School of Government and Public Affairs | VCU
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Fan Trolley Barns
Of the Richmond Traction Co.

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Stuart P. Squier, MURP 2011

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Executive Summary

The Fan Trolley Barn Site Redevelopment Plan was prepared as a guide for redeveloping the site as a mixed-use, pedestrian-oriented neighborhood center of activity.

The site is comprised of two parcels currently owned by the Greater Richmond Transit Company (GRTC), totaling 6.8 acres. The site is the former location of Richmond’s largest streetcar storage and maintenance facility, dating to 1903 when it was constructed by the Richmond Traction Company.

The site is located two miles west of downtown Richmond, Virginia in the historic Fan District. The area is a prominent residential neighborhood of 100-year-old structures, often cited as the largest intact Victorian neighborhood in the United States. The streetcars of the period fueled the expansion of Richmond outward from its downtown core. Richmond’s streetcar system was notable as the world’s first successful operation of electric rail transit, beginning service in 1888. Many innovations in the early days of electric rail service occurred at the Fan trolley barn site.

After Richmond’s streetcar service ended in 1949, the site continued to serve the needs of transit as a bus storage and maintenance facility. In 1973, GRTC was incorporated as a publicly-owned corporation and operated at the site until December 2009 when it moved to a new facility in South Richmond.

Now that the site is vacant, a rare opportunity to develop a long-hidden corner of the city presents itself. The site location in the Fan District makes it an attractive target for investment, and redevelopment can potentially add significant value to the surrounding neighborhood.

The Fan Trolley Barn Redevelopment Plan proposes to restore and reuse the historic structures on the site as part of a mixed-use development. The preferred plan option creates a variety of housing units and commercial space that together create an activated node of activity. The plan seeks to form a nexus of pedestrian pathways from Carytown to the west, and the Robinson Street corridor to the north.

The most exciting aspect of site redevelopment is the opportunity to fill in a long-endured gap in the fabric of the neighborhood. New activity and life on the site will reconnect multiple neighborhood pathways and create a new sense of cohesiveness and continuity in the Fan District.
Introduction

Purpose of the Plan

The Fan Trolley Barn Site Redevelopment Plan is a design proposal for the adaptive reuse of a 7-acre former industrial site in Richmond’s historic Fan District. The Plan seeks to create a viable adaptive reuse development surrounding a lively public plaza that serves as the “living room” for the neighborhood. The project evaluates the variety of programming and spatial relationships between structures and open space that could be arranged on the site. Based on an evaluation of uses and programming, the project will propose a preferred plan of development.

The site is a 108-year-old transit facility that was built for storing and maintaining Richmond’s electric streetcar fleet. The facility continued to service city bus fleets after the streetcar system was dismantled, and was in constant use for this purpose until 2009. Now that the site is vacated, a rare opportunity to redevelop a hidden corner of central Richmond presents itself. This plan is a guide to redeveloping the site in a way that meets the client’s goals for the property, enhances the surrounding neighborhood, and honors the unique civic importance of this historic property.

This project was developed throughout Fall 2010 and Winter 2011 for the Studio II capstone course of the Master of Urban and Regional Planning degree offered by Virginia Commonwealth University. The client is Richmond Redevelopment and Housing Authority, the agency facilitating redevelopment of the site. The final product is the culmination of two years of program coursework and practical experience gained through interning with RRHA.

Goals of the Plan

- Create a public center of activity that venerates the historic importance of the site
- Create a pedestrian-scaled environment
- Achieve time-balance of uses
- Provide affordable housing
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SITE LOCATION

The GRTC site is located in Richmond’s residential Fan Area Historic District Extension, about two miles west-northwest of the city’s central business district. Within The Fan Extension, the site occupies three city blocks at the southeast corner of Robinson and Cary streets.
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1.1 Site History

1.1.1 The Trolley Era

The Fan Trolley Barn site has been a dominant and influential feature of its neighborhood for more than a century. Although it was most recently occupied by the Greater Richmond Transit Company for bus maintenance and storage, its history predates rubber tire buses by decades. The site was purchased by the Richmond Traction Company in the late 1800’s to construct a facility to service their electric streetcar fleet. Richmond Traction owned a smaller car shed and shop at the corner of Main and Vine streets in the Fan, and that facility continued to house electrical distribution equipment after the company moved to the larger site.

The two gabled barns, similar in appearance, were the first structures completed on the site, around 1903. By 1910 a blacksmith shop, paint shops and a storeroom were added. The site was fully built out by 1930 and included the administrative offices at Davis and Cary streets, a carpentry shop, two larger sheds, and the three story office structure at the corner of Grayland and Stafford avenues.

The facility served all the needs of the street railways. Not only were cars stored on site, but the full-service shops could perform any repair or modification necessary.

"Skilled machinists could make almost any part. Carpenters and cabinetmakers were needed for the interior paneling (often red mahogany), while painters and artists could refinish and decorate a carbody. Electricians could rewire a carbody or rebuild a motor. Sheet-metal workers could fabricate a new vestibule." -Excerpt from McKenney’s Rails in Richmond
The construction of the streetcar facility caused a housing boom around the site. By 1910, the residential neighborhood between South Robinson and South Mulberry streets was developed. The housing was constructed for employees of the street railway including conductors and motormen. The architectural character of the neighborhood was established by 1915 in response to the trolley facility.

Lines of the system were altered and sometimes closed throughout the history of Richmond’s streetcar era. But the move to permanently end trolley service commenced in 1946 when the Virginia Traction Co. (previously Richmond Traction) announced it would replace the trolleys with modern bus service by 1948. On September 9, 1947, VTC proposed to Richmond City Council a plan to substitute all trolley service with buses. In April 1948, the council approved the plan and called for the removal of all tracks over a seven-year period. The last revenue streetcar ran in Richmond on November 25th, 1949. (McKenney)

1.1.2 The Bus Era

Portions of the site were used for motor-bus operations from as early as the 1920’s. After streetcar operations ended in 1949, the site was used exclusively for buses. In 1945 the Virginia Transit Co.
was absorbed by the United Transit Co. UTC was in turn purchased by American Transportation Enterprises in 1962. Following World War II, transit systems had become unprofitable due to a number of factors and most were taken over by local governments. In 1973, Greater Richmond Transit Co was incorporated as a government-owned public service company and continues to provide transit service to the region to the present day. The Fan site served as GRTC’s corporate headquarters and maintenance facility until December 2009 when they relocated to a new facility in South Richmond. The recent vacation of the site spurred the current interest in redevelopment.

