

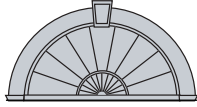
# WINSTON-SALEM UNION STATION



## *Feasibility Study*

---





# Table of Contents

---

Executive Summary .....	1
Exterior Operations Plan Summary .....	3
Interior Operations Plan Summary .....	7

## ILLUSTRATIONS

### *Floor Plans*

Upper Floor Plan with Pedestrian Bridge .....	9
Middle Floor Plan .....	10
Lower Floor Plan with Platform Layout .....	11

### *Site Plan*

Conceptual Site Plan & Track Facilities Layout .....	12
--	----

## APPENDIX

A. Station Renovation Work Plan .....	13
B. Interior Operations Plan Cost Estimate .....	14
C. Exterior Operations Plan Cost Estimate .....	16

## STUDY RESOURCES

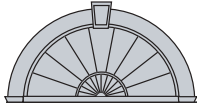
*Exterior Operations Plan Summary - Carter Burgess, Raleigh, NC November 2001*

*Fair Market Value Appraisal - NCDOT Right of Way Unit, Raleigh, NC November 2001.*

*Interior Operations Plan Summary - David Gall, AIA, Winston-Salem, NC November 2001.*

---





# *Executive Summary*

---

Winston-Salem's Union Station was constructed in 1926 to serve passengers of the Southern, Norfolk & Western and Winston-Salem Southbound railroads. At its peak in 1947, 18 daily trains traveled in and out of the Winston-Salem station, bringing more than 500 passengers per day to and from Greensboro, North Wilkesboro, Charlotte, Asheville, Roanoke, Lexington, High Point and Albemarle.

The station featured large waiting rooms, checked baggage service, a restaurant, restrooms and a travelers aid shop with newspapers, cigars and other items. Initially, all three floors of the 36,000-square-foot structure were used for passenger and freight services. Passenger waiting areas and a concourse to the track level comprised the main upper level. Southern Railway Company offices occupied the middle level, while baggage rooms and offices for the Southeastern and American Railway Express companies occupied the lowest level.

This feasibility study is the result of a successful partnership among the North Carolina Department of Transportation, City of Winston-Salem, Piedmont Authority for Regional Transportation, Winston-Salem State University and current facility owner Harvey Davis. State and local funds paid for the study that was designed to evaluate the structure and surrounding grounds of the historic station to determine the potential for reestablishing both intercity and commuter passenger rail service to Winston-Salem. In addition, the study developed a thorough cost estimate to renovate the structure.

The station is conveniently located in the downtown central business district near the Piedmont Triad Research Park, Salem College and Academy, Winston-Salem State University, Old Salem historic district and the east Winston residential neighborhood.

Under the proposed rehabilitation plan, the station will function as a multi-modal transportation center, an office, education and commercial facility. The rehabilitation plan also will enhance community development improvements along Excelsior Street in the east Winston residential neighborhood.

The proposed renovation will restore each of the three floors to their original state. The main (upper) level will once again house ticket offices to serve passengers. The west side waiting room would once again accommodate waiting passengers, while the east side waiting area would serve as a conference room. The reconstructed pedestrian bridge will extend from the main level across the full width of the rail lines below, and terminate at the growing campus of Winston-Salem State University. This will provide pedestrians and passengers a safe alternative to crossing the tracks along the congested Martin Luther King Boulevard.

The middle level will be rehabilitated to serve as a state-of-the-art conference and classroom facility. Existing space will be reconfigured to accommodate conference rooms and classrooms of various sizes serving large and small group functions. It is conceivable that, with the advent of increased rail intercity rail traffic, this conference center could draw users from other North Carolina communities for day-long conference events with attendees arriving on a morning train and departing on an evening train.

