DETERMINATION OF EFFECT REPORT
Harrison Avenue Bridge Project
S.R. 6011, Section 273 over Roaring Brook, S.R. 3022 and Delaware, Lackawanna & Western Railroad

City of Scranton, Lackawanna County, Pennsylvania

ER # 07-8035-069

Prepared for:

Pennsylvania Department of Transportation
Engineering District 4-0
55 Keystone Industrial Park
Dunmore, Pennsylvania 18512

Prepared by:

A.D. Marble & Company
375 East Elm Street
Suite 200
Conshohocken, Pennsylvania 19428

July 2011

DETERMINATION OF EFFECT REPORT

Harrison Avenue Bridge Project

S.R. 6011, Section 273 over Roaring Brook, S.R. 3022 and Delaware, Lackawanna & Western Railroad

City of Scranton
Lackawanna County, Pennsylvania

ER # 07-8035-069

Prepared for:

Pennsylvania Department of Transportation
Engineering District 4-0
55 Keystone Industrial Park
Dunmore, Pennsylvania 18512

Prepared by:

A.D. Marble & Company
375 East Elm Street
Suite 200
Conshohocken, Pennsylvania 19428

July 2011

ABSTRACT

This report documents the analyses that comprise a Determination of Effect Report carried out in association with S.R. 6011 over Roaring Brook, S.R. 3022 and Delaware, Lackawanna & Western Railroad (Harrison Avenue Bridge Project). The work was conducted by A.D. Marble & Company of Conshohocken, Pennsylvania, for the Pennsylvania Department of Transportation (PennDOT) Engineering District 4-0 of Dunmore, Pennsylvania, and the Federal Highway Administration (FHWA). The project is located in the City of Scranton, Lackawanna County, Pennsylvania. The purpose of this Determination of Effect Report is to document the potential effects of the proposed project on historic properties (i.e., those resources listed in or eligible for listing in the National Register of Historic Places [National Register]) located within the Area of Potential Effect (APE).

A.D. Marble & Company conducted a Historic Resources Survey for the Harrison Avenue Bridge Project during the summer of 2010. Background research revealed that the Harrison Avenue Bridge (listed in the National Register in 1988); the Delaware, Lackawanna & Western Railroad (determined National Register eligible in 2006); and the Lackawanna Valley Railroad/Laurel Line (determined National Register eligible in 2000) are the previously identified historic properties located within the APE. A.D. Marble & Company confirmed through field investigations that these resources retained sufficient integrity to be listed in the National Register. Four additional properties assessed during the 2010 architectural survey were recommended not eligible for listing in the National Register by PennDOT. The Pennsylvania Historical and Museum Commission (PHMC) concurred with these recommendations, as per letters dated August 16, 2010 and October 12, 2010.

As the project has the potential to affect a National Register-listed structure, a study was conducted to determine the feasibility of rehabilitating the structure in a manner that would meet the project purpose and need. It was determined that bridge rehabilitation would be significantly more costly than bridge replacement. There is also a high degree of uncertainty with regard to the future life and future costs of a rehabilitated structure. Therefore, bridge replacement is being advanced as the preferred alternative.

The proposed Harrison Avenue Bridge Project has the potential to affect historic properties within the APE. Under the direction of 36 CFR 800.5 and 800.6, the *Definition of Effect and Criteria of Adverse Effect* was applied to this undertaking. This analysis resulted in a finding that the proposed project will have an *Adverse Effect* on historic properties within the APE, as replacement of the Harrison Avenue Bridge will alter the characteristics that qualify the bridge for inclusion in the National Register in a manner that will diminish the resource's integrity and its ability to convey its engineering and historic significance.

Background research using the Cultural Resources Geographic Information System (CRGIS) determined there are no previously identified archaeological sites or investigations within the APE. Based on an examination of historic mapping, it was concluded the project is located in a densely developed urban setting where the ground has been previously disturbed. Due to the low potential for unidentified archaeological sites, no additional archaeological investigations were conducted.

TABLE OF CONTENTS

LIST OF ILLUSTRATIONS

Figures

Photographs

Tables

1.0 Introduction

1.0 INTRODUCTION

The Pennsylvania Department of Transportation (PennDOT) proposes to undertake long-term improvements to maintain S.R. 6011 (Harrison Avenue), which crosses over S.R. 3022 (the Central Scranton Expressway); Roaring Brook; and the Delaware, Lackawanna & Western Railroad (DL&W). The existing Harrison Avenue Bridge was constructed in 1922 and is a three-span reinforced concrete arch structure (Photograph 1). The 200-foot main, or central, span over Roaring Brook is comprised of four concrete arch ribs and columns that support the deck of the structure (Photograph 2). Smaller, 75-foot barrel arches span the expressway and railroad, which parallel both sides of the gorge (Photographs 1, 3, and 4). Historically, the bridge served as a prominent visual gateway to the city and connector of two historic neighborhoods; today, the crossing continues to be a vital link between neighborhoods, businesses, hospitals, and other services on both sides of the Roaring Brook Gorge, serving over 17,000 vehicles and a significant volume of pedestrian traffic each day (Figure 1). The crossing is also crucial to emergency vehicles. This route and location warrant a high-level structure that will provide long-term safety and serviceability.

The bridge is structurally deficient and is currently in an advanced state of deterioration. In 2007, several columns in the central span were reconstructed and deck joints were repaired and sealed as part of an emergency repair contract. These repairs were made as interim measures in order to maintain structural integrity until full rehabilitation could be carried out. Despite these repairs, the bridge is presently posted with 15-ton truck and 25-ton combination load limits. The repair work yielded additional information on the bridge conditions, such as level of deterioration. In 2008, a conditions survey and feasibility study were conducted in order to investigate options for long-term maintenance of the crossing. The recommendations of the conditions survey included serious concerns with regards to a rehabilitation alternative; therefore, a bridge replacement alternative was investigated in the subsequent feasibility study. In the evaluation of the replacement and rehabilitation alternatives, to the maximum extent possible, reconstruction of the approach roadways was limited to minimize impacts to adjacent properties. Investigations for maintaining traffic during construction were also undertaken.

Photograph 1: East elevation of Harrison Avenue Bridge showing Span 1 (barrel arch) and Span 2 (spandrel arch) over Central Scranton Expressway and Roaring Brook Gorge, respectively. Note replacement railing.

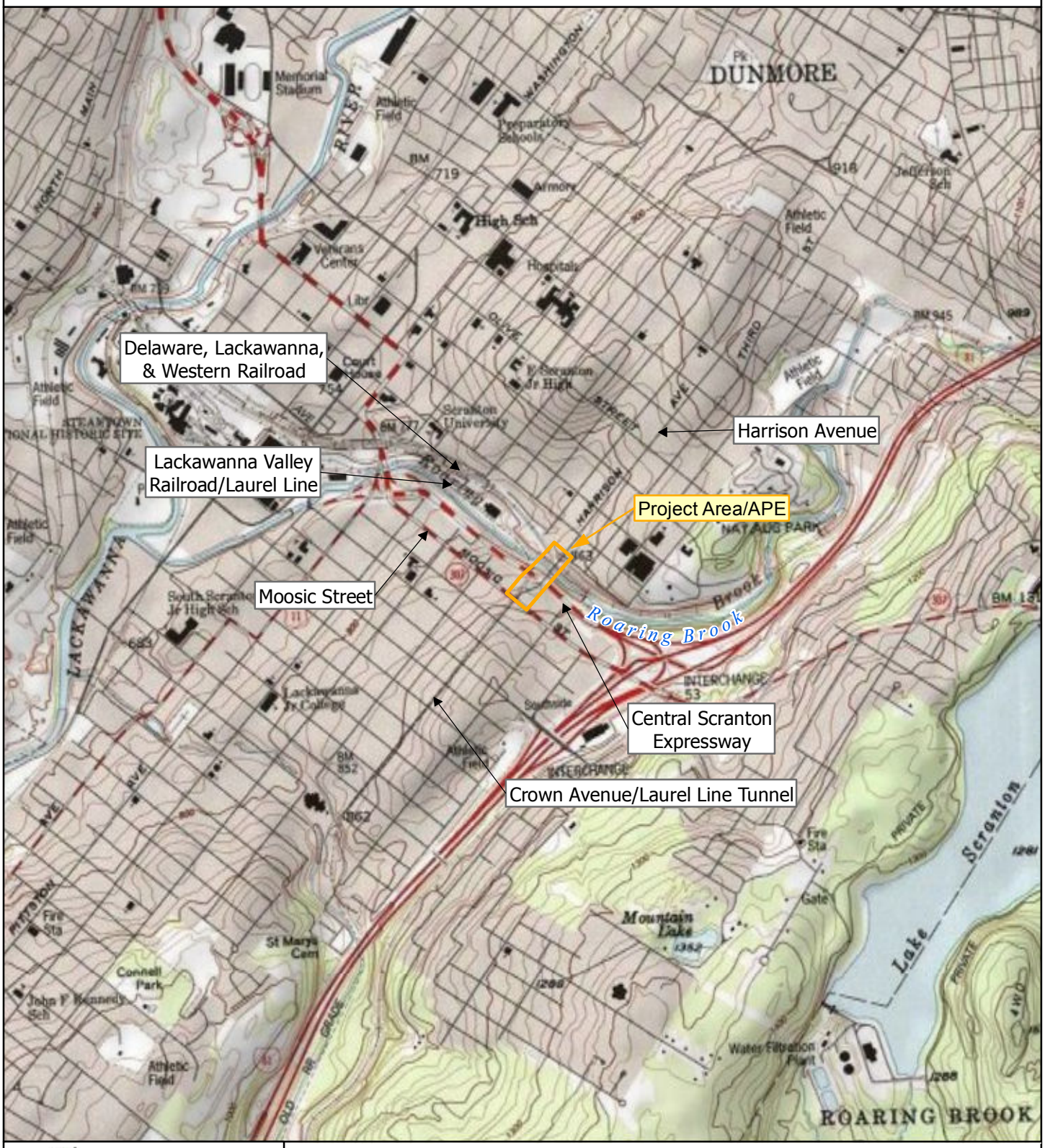
Photograph 2: West elevation of Harrison Avenue Bridge showing Span 2 (spandrel arch) over Roaring Brook Gorge.

Photograph 3: East elevation of Harrison Avenue Bridge showing Span 3 (barrel arch) over the DL&W.

Photograph 4: West elevation of Harrison Avenue Bridge showing pier and Span 2.

Figure 1
Project Location Map

S.R. 6011, Section 273, Harrison Avenue Bridge
City of Scranton, Lackawanna County, PA



Map Document: (X:\Projects\P995\Mapping\ProjLoc.mxd)
6/23/2011 -- 10:32:52 AM

As presented in the feasibility study, bridge rehabilitation would be significantly more costly than bridge replacement. There is also a high degree of uncertainty with regards to the future life and future costs of a rehabilitated structure (Dewberry-Goodkind 2010). Based on these considerations and conclusions from a comparison of bridge replacement versus bridge rehabilitation, the bridge rehabilitation option was dismissed, and replacement is being advanced as the preferred alternative. The rehabilitation and replacement options were presented to the public during a public meeting held on March 10, 2011. The replacement option was generally supported by the majority of the public and the main concerns involved displacements, relocation of Duffy Park, and safety for local and through traffic. The design of the replacement alternative will be developed in coordination with the consulting parties who have requested context sensitive design for the bridge.

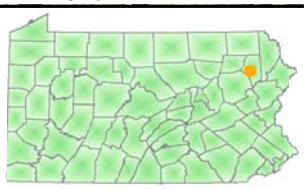
One National Register of Historic Places-listed (National Register-listed) property is located within the Area of Potential Effect (APE) for the proposed project: the Harrison Avenue Bridge was listed in the National Register in 1988 (see Figure 2). The bridge crosses over the National Register-eligible DL&W on the north side of Roaring Brook Gorge and is just east of the National Register-eligible Lackawanna Valley Railroad/Laurel Line, which runs along the south bank (Figure 2). Photographs 1 to 8 show the overall appearance of the bridge. Photograph locations are shown on Figure 2.

A.D. Marble & Company conducted a Historic Resources Survey within the Harrison Avenue Bridge Project APE during the summer of 2010. A Historic Resource Survey Form (HRSF) addendum to the Hill Historic District was prepared to determine if the nearby National Register-eligible district might extend to the APE on the north side of the bridge. HRSF forms were also prepared for the Colonel Frank J. Duffy Memorial Park (Duffy Park), 920 Front Street, and 26 Crown Avenue on the south side of the bridge; all are illustrated in Figure 2. None of these resources was determined eligible as a result of the 2010 survey; therefore, this effects assessment is limited to the three previously evaluated resources within the APE: Harrison Avenue Bridge (National Register-listed), the DL&W (National Register-eligible), and the Lackawanna Valley Railroad/Laurel Line (National Register-eligible), all of which retain sufficient integrity to convey their historic and/or engineering significance.

Figure 2
Area of Potential Effect (APE), Historic Resources, and Photograph Location Map

S.R. 6011, Section 273, Harrison Avenue Bridge
City of Scranton, Lackawanna County, PA.

Note: Photographs 8-17 and 22-23 are not shown as they are details of the bridge or historic images.



0 500 Feet

Photograph Locations
Area of Potential Effect

National Register Eligible
National Register Listed
Not Eligible (2010 Survey)

X:\Projects\P995\Mapping\ResLoc_Effects.mxd
June 28, 2011 10:12 AM

Photograph 5: East elevation of Harrison Avenue Bridge showing Span 1 over Central Scranton Expressway.

Photograph 6: Northeast corner of Harrison Avenue Bridge showing original railing and 1973 replacement railing topped by protective fence.

Photograph 7: Deck and bridge railing, view from southeastern corner. The curb-to-curb width of the existing bridge is 30’-0”.

Photograph 8: Delamination of concrete along the east edge of Span 1.

The purpose of the Determination of Effect Report is to document the potential effects of the proposed project on historic properties located within the APE. The Determination of Effect report was prepared in accordance with federal and state laws that protect significant cultural resources including historic and archaeological sites. Federal and state mandates for cultural resources include: the Federal Highway Act of 1966, as amended in 1968; the National Environmental Policy Act of 1969; the National Historic Preservation Act of 1966, as amended; Executive Order 11593; the Archaeological and Historic Preservation Act of 1974; and the Commonwealth of Pennsylvania State Act Number 1978-273, amended as Act Number 1988-72. This legislation requires that the effects of any federal- or state-assisted undertaking on historically significant buildings, structures, districts, objects, or sites be taken into account during the project planning process. Significant resources are those listed in or eligible for listing in the National Register.

2.0 Project Description and Alternatives Considered

2.0 PROJECT DESCRIPTION AND ALTERNATIVES CONSIDERED

The Harrison Avenue Bridge Project is being carried out to undertake long-term improvements to maintain S.R. 6011 (Harrison Avenue), which crosses over S.R. 3022 (the Central Scranton Expressway), Roaring Brook Gorge, and the DL&W. The existing Harrison Avenue Bridge is a three-span reinforced concrete arch structure that is in a state of deterioration. The crossing serves as a vital link between neighborhoods, businesses, hospitals, and other services on both sides of the Roaring Brook Gorge and serves vehicular, pedestrian, and emergency vehicle traffic. The nearest crossing to the bridge is located over 0.5 mile away and is not pedestrian friendly.

2.1 Existing Conditions

The Harrison Avenue Bridge is a three-span reinforced concrete arch structure. The bridge has a total length of approximately 406'-8" between the outermost expansion joints. Span 1 (southernmost) crosses the Central Scranton Expressway (Photograph 1), and Span 3 (northernmost) crosses the DL&W (Photograph 3). The outer spans are elliptical filled-spandrel barrel arches with a 75-foot span and 15-foot rise above the springing line. Span 2 (central) crosses the Roaring Brook Gorge and consists of four open-spandrel arch ribs (Photographs 2 and 4). The Span 2 arch ribs are three centered arches with a span of 201'-8" and rise of 46'-3.5" above the springing line. The original ornamental barriers were replaced by vertical wall barriers and a protective fence during the 1973 rehabilitation (Photographs 6 and 7).

The bridge deck has a curb-to-curb width of 30'-0", with 5'-0" sidewalks and 1'-3" barriers on both sides, for a total out-to-out bridge width of 42'-6" (Photograph 6). The deck in Span 2 has a 10" thick structural slab, which is stepped in cross section and covered by fill and overlay materials. The depressed center portion of the deck was originally designed to accommodate a street car track, which was never installed. The Span 2 deck is supported by reinforced concrete T-beams and concrete arch beams that bear on the spandrel columns. The deck in Spans 1 and 3 consists of bituminous overlay material over a 9" cement concrete base course that was placed on fill material above the reinforced concrete arches.

The spandrel columns that support the deck above the arch ribs in Span 2 vary in height from approximately 30’-2” near the ends of the span to 3’-6” near mid-span. The arch ribs of Span 2 are supported by stepped-base piers that are 20’-0” thick and 61’-6” wide (Photograph 4). The piers originally supported 25-foot high obelisks at the street level, which were removed during the 1973 rehabilitation. Each of the piers has a 13’-6” wide arched opening at the base.

The abutments have wing walls that step out from the sides of the abutment and are curved out to a maximum width of 58’-0.” Segments of the original railing remain on the wing walls (Photograph 6). The 10’-7” high obelisks that were originally on the abutments were removed during the 1973 rehabilitation.

The Harrison Avenue Bridge has a history of structural problems, beginning in 1937 when unexpected cracking on the bridge was reported. The first rehabilitation of the bridge was carried out in 1946 and included removal of the existing wearing surface, base course, and earth and cinder fill down to the structural slab. A concrete base course replaced the fill in the depressed portion of the slab, which was originally designed for a street car track, and an asphalt wearing course was applied. In 1964, the Central Scranton Expressway was built below Span 1, and a steel bin-type retaining wall was constructed along the Expressway above Roaring Brook to support the roadway.

Between 1972 and 1973, the bridge underwent a major rehabilitation. What was expected to be “a routine repair job” uncovered hidden defects in the bridge such as corroded reinforcement and internal voids in the concrete (Spivey 1998:13-14). The resulting rehabilitation included the replacement of the deck, deck joints, sidewalks, original barriers, repairs to the spandrel arch beams, the removal of the obelisks or pylons, and the installation of a new drainage system and fencing. The removal of the tall pylons on the central piers and the original bridge railings were the most visible changes to the bridge when the rehabilitation was completed in 1973.

In 2007, repairs were made under an emergency contract to restore a number of severely deteriorated spandrel columns in Span 2. The repairs consisted of reconstruction or replacement of spandrel columns adjacent to the crown in Span 2, and replacement of the deck joints and

sliding plates in Span 2. These repairs were completed as interim measures intended to maintain structural integrity until full rehabilitation or replacement of the bridge could be carried out.

2.2 Project Purpose and Need

S.R. 6011 is classified as an arterial transportation route on the roadway network and carries over 17,000 vehicles per day as well as pedestrians between the densely developed neighborhoods of South Scranton and East Scranton. The purpose of the project is to provide a structure that safely maintains connectivity within the roadway network for travelers along S.R. 6011. The Roaring Brook Gorge, Central Scranton Expressway, and the DL&W together form a 400-foot wide chasm that is spanned by the Harrison Avenue Bridge. The bridge is used by vehicles, bicyclists, and pedestrians and runs northwest to southeast across the eastern portion of the City. Although pedestrian counts are not available, observations and comments from local residents indicate frequent use of the Harrison Avenue Bridge by pedestrians and bicyclists. The nearest crossing to the bridge carries S.R. 0307 between Moosic Street and Jefferson Avenue is over 0.5 mile to the northwest and is not accessible to pedestrians.

Harrison Avenue is a route used extensively by ambulances and other emergency service vehicles. Hospitals on the north side of the bridge include the Mercy Hospital of Scranton, the Moses Taylor Hospital, and Community Medical Center, all within 2 miles of the bridge. The Harrison Avenue Bridge is a vital link between these hospitals and residents south of the bridge. The bridge is also located on local school bus routes.