Over the years, many alterations were made to the site improvements. Most significantly, large clerestory windows were removed from the ridges of both gabled barns. The many segmental arch windows on the walls of the gabled barns were mostly filled with brick, and the once-red brick construction was painted white. Modern mechanical changes were made also, including the addition of several hydraulic bus lifts in buildings 2 and 5, a bus wash in building 6, and both above and below-ground storage tanks for fuel, oil, and hydraulic fluid were scattered around the site. These tanks (and surrounding soil) are recognized environmental conditions, and will be removed prior to transfer of the property.

1.2 Site Description

1.2.1 Parcels

The site is comprised of two parcels and two vacated streets that intersect the site. One parcel is the block bounded by Cary, Davis, Parkwood, and Stafford streets. The second, larger parcel is...
the two blocks bounded by Cary, Robinson, Grayland, and Davis streets. Together, the site covers 6.86 acres, or 298,865 square feet. There is 119,500 square feet of gross building area on the site.

1.2.2 Vacated street right-of-ways

The site is intersected by two former street right-of-ways that have been vacated and abandoned by the city. South Davis Avenue intersects the street from north to south. Although it has been vacated and deeded to GRTC, the city maintains a utility easement which precludes construction on the parcel. There is a combined sewer line, natural gas pipe, and a water main buried under the asphalt. Parkwood Avenue intersects the site from east to west. Although there is a buried combined sewer, it does not have a utility easement, and could potentially be built upon.

1.2.3 Environmental conditions

Six recognized environmental conditions (RECs) were identified in various locations and included underground storage tanks (USTs) and aboveground storage tanks (ASTs) holding gasoline, diesel fuel, and hydraulic oil. Four suspected RECs were identified that included hazardous waste storage areas, chemical residues from steam cleaning and painting areas, and areas around hydraulic lift systems. Four historical RECs were identified that included a former electrical transformer area, former refuse burner, possible oil storage areas, and suspected former USTs. De minimis conditions include oil drippings on asphalt around the site. De minimis conditions are described as ones that do not present a threat to human health or the environment and would not be the subject of

![Parcel map and structures](image)
an enforcement action by government agencies. These conditions will be removed prior to transfer of the property from GRTC.

1.2.4 Site Orientation

The site parcels and improvements are aligned with the surrounding street grid. The grid is rotated approximately -23.5 degrees from true south, giving an azimuth angle of 336.5 degrees. The long axis of the gabled barns receives direct sun at approximately 1:30 pm local standard time.

1.3 Historic Status

The GRTC site is located in the Fan Area Historic District Extension on the National Register of Historic Places (VDHR File No. 127-0397). The site has eight buildings designated as contributing structures to the historic district, with a period of significance between 1903 and 1930. There is one metal storage shed on the site that is not a historic contributing structure. Because the structures are historic, they are eligible for 20% federal and 25% state redevelopment tax credits.

The structures are identified by two different methods. City engineering maps and VDHR identify the buildings by a letter following the South Davis Street address, “A” through “G.” GRTC and consultant firms conducting recent research identify the buildings by number, “1” through “8” in clockwise fashion from the Administration office. The author has attempted to coordinate the two systems in the following chart. For simplicity, the buildings will be identified by number in the rest of the document.

Figure 8: Petroleum contamination
Table 1: Building identification

Source: Virginia Dep't of Historic Resources; City of Richmond Dep't of Public Works

**Figure 9: Existing site layout**
Improvements, in order of construction:
- 1903: “Bus Barn” Building 7; “Repair Shop 1” Building 5; “Steam Cleaning” Building 4
- 1910: “Repair Shop 2” Building 2; “Facility Maintenance” Building 3
- 1920: “Administration Office” Building 1; “Bus Barn” Building 6
- 1925: “Body/Paint” Building 8

1.4 Existing Planning Considerations

The GRTC site is in the Near West planning area of the 2000-2010 Richmond Master Plan.

A city-wide land use strategy included in the Master Plan is the identification of “Housing Opportunity Areas” (HOA). These are relatively large parcels of vacant or underutilized land which have the potential to fill critical gaps in the existing land use pattern while enhancing the City’s housing supply with a variety of housing types and densities. (City Master Plan, 107) The HOA’s are intended to provide higher housing densities than existing surrounding development, provided that specific objectives can be met.

Objective 1: Provide adequate access to the site without increasing traffic volumes on roadways through existing residential neighborhoods.

As noted in an undated “Planning Constraints” document from RRHA, this condition does not make sense in a grid street system because density cannot be increased in one block without increasing traffic in adjacent blocks. The objective will be to argue that new residential traffic will have less impact than bus traffic.

Objective 2: An objective method of design review must be incorporated into the site development process.

Design review will be the Sec. of Interior’s Standards for Rehabilitation of Historic Buildings, as interpreted by NPS and VDHR if it is a tax credit project. Also standards developed as part of the City/RRHA redevelopment planning process.

Objective 3: Adequate buffering between proposed development site and adjacent lower-density residential neighborhoods must be provided.

Also as noted in the RRHA document, it makes little sense to buffer residential from residential in a city block system of rowhouses and small apartment buildings. This requirement can perhaps be met with street trees and landscaping.
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The GRTC site is specifically identified as an HOA in the Near West planning area section of the Master Plan:

*The GRTC site, “presents a unique opportunity for high quality mixed-use urban infill development. A mixture of commercial and office uses may be appropriate within the residential development. In addition any future redevelopment activities should retain and preserve the historic trolley sheds located on-site.”*

This section indicates that a redevelopment plan should be primarily residential with auxiliary business uses. This makes sense in terms of the present B-6 zoning of the site. The last sentence indicates the redevelopment should be adaptive reuse, although some leeway for clearing the site could be found depending on the interpretation of “preserve the historic trolley sheds.” The most “historic” of the structures (oldest) are the two large gabled barns north of Parkwood Avenue and the adjacent steam cleaning shop, dating to 1903. The structures considered “sheds” by the strictest definition (storage of trolleys) are the two gabled barns and the flat-roofed barns built in the mid-1920’s on the south side of Parkwood.

The maintenance structures onsite have bays to allow ingress and egress of cars, but are not “sheds” per se. Based on this interpretation, the two large 1903 gabled barns are expected to be preserved by the city and community while the newer shed and accessory buildings may be considered less important structures for preservation. Nevertheless, if a redevelopment project using tax credit equity is attempted, all contributing structures must be preserved.

1.5 Political and Civic Considerations

The GRTC site is in Richmond’s 5th City Council District, known as the Central District. The Councilman is E. Marty Jewell. The site is also close to the boundaries of Council districts 1 and 2 and will have an impact on constituents in those districts so their representatives will be involved. The site is in the Your Neighbors Uptown Association civic association area. The Fan District Association, the Boulevard Association, the Carytown South Civic Association, the Museum District Association, and the Byrd Park Civic League are the civic associations in the surrounding area and will be interested in site redevelopment. The site is in Virginia’s 3rd Congressional District represented by Rep. Robert “Bobby” Scott [D].
1.6 Demographics of surrounding area

US Census 2000 Summary File 3 decennial data was analyzed for this project. 2010 US Census block group projections were also used to get some idea of demographic trends.