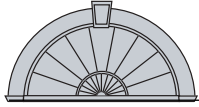
The lowest level of Union Station will be rehabilitated as a ticketing and waiting area for commuter rail passengers. Facilities will include a passenger waiting lobby/concourse, a ticket/vending/newsstand room, ample restrooms, a building security director's office and mechanical equipment room. This floor also will function as the station's main food service level with a rathskeller restaurant having its own kitchen and outdoor terrace dining area. There will be an exterior platform adjoining the south concourse that will permit direct access to commuter trains.

The exterior operations plan examined the opportunity to create a multi-modal facility that links the station to other transit modes. The proposed renovation project would preserve the historic character of the station while providing a safe environment for commuters and efficient traffic control for all modes of transportation.

This study provides preliminary cost estimates for the rehabilitation of Union Station. However, further project development and local planning are needed to more accurately estimate total project scale and cost.

Property value:	land	\$200,000
	building	75,000
	Hazardous material abatement	500,000
	Building renovations	6,131,468
	Planning & design	472,000
	Track work and site improvements	2,228,125
	Planning & design	<u>103,627</u>
	<b>Total Project Estimate</b>	<b>9,710,220</b>

While the Winston-Salem Union Station rehabilitation will be an expensive and complex project, there is an inescapable need for alternative transportation to ease the congested highways and overcrowded airports in the Triad region. With the advent of high-speed rail in the southeast and the development of commuter rail, the Winston-Salem Union Station would enhance the future of passenger rail service for the city as well as have benefits statewide.



# *Exterior Operations Plan Summary*

---

Providing alternative means of travel is one of the necessary solutions for our growing transportation needs. Rail transit can be an efficient and affordable alternative to road and air travel. To help make rail transit viable, practical and desirable to the consumer, opportunities to rehabilitate and reuse existing, historic train stations should be considered. Many of these facilities, already designed to serve travelers and located along major existing rail lines, can be upgraded to meet the needs of twenty-first century commuters while serving as an economic stimulus to the communities in which they are located. Attractive stations that preserve the historic character of their community and still meet the modern needs of the traveling public can make rail travel especially exciting.

Efforts to rehabilitate Winston-Salem's Union Station will require careful coordination both within the building and in the surrounding area. The goals for site development include:

- ▲ Creating a multi-modal facility linking the station to other ground transit,
- ▲ Providing a safe environment for commuters,
- ▲ Facilitating convenient and practical vehicle and train movements, and
- ▲ Designing improvements to the property that support current transportation needs while preserving the historic character.

Reestablishing the Winston-Salem Union Station as an intercity and commuter railroad facility would require several site improvements in order for passengers to have easy access. Improvements would include the construction of:

- ▲ Off-street bus lanes
- ▲ Parking areas
- ▲ Tracks for passenger and freight trains
- ▲ A platform for passenger trains
- ▲ New signage and lighting
- ▲ Landscaping
- ▲ Alterations to utility systems

Fortunately, there is adequate available land surrounding the station that can be used to construct public access facilities and additional railroad tracks. By creating easy auto, bus and pedestrian access to the station, Union Station once again may become a beautiful, thriving gateway for freight and passenger rail and a source of pride for the city.

## *General Location*

---

Winston-Salem's historic Union Station is conveniently located in the central business district near the Piedmont Triad Research Park, Salem College and Academy, Winston-Salem State University, Old Salem Historic District, and the east Winston residential neighborhood. Interchanges and exits from U.S. 52 (future I-74) and Business I-40 are nearby and the station can easily be accessed from Martin Luther King Boulevard. The Norfolk Southern "K" line railroad is an active freight line located adjacent to the southern end of the station.

There is an historic loop drive to the north of the main upper entrance level to the station connecting Excelsior Street and MLK Boulevard. The island at the center of this drive originally created a visual forecourt from which the stately colonnaded front of the depot can be seen from the surrounding roads and community. MLK Boulevard is located to the east of the station and there is an industrial park located further east. Immediately west of the station are two vacant lots separated by an historic brick paved driveway, Rosemond Street, that allowed for freight deliveries to the tracks at the lowest level of the building. The surrounding neighborhood is residential with approximately 13 existing residences, a church, fire station and a small business. A non-profit community development corporation has undertaken the successful rehabilitation of historic homes in the Excelsior Street neighborhood.