The following project needs have been identified:

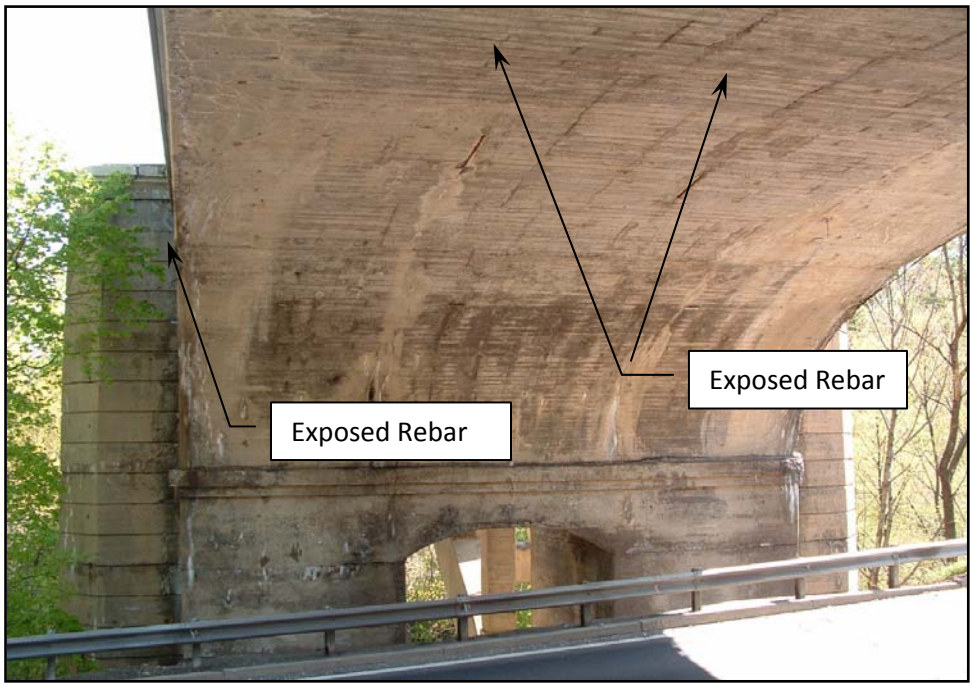
- **Eliminate the structural and safety deficiencies of the existing bridge.** The existing bridge has advanced levels of deterioration. Due to safety concerns surrounding the effects of the deterioration on structural capacity, the load posting has been reduced to 15-ton truck and 25-ton combination limits. These load postings are restrictive to commercial truck traffic and are significantly below PennDOT's current design load levels.

- **Minimize costly future maintenance and repairs.** The existing bridge has extensive repair needs. A major contributing factor has been cumulative damage from leakage of water draining through joints, cracks, and other permeable areas of the deck. Maintenance activities to reduce the damage caused by this leakage are difficult and expensive to implement on a regular schedule. Both major repair and routine maintenance of the bridge are complicated by the difficulty of access to the underside and lower portions of the structure; the structure crosses a deep gorge with active transportation routes running along either side.

- **Minimize impact to vehicular and pedestrian traffic during the project.** Harrison Avenue is an arterial route that carries over 17,000 vehicles per day. The route is used extensively by ambulances and other emergency service vehicles, as well as pedestrians, making the bridge a vital link between the neighborhoods, schools, businesses, hospitals, and other services on both sides of the Roaring Brook Gorge. The nearest crossing to the bridge is over 0.5 mile away and does not accommodate pedestrians. Due to the lack of alternate crossings in the area, a long-term detour would have serious impacts to vehicles, pedestrian traffic, and emergency service providers. Any project to upgrade the structural and safety deficiencies of the bridge must include a satisfactory method of maintaining vehicular and pedestrian traffic during construction.

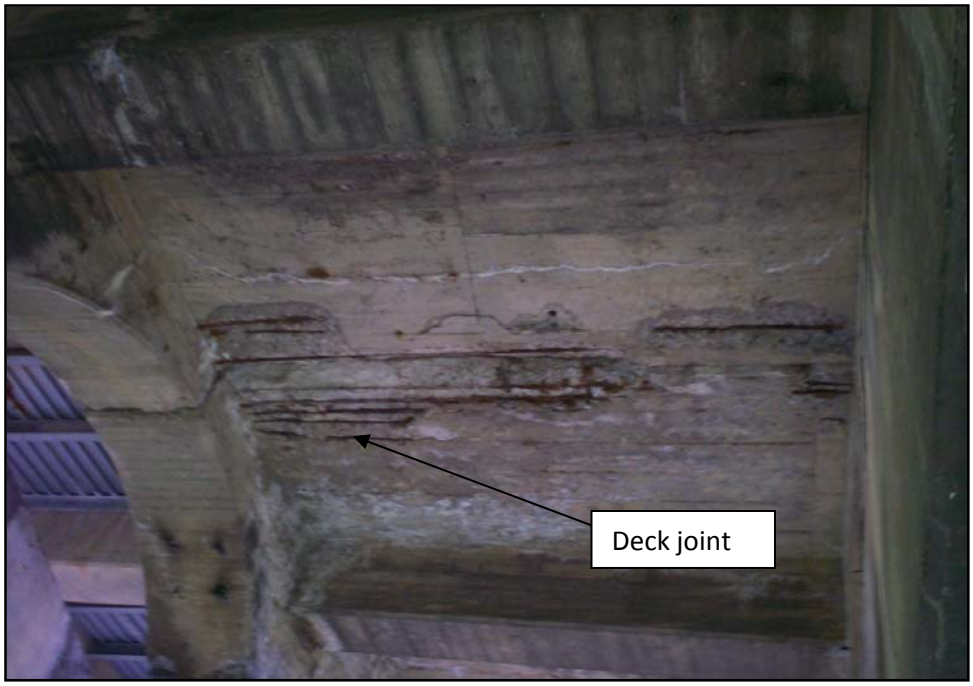
2.3 Alternatives Analysis

A detailed condition survey of the bridge was completed in 2008 to determine the extent of the deterioration and identify the repairs necessary to remove the weight limit posting and extend the life of the bridge. The engineering studies included an in-depth inspection and laboratory testing of material from the bridge. The in-depth inspection found that the upper portions of the bridge, including the deck, deck beams, and deck arches, have suffered extensive deterioration, such as loose or disintegrating concrete and severely corroded reinforcement bars (Photographs 8 to 17). Deck joints are misaligned both vertically and horizontally. Many of the vertical spandrel columns that support the deck over the arches were found to have deep cracks and areas of broken and disintegrating concrete with exposed reinforcement bars at crucial locations (Photograph 13). The arches and lower portions of the bridge are in better condition than the



Photograph 9: General view of the underside of the north half of Span 1 showing exposed reinforcement bars.

Photograph 10: East face of Span 1, near pier, showing concrete deterioration and repair.



Photograph 11: Underside of deck of Span 2 at joint 2 between ribs 2 and 3, showing deterioration.

Photograph 12: Loss of concrete at lower portion of column, typical of Span 2.

Photograph 13: Span 2, arch beam, showing deterioration and a number of previous concrete repairs.

Photograph 14: Exposed reinforcement bars and spalling on the east face of Span 3.

Photograph 15: Deterioration of corner of abutment.

Photograph 16: Displaced construction joint at wing wall.

Photograph 17: Deterioration at concrete pier.

deck and columns, but also have areas of deteriorated concrete and corroding reinforcement bars (Photograph 14). There is also evidence of concrete loss and displacement at the abutments and wing walls (Photographs 15 and 16).

Concrete core samples drilled from the arches and columns were examined and tested by a laboratory to determine material conditions, such as concrete strength, chloride levels, and aggregate flaws. The lab tests revealed that high chloride levels (typically caused by long-term exposure to road salts) are causing corrosion of the steel reinforcing bars in the concrete, and that the concrete is vulnerable to freeze-thaw damage from winter weather cycles.

In the feasibility study, PennDOT used the information from the bridge condition survey to evaluate the long-term options for the Harrison Avenue Bridge, including three alternatives provided below.

2.3.1 No Build Alternative

This alternative consists of completing only minor repairs to the structure to prolong its service life. The no build alternative would result in no environmental impacts. However, this alternative would not address the substandard sufficiency rating or weight limit restrictions of the bridge structure; therefore, this bridge would remain structurally deficient and functionally obsolete.

The findings from the condition survey indicate that if only minor repairs are made, the remaining life of the bridge would be very limited and the bridge would eventually need to be closed to traffic. This option would enable the continued deterioration of the structure and ultimately would result in an adverse effect under Section 106. A permanent detour would be put in place and would result in increased travel times for the local community and emergency services and restricted access across the Roaring Brook Gorge. This alternative clearly does not meet the project goals of maintaining a safe crossing for travelers on Harrison Avenue and eliminating structural and safety concerns.

2.3.2 Rehabilitation Alternative

This alternative involves investing in major structural repairs and partial reconstruction to eliminate the weight limit posting and make the necessary long-term improvements to maintain the crossing. The existing Harrison Avenue Bridge has no alignment or clearance deficiencies that would rule out rehabilitation and the existing bridge width does not preclude rehabilitation. Although a replacement bridge would be wider than the existing structure, bridge width is not considered a major deficiency of the existing bridge. The current curb-to-curb width of 30'-0" is compatible with the transportation needs at the site.

Rehabilitation of the Harrison Avenue Bridge would be an extensive project involving complete removal and reconstruction of the bridge members above the arches: the railings, sidewalks, deck slab, beams supporting the deck, and the vertical spandrel columns. In addition, repairs would be made to cracks and deteriorated areas on the lower parts of the bridge: the arches, piers, and abutments. The bridge rehabilitation would likely avoid an adverse effect to the Harrison Avenue Bridge, assuming that the rehabilitation would be carried out in accordance with the Secretary of the Interior's Standards by using like materials and retaining character-defining features. Reconstructed portions would use reinforced concrete, similar to the original construction materials, and significant features such as the open spandrels and exceptionally long main span would be retained. Because rehabilitation would involve complete reconstruction of the upper portions, it is likely that design elements of the original structure (such as the obelisks and railings similar in appearance to the original railings) could be restored to the bridge.

Under the rehabilitation alternative, the bridge crossing would need to be closed to all traffic for the duration of the project to allow reconstruction of the upper members and provide sufficient space for work activities. Because a detour route would be extremely disruptive for local traffic, a temporary "run-around" was considered as a way of maintaining traffic along Harrison Avenue (Figure 3). The temporary run-around would consist of a temporary bridge and roadway that would accommodate two lanes of traffic with a single sidewalk on the downstream side of the temporary bridge. Although the temporary run-around avoids rerouting Harrison Avenue traffic to an alternate crossing within the city, it would likely displace a minimum of one home at the

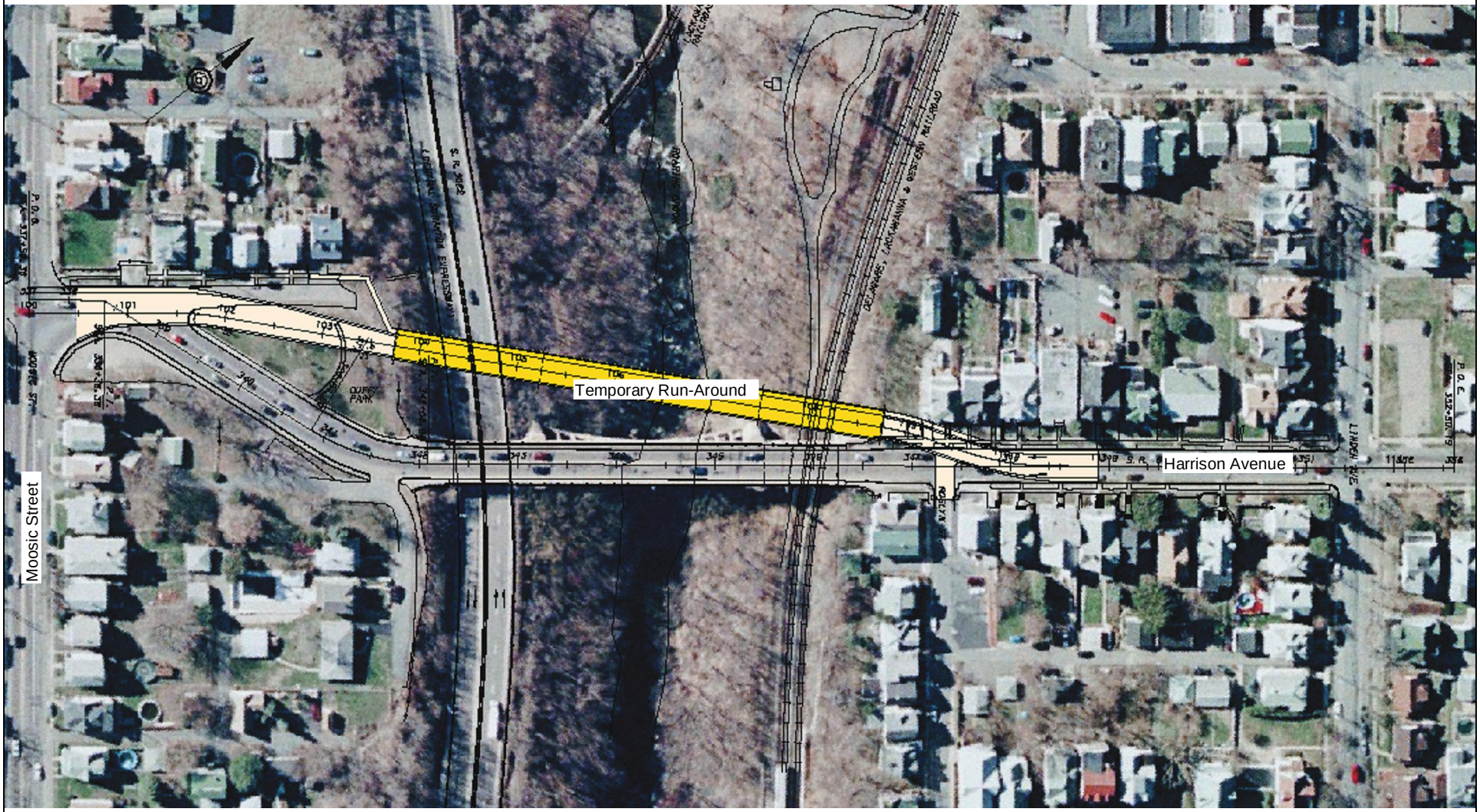


Figure 3
Temporary Run-Around for Bridge

S.R. 6011, Section 273, Harrison Avenue Bridge,
City of Scranton, Lackawanna County, PA

northwest corner of the bridge. In addition, Duffy Park would be temporarily closed during construction. Construction is anticipated to require more than one year to complete.

Although rehabilitation would extend the life of the historic Harrison Avenue Bridge, serious concerns regarding the long-term results and feasibility of this alternative remain. Some of the main issues are:

- The new portions of the bridge – sidewalks, barriers, deck, and support beams and vertical columns – would be expected to last for 100 years. However, the remaining life of the existing arches that would support these reconstructed members is uncertain, and is likely much less than 100 years.

- The quantity and quality of steel reinforcement in the concrete is crucial to the strength and durability of the bridge. However, the existing arch ribs and arch barrels contain less reinforcement than called for by today's standard practice. Furthermore, some of the reinforcement is actively corroding and there is no way to effectively stop the corrosion from progressing.

- The rehabilitated bridge would still need to be carefully inspected and monitored in the future. Access for inspection and monitoring of this type of structure is very difficult.

The estimated construction cost for rehabilitating the existing Harrison Avenue Bridge is over $17,300,000. The design service life of the reconstructed deck could be reliably predicted to be well over 50 years; however, the future service life of the arch ribs and arch barrels cannot be predicted with a high degree of reliability. Moreover, it is not uncommon to encounter unforeseen repair areas on large rehabilitation projects such as this one. Unanticipated conditions encountered during construction could significantly increase the cost and construction time. The nearby Lackawanna Avenue Bridge in Scranton, an open-spandrel reinforced concrete arch bridge originally constructed in 1941 and replaced in 2009 by a new steel plate girder bridge, is an example of how hidden deterioration can affect the restoration of a reinforced concrete structure. The plans for the Lackawanna Avenue Bridge project called for removing the upper

portions of the original bridge, making repairs to the original concrete arches, and constructing the new steel girders and concrete deck to span over the original arches. The intention was for the original arches to remain in place, although they would provide no structural support for the new bridge. During construction, however, the concrete of the arches was found to be in such poor condition that they could not be successfully repaired, and instead were demolished.

Since the rehabilitation alternative has a high degree of uncertainty with regards to life span and future costs, this would be a high risk investment; therefore, the rehabilitation alternative is not the preferred alternative for the project.

2.3.3 Replacement Alternatives

As shown on Figure 4, a replacement alternative would involve a realignment of Harrison Avenue between Moosic Street and Linden Street, with the new bridge located west of the existing structure. This realignment would allow traffic to be maintained on the existing bridge during construction of the new bridge. Since the existing structure will be utilized while the new bridge is built, vehicular and pedestrian traffic would be maintained during construction with some phasing of the intersection during the tie-in construction. There is the potential that a short-term, one-way detour would be put in place for southbound traffic during the tie-in construction. This would entail a 1.7-mile detour (Figure 5). It is anticipated that the project will take two construction seasons; the new bridge would be constructed during the first, and removal of the existing bridge would occur during the second.

It is estimated that the realignment would result in three residential displacements in the northwest quadrant of the project and the relocation of Duffy Park on the south side of the bridge to the location of the existing roadway (Figure 4 and Photograph 21). At the north end of the reconstructed bridge, approach reconstruction would extend to near Linden Street. Roslyn Street would be extended to S.R. 6011, and sidewalks would be reconstructed along each side of S.R. 6011. At the south end, it is anticipated that Duffy Park would be reconstructed on the east side of the relocated S.R. 6011, in the area of the existing S.R. 6011. A street connection to the residences in the southeast quadrant would be constructed adjacent to the relocated Duffy Park.