The GRTC site is located in census tract 411, which is 0.35 square miles in size and bounded by Floyd Avenue to the north, I-195 to the south, Harrison Street to the east, and by Boulevard to the west. Because of the irregular shape of tract 411, a study area was established comprised of the block groups in a one-half mile radius from the site.

According to 2010 census projections, the population of the City of Richmond is 206,505, an increase of 4.4% from 197,790 in 2000. The study area had a population of 9,149 in 2000 and was projected to be 10,742 in 2010, or an increase of 17.4%. The population of the study area is predicted to grow faster than the city as a whole. 5.7% of all city households and 4.63% of the city population are in the study area, indicating household size in the study area is smaller on average than the city.

In 2000 the racial makeup of the city was 38.5% white and 57.0% black, while the study area was 66.6% white and 26.9% black. 2010 projections show the study area white population increasing to 70.3% and the black population decreasing to 19.9%.

Approximately 18% lived below the poverty level, while about 21.4% of city residents lived in poverty. The median household income in the study area was $35,462 while the city median household income was $31,131. (Adjusted for inflation to 2010 dollars the study area median HH income is $46,415 and city median HH income is $40,746.)
To generalize, the study area has a much higher portion of white residents, slightly fewer residents living in poverty, and a higher median household income than the city as a whole. The study area has more households of people living alone than the city.

In 2000, 7.6% of the study area population was people 65 and over, compared to 13.4% of the city. 8.6% of study area households received retirement income, compared to 16.4% of city households. 2.1% of tract households received public assistance income in 2000 compared to 4.7% of city households. This indicates the tract has a lower proportion of seniors, retirees and households receiving public assistance than the city.

1.7 Housing Considerations

1.7.1 Census analysis

The City of Richmond had 92,282 housing units at the time of the 2000 census, and that number is predicted to increase to 94,658 through 2010. The study area had 5,194 units in 2000, or 5.5% of the city housing stock. In 2000 the study area had a vacancy rate of 7.6% compared to the city vacancy rate of 8.4%.

Homeownership is lower in the study area than the city average. 32.9% of housing units are owner-occupied in the study area, while 46.1% of city housing units are owner-occupied. The median gross rent (contract rent plus operating costs) in the study area was $596 compared to $540 for the city (inflation-adjusted to $780 and $707, respectively, in 2010 dollars.)

Median gross rent as a percentage of household income is about the same in the study area as the city, at 28%. 22% of households in the study area spend more than 50% of their income on gross rent.
In general, the study area housing stock has more rental units as a portion of housing units than the city as a whole, and they have fewer bedrooms. Gross rent is higher in this tract than the city as a whole, and households pay about the same percentage of their income for housing as the whole city.

1.7.2 Costs:

The following is a cost analysis of rental properties vis-à-vis property for sale from a local realtor. Although the source is biased toward for-sale properties, this still represents a reasonably accurate cost assessment of the current housing market as of 2010.

“Renting a property for roughly $1.30 per SF per month (which translates to about $1,200-1,400/mo for the typical 2-bedroom apartment in City of Richmond in or around the VCU campus) or buying a property for about $190-210 per square foot yields about the same monthly cash payment at the end of the day.” (Jarvis)

On January 1 2009 there were over 400 condos for sale in Richmond, VA
- On January 1 2010 there were less than 200 condos for sale in Richmond, VA
- There are no new projects in the pipeline that offer “for sale” product coming on-line in 2010 or 2011 that would skew those numbers.

1.8 Surrounding design influences

The trolley barn site is located in Richmond’s historic Fan District Extension, a neighborhood listed on the National Register of Historic Places. The district is primarily residential, consisting of late 19th and early 20th-Century structures. While the larger Fan district has examples of many architectural styles considered “Victorian,” the neighborhood immediately adjacent to the site is comprised of predominately Queen Anne, Italianate, and Colonial Revival structures. Most buildings are smaller single-family attached and multifamily housing units that were constructed during the same period of significance as the trolley sheds. In fact, many of the residences were built for the employees of the street railways.

One of the largest adjacent structures not included in the redevelopment area, but part of the original site, is the three-story brick and stucco Dominion building at the corner of Grayland and Stafford avenues. This building was once owned by Virginia Railway and Power Co.
Figure 12: Parkwood Ave housing

Figure 13: Main and Robinson streets

Figure 14: Cary Street’s streetscape

Figure 15: Robinson Street lacks pedestrian amenities
1.9 Circulation

The GRTC site is well-served by the road network and transit. The site is bounded by Cary Street to the north, Stafford Avenue to the east, Grayland Avenue to the south, and Robinson Street to the west. Both Cary and Main streets (one-way east/westbound) are designated by the city as minor arterial roadways. Robinson and Grayland are designated as collector streets. The site is two blocks east of the Boulevard, which is designated a principal arterial roadway.

Richmond’s Downtown Expressway toll facility is one block south of the site, but access to and from the expressway is somewhat complicated by the location of access ramps. The site is easily accessed from the westbound lanes by an exit ramp that terminates less than one block to the south. From the eastbound lanes motorists can take the Cary Street or Rosewood Avenue ramps and follow a route through the neighborhoods. There is no toll from the east. The Downtown Expressway provides freeway access to Interstates 195, 95, and 64 as well as state route 76 the Powhite Parkway.

The site is on GRTC’s 3-4 Robinson/Fairmount bus route with frequent service to the Broad Street corridor and the East End. The 16

Grove Avenue line is three blocks to the north, providing access to the West End and the Central Office area of Downtown.

1.10 Connectivity

The site is naturally well-connected to the surrounding neighborhood, because it is part of the street grid. People can easily access the site by car, bus, on foot or by bicycle. It is a natural nexus
at the southern end of Robinson Street and the eastern end of Carytown, both popular and lively pedestrian areas. The site is immediately adjacent to the larger Fan neighborhood, and the Fan Extension, south of the Fan. Byrd Park’s amenities are only two blocks south of the site, an easy connection for pedestrians and cyclists. The museum area on Boulevard is a pleasant six-block walk to the north of the site.

Although the site is physically close to the amenities of the surrounding area, the pathways are generally lacking amenities that make them obvious connections to other places. There are few street trees, no pedestrian-scaled lights, and most sidewalks are in a poor state of repair.