### ***Pedestrian Access to the Station***

---

Multiple sidewalks provide easy access to the station's original main entrances at the north and east sides of the upper level, as well as to the office and classroom middle level on the east side of the station. Pedestrians using the intercity or commuter services will enter the building at the upper main level and proceed through the station to their departure locations. Pedestrians utilizing local bus service may enter the station to purchase tickets and board at the bus loading area northwest of the building. These local buses will link the depot to the city transit center, nearby universities and tourist sites.

To create a strong and useful connection from the station to Winston-Salem State University, the historic pedestrian bridge at the south side of the station should be reconstructed. The bridge will serve a dual purpose as:

1. a safe and more hospitable pedestrian walkway from the university directly to the main level of the station and
2. a route to an outdoor elevator and stair tower permitting direct access to the train boarding platform below.

### ***Bus Passenger Access to the Station***

---

Buses will approach the station from MLK Boulevard or the Lowery Street/I-40 Business ramp and access the loop drive to the north of the station. All buses will enter the bus lane in the center of the loop drive. From this location, the buses will turn left into a newly constructed loading/unloading lane that circulates to the front of the station's north entrance. Three buses may load/unload passengers simultaneously in the drop-off area. Two additional buses may wait in the designated bus lane.

Bus passengers may safely walk to the north entrance via a connecting sidewalk and then proceed through the station to their departure locations.

### ***Automobile Passenger Access to the Station***

---

The development of drives and parking areas near Union Station will support its use as a rail depot as well as other multi-use functions proposed for the building. The station may be easily accessed by auto for either quick drop offs/pick ups or to convenient on-site parking. Building user, passenger and employee parking lots will be constructed to the west of the station in the vacant lots located on either side of Rosemond Street. Drivers will approach the station from the north and south via MLK Boulevard

or from the east and west via Lowery Street/I-40 Business ramp. From MLK Boulevard, southbound vehicles will access the parking areas by turning right on Excelsior Street and left on Rosemond Street. All other vehicles will enter the loop drive at MLK Boulevard and Lowery Street, proceed to Excelsior Street and then the parking areas via Rosemond Street. Secure access to the station parking lots will be controlled at Rosemond Street.

Intercity passengers will park between Rosemond Street and the station in the upper parking area. Local commuting passengers and station employees will park between Rosemond Street and the station in the lower parking area. To the greatest extent possible, the existing historic brick paved drives and parking areas will be preserved and reused. Overflow parking for both intercity and commuting passengers will be provided in the parking area constructed west of Rosemond Street.

**Table 1-Proposed Bus & Vehicle Parking Spaces**

PARKING AREA	STANDARD	HANDICAPPED	TOTAL
Bus	3 (Drop-off)	N/A	5
	2 (Bus Lane)		
Intercity	36	4	40
Commuter	29	4	33
Overflow	24	N/A	24
<b>Total Automobiles</b>	<b>89</b>	<b>8</b>	<b>97</b>

*Compiled by Carter & Burgess, Inc., October 2001*

Drivers from all parking lots adjoining the station will use existing and new sidewalks to easily access the station.

### ***Intercity Passenger Access to the Station***

---

Construction of an intercity track and an island platform dedicated to intercity service will provide safe passenger access to intercity trains. Safe access routes will allow passengers to board at the intercity platform without requiring passengers to cross freight or commuter tracks. The aforementioned pedestrian bridge from the upper level will span the commuter platform and track, as well as the intercity track, providing safe access to the island platform. Departing intercity rail passengers will use the pedestrian bridge to the upper floor of the station then proceed to their departure location from within the station.

Future increases in either freight or passenger service will require coordinating freight and passenger services on a second track south of the island platform. Clearance for this future track is provided between the existing freight track and the island platform.