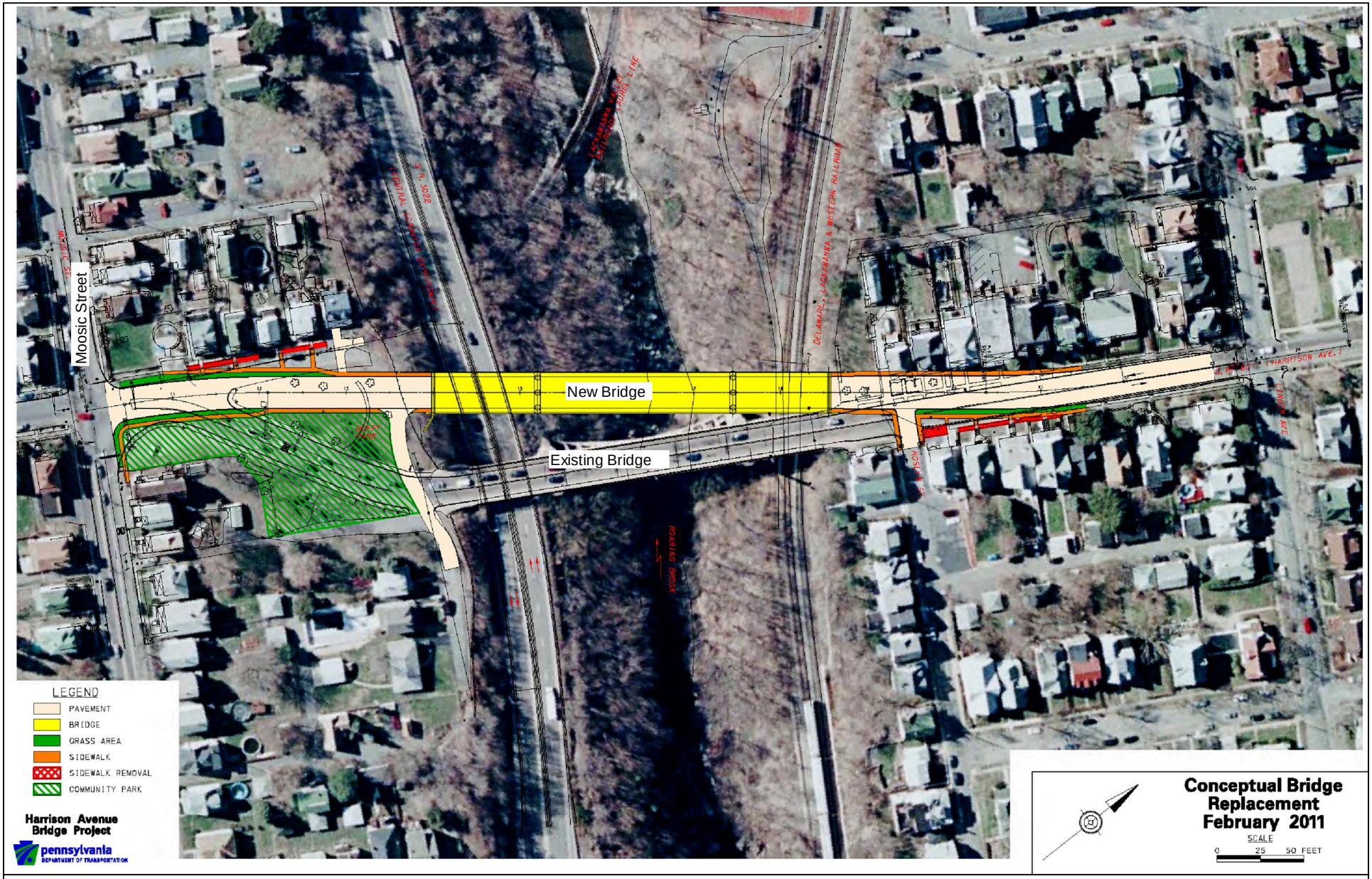


Figure 4
Conceptual Alignment for Bridge Replacement

S.R. 6011, Section 273, Harrison Avenue Bridge,
City of Scranton, Lackawanna County, PA

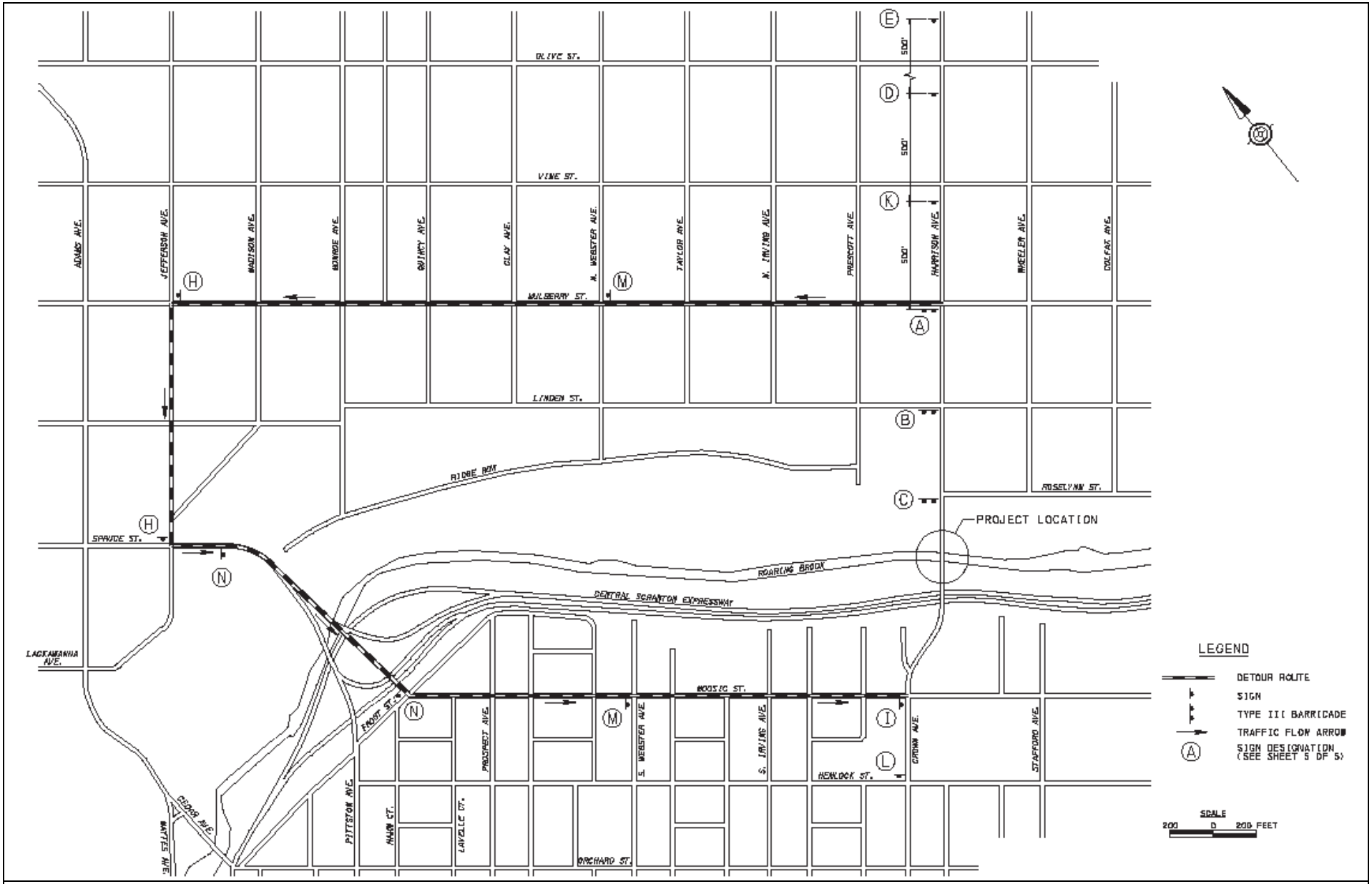


Figure 5
Potential Detour Route

S.R. 6011, Section 273, Harrison Avenue Bridge,
City of Scranton, Lackawanna County, PA

New abutments and piers would be constructed on the slopes adjacent to the DL&W and the Central Scranton Expressway but outside of the associated right-of-ways.

The design for the new bridge is under development. As part of mitigation for Section 106, the design of the replacement structure would be developed in coordination with the consulting parties in order to incorporate architectural treatments that would restore the character and prominence of the crossing as a gateway to the city and connector of two established neighborhoods.

The estimated cost of this alternative is approximately $14 million, approximately 25 percent lower than the cost of the rehabilitation alternative. Also, unlike the project cost of the rehabilitation, the cost of this alternative does not have the potential to significantly increase due to unknown factors encountered during construction. Replacement of the bridge would correct the structural and functional deficiencies of the structure with an estimated design life of at least 100 years. This improvement would also meet all of the project needs. However, this alternative would involve environmental impacts: three residential displacements at the northwest quadrant of the bridge instead of one and the relocation of Duffy Park. In addition, this alternative would involve greater impacts to the Harrison Avenue Bridge; removal of the structure would constitute an adverse effect under Section 106.

A summary of the cost and impacts of the rehabilitation and replacement alternatives are provided in Tables 1 and 2.

Table 1. Alternative Cost Comparison.

	Bridge Rehabilitation	**Bridge Replacement**
Structure Construction Costs	$8,398,000	$6,381,000
Roadway Construction Costs	879,500	$2,536,500[1]
Temporary Run-Around to Maintain Traffic	$2,700,000	Not Applicable
Total	**$17,317,000 (2)**	**$14,051,000[2]**

[1] Includes removal of the existing bridge.
[2] Construction costs include an additional factor for unknown contingencies, inflation of current costs to the estimated let year 2014, and estimated costs for construction engineering and inspection.

Table 2. Alternative Impact Comparison.

	Bridge Rehabilitation	**Bridge Replacement**
Utility Impacts		
Underground	None or Minimal	Relocation of natural gas, sanitary sewer, water lines
Overhead	Temporary relocation of electric and telephone lines	Temporary and/or permanent relocation of electric and telephone lines
Right-of-Way Impacts		
Estimated Residential Displacements	1	3
Duffy Park	Temporary closure for duration of bridge rehabilitation	Relocation due to roadway realignment
Method of Maintaining Traffic During Construction	Temporary run-around	Existing Bridge
National Register-Listed or Eligible Historic Site	No adverse effect (if rehabilitation meets the Secretary of the Interior's Standards)	Adverse effect (removal of existing bridge)

As the rehabilitation alternative has a high degree of uncertainty with regards to future life and future costs, this alternative is recognized as a high risk investment. Given the cheaper cost and lower risk of the replacement alternative, this is the preferred alternative for the project.

3.0 The Area of Potential Effect

3.0 THE AREA OF POTENTIAL EFFECT

3.1 Definition of the Area of Potential Effect

The authors of this report used various sources to identify and evaluate historic resources within the APE, in accordance with the regulations of the National Historic Preservation Act of 1966, as amended, and guidelines outlined in the Secretary of Interior's *Standards and Guidelines for Archaeology and Historic Preservation* (48 FR 44716). The APE is defined as "the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist" (36 CFR Part 800.16[d], 2001).

The APE associated with this project includes the geographic area within which the proposed Harrison Avenue Bridge Project in the City of Scranton may directly or indirectly alter the character or use of identified National Register-eligible or listed resources. The APE for the proposed project includes all areas containing National Register-listed, eligible, or potentially eligible cultural resources whose character and/or setting could be directly, secondarily, or cumulatively affected by the proposed undertaking. All potential impact types (including direct, audible, visual, atmospheric, and cumulative) were considered during the development of the APE.

The APE largely extends to include residential properties that front on the east and west sides of Harrison Avenue between Moosic Street to the south and Linden Street to the north. The APE extends further to the west from the center line of the bridge to include the proposed alignment of the replacement structure. Photographs 18 to 21 depict current conditions within the APE and the proposed improvements. Figure 2 illustrates the APE and photograph locations.

On the south side of the bridge, Harrison Avenue joins Crown Avenue at the intersection with Moosic Street. Single family homes are located along the west side of Crown Avenue, which dead-ends at the Expressway. The Colonel Frank J. Duffy Memorial Park, which was dedicated in 1940, is a City-owned park located immediately south of the bridge along Harrison Avenue and includes a statue, the *Spirit of the American Doughboy*, to memorialize World War I

Photograph 18: The three residential properties that would be displaced by the construction of the new bridge are shown on the left side of the photograph. None of these properties was determined eligible as a result of the historic resources survey.

Photograph 19: View along Harrison Avenue on the north side of the bridge showing the residential properties and sidewalks that line the street.

Photograph 20: Duffy Park, located between Harrison Avenue and Crown Avenue, on the south side of the bridge. Harrison Avenue is to the right of the photograph.

Photograph 21: The area in the foreground is located on the south side of Harrison Avenue directly across Duffy Park and is also under ownership of the city. Plans call for the relocation of the park and statue to the vicinity of the existing roadway upon completion of construction.

veterans. The park comprises approximately 0.271 acre and does not contain any structures 50 years in age or older (Photograph 20). Although the main portion of the park lies between Crown Avenue and the west side of Harrison Avenue, the land on the east side of Harrison Avenue is owned by the City and is associated with the park (Photograph 21).

On the north side of the bridge, Harrison Avenue is lined with a mixture of single-family, duplex and apartment dwellings (Photographs 18 and 19). The dwellings represent ubiquitous forms and styles characteristic of early-twentieth-century residential neighborhoods. Many do not retain integrity from the period of construction and feature replacement materials, such as exterior siding, windows, and doors. On-street parallel parking is located in front of these homes, and alleys at the rear of the parcels provide driveway access.

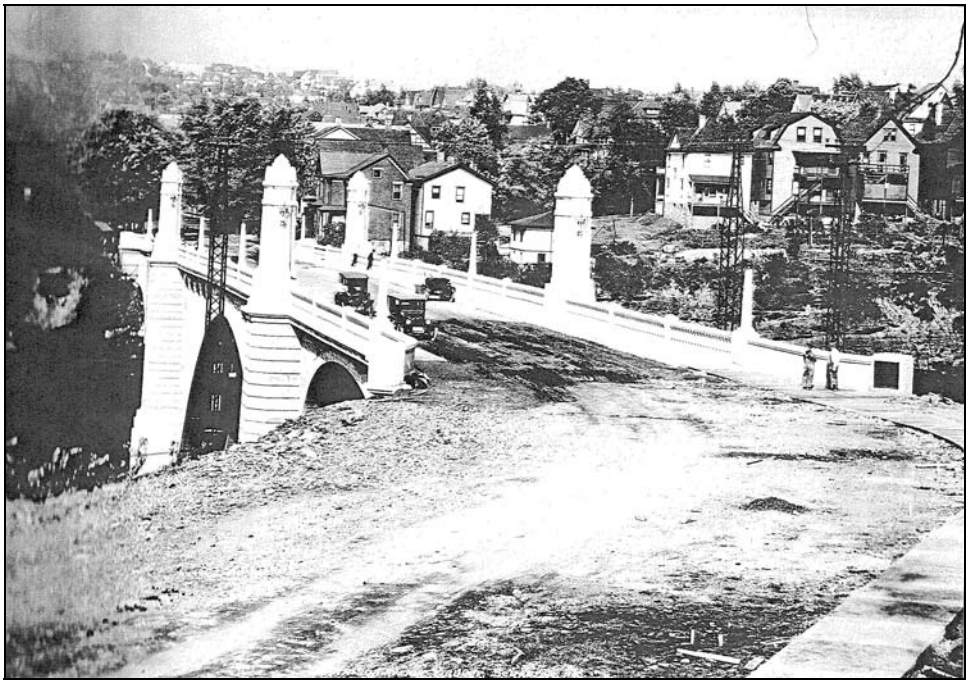
4.0 Description of Historic Properties

4.0 DESCRIPTION OF HISTORIC PROPERTIES

4.1 Harrison Avenue Bridge

The Harrison Avenue Bridge, also known as the "South-East Scranton Viaduct," was listed in the National Register of Historic Places in 1988. The bridge was designed by prominent engineer A. Burton Cohen, the designer of the DL&W's Tunkhannock Viaduct. Due to delays in funding, the bridge was constructed by the Anthracite Bridge Company of Scranton 20 years after its initial design, between July 1921 and September 1922. Erection of the bridge was overseen by William Shrunk, the City's bridge engineer. Completion of the Harrison Avenue Bridge marked the culmination of efforts by local citizens and the City to develop a monumental structure to link two economically and geographically disparate communities. The bridge has sustained a number of repairs, spanning the years 1937 to 2007. The removal of the original pylons on the central piers and the original bridge railings (Photograph 22) during the 1973 rehabilitation was the most visible change to the bridge's historic appearance (Spivey 1998).

The bridge was listed in the National Register in 1988 under Criterion C in the area of engineering as a monumental example of an open-spandrel bridge, with the central span measuring over 200 feet in length. According to the 1998 documentation prepared for the Historic American Engineering Record, the bridge is considered to be "a symbol of the city's progressive era in the early twentieth century." Therefore, it is clear the bridge also meets National Register Criterion A for local significance in the area of politics and government. The character-defining features of the bridge are the arches, use of spandrel arches, piers, wing walls, and abutment. Despite the removal of the pylons from the end and central piers of the bridge during the 1973 rehabilitation and continued deterioration, the bridge retains sufficient integrity of materials, design, and workmanship to convey its historic appearance. The structure also retains its historic location over the Roaring Brook Gorge and its setting between two physically separated neighborhoods. The National Register boundary includes the footprint of the bridge and encompasses the piers and abutments, as shown in Figure 2.



Photograph 22: Historic photograph of Harrison Avenue Bridge showing pylons located at end and central piers, which were removed during the rehabilitation that was completed in 1973 (Source: Lackawanna Historical Society).

4.2 Delaware, Lackawanna & Western Railroad

The former DL&W runs along the north bank of Roaring Brook within the APE. The line was originally constructed in the 1850s to transport iron products to market, but it later evolved into a major transport for hauling anthracite coal from the Lackawanna Valley to the surrounding regions. The portion of the line within the APE was determined eligible in 2006 under Criterion A for its role as one of the major railroads that shipped coal from northeastern Pennsylvania to areas throughout Pennsylvania, New York, and New Jersey. The line was also determined eligible under Criterion C for its prolific use of concrete in the construction of its associated buildings and structures (Clemenson 1991).

4.3 Lackawanna Valley Railroad/Laurel Line

The Lackawanna Valley Railroad/Laurel Line (Lackawanna & Wyoming Valley Railroad) runs along the south bank of Roaring Brook west of the Harrison Avenue Bridge. The line was an electric street car that operated from 1903 to 1952 and then switched to freight service until 1976. The demise of the company was closely aligned with the collapse of the anthracite industry in the Lackawanna Valley after 1940. In 1964, the Central Scranton Expressway was built over a portion of the Laurel Line. The line was determined eligible in 2000 under Criterion A for the role it played in connecting Wilkes-Barre and Scranton, two important cities during the growth period of interurban lines and anthracite production.

The visible portion of the line is located outside of the APE and includes the track on the south bank as well as the tunnel portal adjacent to the Central Scranton Expressway. The 4,750-foot tunnel was constructed to eliminate a grade and sharp curve. The tunnel extends to a second portal between Elm and Locust streets in the south side of Scranton, also outside of the APE. The only portion of the line within the APE is a small section of the tunnel located over 100 feet belowground (Perry 1989).

5.0 Status of Archaeology

5.0 STATUS OF ARCHAEOLOGY

Background research using the Cultural Resources Geographic Information System (CRGIS) determined there are no previously identified archaeological sites or investigations within the APE. Based on an examination of historic mapping, it was concluded that the project is located in a densely developed urban setting where the ground has been previously disturbed. Due to the low potential for unidentified archaeological sites, no additional archaeological investigations were conducted.

6.0 Methodology

6.0 METHODOLOGY

It is necessary to assess potential project impacts because a National Register-listed property exists within the APE. A.D. Marble & Company assessed project impacts based upon the guidelines specified in the Section 106 Regulations, as published in the Federal Register, and by the Advisory Council on Historic Preservation (ACHP).

6.1 Definition of Effect

An *Effect* is defined as an alteration to the characteristics of a historic property that qualify it for inclusion in or eligibility for the National Register. The two possible results of identification and evaluation are explained below.

6.1.1 No Historic Properties Affected

If the agency official finds that either there are no historic properties present, or that there are historic properties present but the undertaking will have no effect upon them as defined in Section 800.16(i)[1], the agency official shall provide documentation of this finding, as set forth in Section 800.11(d)[2], to the State Historic Preservation Office (SHPO)/Tribal Historic Preservation Office (THPO). The agency official shall notify all consulting parties, including Native American tribes and Native Hawaiian organizations, and make the documentation available for public inspection prior to approving the undertaking. If the SHPO/THPO or the ACHP (if it has entered the Section 106 process) does not object within 30 days of receipt of an adequately documented finding, the agency official's responsibilities under Section 106 are fulfilled.

6.1.2 Historic Properties Affected

If the agency official finds that there are historic properties that might be affected by the undertaking, or the SHPO/THPO or the ACHP objects to the agency official's finding under paragraph (d)(1) of this section, the agency official shall notify all consulting parties, including

[1] As found in 36 CFR Part 800.
[2] As found in 36 CFR Part 800.

Native American tribes or Native Hawaiian organizations, and invite their views on the effects and assess adverse effects, if any, in accordance with Section 800.5[3].

6.2 Criteria of Adverse Effect

An *Adverse Effect* is found when an undertaking may alter, directly or indirectly, the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for inclusion in the National Register. Adverse effects may include reasonably foreseeable impacts that could be caused by the undertaking and that may be cumulative, may occur later in time, or may occur farther removed in distance. Adverse effects on historic properties include, but are not limited to:

(i) Physical destruction of or damage to all or part of the property;
(ii) Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation, and provision of handicapped access, that is not consistent with the Secretary's Standards for the Treatment of Historic Properties (36 CFR part 68) and applicable guidelines;
(iii) Removal of the property from its historic location;
(iv) Change of the character of the property's use or of physical features within the property's setting that contributes to its historic significance;
(v) Introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features;
(vi) Transfer, lease, or sale of property out of federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance. (Section 800.5[a][4])

6.3 Results of Assessment of Adverse Effect

6.3.1 No Adverse Effect

The agency official shall maintain a record of the finding and provide information on the finding to the public on request, consistent with the confidentiality provisions of Section 800.11(c).

[3] As found in 36 CFR Part 800.
[4] As found in 36 CFR Part 800.

Implementation of the undertaking in accordance with the finding as documented fulfills the agency official's responsibilities under Section 106 and 36 CFR Part 800, Section 800.11[5]. If the agency official will not conduct the undertaking as proposed in the finding, the agency official shall reopen consultation under Section 800.5(a).

6.3.2 Adverse Effect

If an adverse effect is found, the agency official shall consult further to resolve the adverse effect pursuant to Section 800.6[6]. Section 800.6 of the regulations implementing the National Historic Preservation Act describes the resolution of adverse effect. The procedures for resolution include continuing consultation with the agency and the SHPO, resolving adverse effects, and preparing a Memorandum of Agreement (MOA)/Letter of Agreement (LOA).