1.11 Services in the surrounding area

The surrounding neighborhood provides many services and amenities to its residents. There are ten schools within one mile of the site, accommodating students of all grade levels. Virginia Commonwealth University, with over 30,000 students, is about one mile east of the site. Retreat Hospital is four blocks north of the site, providing emergency care. Patient First provides emergency walk-in care on Thompson Street, and there are several other medical offices nearby. There is a city fire station one block east at Cary and Addison streets, and a police station at Meadow and Idlewood streets.

The nearby Carytown neighborhood has a wide variety of shops and restaurants, as well as three grocery stores. The Robinson Street corridor is an evening entertainment spot with many bars and restaurants. The Museum District is home to the Virginia Museum of Fine Arts, the Virginia Historical Society, the United Daughters of the Confederacy, and the Science Museum of Virginia is further north on Broad Street. Byrd Park and Dogwood Dell are two blocks south of the site and provide excellent outdoor amenities including lakes, ball fields, fitness trails, and more.

1.12 Zoning

The zoning of the Fan Trolley Barn site is B-6 Mixed-Use Business District. According to the City Zoning Ordinance, “...the intent of the B-6 district is to encourage development of mixed land uses consistent with the objectives of the master plan... and to promote enhancement of character of development along principal corridors...” (City of Richmond, p147) Further, the B-6 zoning encourages appropriate infill development, promotes adaptive reuse of buildings, and enables redevelopment where current use or
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adaptive reuse is not feasible. Concerning form, the B-6 regulations facilitate a streetscape with minimum setbacks and provide limited interruption by driveways and vehicular traffic across public sidewalk areas along principle street frontages.

The parcels surrounding the GRTC site are primarily residential. An R-63 Multifamily Urban Residential zone abuts the east and west sides of the site. There are R-7 Single and Two Family Urban Residential zones to the west and north of the site. Finally, there is a UB Urban Business zone to the north and east of the site. These zones generally call for higher density attached and multifamily dwellings. The urban business zone is intended to encourage pedestrian-oriented shopping districts with minimal impact from auto-oriented uses. The zoning of the site and the surrounding zones are generally compatible for encouraging a dense, mixed-use, pedestrian-oriented district.

1.13 Parking

According to the City parking ordinance, dwelling uses in a B-6 district are required to have one off-street space per unit. Restaurants require one space per 100 square feet of floor area. Grocery stores less than 5,000 sq. ft. require one space per 150 sq. ft. of floor area and stores larger than 5,000 sq. ft. need one per each 300 sq. ft. Retail and office uses generally require one off-street space per 300 sq. ft. of floor area. See zoning section for further special parking requirements, including shared parking.

Figure 17: Zoning map
1.14 Summary of Existing Conditions

The Fan Trolley Barn site has excellent potential for redevelopment. The large historic structures on site can be adapted to a variety of uses, and they are eligible for historic preservation tax credits and city property tax abatement. The current zoning is B-6 Mixed-Use Business which allows relatively high intensity of use. The site is centrally located to the Near West shopping and residential district. It has good access to the street network and existing transit routes. Finally, there is strong interest in the community to see the site redeveloped as a mixed use area that will enhance the surrounding neighborhood.

One area for concern is the opinion of the neighbors and community civic associations about redevelopment proposals. Strong opinions from neighbors should be anticipated, and they will expect to be consulted from early stages of redevelopment. The civic associations have substantial influence on city politicians; redevelopment will likely need the approval of these groups. Provision for off-street parking may also be a concern due to site constraints and city-required minimums.
Part 2. Plan For Redevelopment

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2.1 Vision

The Fan trolley sheds at Davis and Cary streets are the backdrop to a lively and activated public space. The historic structures have been adapted to contain a mix of residential units and community businesses. Mixed-use infill structures wrap the exterior of the site and provide housing and business spaces. The new development anchors the south end of the Robinson Street corridor and the east end of Carytown. A lively pedestrian plaza activates the core of the site and is often filled with customers of the cafés and shops, office workers on break, and neighborhood residents.
2.2 Redevelopment Guidelines

The following guidelines will be followed in site redevelopment:

2.2.1 Access and circulation

To create a public center of activity, the public must be able to easily access and circulate within the site. There must be multiple access points or gateways that allow people to freely move between the uses in the structures.

2.2.2 Reconfiguring spatial relationships

The historic structures on the site are large and monolithic and are oriented to face into Davis Street and onto Robinson Street. This is good for those streets, but the structures present long, impenetrable walls to Cary Street and Parkwood Avenue. Buildings 1, 5, and 7 will be reoriented to face outward to all of the streets around the site. The one-story rear addition of the Administration building will be demolished and replaced with a three-story mixed-use structure. Further, new buildings should be added at the northwest and southwest corners of the site to bring activity to those corners. The site will become pedestrian-scaled when the structures are divided into many units and face the street.

2.2.3 Mix of uses

To make the site activated at different times of the day, there must be a mix of uses. One or two single uses will make for one or two very busy times of the day with no activity the rest of the time. Site programming should include various uses that are active at all different times of the day. Residential units might have activity in the morning, afternoon, and weekends while offices might be busy during business hours on weekdays. Retail units might be busy in the afternoon and on weekends while restaurants and bars would be active at midday and in the evenings. Further, a healthy synergy can be established with complimentary uses, for example, residents and office workers provide customers for retail uses. Redevelopment should encourage a variety of different and complimentary uses.

2.2.4 Mix of housing types

Richmond’s land use plan identifies the site as a Housing Opportunity Area and redevelopment should accommodate this goal. A variety of housing types will enable different types of households to live in the community. Housing provisions should be made for families, singles, young people, and old people of all different economic means. Housing units will include large, attached four
bedroom townhouse condos, one to three-bedroom rental apartments, and senior housing with set-aside affordable units.

2.3 Connections and pathways to the surrounding area

Although the trolley barn site is well-located in the Fan District, the streetscape is bleak and uninviting to pedestrians. This problem will be fixed during redevelopment, with new pedestrian amenities to create better apparent connectivity with the surrounding area.

The site is a natural nexus at the southern end of Robinson Street and the eastern end of Carytown. This location has great potential to connect both corridors in a rational pedestrian pathway. Currently the streetscape is quite barren and the traffic of one-way Cary Street is particularly hostile to pedestrians. This will be improved by widening one sidewalk and planting it with trees and low shrubs between people and the street. Pedestrian-scaled street lamps will be installed for security and aesthetic affect.

The site is only two blocks north of Boat Lake and the other amenities of Byrd Park, but one has to cross the exit ramp from the Downtown Expressway to access it. A safe and pleasant pedestrian path to the park should be established. Ideally, one side of the Robinson Street bridge over the expressway should be widened and raised 18 inches above the roadway. This walkway should be protected further by bollards and planted with shade trees, creating a natural, living space to transition from the hard surfaces of the city to the water and greenery of the park.