### ***Commuter Passenger Access to the Station***

---

Commuter service at Union Station will require construction of dedicated commuter tracks and platform. A concrete apron will extend south from the building to the platform and commuter tracks will be constructed south of the new commuter platform. No tracks or vehicular traffic will be allowed between the commuter tracks and the building. Cost estimates for the commuter apron are included in this study, however, the commuter platform and track costs are excluded.

Separation of the local commuter track and platform from other services ensures the safety of the patrons and passengers using the station. Fencing between the commuter track and the intercity track will provide safe operation of the respective trains. Crossover tracks, to be used only in an emergency, will be constructed beyond the limits of the station tracks. Track construction and improvements for commuter service are excluded from this study.

Fare systems and station services for commuter passengers will be separate from other passenger services. Commuter passengers will enter/exit the south side of the station at the lower level. They will safely cross the apron to the building/platform. Departing commuter passengers will proceed to their departure location from within the station. Passengers may be picked up at the west side of the lower level at the historic brick paved driveway. A local commuter ticketing area and restaurant also is proposed for the lower level of the station.

### ***Freight Service at Union Station***

---

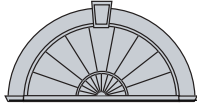
Any future increase in freight service and/or the addition of passenger services will require careful coordination of train schedules. Because freight service schedules are unpredictable and projected to increase, constructing a second separate track for freight service will avoid rail congestion that would delay passenger service. This second track will be constructed north of the existing freight track and south of and adjoining the island platform.

Future mail/freight services will require access to the island platform. Freight elevators will be constructed to/from the pedestrian bridge and within the station. Accommodating freight trains at the island platform will require extending the intercity track parallel to the main track beyond the length of the average freight train. Crossover tracks also will be constructed to allow freight trains to bypass the station. Track extensions and crossovers for the second NS track are excluded from the cost estimate for this study.

### ***Utility and Site Development Work***

---

New site plantings, lighting, signage and amenities such as benches, fountains, low walls and other features are proposed to enhance the practical use of the site and to reinforce its historic character. New lighting and signage, in particular, will make the site more secure and inviting to pedestrians and drivers. Where needed, existing utility services will be modified and upgraded to assure adequate drainage and promote safety. Coupled with the rehabilitated historic station, the restored site will create a special destination that will be both a useful transit center, as well as a source of pride and identity for the city of Winston-Salem. Thus, Union Station will once again resume its function as the gateway to Winston-Salem.



# *Interior Operations Plan Summary*

---

Designed by New York architects Alfred Fellheimer and Steward Wagner and Winston-Salem architects Willard Northrup and Leet O'Brien, the 1926 Beaux-Arts style brick and limestone station contains approximately 12,000 square feet on each of three floors. The main entry floor (the uppermost level) originally provided ticketing, waiting room, lunchroom and restroom functions. The middle level housed the railroad office, storage and kitchen uses. The lowest level contained freight storage and transfer functions and mechanical equipment. The building is constructed on structural concrete floor and roof decks framed by steel beams and internal columns. Perimeter walls consist of brick and stone veneers on poured-in-place reinforced concrete walls. A reinforced concrete bridge concourse originally extended southward from the main level and included a stairway for access to the track and platform below. However, the Southern Railway Company demolished the bridge in 1974 when Harvey Davis purchased the structure and converted it to an auto repair facility.

## *New Program*

---

Under the proposed rehabilitation plan, Winston-Salem's historic Union Station will once again resume its status as a functioning rail station. However the building will be rehabilitated to also include an intermodal transportation center, offices, classrooms, conference rooms and commercial facilities. The structure will be upgraded for accessibility by the disabled and new plumbing, mechanical and electrical systems will be installed. Safety features such as new egress stairs, emergency lighting and new smoke and heat detection systems will be added. A new fire protection sprinkler system will be considered. Prior to the start of the rehabilitation project, all hazardous materials such as asbestos and PCB's will be abated. Restrooms will be enlarged but will continue to retain their original historic appearance. Five new elevators are proposed to serve rail passengers and other building users.