[5] As found in 36 CFR Part 800.
[6] As found in 36 CFR Part 800.

7.0 Application of Definition of Effect and Criteria of Adverse Effect

7.0 APPLICATION OF DEFINITION OF EFFECT AND CRITERIA OF ADVERSE EFFECT

Under Section 106, an effect is defined as an "alteration to the characteristics of a historic property qualifying it for inclusion in or eligibility for the National Register" (36 CFR Part 800.16[i]). The effects that a proposed undertaking will have on a historic property are predicted based on the distinguishing characteristics of the property and the design and anticipated consequences of the undertaking. This section describes the effects of the replacement alternative, which is the preferred alternative. For the purposes of this report, an effect can be either direct or indirect. Direct impacts may involve physical alterations or the acquisition of land from a National Register-listed or eligible resource. Indirect impacts would include both visual and/or audible impacts to a National Register-listed or eligible resource.

7.1 Harrison Avenue Bridge

The Harrison Avenue Bridge is the one National Register-listed property that exists within the APE. The bridge was listed in the National Register in 1988 under Criterion C for engineering significance as a monumental example of an open-spandrel bridge, with the central span measuring over 200 feet in length. The bridge is also eligible under National Register Criterion A for local significance in the area of politics and government. The character-defining features of the bridge are the arches, use of spandrel arches, piers, wing walls, and abutment. The aspects of integrity most important to the bridge's ability to convey its historic and engineering significance include integrity of setting and location over the Roaring Brook Gorge and integrity of design, materials, and workmanship.

Based on an application of the Definition of Effect, it is recommended that the proposed project will have an *Effect* on the historic property because it will alter the characteristics that qualify the property for inclusion in the National Register. The bridge will be removed and replaced with a new structure to the immediate west.

Table 3. Results of Effect Evaluation for the Harrison Avenue Bridge.

Definition of Effect	Evaluation
An Effect may occur when there is alteration to the characteristics of a historic property qualifying it for inclusion in or eligibility for the National Register as defined in Section 800.16(i).	The National Register characteristics of the Harrison Avenue Bridge will be altered by the proposed project, as construction of a replacement structure will result in removal of the existing bridge.
Finding:	Based on application of the Definition of Effect, the proposed action is recommended to have an *Effect* on the Harrison Avenue Bridge because it will directly alter physical features that contribute to the district's significance. Pursuant to 36 CFR § 800.11(e), the Criteria of Adverse Effect must be applied.

Pursuant to 36 CFR § 800.11(e), the Criteria of Adverse Effect must be applied to the above-listed resource. Based on the application of the Criteria of Adverse Effect, it is recommended that the project will have an *Adverse Effect* on the Harrison Avenue Bridge, as the proposed design will result in removal of the bridge.

Table 4. Application of the Criteria of Adverse Effect for the Harrison Avenue Bridge.

An Adverse Effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance, or be cumulative.	
Criteria of Adverse Effect	**Evaluation**
Adverse Effects on historic properties include but may not be limited to:	
(i) Physical destruction of or damage to all or part of the property;	The bridge will be removed, therefore the project will involve physical damage to the entire property. While the concrete structure cannot be salvaged, the bridge plaques will be retained for placement on the future structure.
(ii) Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation, and provision for handicapped access that is not consistent with the Secretary's Standards for the Treatment of Historic Properties (36 CFR part 68) and applicable guidelines;	The project will alter the resource's integrity of design, workmanship, and materials in a manner inconsistent with the Secretary's Standards.
(iii) Removal of the property from its historic location;	The bridge will be removed from its historic location.
(iv) Change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance;	The bridge will no longer serve as a critical crossing and will be removed from its historic setting.
(v) Introduction of visual, atmospheric, or audible	No visual, atmospheric, or audible elements will affect the

elements that diminish the integrity of the property's significant historic features;	integrity of the bridge, as it will be removed.
(vi) Neglect of a property which causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to an Indian tribe or Native Hawaiian organization; and	The project will not result in the neglect of the property. The proposed improvements will enable long-term maintenance of this critical crossing.
(vii) Transfer, lease, or sale of property out of Federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance.	The project will not involve the transfer, lease, or sale of a Federal property.
Finding: The proposed project is recommended to have an *Adverse Effect* on the Harrison Avenue Bridge.	

7.2 Delaware, Lackawanna & Western Railroad

The railroad that runs along the north bank of Roaring Brook within the APE is the former DL&W. The portion of the line within the APE was previously determined eligible for listing in the National Register under Criterion A for its role in the movement of coal from the Lackawanna Valley to cities to the east.

The DL&W was determined eligible under Criterion A as a significant transportation resource for its role in the movement of coal from the Lackawanna Valley to cities on the East Coast. While some elements of the railroad, such as wood ties and metal rails, have been replaced, the DL&W remains on its historic alignment. The resource includes the right-of-way of the railroad within the APE, which contributes to the integrity of the larger linear resource.

Direct construction impacts to the line will be avoided, as it remains under active use. Relocation of the roadway alignment and construction of the north abutment will require permanent right-of-way acquisition of a small portion of the line, within the National Register boundary. In addition, construction of the pier, erection of the superstructure, and demolition of the existing bridge will likely necessitate temporary construction easements. Coordination with the railroad during construction will be necessary for intermittent interruptions of service. The line will remain active during and after construction. The area of right-of-way acquisition will be limited to small portions of this larger linear resource and will not affect any character-defining features.

Therefore, the project will not affect the characteristics that qualify the line for inclusion in the National Register (Table 5).

Table 5. Results of Effect Evaluation for the Delaware, Lackawanna & Western Railroad.

Definition of Effect	Evaluation
An Effect may occur when there is alteration to the characteristics of a historic property qualifying it for inclusion in or eligibility for the National Register as defined in Section 800.16(i).	The National Register characteristics of the DL&W will not be altered by the proposed project.
Finding:	The proposed action is recommended to have *No Effect* on the DL&W. Minor area of right-of-way acquisition will be required, but direct impacts to the resource will be avoided so that the line can continue under operation. Given the presence of the pre-existing bridge over the railroad, the new structure will not detract from the integrity of setting and feeling of the railroad. As the National Register characteristics of the DL&W will not be altered, it is not necessary to apply the Criteria of Adverse Effect.

7.3 Lackawanna Valley Railroad/Laurel Line

The Lackawanna Valley Railroad/Laurel Line (Lackawanna & Wyoming Valley Railroad) runs along the south bank of the Roaring Brook west of the Harrison Avenue Bridge and operated as an electric street car between Wilkes-Barre and Scranton from 1903 to 1952. The demise of the company was closely aligned with the collapse of the anthracite industry in Lackawanna Valley after 1940. The line was determined eligible in 2000 under Criterion A for the role it played in connecting the two cities during the growth period of interurban lines and anthracite production.

The visible portion of the line is located west of the APE and includes the track on the south bank as well as the tunnel portal adjacent to the Central Scranton Expressway. The associated 4,750-foot tunnel was constructed to eliminate a grade and sharp curve. The tunnel extends to the south to a second portal between Elm and Locust streets, also outside of the APE. The only portion of the line within the APE is a small section of the tunnel located over 100 feet below ground (Perry 1989).

Based on an engineering investigation specific to the tunnel, and given the tunnel's depth belowground and the nature of the proposed improvements in the vicinity, the resource does not have the potential to be directly impacted by construction activities associated with the project (Table 6).

Table 6. Results of Effect Evaluation for the Lackawanna Valley Railroad/Laurel Line.

Definition of Effect	***Evaluation***
An Effect may occur when there is alteration to the characteristics of a historic property qualifying it for inclusion in or eligibility for the National Register as defined in Section 800.16(i).	The National Register characteristics of the Lackawanna Valley Railroad/Laurel Line will not be altered by the proposed project.
Finding:	The proposed action is recommended to have *No Effect* on the Lackawanna Valley Railroad/Laurel Line, as the proposed replacement structure does not have the potential to impact the associated tunnel. Therefore, it is not necessary to apply the Criteria of Adverse Effect.

8.0 Public Involvement

8.0 PUBLIC INVOLVEMENT

Efforts were made to identify potential Section 106 consulting parties, including the transmission of an invitation email on July 16, 2010, via the ProjectPATH website and a mailing dated September 15, 2010. Ultimately, 40 individuals/organizations were invited to become consulting parties for the project, and 17 responded that they wished to participate. A copy of the invitation email and letters as well as copies of those response forms that were completed and returned are included in Appendix C.

An initial meeting to inform City officials about the project was held in July 2010. The meeting concluded by noting that the Rehabilitation Feasibility Study would be provided to the consulting parties and to the Pennsylvania Historical and Museum Commission (PHMC). See attached meeting minutes in Appendix C.

In the fall of 2010, PennDOT distributed a project newsletter that outlined the purpose of the project; the history of the bridge; the results of the conditions survey and feasibility analysis; and the public involvement, National Environmental Policy Act (NEPA), and Section 106 processes.

A consulting party meeting was held on February 10, 2011. Invitations to the meeting were sent to all consulting parties. The meeting introduced the Section 106 process to the consulting parties and discussed the bridge inspection and repair history of the bridge, as presented in the conditions assessment report. The results of the feasibility study were presented by Dewberry, the project engineer. The engineers explained that while the project was initially planned as a rehabilitation project, Dewberry's recommendation was replacement of the Harrison Avenue Bridge due to concerns that developed as the feasibility study progressed. However, PennDOT had not yet selected a preferred alternative for the project. The findings of the historic structures identification survey were also discussed; copies of the HRSF forms prepared for the project were provided to the consulting parties prior to the meeting.

The consulting parties' opinions on eligibility of the identified resources and the rehabilitation verses replacement alternatives were solicited. Several consulting parties expressed an interest in

seeing the structure rehabilitated or reconstructed in a manner that would restore its character and prominence as a gateway to the city and connector of two historic neighborhoods. If replacement was to be chosen as the preferred alternative, the consulting parties expressed an interest in the addition of architectural treatments that would enable the bridge to look distinctive. Kitty Henderson of the Historic Bridge Foundation offered to provide examples of other designs of bridges of similar scale, design, and length that PennDOT could reference for this project and did so subsequent to the meeting. Discussion included the possible formation of a design advisory committee to further discuss and evaluate architectural treatments for a replacement structure.

A public meeting was held on March 10, 2011, and the consulting parties received invitations to the meeting via email. The meeting provided an overview of the project and design details related to the rehabilitation and replacement alternatives and provided an opportunity for the public to provide comment. Members of the teams conducting the design and cultural resources investigations were on hand to answer questions. The replacement option was generally supported by the majority of the public. The main concerns involved displacements, relocation of Duffy Park, and safety for local and through traffic. General discussions were held with individuals on the Section 106 process and the identification of historic properties. There were some concerns raised about the historic aspects of the bridge. Information on public involvement activities, including the meeting minutes, relevant handouts, and comment forms are included in Appendix C.

Copies of this Determination of Effect Report will be sent to the approved consulting parties for review and comment concurrently with the PHMC submission.

9.0 Minimization

9.0 MINIMIZATION

Despite an initial project goal of rehabilitation, a detailed conditions assessment and feasibility study found that the most prudent and feasible alternative for long-term maintenance of this crossing is replacement.

PennDOT plans to consider alternative design options to the standard replacement bridge structure. Development of the replacement structure's design will be carried out in coordination with the consulting parties. The coordination effort will address the consulting parties' expressed interests in a structure that is of similar scale and incorporates sufficient architectural treatments to recognize the crossing as a gateway to the City. Development of a design in coordination with the consulting parties will be included as a mitigation measure in the forthcoming MOA/LOA, which will outline measures for mitigating the loss of the existing National Register-listed structure. Another potential mitigation measure is the removal and recycling of the plaques located at either end of the bridge (Photograph 23).

In addition, efforts have been made to avoid direct impacts to the Lackawanna Valley Railroad/Laurel Line, a National Register-eligible railroad that runs beneath the southern span of the bridge; and the DL&W, a National Register-eligible railroad that runs beneath the northern span of the bridge.

Photograph 23: Bridge plaque in wing wall of bridge. As part of mitigation, the bridge plaques could be salvaged and placed on the new structure.

10.0 Conclusion

10.0 CONCLUSION

This Determination of Effect Report was prepared for PennDOT and FHWA. It documents the analysis of potential impacts of the proposed Harrison Avenue Bridge Project, located in the City of Scranton, Lackawanna County, to properties that are listed in or eligible for listing in the National Register.

Three historic properties are located within the APE established for the project. Application of the Definition of Effect and the Criteria of Adverse Effect indicates that the project will have *No Effect* on the DL&W and the Lackawanna Valley Railroad/Laurel Line as measures have been undertaken to avoid direct impacts to these resources. Despite an initial project goal of rehabilitation, a detailed conditions assessment and feasibility study found that the most prudent and feasible alternative for long-term maintenance of this crossing is replacement. As replacement will require the removal of the National Register-listed Harrison Avenue Bridge, it is recommended that the project will result in an *Adverse Effect*. Development of a design in coordination with the consulting parties will be included as a mitigation measure in the forthcoming MOA/LOA.

Since the project is located in a densely developed urban setting where the ground has been previously disturbed, archaeological investigations to identify belowground features that might be eligible for the National Register were not conducted.

References

REFERENCES

Clemenson, Berle
1991 Delaware, Lackawanna, and Western Railroad Line, from Scranton to Slateford. National Register of Historic Places Nomination. On file at the PHMC, Harrisburg, Pennsylvania.

Dewberry-Goodkind, Inc.
2008 In-Depth Inspection and Condition Survey Report. Harrison Avenue Bridge. August 2008.

2010 Rehabilitation of Feasibility Report. Harrison Avenue Bridge. December 2010.

Perry, Daniel K.
1989 Lackawanna County Industrial Site Survey. Prepared for Lackawanna Valley Heritage Park Team. On file at the PHMC, Harrisburg, Pennsylvania.

Spivey, Justin M.
1998 Historic American Engineering Record, Harrison Avenue Bridge, Spanning Roaring Brook & Central Scranton Expressway (State Route 3022) at Harrison Avenue (State Route 6011), Scranton, Lackawanna, PA. HAER No. PA-498. Available online at http://memory.loc.gov.

Internet Resources

Advisory Council on Historic Preservation website
http://www.achp.gov [accessed 12 June 2011]

Appendix A: Correspondence

Commonwealth of Pennsylvania
Pennsylvania Historical and Museum Commission
Bureau for Historic Preservation
Commonwealth Keystone Building, 2nd Floor
400 North Street
Harrisburg, PA 17120-0093
www.phmc.state.pa.us

August 16, 2010

Brian G. Thompson, P.E., Director
Bureau of Design
PA Department of Transportation
P O Box 2966
Harrisburg, PA 17105

TO EXPEDITE REVIEW USE BHP REFERENCE NUMBER

Re: ER 07-8035-069-C
Lackawanna County, City of Scranton
SR 6011, Section 273, Harrison Avenue Bridge Project
Determination of Eligibility

Dear Mr. Thompson:

The Bureau for Historic Preservation (the State Historic Preservation Office) has reviewed the above named project in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended in 1980 and 1992, and the regulations (36 CFR Part 800) of the Advisory Council on Historic Preservation as revised in 1999 and 2004. These regulations require consideration of the project's potential effect upon both historic and archaeological resources.

We concur with the findings of the agency that the following properties are not eligible for the National Register of Historic Places. They are not historically or architecturally significant.

1. Annie Cawley Dwelling, 26 Crown Avenue, Scranton, Lackawanna County
2. Patrick J. Cowley Dwelling, 920 Front Street, Scranton, Lackawanna County
3. Duff Park/Doughboy Statue, Scranton, Lackawanna County

We are unable to complete our review of the potential Hill District extension until a Bureau site visit can be made. Please contact our National Register division to arrange a site visit.

If you need further information in this matter please consult Susan Zacher at (717) 783-9920.

Sincerely,

Andrea L. MacDonald, Chief
Division of Preservation Services

AM/smz

Commonwealth of Pennsylvania
Pennsylvania Historical and Museum Commission
Bureau for Historic Preservation
Commonwealth Keystone Building, 2nd Floor
400 North Street
Harrisburg, PA 17120-0093
www.phmc.state.pa.us

October 12, 2010

Brian G. Thompson, P.E., Director
Bureau of Project Delivery
PA Department of Transportation
P O Box 2966
Harrisburg, PA 17105

TO EXPEDITE REVIEW USE BHP REFERENCE NUMBER

Re: ER 07-8035-069-D
Scranton, Lackawanna County
S.R. 6011, Section 273, Harrison Avenue Bridge Project
Determination of Eligibility

Dear Mr. Thompson:

The Bureau for Historic Preservation (the State Historic Preservation Office) has reviewed the above named project in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended in 1980 and 1992, and the regulations (36 CFR Part 800) of the Advisory Council on Historic Preservation as revised in 1999 and 2004. These regulations require consideration of the project's potential effect upon both historic and archaeological resources.

A Bureau site visit was held on September 2, 2010 with the Department of Transportation qualified professional to investigate the presence of a potential historic district extension in the Area of Potential Effect for the above listed project. The Hill neighborhood consists of late 19th and early 20th century residences in a variety of well-executed styles. Although of the same time period, the building stock of the neighborhood outside of the current identified boundary is of poorer quality, smaller scale and has compromised integrity. Based on the information gathered at the field view, there is no eligible area of increase to the Hill Historic District and no separately eligible district in this area of Scranton. The Doughboy and Duffy Park are located contiguous to the identified district and thus cannot be considered contributing to the district.

If you need further information in this matter please consult Susan Zacher at (717) 783-9920.

Sincerely,

Andrea L. MacDonald, Chief
Division of Preservation Services

AM/smz

Appendix B:
Previous Documentation

Historic Resource Information

- Identification

Key #: *096994*
Property Name: *Crown Ave./Laurel Line Tunnel*
Resource Type: *Structure*
Survey Code:
ER #:
Tax Credit #:

- Location

Lackawanna: *Scranton City*
Address: *Crown Ave.*
Location:
UTM:
USGS Quadrangle: *Scranton*
Tax Parcel:

- Status

NR Status: *Undetermined*
Contributes:
Owner:
Related Program(s):
Condition: *Unreported*
Form Year:

- Historic Information

Year Built: *1904, 1905*
Alterations/Additions:
Associated Individual:
Associated Event:
Associated Activity:
Architect/Engineer:
Builder:

- Physical Description

Style:
Width: *0 feet, 0 Bays*
Height: *0 Stories, 0 feet*
Depth: *0 Rooms, 0 feet*
Walls: *Concrete*
Foundation:
Roof:
Other:
Structural System: *Timber-Post & Beam*
Floor Plan:
Layout:

- Historic Function

Transportation: *Rail-Related*
Transportation: *Tunnel*

+ Current Function	**No Data Present**
+ Inventory Items	**No Data Present**
+ Ancillary Features	**No Data Present**

+ Associated Resources No Data Present

- Administrative Actions

09/24/1990: *SHPO Staff Meeting*

09/14/1990: *HRSF/Nom. Req. Received*

- National Register Information

Criteria:

Considerations:

Period of Significance:

Contributing: *0 Structures, 0 Objects, 0 Buildings, 0 Sites*

Non-Contributing: *0 Sites, 0 Objects, 0 Buildings, 0 Structures*

Acreage:

Multiple Property Listings:

Cultural Affiliation:

+ Links No Data Present

+ Comments No Data Present

Commonwealth of Pennsylvania
Pennsylvania Historical and Museum Commission
Bureau for Historic Preservation
Post Office Box 1026
Harrisburg, Pennsylvania 17108-1026

Oct. 20, 2000

Susan McDonald
Pennsylvania Department of Transportation
Bureau of Environmental Quality
P O Box 3790
Harrisburg, PA 17105-3790

TO EXPEDITE REVIEW USE
BHP REFERENCE NUMBER

Re: ER 01-6001-069-B
Lackawanna County, City of Scranton
S.R. 3021, Section 270, Strafford Avenue Bridge Replacement
Submittal under Stipulation D.2

Dear Ms. McDonald:

The Bureau for Historic Preservation (the State Historic Preservation Office) has reviewed the above named project in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended in 1980 and 1992, and the regulations (36 CFR Part 800) of the Advisory Council on Historic Preservation and the Programmatic Agreement for Minor Transportation Projects. These requirements include consideration of the project's potential effect upon both historic and archaeological resources.