2.4 Alternatives

The Fan Trolley Barn Site Redevelopment Plan offers a preferred plan for redevelopment, but there are other approaches that should be considered during the planning phase. The following three alternatives are offered for consideration.
2.4.1 Reuse for municipal or institutional use

Given the long history of use as a government-owned transit facility, it might be feasible to relocate institutional or municipal public works to the site from another location. This scenario may free up other government-owned land for development, or it may be more cost-effective to operate a given service at the Fan trolley site. This development strategy could be considered another way to preserve the historic structures of the site, however it is not certain they would be renovated and returned to a good state of repair.

One possible scenario might be to move part or all of the City’s General Services operations from the North Boulevard/Hermitage Road location to the Fan trolley barn site. The City owns two large parcels of combined 30 acres at the Boulevard site. The site has 79,188 square feet of gross building area and is currently assessed at $12.1 million. There has been discussion of redeveloping this as a gateway area in conjunction with a redeveloped sports complex, so there is some opportunity cost of keeping the general services yard in that location. The feasibility of this move may be worth further investigation, although it does not conform to Richmond’s land use plan.

An institutional reuse scenario might be to locate an education-related facility in the historic structures. Their large and relatively open layouts might make them suitable for research, vocational education, or even a sports use. An institutional use might have less impact on the surrounding neighborhood than a municipal use that will likely involve the operation of heavy machinery at odd hours of the day.

2.4.2 Site clearance and maximum build-out

Historic preservation is a goal cited in the city’s master plan, however, this may not necessarily be feasible or the highest and best use of the property. An alternative plan may involve demolition of the historic structures and the construction of new buildings on the site footprint. Given the large size of the site, 7 acres, and the flexible B-6 zoning, there are many possibilities in a site clearance scenario.

The scale and massing of the buildings could be large and dense. The B-6 zone allows for as many as five stories on a clear block without shorter buildings adjacent. The buildings could be placed with no setback from the right of way and built around the perimeter of all three blocks with a parking structure in the center to meet parking requirements.
Alternate plans of development

View from northwest corner at Robinson and Cary streets

Figure 20: Municipal or institutional reuse of the site. In this alternative the historic structures remain, and the site stays largely unchanged.

Figure 21: Maximum site build-out 1. The scenario calls for demolition of the site improvements and builds new structures to the maximum scale allowable by B-6 zoning. The five-story structures dwarf the surrounding buildings.
Figure 22: Maximum site build-out 2. This alternative replaces the historic structures with larger buildings, but not to the limits of the zoning code. The structures are three stories and leave open spaces so the site isn’t overcrowded.

Figure 23: The “big box” alternative. The site is razed and a single 150,000 square foot retail store is placed on site. Another 150,000 square feet of surface parking are created to serve the auto-oriented use.
2.4.3 “Big Box” retail

Another alternative in a site clearance scenario is the construction of a single, large “big box” retailer. Seven acres cleared yields about 305,000 square feet. Big box retailers are typically between 50,000 and 220,000 square feet in size. A 200,000 square foot retailer would require provision of 733 off-street spaces (one space per 300 sq. ft. of floor area), or about 220,000 square feet of space for parking. This is too much space for surface parking on site, but a parking structure could meet the requirements. A large retail store of up to 150,000 square feet could fit on the site and meet off-street parking requirements with surface parking.

2.5 Preferred plan for redevelopment

2.5.1 Site plan

The layout of the plan proposal is largely determined by the existing structures. The historic buildings will be preserved, and the spaces between will become pedestrian areas. The large paved areas at the northwest and southwest corners of the site will be infilled with new mixed-use buildings. The center of the site, on what is Davis Avenue, will be a large public plaza with a fountain, tree, or sculpture in the middle. Restaurants, cafes, and shops will locate in the buildings and create a center or node of activity. Tables and chairs will be placed in the plaza for people to use throughout the day. A series of low walls for informal seating should be placed around the perimeter of the plaza. Food carts should be encouraged to operate on the plaza.

The plaza created between the historic buildings will be for pedestrians only, but nothing can be permanently constructed on the

Figure 24: Proposed site plan. Preserved structures are outlined in black; proposed new structures are outlined in green.
portion that is the Davis Ave right of way. The plaza will still be accessible to delivery and emergency vehicles, but will be protected from normal auto traffic by a moveable barrier such as a low gate or bollards. The plaza should be paved with permeable concrete pavers that reduce runoff from the plaza.

The flat-roofed barn, identified as Building 6, will be used as a shared parking garage for the commercial and residential uses. Auto traffic will access the garage from Robinson Street in only one direction. When leaving the garage, cars will continue east to the Davis Avenue end of the barn and exit the site on Grayland Avenue. Parking spaces for the residential units in buildings 5 and 7 will be provided by angled spaces along Parkwood Avenue. Two smaller lots will be located behind the buildings on either side of Davis Ave.
Finally, a parking structure will occupy the south side of the site at the corner of Davis and Grayland avenues.

2.5.2 Adaptive reuse

The historic structures will be reused for residential and business uses. The Administration Building will become professional offices along with an addition for senior housing. Building 2, a service garage, will be converted to two or three retail spaces for food service establishments. Building 3 will serve as an auxiliary mechanical building. Building 4 will be converted to retail use. Building 5 will be reused for ten 2,400 square foot townhomes with a larger retail space on the Davis Ave end. Building 6 will be used for parking, due to its windowless masonry construction. Building 7 will be reused for 16 rental apartments with lofts, as well as a larger retail space facing Davis Ave. Building 8 will also become retail space, with a small grocery and food service establishment.

2.5.3 Restoring missing and altered features

The historic structures have been altered time and again over the years. Although they were designed to be utilitarian service buildings, they nevertheless had important architectural details that have been altered or removed altogether. The following details will be restored to the buildings during renovations:

- Paint will be stripped from all brick walls, leaving bare red brick.
- Long clerestory windows will be constructed on the roof ridges of buildings 5 and 7.
- Clerestory windows will be constructed atop Building 4.
- Additional sky lights will be installed for each housing unit in buildings 5 and 7.
- All arched and segmental arch windows will be un-bricked and restored to their original look.
- Windows will be uncovered on Building 2.
• Any remaining streetcar tracks should be left exposed as design elements.

Not only were the original clerestory windows, skylights, and arched windows interesting architectural details, they were necessary utilities in the days before good electric shop lighting. Their restoration will not only have pleasing aesthetic results, they will greatly increase the efficiency and comfort of the buildings by reducing the need for artificial lighting.