## *Upper (Main) Level*

---

Historically, the main level contained the grandest and most architecturally ornamented spaces in the station. The rehabilitation plan restores these rooms to their original elegance. Original ticket offices will be restored to once again serve rail passengers. The grand east and west side waiting rooms will continue to serve public functions; the west side as the waiting lobby with its original wood bench seats reconstructed and the east side as a conference room. There will be a spacious concourse for the public at the south side overlooking the railroad tracks. This concourse will open onto a reconstructed, enclosed, pedestrian bridge that will permit train passengers to walk to an exterior elevator bank and stairs connecting to the train platform below. The bridge will continue across the full width of several rail lines below, and terminate at the growing campus of Winston-Salem State University. Ancillary spaces will be improved, restrooms enlarged, storage rooms provided, and a newsstand and vending area will be created. New internal elevators will be provided at the south concourse and near the main entrance. The latter will facilitate delivery of catered foods for functions in the restored east side conference room.

The main entry level will continue to serve as the primary ticketing and waiting room area. Passengers may be discharged from private vehicles, taxis or buses at the main entry loop and enter the grand side lobby directly through the north portico. Tickets may be purchased at ticket windows adjoining the lobby and passengers may wait for the train either in the grand lobby or south concourse. Train arrivals will be announced on a public address system and passengers can descend to track level by using the platform bridge and elevators or stairs. Baggage will be moved from the upper level to trackside via small hand carts. As rail service increases, freight elevators will be added from the bridge concourse to trackside.

### ***Middle (Conference Center) Level***

---

This floor of the station may be accessed from either the upper (main) floor or the lower floor via elevators. There also will be convenient access from Martin Luther King Boulevard via stairs at the south concourse or exterior stairs at the northeast corner of the building. This level will be rehabilitated to serve as a state-of-the-art conference and classroom facility. Existing spaces will be reused and reconfigured to provide spaces for conference and classrooms of various sizes serving both large and small groups. Ample restroom space will be provided as well as a central reception lobby. A copier/computer workroom will be available to building users and a conference center director's office will be provided. State of the art communication and data service facilities will link the classrooms and conference rooms together as well as to remote locations.

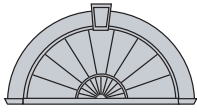
It is conceivable that, with the advent of increased intercity rail traffic, this conference center could draw users from other North Carolina communities for day-long conference events with attendees arriving on a morning train and departing on an evening train.

### ***Lower (Commuter Rail) Level***

---

Originally used as a baggage storage and transfer location, the lowest level of Union Station will be rehabilitated to function primarily as a ticketing and waiting area for commuter rail passengers. Facilities at this level will include a passenger waiting area, a ticket/vending/newsstand room, ample restrooms, a building security director's office, and mechanical equipment room. This floor also will function as the station's main food service level with a restaurant having its own kitchen and outdoor terrace dining area. A separate food preparation kitchen serving the upper conference facilities via nearby elevators also will be provided at this level. A loading dock will be available to serve both the restaurant and catering kitchens.

Commuter rail passengers will enter the building from the west side where the original brick paved drive will allow them to depart from private vehicles or taxis. Tickets may be purchased immediately within the lower lobby and passengers can wait for commuter trains at the south concourse that faces the commuter rail lines. There will be an exterior platform adjoining the south concourse that will permit direct on-grade access from the station to the commuter trains.



## *Appendix A*

# *Station Renovation Work Plan*

The architect's interior construction work plan outlines the recommended structural improvements necessary to renovate the historic Winston-Salem Union Station into a multi-modal transportation center. All slated improvements comply with the Secretary of Interior's Standards for Rehabilitation. The work plan covers the station facility only and does not include steps to improve and expand the tracks and surrounding infrastructure.