We disagree with the findings of the agency concerning the eligibility of the Lackawanna and Wyoming Valley Railroad: Laurel Line. In our opinion, the Laurel Line and its associated tunnel are eligible for the National Register of Historic Places under Criterion A for Engineering and Transportation. The Laurel Line is a significant example of an interurban line connecting two important cities during the growth period of interurban lines and anthracite production. This line was identified by the Industrial Heritage Study of Lackawanna County. While information was submitted the Scranton section of the line, it is our opinion, that the overall line is eligible and intact portions of the line are considered contributing portions of the resource. Additional research as to the integrity of the overall line will need to be completed in the future. A boundary for this Scranton portion of the line will need to be developed and an evaluation of the effect of the proposed Stafford Avenue Bridge Replacement project will need to be submitted.

If you need further information in this matter please consult Susan Zacher at (717) 783-9920.

Sincerely,

for Brenda Barrett
Director

Cc: D. Cough, FHWA
D. Kearns, PDOT, BOD
J. McIntyre, PDOT, Dist. 4-0
M. Hamel, PDOT, Dist. 3-0
BB/smz

HISTORIC RESOURCE FORM
REVIEW SHEET

DATE: 9-24-90

PROPERTY NAME: Crown Ave / Laurel Line Tunnel

LOCATION Crown Ave, Scranton, Lackawanna Co.

Reviewer	Evaluation	NR Eligible	Criteria A	Criteria B	Criteria C
Bomberger		yes			
Deibler					
Clouse					
Keim					
Ramsey		yes	✓		✓
Zacher		? OK yes			✓

Pennsylvania Industrial Resource Survey Form

Survey Code: LVHP #11
County: Lackawanna 069
Municipality: Scranton
Address: Underneath Crown Avenue
Historical Name: Scranton Tunnel
Other Name: Crown Avenue Tunnel
Owner Name/Address:

Pocono Northeast Railway Inc.
1004 Exeter Avenue

Exeter PA 18643

Tax Parcel/Other No.: 157.54
2. N/A
2.

Owner Category:	Resource Category:
X Private	Building
Public-local	District
Public-state	Site
Public-federal	X Structure
	Object

USGS Quad Names: Scranton

Total No. of Resources: 1

UTM References: A.
B.
C.
D.

Photograph Information

Photo #	Roll/Frame		Description of Picture	Direction of Camera
1A	6	11A	Tunnel Approach from Bridge	SE
1B	6	13A	Tunnel North Entrance	SE
2	6	14A	Interior	S
3	6	19A	Interior	N
4	6	21A	Bridge w/Tunnel in Background	S

Total No of Photos: 5
Photographer: Dorothy Silva Date: 8/89
Negative Location: Bureau for Hist Preservation

Historic and Current Functions

Historic Function Category:	Subcategory:	Code:
A. Transportation	Rail-Related	16A
B.		
C.		

Particular Type: A. Tunnel
B.
C.

Associated Process/ Activity: A. Rail-Related, Interurban Code: TCA
B.
C.

Current Function Category:	Subcategory	Code:
A. Vacant/Not in Use		98
B.		
C.		

PHYSICAL DESCRIPTION

Architectural Classification: A. Other: RR Tunnel 99
B. Other:

Exterior Materials: Foundation N/A Roof N/A
Walls Concrete 65 Walls N/A
Other N/A Other N/A

Structural System: A. Timber 13 B. Concrete-Gen 50

Roof System--Material: N/A System: N/A

Width: 1-25 FT G Depth: Over 50 FT F Stories/Height: 1-25 FT F

Power System: N/A

Machinery:

Archaeological Remains:

Dates of Additions/Alterations: C. 1916 ; C. ; C.

Additions/Alterations: Relining of the
Tunnel with Concrete.

Narrative Summary:

The former Lackawanna and Wyoming Valley Railroad (Laurel Line) Tunnel runs from Roaring Brook (north portal) to an area between Elm and Locust Streets in South Side Scranton. It is located on a parallel north-south axis underneath Crown Avenue. Presently, the tunnel is accessible from the both entrances. Trackage enters from the north after crossing Roaring Brook on the original deck girder bridge (1905). The tracks at the southern portal have been removed. There is some deterioration of the bridge ties, however the ties and tracks in the tunnel are in very good condition. Concrete work at both entrances is in good condition with little to no spalling and the portions of concrete lining studied (approximately the first 1,000 feet from the north) are the same. All of the "third" rail has been removed as well as corresponding insulators, and tunnel lighting.

The tunnel is 4,750 feet long with two 10 by 20 foot vertical ventilation shafts, the southerly one being 110 feet deep and the northerly one 180 feet. At its narrowest point the tunnel is 17 feet wide and 22 feet high. The maximum grade is one percent. Originally, the lining was made up of 1,300 feet of solid rock, 750 feet of masonry and 2,700 feet of timber. In 1916 the timber portion was replaced with concrete.

Continued on Addendum Page #1

ORICAL INFORMATION

Year Built: C. ; Begin Date: C. 1904 End Date: C.1905

Basis for Dating: x Documentary x Physical
Explain: Based on information in Henwood & Muncie and date cast into north and south portals.

Cultural/Ethnic Affiliation: N/A

Associated Individuals: N/A

Associated Events: N/A

Architects/
Engineers: 1. Westinghouse,Church,Kerr&Co 2.

Builders: 1. Rinehart-Dennis Co. 2.

Narrative Summary

The Lackawanna & Wyoming Valley Railroad, commonly referred to as the Laurel Line, was an electric powered interurban line which connected Scranton and Wilkes Barre. Initiated in 1903, the railroad was intended to be a high speed, heavy-duty line, suitable for both passenger and freight traffic. The cars derived their power from a 650-volt "third" rail direct current distribution system as well as from overhead trolley wires (in congested areas around Wilkes Barre).

The design and construction of the railroad was supervised by Westinghouse, Church, Kerr and Company. Charles Fuller Conn served as manager in charge of construction for the L.&W.V. and was later elected vice president and general manager. As general manager, Conn supervised construction of the Scranton tunnel. Although not one of the first electric interurbans, the Laurel Line was one the earliest Westinghouse direct current powered projects. Up to that time General Electric had dominated the third rail market. George Westinghouse, himself, was an original L.&W.V. board member. In fact, one of the earliest experimental Westinghouse electric locomotives (1895) was purchased by the L.&W.V. in 1906. Numbered 401, it was the first electric locomotive to run on the Laurel Line. It was built by the Baldwin Locomotive Works and was in service until 1953 when electric service was closed down.

The Scranton tunnel was constructed in order to circumvent a four percent grade and sharp curve at the point where the tracks climbed out of Scranton and turned south to Wilkes Barre-- in the vicinity of exit #53 of I-81 today. This was necessary so that the line could haul freight efficiently and cut time on passenger runs. In its heyday, a train left Scranton every twenty minutes.

In 1949 the company went into receivership and the receivers concentrated on the freight operation. On December 31, 1952 passenger service was discontinued and the third rail was removed in 1953. Diesel locomotives continued to haul freight on various sections of the line until recently.

Continued on Addendum Page #1

MAJOR BIBLIOGRAPHICAL REFERENCES

Henwood, James N.J. and Muncie, John G. Laurel Line: An Anthracite Region Railway. Glendale, CA: Interurban Press, 1986.
Murphy, Thomas. History of Lackawanna County, Pennsylvania. Topeka: Historical Publishing Company, 1928.

Archival Collections--
Description: Mr. Edward S. Miller Collection (private)
Most extensive collection of archival material related to the Lackawanna and Wyoming Valley Railroad.

Location: 155 Mill St.
Pittston, PA 18640

Contact Person: Mr. Edward S. Miller

PREVIOUS SURVEY, DETERMINATIONS

N/A

THREATS

Threats: 1 1. None 2. Public Development 3. Private Development
4. Deterioration, Vandalism 5. Other
Explain:

SURVEYOR INFORMATION

Surveyor Name/Title: Daniel K. Perry, Survey Director Date: 12/89

Project Name: Lackawanna County Industrial Site Survey

Organization: Lackawanna Valley Heritage Park Team Telephone: (717) 969-168

Street and No: 3320 Olyphant Avenue

City, State: Scranton, PA 18509

EVALUATION (Survey Director/Consultants Only)

Evaluation by Surveyor: Individual NR Potential X Yes No
Contributes to District Potential Yes X No

Assessment:
Believed to be the longest interurban electric railway tunnel ever built in the United States.

Associated Survey Codes: LVHP #9,10

#11 Laurel Line Tunnel
Physical Description
Narrative Continued:

The tracks which enter the tunnel from the north pass by the Poly-Hi plastics company (former L.& W.V. car barn), the Scranton Iron Furnaces Property, the former D.L.&W. car shops (Chamberlain Plant) and the Steamtown National Historic Site. The track and right of way running from the bridge toward central Scranton (north) is currently owned by Conrail. The integrity of the tunnel as it reflects its historic significance, except as noted above, is good. Although inoperative for a number of years, the interior lining is very stable and is similar in appearance, based on original plans, to when it was built.

Historical Information
Narrative Continued:

The Laurel Line fulfilled a definite need in regional transportation by linking the twin anthracite capitals with high speed passenger and freight service. Although the physical plant of the line was considered outstanding in its day, many contend that it was over-built at a total cost of more than $9 million for a 20-mile long railroad. This ranks the L.&W.V. as one of the most expensive electric lines built. The demise of the company was also closely linked to the collapse of the entire anthracite industry in the Wyoming and Lackawanna Valleys, particularly after 1940. Many piece meal vestiges of the line remain today although most sections are idle.

INTERURBANS SPECIAL 103

LAUREL LINE

An Anthracite Region Railway

by James N.J. Henwood and John G. Muncie

INTERURBAN PRESS • GLENDALE, CALIFORNIA • 1986

The Scranton terminal and loop track was partly completed during the winter of 1902-1903. Sufficient third-rail had been installed to permit testing of cars as they were received but the southbound mainline track remains incomplete. A temporary interchange track to the DL&W permitted delivery of supplies; it passes through the later site of the station excursion platforms. The DL&W passenger station was a half-mile farther west along Lackawanna Avenue at this time; the present building would be erected to the right six years later. *Edward S. Miller Collection*

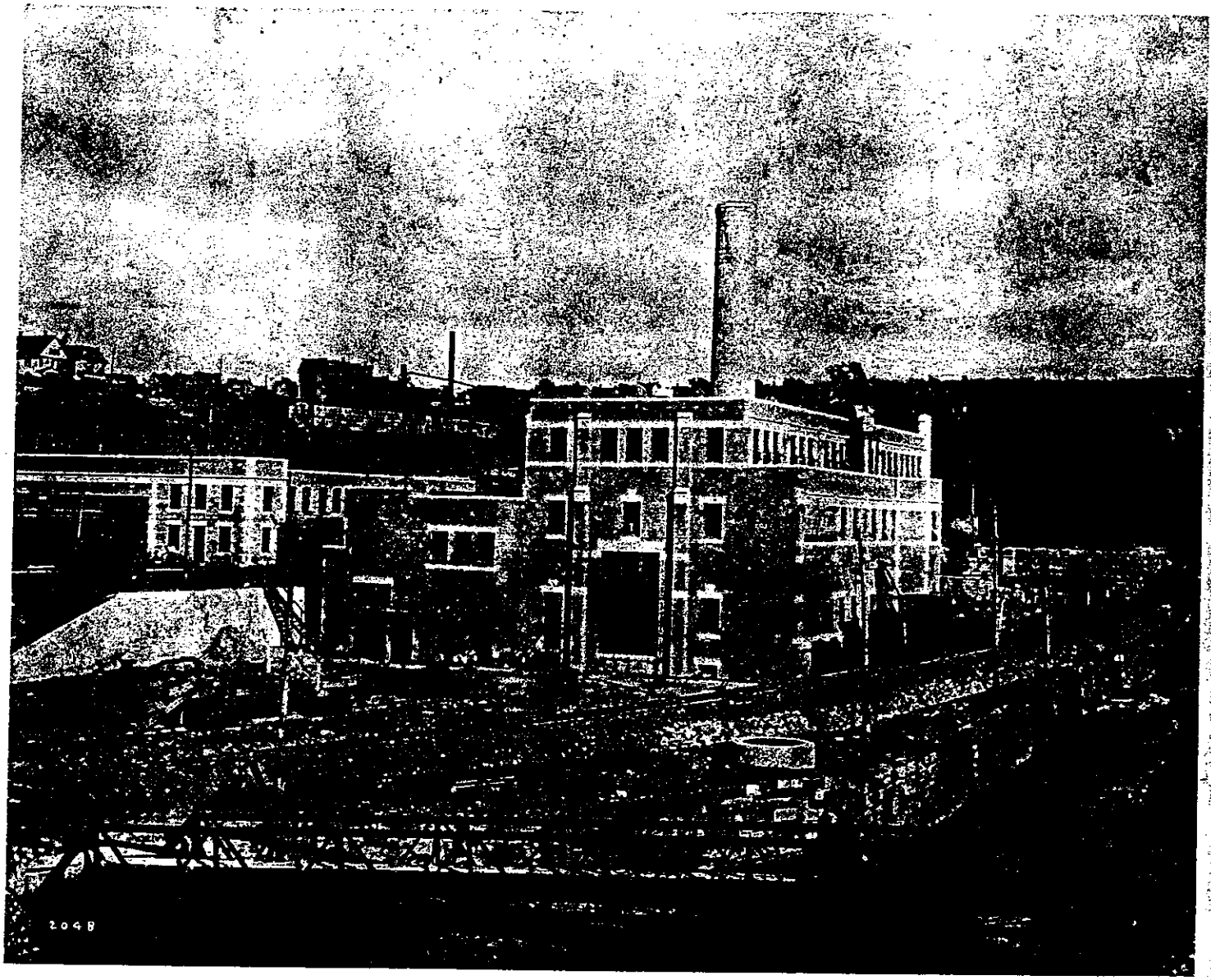
the L&WV. He was particularly concerned about the supposed purpose of the L&WV:

> It is perhaps not inopportune at this time to also call to your attention a fact that has embarrassed us in more than one direction . . . , namely, that in attempting to arrange other plans on our own account we have been met with the statement which seems to have had more or less wide circulation that this road was built by your interests for the sole purpose of demonstrating not only what your interests could do in the line of constructing a high speed electric road, but also what a high speed electric road should be when properly constructed. We believe that you will realize . . . the difficulty and embarrassment such a statement as that might cause us. . . .

Evidently Lee was miffed in that he had promoted the line as a highly desirable business venture, which would generate large profits. The failure of the company to do so and the hostility of the steam railroads, along with the popular belief that Westinghouse was interested in the line only for experimentation and his own purposes, frustrated Lee. Nonetheless, no steps were taken to begin construction to Carbondale.

Despite the lack of action, the idea of an extension did not die easily. One plan that was briefly considered was the construction of a tunnel under the DL&W tracks in Scranton, which would avoid the route over the hill. In 1904, a rumor circulated to the effect that the L&WV was planning a line to Sunbury and Harrisburg. This was promptly denied by Conn,

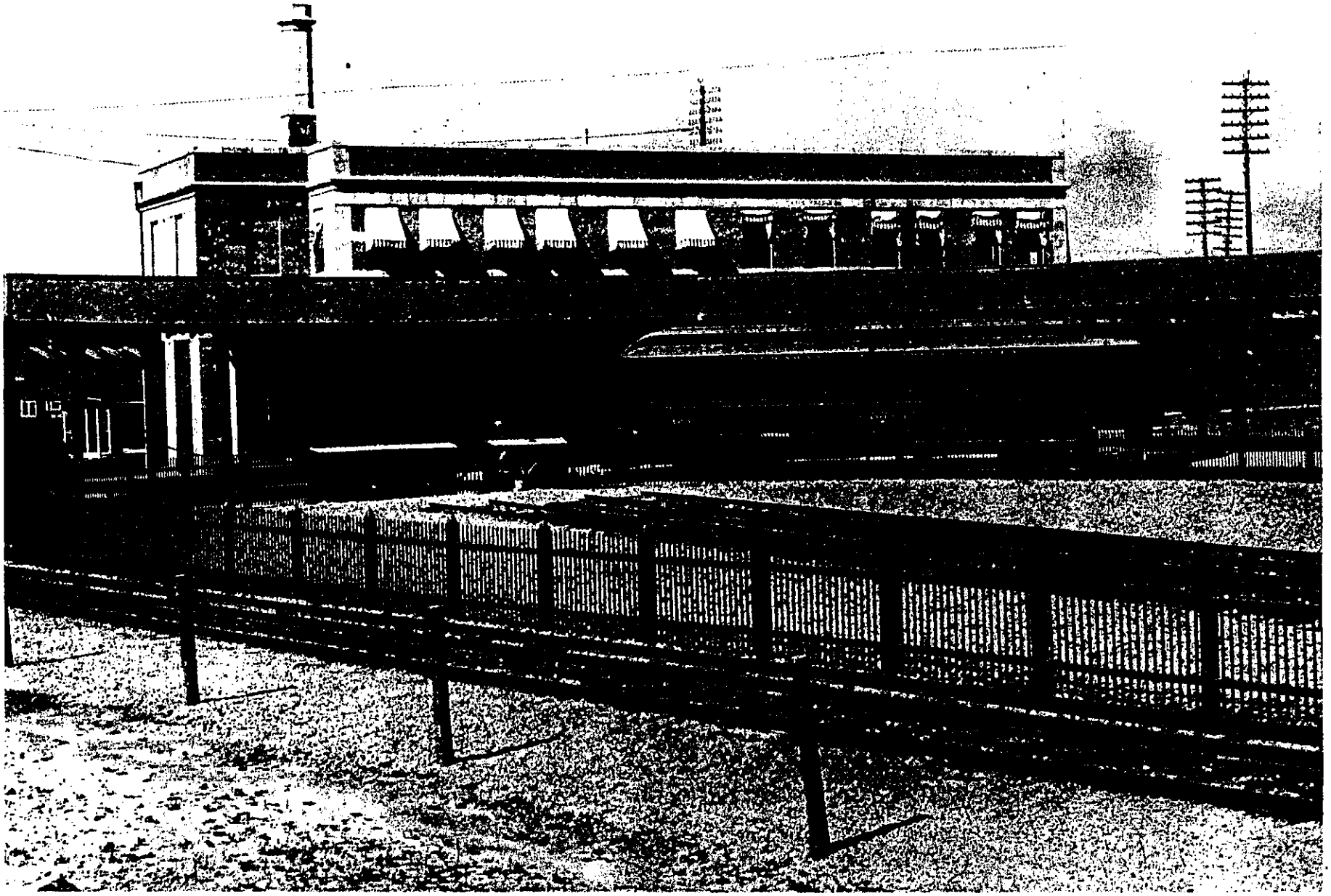
The Power House



The heart of L&WV operations was the power house along Roaring Brook in Scranton. Heading two ash cars in the exterior view is number 10, one of two steam engines that ran on the railroad and the only one owned by the L&WV. Retaining walls and mill foundations remain from Lackawanna Iron & Steel Company's use of this site. The interior views, clockwise from upper left on the facing page, include one of the two original generators, the steam driven direct current exciters, the boiler room, and the direct current switchboard. The boiler room originally housed five Babcock & Wilcox 400-horsepower watertube boilers, one of which was a spare. The pair of 2,000-horsepower generators, one being redundant, were driven by Westinghouse vertical cross-compound steam engines with Corliss valve gear. Both of these units were dual generators which produced both 390 volts three phase alternating current and 650 volts direct current. The three phase current was stepped up to 22,000 volts and transmitted to rotary converters at Hancock and later at Avoca. The direct current was fed directly to the third rail at Scranton. The field coils on whichever generator was running were charged by one of the steam driven exciters in order to insure a constant voltage. All of these exposures were made when the plant opened in 1903.