2.5.4 Housing units

The Fan Trolley Barn Site Redevelopment Plan seeks to provide a variety of housing units in order to accommodate a variety of household types:

• Building 5 will have ten, 2,400 square foot townhouse condominium units for sale. Each unit will have three or four bedrooms on two floors. Skylights and clerestory windows will allow natural light to stream down into each unit. Each will have a front porch on Parkwood Avenue separated from the street by a low masonry wall with planters for flowers, as well as one off-street parking space. A communal area owned by the homeowner's association will be located in the building for...
storage, meeting or play space, or any other need of the residents.

- Building 7 will have 16 rental apartments ranging in size from 900 to 1,350 square feet. Each will have a loft, as well as clerestory windows that look out onto a central atrium with natural light from the skylights above. This building will have a large patio and lawn located on the Robinson Street end for use by the residents.

- The long, one-story addition behind the Administration Building will be demolished to make way for a new mixed-use structure. The upper floors of this building will be rental apartments. The demolition of the rear of this building may not be allowed by historic preservation guidelines, another solution may be required.

- The new mixed-use building at the corner of Robinson and Cary streets will have rental apartments on the upper floors.

- The new building at the corner of Robinson and Grayland will be age-restricted housing for senior citizens. This building will use affordable housing tax credit equity for construction, and

Figure 29: Building 5 has ten new 2,400 sq. ft. condo units

Figure 30: Building 7 has 16 new rental apartments with lofts
will have 40% of units set aside for individuals with less than 60% of gross median income.

The housing component of the plan is substantial, in accordance with the city’s designation of the site as a housing opportunity area. This configuration provides approximately 115,000 square feet of residential space among 115 housing units (average size of 1,000 square feet.)

2.5.5 Commercial units

While the residential units are located primarily on the upper floors of the buildings and in the interior of the site, the commercial units will be located along the street frontages and encircling the pedestrian plaza. The retail spaces will provide a variety of services for residents, from grocery shopping to specialty retail to food service. Retail spaces fronting Cary Street should be smaller, community-oriented businesses, preferably less than 5,000 square feet. This will ensure variety of services in the development. The retail spaces will be customizable, depending on the needs of the tenant. Altogether, the preferred plan provides approximately 66,500 square feet of retail space both in the historic structures and in the new buildings.
2.6 Implementation

2.6.1 Parking

The provision of Richmond’s zoning ordinance requiring off-street parking spaces is found in Section 114-710.2:3. Dwelling uses in a B-6 district are required to have one off-street space per unit. Restaurants require one space per 100 square feet of floor area. Grocery stores less than 5,000 sq. ft require one space per 150 sq. ft. of floor area and stores larger than 5,000 sq. ft. need one per each 300 sq. ft. Retail and office uses generally require one off-street space per 300 sq. ft. of floor area.

Building 6, known as a Bus Barn, could be used for car parking. It is divided into three bays 288 feet long. The outer two bays are 40 feet wide and the center bay is 30 feet wide. The outer bays are approximately 11,520 square feet each. If each space requires between 300 and 350 square feet including space for aisles, the outer bays could accommodate between 33 and 38 parking stalls. At 8,640 square feet, the center bay could accommodate between 24 and 28 stalls. All told, Building 6 could theoretically accommodate between 90 and 104 off-street parking spaces.

The Administration Building is currently 13,200 square feet. If it were reused for office space its required off-street spaces could be shared with the residential spaces. If the rear addition was demolished and a mixed-use building constructed there, it would require one off-street space per residential unit, and one space per 300 square feet of retail space.
Buildings 5 and 7 have 26 housing units, and require 26 off-street spaces. The two buildings could accommodate about 40 angled parking spaces along their walls on Parkwood Avenue.

Building 2 is approximately 6,750 square feet and would accommodate approximately 23 to 45 off-street spaces, depending on whether it was divided into multiple units. There is an open asphalt area behind Building 2 of about 9,100 square feet which could accommodate between 26 and 30 parking spaces.

Building 8 is about 16,000 square feet. If it were repurposed as a grocery, office or retail location, it would require approximately 53 off-street parking spaces. There is an open asphalt area behind Building 8 of about 9,000 square feet that is currently configured for 30 parking stalls.

In summary, the preferred plan of development calls for 10,000 square feet of office space, 66,500 square feet of retail, and 115 housing units. The housing units require 115 off-street spaces and the retail space requires provision of 222 off-street stalls. The required office parking can be met by shared spaces with the residential use, so the development requires approximately 337 off-street spaces. Building 6 and surface parking around the site can provide about 200 off-street spaces, so a modest parking structure at the corner of Grayland and Davis could provide the remaining 140 required spaces.

2.6.2 Historic preservation tax credits

Historic preservation tax credits will be used to raise investor equity for construction. This process requires that all contributing structures of the site be preserved, and that the appearance of the buildings match as closely as possible their original design. Based on a formula that assumes a variable redevelopment cost per square foot, the preferred plan would raise approximately $1.5 million in equity for the site redevelopment.

2.. Low Income Housing tax credits (LIHTC)

The preferred development plan calls for provision of senior housing on the site. A portion of this housing should be set aside as affordable housing for seniors. This can be implemented by using the Federal LIHTC Program, as administered by the Virginia Housing Development Authority. This program provides a dollar for dollar reduction in tax liability to the owner of qualified low-income housing
units. The amount of credits allocated is based on the number of qualified low-income units that meet the federal rent and income targeting requirements.

There are two occupancy requirements for LIHTC. Either a development sets aside 20% of units for to be occupied by households with incomes at or below 50% of the area median gross income (AMGI), or 40% of the units must be set aside for households at or below 60% of AMGI. The senior housing development will meet one of these requirements for set-aside affordable housing.

### 2.6.4 Enterprise zone tax abatement

The site is located in a City of Richmond Enterprise Zone. This program allows for ten-year property tax abatement with seven full

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<th>Building No.</th>
<th>Use</th>
<th>Sale (State only)</th>
<th>Lease (State &amp; (Square feet x dev cost/square foot))</th>
<th>Proposed (Square feet x dev cost/square foot)</th>
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</table>
Figure 34: A new mixed-use building claims the corner at Robinson and Cary streets with a tower and signage. This is the nexus of the east end of Carytown and the south end of the Robinson Street corridor.
Sources


Map images ©2010 Microsoft Corp. unless otherwise noted
http://www.richmondvacondos.net/buying-vs-renting-near-vcumcv


http://www.ci.austin.tx.us/planning/seaholmdraft.htm


Jeff Eastman, “Fulton Gas Works Site Development Plan for the National Slavery Museum in Richmond, Virginia” (Master of Urban and Regional Planning Studio II plan, Virginia Commonwealth University 2008)

Christopher Alexander, A Pattern Language (USA, 1977)


City of Richmond Real Estate Assessor

Carol Hazard, “Former Southern Stove Works site to be converted into loft apartments,” *Richmond Times-Dispatch*, July 24, 2005.