### *Demolition Work*

---

Existing plumbing, electrical and hot water heating systems will be removed. However, historic light fixtures and radiators will be retained, refurbished and reused whenever possible. Also, crews will remove some existing stairways, partition walls and built-up roofing.

### *Exterior Construction*

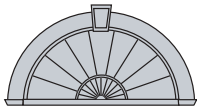
---

All existing brick and stonework will be cleaned and windows, doors and frames painted and recaulked. The roof will be repaired and a new internal roof drain system and new copper counterflashing installed. A new dining terrace will be constructed on the lower level west side of the station adjacent to the proposed commuter waiting area. Also, a pedestrian bridge could be constructed to span the rail corridor linking the historic station to the Winston Salem State University campus. A separate breakout cost estimate associated with the proposed pedestrian bridge is included in Appendix B.

### *Interior Construction*

---

New non-bearing interior walls on the lower, middle and upper levels will be constructed of light gauge steel studs and finished with painted plaster. Also, insulation will be added to help with sound control. Ceilings on each of the levels will be reconstructed of plaster or acoustical tile. The existing terrazzo floors and wainscoting located on the main level will be preserved to the greatest extent possible with new materials used where necessary. New exterior doors will be made of custom insulated steel that is painted and galvanized, while new interior doors shall be stained hardwood veneer with stained wood frames. Roll-up type steel doors will be installed at counter areas of ticket offices and new stained wooden benches will be constructed to match original historic benches for use on the upper level and lower level.



## *Appendix B* *Interior Operations Plan Cost Estimate*

### *Architectural Estimate for Building Plans*

---

The following cost estimate outlines the architectural fees to develop design and construction plans to rehabilitate the Winston-Salem Union Station. (Note: Engineering services include structural, plumbing, mechanical and electrical engineering.)

Architectural/engineering	\$375,000.00
Fire protection sprinkler designer	15,000.00
Landscape architect	25,000.00
Civil engineer	15,000.00
Hazardous materials consultant	20,000.00
Rendering artist	6,000.00
Paint conservator	16,000.00
<b>Total</b>	<b>\$472,000.00</b>

### *Building Renovations Cost Estimate*

---

<b>System/Component</b>	<b>Cost</b>
Foundations	\$0
Substructure	42,455
Superstructure	48,400
Exterior closure	123,225
Roofing	94,000
Carpentry/finishes	819,945
Conveying	270,000
Mechanical systems	1,138,375
Electrical	602,871
Special construction	265,315
Site work	0
Contingency - 20%	680,917
General conditions - 10%	340,459
Contractors overhead - 7.5%	255,344
Contractors fee - 10%	340,459
<b>Total</b>	<b>\$5,021,765</b>

## *Pedestrian Bridge Cost Estimate*

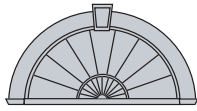
---

<b>System/Component</b>	<b>Cost</b>
Site prep	\$15,000
Foundations	30,608
Slabs	4,645
Elevated slabs	26,100
Masonry	253,050
Structural steel	40,000
Miscellaneous steel	19,800
Exterior skin	79,500
Exterior skin	6,400
Conveying	180,000
Electrical	45,000
Roofing	52,238
Contingency - 20%	150,468
General conditions - 10%	75,234
Contractors overhead - 7.5%	56,426
Contractors fee - 10%	75,234
<b>Total</b>	<b>1,109,703</b>

## *Total Interior Operations Plan Cost Estimate*

---

Planning and design	\$472,000
Interior	5,021,765
Pedestrian bridge	1,109,703
<b>Total</b>	<b>6,603,468</b>



*Appendix C*

*Exterior Operations Plan Cost Estimate*

*Track Work and Site Improvements Cost Estimate*

---

<b>System/Component</b>	<b>Cost</b>
Property acquisition	\$15,000
Site construction	324,819
Platform construction	789,439
Track construction	653,242
Contingency - 20%	356,500
Inflation adjustment	89,125
Planning and design	103,627
<b>Total</b>	<b>\$2,331,752</b>