ALL: Edward S. Miller Collection

The passenger car "Wampum" had already been renumbered from 13 to 103 in anticipation of the delivery of a type M car numbered 13 when this view of the Scranton terminal was taken in the summer of 1903. The longer of the two wooden cabinets in front of the car housed headlights and lanterns that were hung on the cars for night runs. And behind those striped awnings are a host of items not savored in a modern office building. Remember when paper weights never seemed to be in the right place when a gust tore through the office? Pens that dripped? Ink wells that invariably turned over on top of a completed ledger? The host of typists banging away on manual machines to produce multiple copies with carbon paper? Ah . . . The Good Old Days. *Lackawanna Historical Society*



Not everybody obeyed the photographer's injunction to hold still. One lad in knickers in front of the Pittston station's bay window moved during the long exposure causing a ghost image back in the summer of 1903. Because the line was not yet open south of Pittston, car 103 would cross Market Street, switch to the northbound track, and then back into the temporary wye in the background. This procedure was used to reverse the single-end car for the return trip to Scranton.
Lackawanna Historical Society

The *Tribune* felt the new line would more than compensate for the closing of the Lackawanna Iron and Steel Company's plant. It confidently asserted that the L&WV would employ ". . . day in and day out quite as many men that were employed sporadically by the steel company." In a glowing editorial, the *Tribune* predicted that the electric road would be a major element in the growth and development of the valley towns. Travel time between Scranton and Wilkes-Barre would be reduced by one-half and would be cheaper than the older means of transportation.

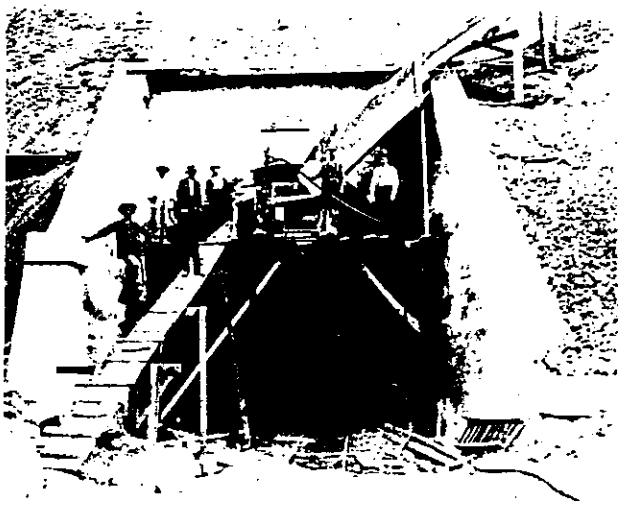
Somewhat provincially, the *Tribune* claimed that Scranton would gain "the lion's share" of benefits as the leading city in the area. "The completion of this great enterprise . . . is a subject for the liveliest congratulations. May its projectors meet with the reward in patronage which their broad-minded policy merits." While the promoters may well have gained substantial rewards, time would show that the stock and bondholders had not.

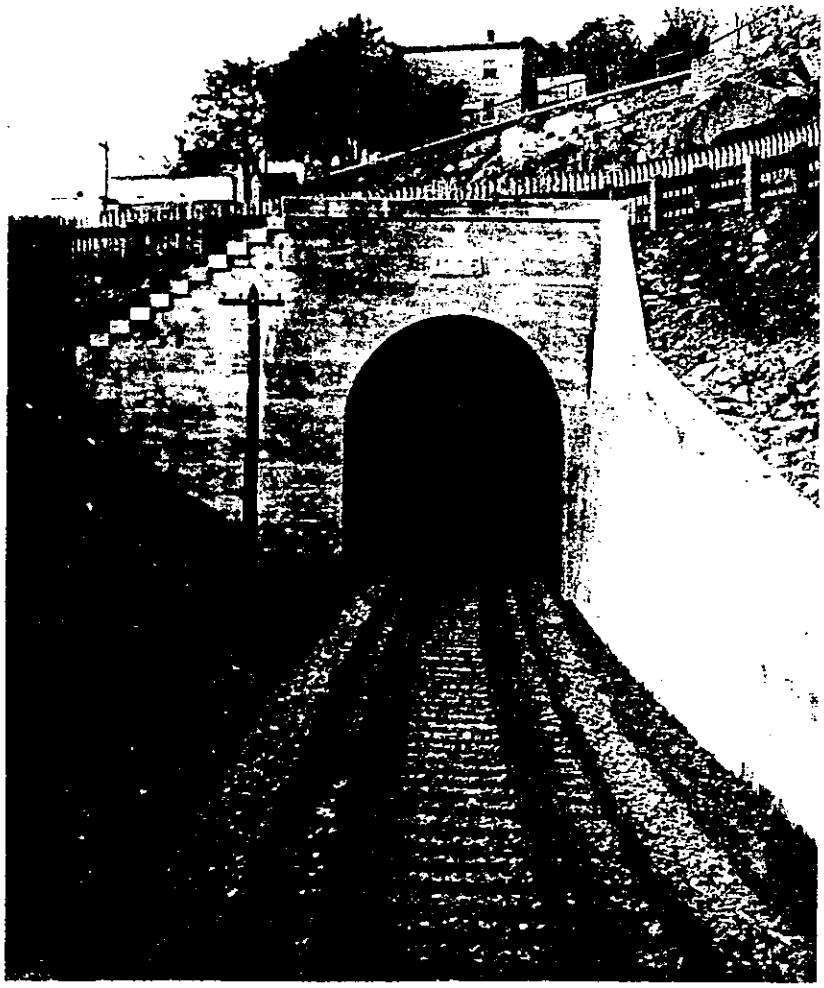
Work continued on the southerly portion of the line between Pittston and Wilkes-Barre. On September 15 service was extended to Hancock, where passengers could continue their journey on the slow trolley cars of the Wilkes-Barre and Wyoming Valley Traction Company. A temporary wye at the Hancock station permitted the cars to turn for the trip north. So great was the desire to extend operations that wooden trestles were installed at several points until the permanent steel bridges arrived from the builders.

Construction was particularly difficult for the remaining miles to Wilkes-Barre. A cut 1,000 feet long, 40 feet deep and 30 feet wide had to be opened below Hancock. The second largest bridge on the line, 554 feet long, spanned a roadway and two railroads, the Lehigh Valley and the Jersey Central, at the Prospect Colliery in North Wilkes-Barre. Public highways, streetcar lines and the Wilkes-Barre and Eastern bridge over the Susquehanna had to be modified to permit the passage of the Laurel Line. Thousands of feet of rip-rap were dumped to protect the roadbed from the Susquehanna River.

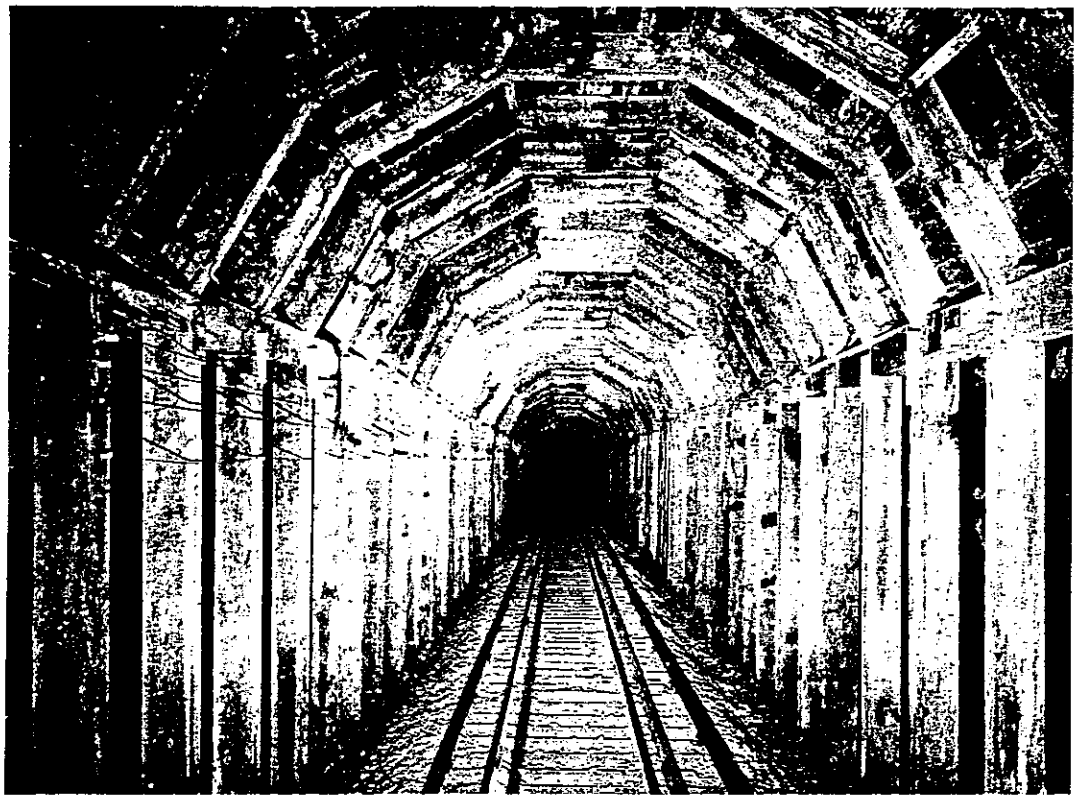
In Wilkes-Barre, the Lehigh Valley Railroad was busy moving its tracks in the old canal bed to make room for the new electric line. Overhead trolley wire was erected because of the several grade crossings and work was well underway on the new Wilkes-Barre station. The first car ran from Hancock to Wilkes-Barre on December 14, 1903. Regular 20-minute service began two days later with a scheduled running time of 43 minutes. The official opening of the complete line was held on Christmas day when more than 13,000 passengers were carried.

As the tracks progressed, other services were added. Beginning August 1, 1903, express service at freight rates was offered between Scranton and Pittston. The line was very interested in handling carload freight but the severe grades over the Moosic hill, which would be eliminated in 1905 by the tunnel, and the hostility of the steam railroads to an interchange agreement, prevented any action in that area. The first chartered car was operated on June 8 for Miss E.L. Wilcox and party. Record crowds were carried on October 29, a miner's holiday commemorating the accomplishments of





Workers pause (ABOVE) to gaze at the camera man at the north portal of the Crown Avenue tunnel. The chute on the right was used to funnel materials from the existing trackage above. *Charles Sobeck, Edward S. Miller Collection* Early in October, 1905, photographer Horgan mounted his 8x10 view camera on a tripod and exposed the glass plate from which this print of the newly completed South Portal (RIGHT) of the Scranton tunnel was produced. Note the gauntlet track which required two third-rails. This was simplified during the first half of the 1920's to a single track and one less conductor rail. *Edward S. Miller Collection*



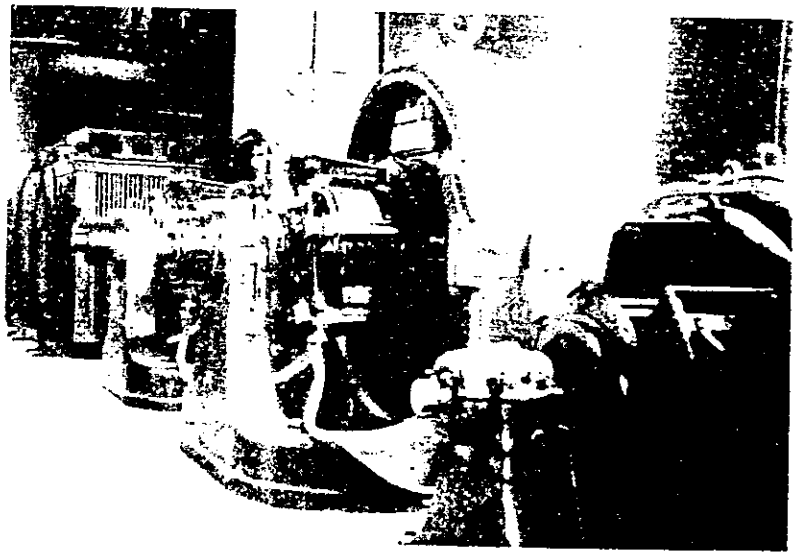
The timber-lined section of the South Scranton tunnel, deep under Crown Avenue, presented photographer Horgan with a very difficult lighting problem. Flash powder to illuminate the bore (bulbs were not available in 1905) was apparently ignited behind the support columns for several hundred feet. If one of the assistants goofed and got himself or his shadow in the picture, there was no problem because photo studios of that period all employed expert photo retouchers.
Edward S. Miller Collection

L&WV Power Company. Taking a page from its own past, in 1906 the L&WV chartered yet another corporation. Unlike the earlier ones, this new entity, the *Lackawanna and Wyoming Valley Power Company*, was not formed simply as a device to raise capital. Its main purpose was to generate and sell electricity at cost to the railroad, and for a profit to mines and industrial firms in the Scranton area. The availability of electric power might serve as a magnet, which would attract manufacturing concerns to lands along the right-of-way, thereby increasing freight traffic. To meet this demand, a 2,500-kilowatt turbogenerator and two additional 400-horsepower water-tube boilers were added to the facilities in the powerhouse at a cost of $103,000. The generator, built by Westinghouse, was designed to deliver three-phase alternating current at 25 cycles and 2,200 volts. Also installed were three 1,000-kilowatt, 25-cycle, 2,200 to 22,000-volt transformers with accompanying switchboard, wiring and pumps.

Originally the power station boilers burned number one buckwheat anthracite coal, which cost about $1.75 per ton. Management realized, by checking with other power companies in the area, the boilers could be modified to burn much finer and cheaper sizes of coal or even culm, which was a mixture of fine coal and refuse remaining after the breakers extracted the better grades of fuel. Barley coal, for example, sold for just 50¢ a ton and only a slightly greater quantity was needed to produce the same amount of steam. Therefore, the Roney Mechanical Stokers were replaced with Neemes Shaking Grates. The estimated savings were $1,000 per month. The ash siding adjoining the powerhouse was electrified, in part by overhead trolley and the remainder by third rail, to permit the electric motors to remove the residue in standard freight cars.

By 1907, the power plant was operating at maximum capacity which made it impossible to perform regular maintenance. As a result, efficiency decreased and the cost of operation increased. By 1908, repairs could be postponed no longer and an extensive overhaul of the equipment was made. Full efficiency was not restored since some of the machinery had deteriorated beyond the point of repair. At the same time, the average cost for a ton of fuel jumped from 50¢ to 75¢ and the wages of the workers also rose. The net result was a 48 percent increase in the cost of operating the plant.

The sale of commercial power, increased passenger service and the growing freight traffic compelled the company to improve its distribution system. A new substation was built at Avoca in 1907, consisting of a one-story brick and concrete building with a three-story tower next to the freight siding. Under the building were mines operated by the Delaware and Hudson Coal Company. The L&WV had to purchase certain pillars of coal in the top vein and then fill the openings between them with culm for a distance of 25 feet around the outside of the building.



This structure at Hancock housed a converter substation and a combined passenger and freight station. The facility opened in 1903 when service commenced south of Pittston and was renamed Plains in 1911. The substation took 22,000 volts alternating current from the transmission line and produced 650 volts direct current to operate trains on the south end of the railroad. The A.C. source was first passed through transformers to step it down to 390 volts. This low-voltage A.C. powered a pair of Westinghouse 40 KW rotary converters, i.e. 650 volt D.C. generators driven by three-phase A.C. induction motors. Initially, one of the two converters was held in reserve. Increased traffic forced the L&WV to add a 50 KW General Electric synchronous converter. The 1940-vintage photo shows the step-down transformers and all three converters.

Interior by Harold Machler, Exterior from Edward S. Miller Collection

Even with these precautions, mining engineers would give no guarantee that the substation would not be affected by subsidences in the mines. In the building were two 500-kilowatt rotary converters and three 375-kilowatt transformers for the purpose of changing 22,000-volt, three-phase AC into 650 DC. There was room for the possible future installation of three additional transformers and one more converter. As placed in operation, the Avoca substation increased the third rail voltage and made it more even on the system as a whole. This helped the car motors and made it easier for trains to maintain their schedules.

To supply power to the Cheesman Chemical Company and several other industries in the area, a small substation was constructed at Virginia. The brick building was 20x20 feet and contained three 75-kilowatt, 25-cycle, 22,000 to 2,200-volt transformers. A one-mile transmission line was extended from the substation to Connell Junction to serve industries at that point. It was placed in service in November 1906.

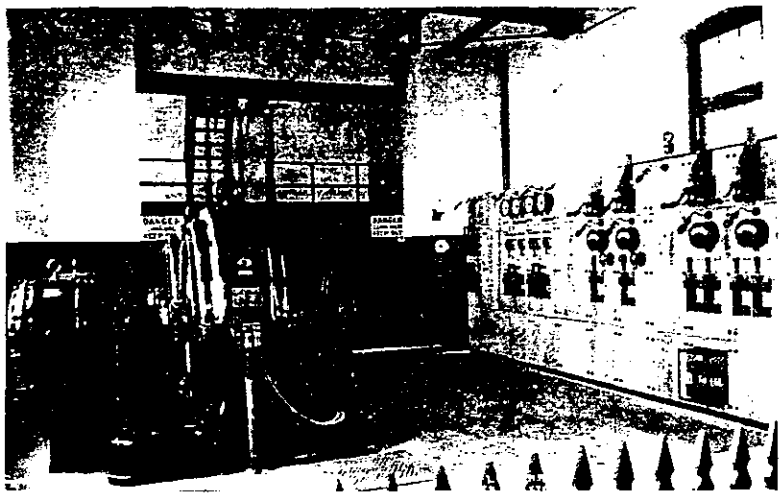
The main power station was improved by the installation of a 1,500-kilowatt rotary converter, capable of transforming 390-volt, three-phase AC into 650-volt DC. This new machine not only increased the potential output of the power plant, but it also made it possible to shut down some of the other equipment for necessary repairs.

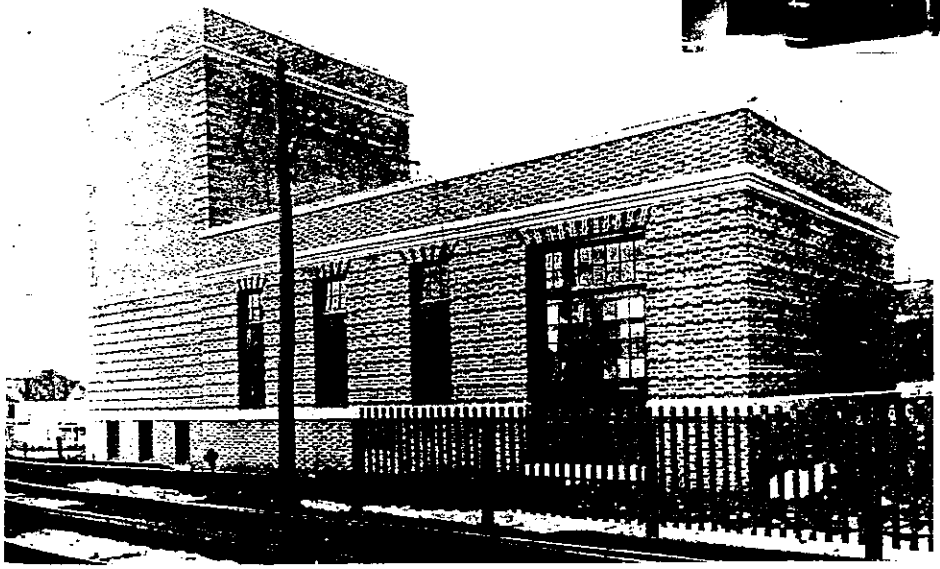
It was fortunate that this additional machinery had been installed, since a year later serious difficulties developed with

Chester W.. upervised operations, resigned. Conn assumed . . of the powerhouse in January 1909. Reports came to Conn of reduced power and upon investigation it was discovered the turbine blades were so badly corroded that it was necessary to replace a large number of them. Conn blamed wet steam for this condition and also for problems with the pistons and valve stems.

Westinghouse engineers made the necessary repairs, which included replacing 21 rows of turbine blades. Their bill of more than $800 precipitated a lengthy dispute, since Conn maintained he had asked for only 19 rows of blades to be replaced. He also felt the engineers had made errors and were charging the L&WV for the additional time they needed to correct them. Mr. C.V. Holmes, of the Westinghouse Machine Company, not only dismissed Conn's charges but he found that because of an error the bill was actually $62 less than it should have been. In a nit-picking manner which became typical of the road, Conn kept the issue alive by asking for further consideration of the matter. The somewhat exasperated Holmes ended the correspondence by stating the bill was reasonable and fair and he had no desire ". . . to enter into a prolonged discussion of this account, as was the case with the last charge we had against you for repairs. . . ." Reluctantly, Conn approved payment.