Appendix

1. Qualitative Analysis
2. Excerpts from Alexanders’ *A Pattern Language*
3. Comparables
Redevelopment alternatives were evaluated based on values extrapolated from the Richmond Master Plan and newspaper quotes from officials. The preferred alternative proposal scored highest among the four alternatives; the “big box” option meets almost none of the values expressed by the community.

### Criteria for Evaluating Alternatives

<table>
<thead>
<tr>
<th>Values</th>
<th>Preferred Alt</th>
<th>Max Site Buildout</th>
<th>Institutional Use</th>
<th>Big Box</th>
</tr>
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Designs from Christopher Alexander’s *A Pattern Language*

Alexander’s 1977 book on architecture and design provides a valuable framework for site planning. The following patterns from the book should be applied to redevelopment of the Fan trolley sheds:

**The Global Patterns:**

*Local Centers*

30. **Activity Nodes**

   “Create nodes of activity throughout the community ... at the center of each node, make a small public square, and surround it with a combination of community facilities and shops which are mutually supportive.”

32. **Shopping Street**

   “Shopping centers depend on access: they need locations near major traffic arteries. However, the shoppers themselves don’t benefit from traffic: they need quiet, comfort, and convenience. Therefore, encourage local shopping centers to grow in the form of short pedestrian streets at right angles to major roads... with parking behind the shops.”

*Human Groups*

35. **Household Mix**

   “Encourage growth toward a mix of household types in every neighborhood and every cluster so that one-person households, couples, families with children, and group households are side by side.”

40. **Old People Everywhere**

   “Old people need old people, but they also need the young, and young people need contact with the old.”

*The Road and Path Network*

51. **Green Streets**

   “There is too much hot hard asphalt in the world. On local roads, closed to through traffic, plant grass all over the road and set occasional paving stones into the grass to form a surface for the wheels of those cars that need access to the street.”
Fan Trolley Barns Site Redevelopment Plan

52. Network of Paths and Cars

“Cars are dangerous to pedestrians; yet activities occur just where cars and pedestrians meet. To resolve this conflict, it is necessary to find an arrangement of pedestrian paths and roads so that the two are separate, but meet frequently... lay out pedestrian paths at right angles to roads, not along them.”

Open Land Where People Can Relax

61. Small Public Squares

“When (squares) are too large, they look and feel deserted. Make a public square much smaller than you would at first imagine; usually no more than 45 to 60 feet across in the short direction.”

62. High Places

“The instinct to climb up to some high place, from which you can look down and survey your world, seems to be a fundamental human instinct. Build occasional high places as landmarks throughout the city. They can be... part of the roof of the highest local building- but they should include a physical climb.”

69. Public Outdoor Room

“Make a piece of common land into an outdoor room- a partly enclosed place, with some roof, columns, without walls, perhaps with a trellis; place it beside an important path and within view of many homes and workshops.”

Shops and Gathering Places

88. Street Café

“The street café provides a unique setting, special to cities: a place where people can sit lazily, legitimately, be on view, and watch the world go by. Make them intimate places with several rooms, open to a busy path. Build the front of the café so that a set of tables stretch out of the café, right into the street.”

89. Corner Grocery

“Give every neighborhood at least one corner grocery, somewhere near its heart. Place them on corners, where large numbers of people are going past. Combine them with houses so that the people who run them can live over them or next to them.”
Food Stands

“Concentrate food stands where cars and paths meet- either portable stands or small huts, or built into the fronts of buildings, half-open to the street.”

The “Designed” or “Built” Patterns

The Arrangement of Buildings

95. Building Complex

“Never build large monolithic buildings. Whenever possible translate your building program into a building complex, whose parts manifest the actual social facts of the situation.”

97. Shielded Parking

“Put all large parking lots or garages behind some kind of natural wall, so that the cars and structures cannot be seen from outside. Make the entrance to the parking lot a natural gateway to the buildings which it serves, and place it so that you can easily see the main entrance to the building from the entrance to the parking.

100. Pedestrian Street

“The simple social intercourse created when people rub shoulders in public is one of the most essential kinds of social “glue” in society. Arrange buildings so they form pedestrian streets with many entrances... The pedestrian streets which seem the most comfortable are the ones where the width of the street does not exceed the height of surrounding buildings.”

Orienting the Site

105. South Facing Outdoors

“Always place buildings to the north of the outdoor spaces that go with them, and keep the outdoor spaces to the south. Never leave a deep band of shade between the building and the sunny part of the outdoors.”

106. Positive Outdoor Space
Outdoor spaces which are merely ‘left over’ between buildings will, in general, not be used. Make all outdoor spaces positive. Give each one some degree of enclosure until it becomes an entity with a positive quality and does not spill out indefinitely around corners.”

109. Long Thin House

“In small buildings, don’t cluster all the rooms together around each other; instead string out the rooms one after another, so the distance between each room is as great as it can be.”

Shaping the Indoor and Outdoor Spaces

112. Entrance Transitions

“Make a transition space between the street and the front door. Mark it with a change of light... a change of surface, a change of level, perhaps by gateways which make a change of enclosure.”

114. Hierarchy of Open Space

“Whatever space you are shaping, make sure of two things. First, make at least one smaller space, which looks into it and forms a natural back for it. Second, place it and its openings so that it looks into at least one larger space. When you have done this, every outdoor space will have a natural ‘back’ and every person who takes up the natural position, with his back to this ‘back’ will be looking out toward some larger distant view.”

115. Courtyards Which Live

“Place every courtyard in such a way that there is a view out of it to some larger open space; so that at least two or three doors open from the building into it; and so that the natural paths which connect these doors pass across the courtyard.”

Spaces Between Buildings

120. Paths and Goals

“To lay out paths, first place goals at natural points of interest. Then connect the goals to one another to form the paths. The paths may be straight or gently curving between goals...”

122. Building Fronts
“On no account allow set-backs between streets or paths or public open land and the buildings which front on them. The set-backs do nothing valuable and almost always destroy the value of the open areas between the buildings.”

124. Activity Pockets

“Surround public gathering places with pockets of activity - small, partly enclosed areas at the edges, which jut forward into the open space between the paths and contain activities which make it natural for people to pause and get involved.”

126. Something Roughly in the Middle

“A public space without a middle is quite likely to stay empty. Therefore, between the natural paths which cross a public square, choose something to stand roughly in the middle: a fountain, tree, statue, etc.”

Within Buildings

128. Indoor Sunlight

“If the right rooms are facing south, a house is bright and sunny and cheerful; if the wrongs rooms are facing south, the house is dark and gloomy. Give the common area a full southern exposure, bedrooms south-east, porch south-west.”