An interesting sidelight at this time was a study conducted by the Delaware, Lackawanna and Western Railroad concern-





Added four years after the line opened, the Avoca converter station made the third-rail voltage more uniform on the northern part of the railroad. Originally it housed a pair of Westinghouse 50 KW induction motor-driven rotary converters. A similar 40 KW unit was later added. In addition to the power plant in Scranton and the converter stations in Avoca and Plains, the power distribution system included alternating current substations at Virginia, Rocky Glen, Ewen, and No. 3 Shaft for commercial customers. *BOTH: Edward S. Miller Collection*

Conn felt the New Haven, which controlled the O&W, would be receptive to the idea, since it would get a greater share of the revenue. The Laurel Line would benefit by serving as a bridge route between the PRR in Wilkes-Barre and the O&W near Scranton. He projected a minimum of 100 cars daily over this route.

Conn's thinking was faulty in three respects. First, he overestimated the likelihood of the PRR agreeing to such an arrangement and ignored its still open hostility to any kind of cooperation with the L&WV. Second, he assumed the New Haven would make considerable expenditures to improve the O&W's Scranton division. Third, he neglected the possibility of developing coal traffic from independent mines near the right-of-way.

By 1909, the L&WV had been successful in making tariff arrangements with a number of lines and freight associations. Included among them were the DL&W, Lehigh Valley, Erie, Lehigh and New England, the Southeastern Freight Association through the Cincinnati gateway for lumber, cast-iron pipe, oil and petroleum, and the Central Freight Association, which included most midwestern carriers. The line was also a party to east and westbound tariffs on the Great Lakes and indirectly reached southern cities via the Lackawanna Railroad to New York, in connection with the Old Dominion Steamship Company, the Clyde Line, the Mallory Line and the Morgan Line. Significantly, no agreements had been made with the Baltimore and Ohio, Pennsylvania, New York Central, Western Maryland or any of the transcontinental lines. Obviously, the interchange traffic handled by the L&WV was carried only a short distance and therefore produced minimum revenues.

During this period, total cars handled per month ranged from 371 in September 1906 through 1,478 in June 1910. Approximately five to eight percent of the total carloads were non-revenue cars in company service. The heaviest volume of freight was in the form of inbound commodities for various local industries. Coal was the most important item produced in the area and shipped out. In terms of volume, these figures would seem to be fairly impressive, but the L&WV received such a small share of the revenue split, because of its short distance, that it is doubtful it made any significant profit.

All these efforts to increase freight traffic nevertheless achieved a certain degree of success. A number of companies located their factories along the right-of-way and, collectively, they provided a fair amount of business for the electric line. Most of these were located in the Meadow Brook Valley, just south of Scranton. They included the Warren-Ehert Roofing Company, which produced about 25 tons of crushed slag per day, and the Connell Brick Company, which had an output sufficient to fill 400 cars per year shipped from a siding 200 feet long trailing from the northbound track. The Cheeseman Chemical Company, formerly of Alexandria, Virginia, constructed a plant in Moosic. To serve this plant, the Laurel Line installed a 575-foot siding from the northbound track. Operating from a tract of land eight acres in size, the company had a traffic of about 40 tons per day. Eventually this firm failed, and it was reorganized in 1911 as the Barium Products Company and continued to supply some revenue to the Laurel Line.

The L&WV became directly involved with the Meadow Brook Crushed Stone Company. John R. Lee had installed a stone crusher to provide ballast for the right-of-way during the period of construction. Since a demand for the product of the crusher existed, and the Laurel Line gained freight revenue from shipping it, the Security Investment Company purchased a controlling interest in what was then called the Meadow Brook Crushed Stone Company. About 25,000 tons of crushed stone were shipped in 1906 and 1907, earning about $4,000 for the railroad.

Unfortunately, the plant was inefficient, and it soon became indebted to the L&WV. Rather than lose this investment and traffic, Conn proposed that new electric machinery be installed at a cost of almost $15,000. This was done in 1908 and the crusher reopened. The entire capital stock c $40,000 was owned by the L&WV. Because the market wa soft, production fell from 25,000 tons in 1908 to 20,000 ton the following year. In 1911, the plant was leased to th MacDonald Construction Company for one year, for a mini mal rental of $3,000. Eventually, it failed entirely and thu another of Conn's plans had turned sour.

The Scranton station was the bureaucratic center of the railroad. Housed in the second floor of the 83'-6" x 46'-0" building were the offices of the general manager and auditor on the street side, and the superintendent, paymaster and engineering staff on the track side. Curiously, the cab stand in the left portico had no entrance door into the station. Office expansion would alter the Cedar Avenue side of the structure during 1923-1924.

Edward S. Miller Collection

Express car 201 is being loaded at the Wilkes-Barre freight house. Faintly visible on the North Pennsylvania Avenue side of the structure is a horse drawn wagon, the prevailing means of draying freight prior to 1910.
Edward S. Miller Collection

Located in Pittston was the American Slagolite Company, which manufactured concrete blocks. It had an output of three cars per week. In Wilkes-Barre were several industries, including the Crocker Grocery Company, Whitman Stationery Company and Hoover Mercantile Company, all of which had warehouses located on the sidings in the city. Several other firms announced plans to build factories at various points, but these did not materialize.

To serve these and other plants, the company built a frame freight station, 48 feet by 28 feet, including warehouse, office and platform on the west side of the right-of-way in Avoca. A siding 450 feet in length trailed from the southbound main track. This was the site of the former North Avoca station, but the name was now changed to simply "Avoca." A freight platform, 56 feet by 16 feet, was constructed at Hancock. Since the team tracks in Pittston were inadequate, the company developed a small yard east of its tracks near the Pittston station. Equipped with overhead trolley wire, the siding had capacity of nine cars and could be expanded if necessary. Another siding of 270 feet was built near the powerhouse in Scranton for a business which planned to locate there. By 1909, five acres were leased to the Spruks Brothers Lumber Company, which would become an important shipper. The Scranton Ice Company also leased a small piece of land at the terminal, and a few additional industries located at sites in Wilkes-Barre.

Conn, in his efforts to emphasize freight, refused to join the Pennsylvania Street Railway Association, claiming that as the L&WV underlying companies were chartered under the general railroad laws of Pennsylvania and had no trackage in public streets, the carrier was really the equivalent of a steam railroad. L&WV officials frequently made the same assertion in their efforts to obtain interchange agreements with other railroads.

By 1911, gross annual revenues from freight amounted to $60,000. Some of this was hauled in the express cars, which could pull up to three standard freight cars, and the remainder was carried in regular freight trains operated by a four-man crew, with one of the two electric locomotives providing the power.

In summary, however, industrial development was disappointing. The number of companies which actually built facilities was considerably fewer than Conn's rosy prediction in 1906. Most were minor shippers who filled an average of less than one car per week.

Express and Mail. Effective March 1, 1905, the L&WV implemented an agreement with the Adams Express Company for the carrying of packages and other shipments. Adams Express was permitted to use stations and cars of the L&WV which were in regular freight service. Also, the Laurel Line would run a special car, leaving Scranton at 6:10 A.M. and, returning, leaving Wilkes-Barre at 9:35 A.M. In an emergency, Adams might load important packages on regular baggage cars. The Pennsylvania Railroad was reluctant to have any dealings with the electric line, and for some time it refused to permit its express cars from New York and Philadelphia to be sent over the Laurel Line. After four months, Conn expressed displeasure at the amount of business which Adams Express was providing. He unsuccessfully argued that it should increase its payments to the Laurel Line.

Relations between the Adams Express Company and the L&WV remained strained. One reason was Conn's refusal to permit Adams to load special shipments on the company's regular baggage cars. For example, in October 1908, the Adams agent in Wilkes-Barre complained to his superintendent in Philadelphia that he received a shipment of meat

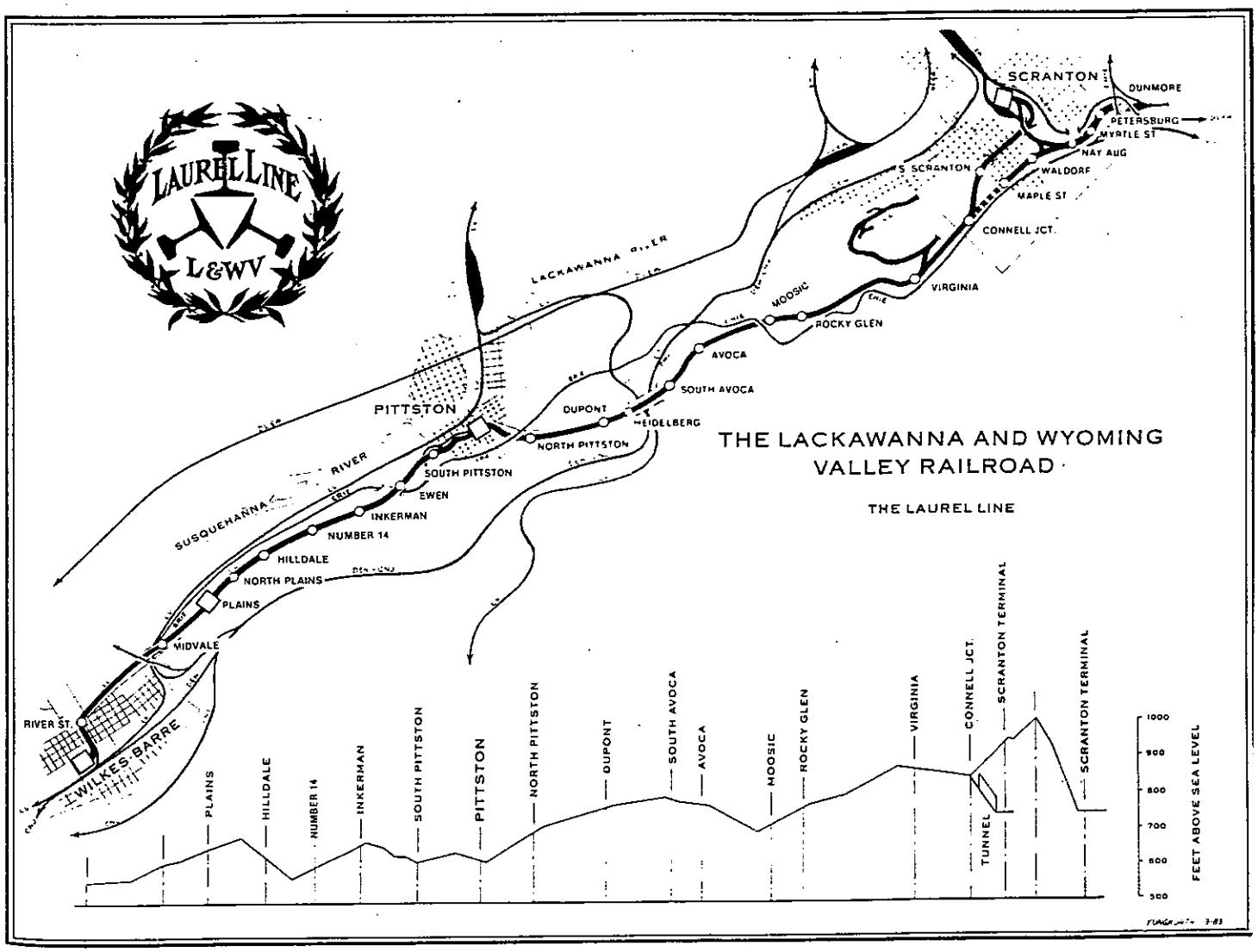
in Wilkes-Barre. Every weekday morning he boarded the same early train at the River Street station and read the *Wall Street Journal*, which the conductor had procured for him at the terminal newsstand. He usually ate his dinner at the Scranton station restaurant.

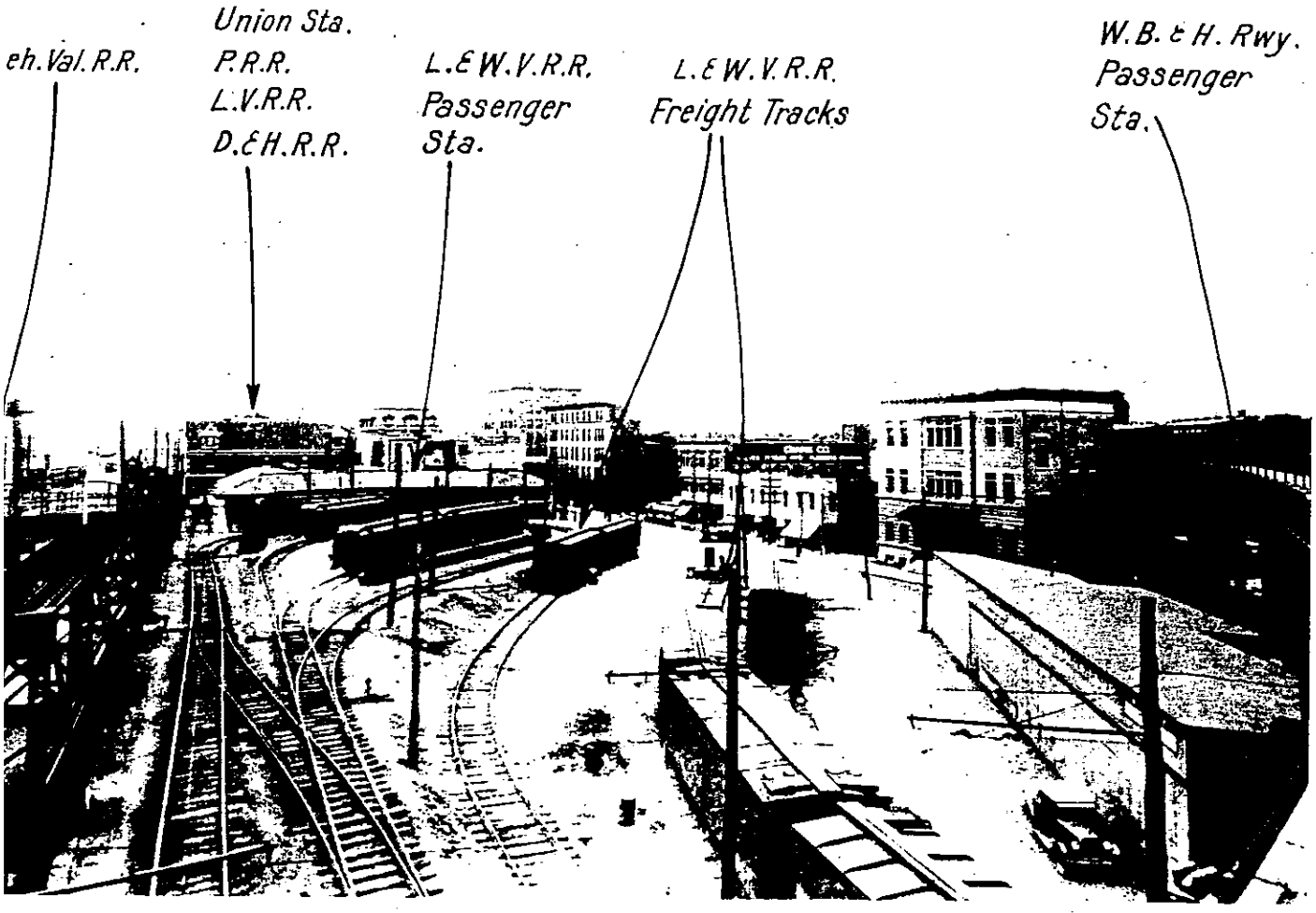
According to retired conductor Edgar Boland, Murphy was efficient, effective and always on the job. He was generally respected by the employees and he always had a slide rule at hand when discussing wage rates or other financial matters. He was an active member of such groups as the Kiwanis Club, the Elks, church societies and the Lafayette College alumni, often attending football games, dinners and social functions and serving as life president of his class. But his main interest was the Laurel Line, and its longevity, in contrast to that of many of its contemporary electric railways, may be partly attributed to his skill and ability.

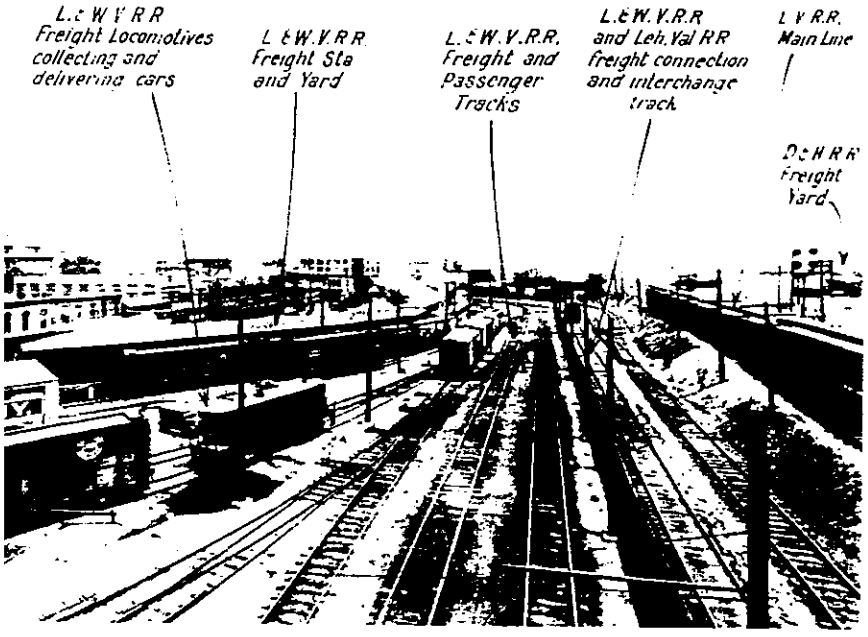
Power House Problems. Although the property was only 10 years old, the machinery in the powerhouse required extensive modifications and improvements. A seemingly endless series of difficulties soon taxed the skills of the new consulting engineers. Some of the breakdowns may have been caused by unqualified workers employed by the company. For example, there was ongoing trouble with a 16" LaBlanc steam condenser built by Westinghouse. There was also concern about the danger of electrolysis damaging pipes, poles and cables of utility companies, particularly on the leg returning power to the substations.

The installation of new boiler water feed regulators, manufactured by the L.J. Wing Manufacturing Company, caused many disputes. They were delivered late and were not installed until sometime after they were received. Several engineers employed by the L&WV left the company and were replaced by new personnel who, when they finally installed the regulators, discovered they would not work and caused further damage. The L&WV had paid $300 to the Wing company but still owed a balance of $155, which it refused to pay until the trouble was corrected. A representative of the Wing company made several visits to Scranton and finally convinced the management that the fault was in the design of the plant rather than with the regulators. He recommended several costly changes, which would permit the apparatus to work. This the L&WV declined to do and also refused to pay the balance of the bill.