Most Important Areas

140. Private Terrace on the Street

“Let the common rooms open onto a wide terrace or a porch which looks into the street. Raise the terrace slightly above street level and protect it with a low wall, which you can see over if you sit near it, but which prevents people on the street from looking into the common rooms.”

161. Sunny Place

“The area immediately outside the building, to the south... must be developed and made into a place which lets people bask in it. Develop this spot as a special sunny place- make it the important outdoor room, a place to work in the sun...”

165. Opening to the Street

“In any public space which depends for its success on its exposure to the street, open it up, with a fully opening wall... and include some
part of the activity on the far side of the pedestrian path so that it actually straddles the path and people walk through it as they walk along the path.”

Outdoor Details

241. Seat Spots

“Choosing good spots for seats is far more important than building fancy benches. In hot climates, put them in shade and open to summer breezes; always place them to face activities.”

243. Sitting Wall

“Surround any natural outdoor area, and make minor boundaries between outdoor areas with low walls, about 16 inches high, and wide enough to sit on, at least 12 inches wide.”
A rare color slide of the trolley barns in the 1940’s. Note unpainted brick, original window configuration and clerestory windows on roof of Building 5. Courtesy M.J. Lavelle collection.
Comparable Developments

This document is a study of structures similar to the buildings on the GRTC site. The criteria for selecting each structure for comparison included a variety of factors such as the similarity in design of the structure, the original use, the age, and the adaptive reuse of the buildings, particularly for residential use.

A number of current and former transit facilities in Richmond, Washington, D.C., and Baltimore, MD were studied because of their similarity to the GRTC barns. Although the Washington facilities are architecturally dissimilar, their size, original use, and adaptive reuse make good models for the possibilities at the GRTC barns. The Baltimore facility is still used for transit but is almost identical in design to the GRTC barns and is useful as a historic preservation model. Here in Richmond there are several industrial sites that are good models for adaptive reuse. Finally, the Vine Street Trolley Condos are an excellent model of mixed-use adaptive reuse of another former Richmond streetcar barn.

The circa-1920 historic photos below show the original configuration of the trolley barns at the GRTC site. Note the clerestory windows at the roof ridge, which were removed at some point after the 1940s. Also note the gable windows that have since been covered up. These details should be restored in the redevelopment of the site.

Figure 1: Building 7, note gable windows

Figure 2: Buildings 2 and 5, note clerestory windows
These eight barns are remarkably similar in design to the gabled barns at the GRTC site. Although they are still used by the Maryland Transit Administration for bus storage and maintenance, they are in an excellent state of repair and offer clues to the original configuration of the GRTC barns. The window openings in the walls remain intact (the GRTC barns have been partially filled with masonry block.)

Clerestory windows run along the roof ridge of each barn, just as the GRTC barns appear in historic photos. Original window openings and slate shingles remain on the gabled ends of the barns. The exterior walls remain red brick and are not painted. These structures should be considered the primary models for historic restoration of the gabled barns on the GRTC site.
East Capitol Street Car Barn, Washington, D.C.

This 1896 Romanesque Revival structure on the National Register has been converted to 196 luxury condos ranging from 900 to 2000 square feet. Note the original arched windows repurposed as entrances to the individual units. Also note modern skylights on the roof. One façade serves as the parking entrance.

Figure 5: Window openings used as entrances; addition of modern skylights

Figure 6: Gabled façade reused as parking entrance

Figure 7: Interior

Figure 8: Townhouse units at rear of site, potential model for infill
A late 1800's masonry structure constructed for the cable car lines, it is 100,000 square feet. The building recently served as home to three charter schools. It was recently purchased in 2008 by Madison Marquette developers for $25 million for reuse as a retail shopping center with an anchor tenant such as Whole Foods or Barnes and Noble®.
Figure 10: Car barns are in the center of photo

This is a pair of late-1800's car barns located on a two-acre site. The facade has been altered significantly by a now-defunct car dealership, but the structure still has gabled roofs with clerestory windows common to transit barns of the era. Wal-Mart announced it would construct an “urban format” retail store on the site to open by 2012 but has not said if it would demolish the structure. Local residents are forcefully opposing the development. This site represents the possible outcome of a site clearance scenario where all the existing GRTC structures are demolished.
Mule Barn Alley Condos, Richmond, VA

This is a 1915 barn in an alley two blocks from the GRTC site that has been converted to four condo units. It is comparable to the GRTC barns in that the trusses supporting the roof are exposed and used as interior architectural elements. The existing roofs of the gabled barns have exposed trusses that could be incorporated into an adaptive reuse project in a similar manner. The units have two floors with an open loft area above. 1,380 square feet to 1,659 square feet. $225,000-$300,000 viii.
This is a 1902 foundry complex at Leigh Street and Hermitage Road. The complex is comprised of four masonry structures with over 175,000 square feet and 189 apartments. The units range from 550 square feet 1 bedroom models currently renting at $875 per month to 1,300 square feet 3 bed models at $1,500 per month. “The cavernous main stove works building is a single story with a 60-foot-tall ceiling and steel trusses. The structure will be converted into apartments with upper-level lofts and a floor-to-ceiling corridor in the center.” (Times-Dispatch, 2005) Community pool on site. Parcel zoning is M-2 Heavy Industrial; National Register file no. 127-6145.
This late-1800’s structure at Main and Vine streets was a trolley maintenance facility prior to construction of the larger facility at 101 S. Davis St. It has been converted into seven 1,000sf condo units and a 2,677sf restaurant. This mixed-use configuration with residential and retail space is an excellent model for the GRTC barns. Note use of original window openings as doors to individual units and installation of modern skylights in the roof. Given the status of this building as a DHR historic structure it seems that minor architectural changes to the roof for lights and mechanical systems is an acceptable change for tax credit purposes.
Laurel Hill/Lorton Reformatory, Lorton, VA

This site is a former Washington, D.C. medium and maximum security prison, formerly known as Lorton Reformatory\textsuperscript{viii}. The prison was built beginning in 1915 in a campus configuration that reflected progressive corrections reform ideas of the era. The structures are built in the Colonial Revival style of bricks made by prisoners on site.

In March 2006 the District of Columbia Workhouse and Reformatory Historic District was listed on the National Register of Historic Places. The GRTC site is similar in that its structures were built around the same time, are similar in design, scale and construction.
Sources


ii All images ©2010 Microsoft Corp. unless otherwise noted


vii Photos courtesy Central Virginia Real Estate MLS

viii City of Richmond Real Estate Assessor

ix http://www.southernstovelofts.com/availableapts/

x Carol Hazard, “Former Southern Stove Works site to be converted into loft apartments,” Richmond Times-Dispatch, July 24, 2005.