After extensive correspondence, the Wing company went to court. Eventually, the matter was settled privately and the

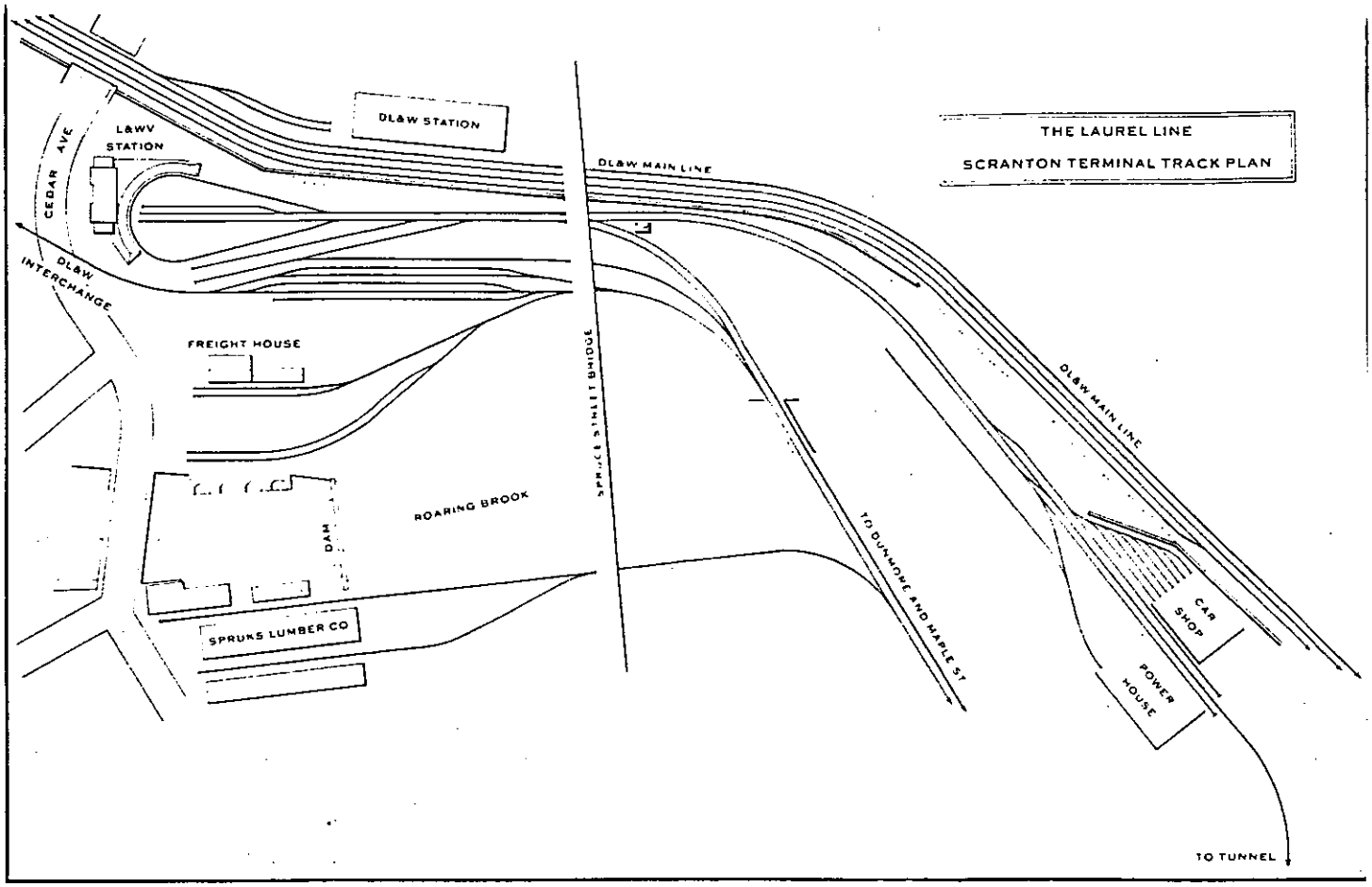


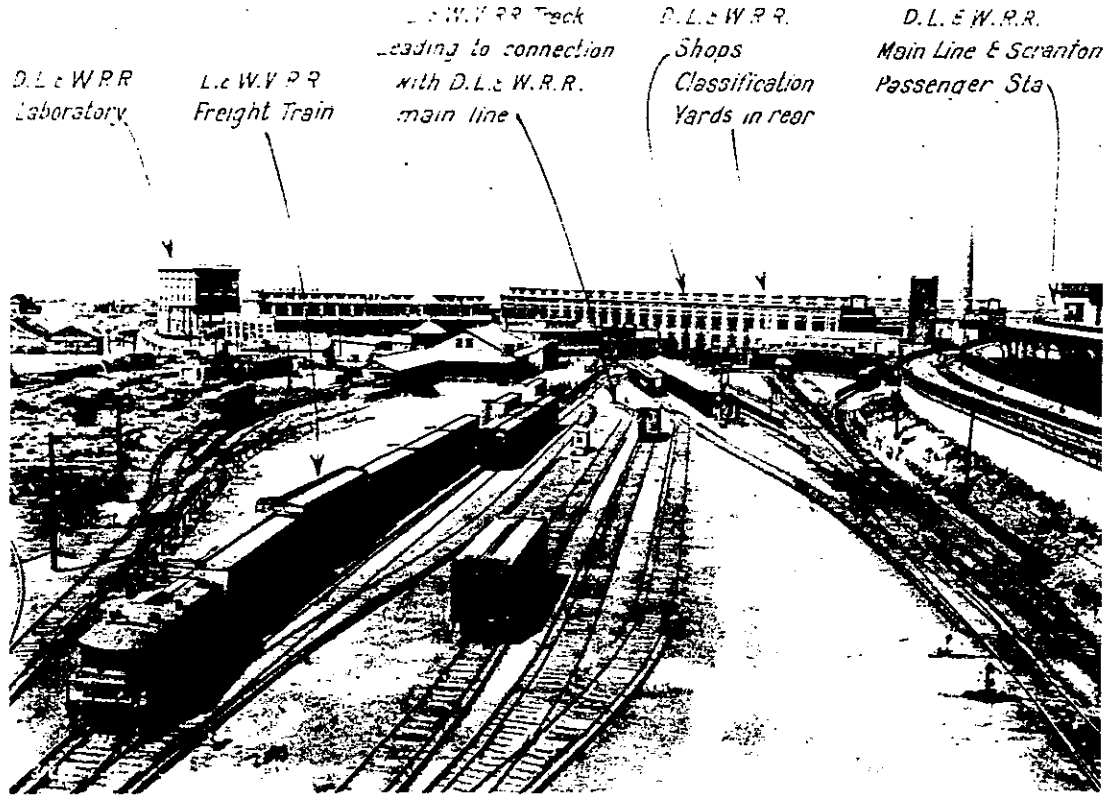




Two photographs of the Wilkes-Barre terminal facilities were published in a report on the L&WV issued in December, 1931, by Ford, Bacon & Davis. Scranton commercial photographer Horgan perched on the Wilkes-Barre & Hazleton Railway viaduct and aimed his camera both south (ABOVE) and north (BELOW). Unidentified items of railway interest are the Wilkes-Barre Railway Corporation's trolley viaduct over the railroads at the left edge of the upper photo, and the Lehigh Valley Railroad's Canal Branch between the LVRR mainline and the interchange track in the lower view.

Edward S. Miller Collection





At the end of the roaring twenties, the Scranton terminal had a well-established look to it. A two-man wooden car enters the terminal loop in the right background, possibly in Dunmore service. The excursion train shed, to the left of the station, could still be used. A locomotive busily drills freight cars in the yard. And, at the far left, an express motor rests near the freight station.

Edward S. Miller Collection

again refused to buy the park on the grounds that it should be operated by park specialists, not railroad people. He told Ford the picnic park at Valley View was all they could handle. Within a few years, however, he was to change his mind.

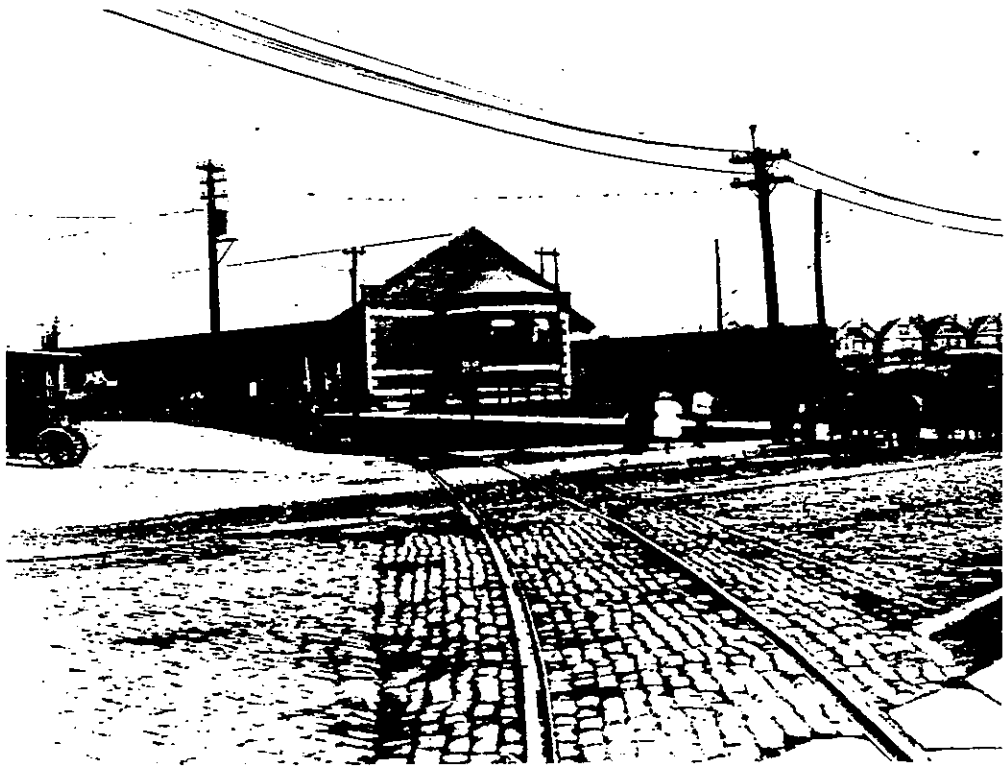
Disappointing Returns from Mail and Express. During this period, the L&WV again considered the prospects of securing a mail contract. Early in 1913, Conn urged William Higgins to explore this possibility with the Post Office Department. Higgins replied in February that the L&WV could not meet government regulations because it lacked the proper equipment such as water coolers and wash bowls that the post office required. He argued it was not worth the expense of remodeling the cars for the small amount of mail which would be carried.

When the new management took control in 1914, it explored the question again. Ford urged Higgins to seek a post office contract. Higgins reluctantly agreed but he advised Ford that the company could expect to earn only $800 per year revenue and it would be obliged to carry the mail from the station to the post office in Pittston. He feared they would lose their newspaper business which grossed about $900 per year if the mail were carried. After reading this, Ford agreed to drop the matter. As with Murphy and Rocky Glen, Ford would change his position in a few years.

The express business would also prove to be disappointing during the wartime era. The Laurel Line until 1917 was averaging about $15,000 per year under terms of its contract with the Adams Express Company. In May 1917, Adams cut the payment to the L&WV from 43 percent of receipts to 40 percent. Murphy immediately complained, pointing out the DL&W received 45 percent and the Pennsylvania Railroad 50 percent. There was a vast difference between the Pennsylvania Express pointed out when he rejected Murphy's protest.

One of the steps which the United States Railway Administration took when it assumed control of most of the nation's railroads was to force a consolidation of the express agencies under the American Railway Express Company. This move had an adverse effect on the Laurel Line, which promptly lost about one-half of its business. For example, a manufacturer in Wilkes-Barre formerly sent a car of silk and other materials from that city to Passaic, New Jersey, via the L&WV and DL&W. The new express company rerouted this car via the Lehigh Valley, but the firms involved were not satisfied with the service and switched to trucks. Murphy tried to get the American Railway Association and the American Electric Railway Association to use their influence to protect short lines from traffic diversions, but in this he had little success.

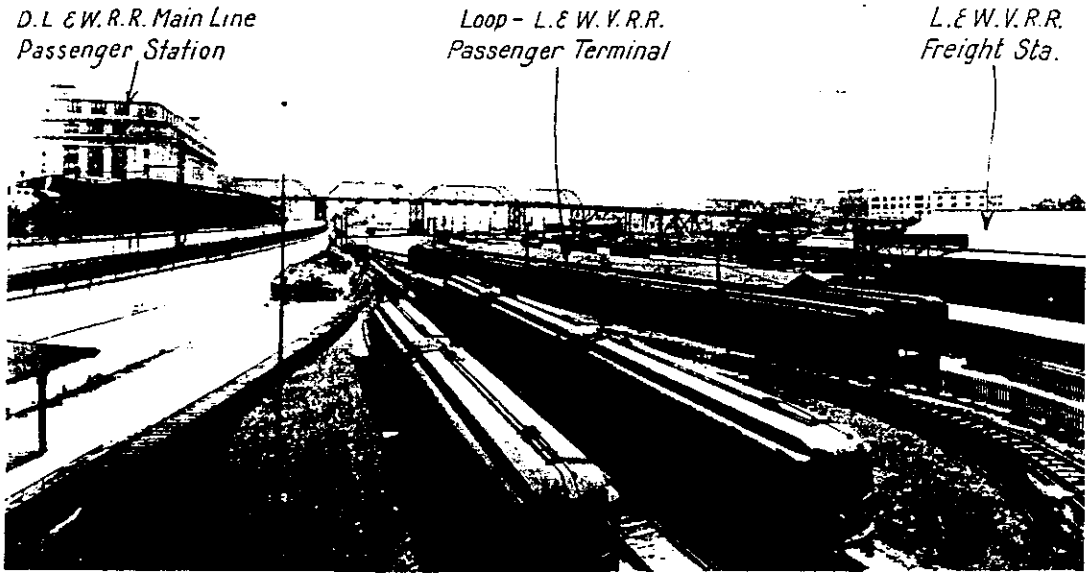
By 1920, the Laurel Line was averaging only $350 a month from express. An occasional car was loaded at the Scranton Transfer station of the American Railway Express Company and routed DL&W, L&WV and Lehigh Valley to the consolidated warehouse of the Central Railroad of New Jersey in Wilkes-Barre. When the American Railway Express sent a new contract to the L&WV, Murphy rejected it. He told F.E. Welsh, the superintendent, the contract was of no value since it provided no guarantees of minimum business. He rebuked the express company for eliminating competition and complained, somewhat unfairly, that the L&WV had purchased four cars at a cost of $36,000, specifically for this purpose. He also pointed out the company had spent $5,000 for a freight house in Wilkes-Barre, especially for the express business, which was now no longer needed. He concluded by ordering the express company out of the line's Scranton freight house, which it had been using for storage. Officially, the last day that American Railway Express operated over the Laurel Line was August 31, 1920.



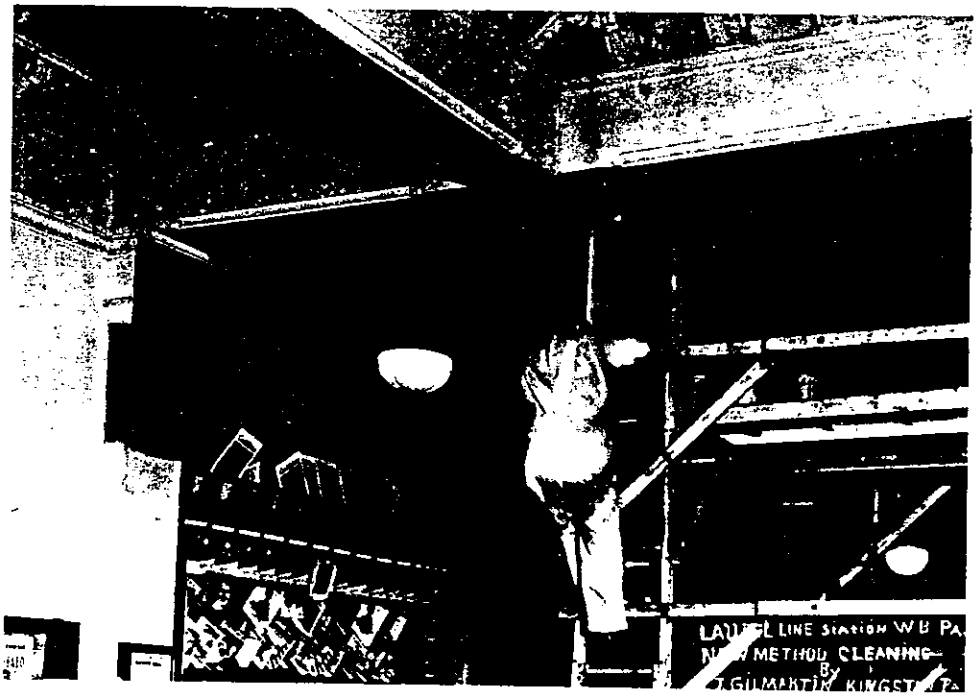
This very substantial building on Cedar Avenue in Scranton served as the L&WV freight station. Railroad freight stations were staffed with an agent, who solicited traffic and supervised other staff; clerks, who were experts at preparing weighbills and rating shipments; and freight handlers who transferred less-than-carload shipments from drays or trucks to railroad boxcars or vice versa. The nationwide abrogation of LCL freight to truck lines, centralized sales forces and computerized billing offices made the local freight station obsolete on most railroads in the 1960s. What transport museum would not covet that battery-powered truck on the left?

George Arents Research Library, Syracuse University

The taxi stand at the Scranton station was later enclosed to provide space for a soda fountain with, as the sign in the window proclaimed, tables for ladies. A armed forces recruiting poster swings in a steel frame beside the curb in this 1920's-era photo. *Edward S. Miller Collecti*



The view from the corporate office in Scranton reveals the formidable wall separating the Lackawanna passenger station from the L&WV's facility. Negotiations with the DL&W for direct pedestrian access never reached fruition, as always because the Laurel Line was looking for a free lunch.
Edward S. Miller Collection



The usual group of idlers are congregating on the sidewalk in front of the rather austere Wilkes-Barre terminal around 1930. Inside the terminal, workers were busy removing years of accumulated grime. By the end of World War II, the stations were again shabby and run down, prompting E. McLain Watters to order another cleanup.

BOTH: Edward S. Miller Collection

8

Conclusions

THE LACKAWANNA and Wyoming Valley Railroad lasted less than 60 years as an independent corporation. Conceived at the beginning of the 20th century in a time of unbridled optimism about the prospects of electric railways, it eventually was merged into a large steam railroad and was gradually dismembered. What can be learned from its half century of operations? Was the line justified in terms of service, function and economics? How well was it managed? What impact did it have on its surroundings? In short, was it worthwhile? While no absolute answers can be made to these questions, the authors will attempt to offer some possible conclusions.

The basic idea of a high-speed electric railway, linking the twin anthracite capitals of Lackawanna and Luzerne counties, was a sound one. Local lines could not meet the need, and the major steam roads would not. However, there were a number of flaws in the initial proposal.

The promoters, as was usually the case, painted an overly bright picture of traffic and profits. As originally planned, the line was to extend, eventually, from Hazleton to Carbondale and beyond, but only the Wilkes–Barre–Scranton line and what became the short branch to Dunmore were actually constructed. The main line was extremely well-built, too well-constructed as it developed, and the Dunmore branch was a weak spur that never justified its existence once the possibilities of a northern extension had been extinguished.

A basic misconception was the hope that freight traffic could be lured onto the line, turning it into a lucrative bridge road, linking the manufacturing and agrarian lands to the south and west with the New York–New England market. It was totally unrealistic to expect the major railroads to divert traffic from their own tracks to that of a fledgling shortline, and one operated by electricity at that. The anthracite region was overbuilt with railroads, and while they may have been slow and cumbersome, they did provide many alternate routes, which were already well established.

Generally, too, they were hostile to electric lines as a potential threat, making the likelihood of joint service extremely remote. The early promoters and managers seemed unaware of this, and for many years maintained a rosy outlook about the prospects for through freight traffic.

If the promoters had been more realistic, they would have concentrated on building a good railroad, but not one to the L&WV's high standards. With its many bridges and structures, its fine double-track, its private right-of-way with only a few grade crossings, its impressive powerhouse, carbarn and stations, and soon its Scranton tunnel, the Laurel Line was overbuilt. It was saddled with a tremendous debt before it ever turned a wheel, and during its entire life this bonded indebtedness hung like the fabled albatross around its corporate neck.

A more modest physical plant would have been justified, one designed for passenger trains but not necessarily for heavy freight traffic. The company's late arrival on the scene forced it to skirt the edges of all its intermediate towns, except Pittston, and the expensive Scranton tunnel, which provided an excellent entrance to downtown, had far more value for passenger service than for freight.

Why did the promoters, and Westinghouse, overbuild? From the perspective of 1984, it is impossible to say. A common belief, often expressed among the railfan fraternity, was that Westinghouse wanted the line "for experimental purposes" and as a demonstration of the quality of Westinghouse equipment. The motives of the Westinghouse group are unknown, but it seems likely that they regarded the L&WV as a good investment, which would earn a profit and also which would serve as a working example of the company's products. There is no evidence that the Laurel Line was ever used in an experimental way.

Although it did belatedly purchase the 1895 pioneer locomotive, the machine had been set aside by its builders and one cannot avoid the impression that Westinghouse was glad to unload it at a good price on its unlucky subsidiary. Further, the L&WV was a more or less standard 650-volt, third-rail, DC electric road, with little of the daring or innovative in its electric structures. George Westinghouse himself, busy with his experiments on AC electrification which would soon bear fruit on the New York, New Haven and Hartford

cite region carrier.

It seems likely that a few of the promoters syphoned off some of the line's funds. Records were not kept; the contractors operated the line initially; a general carelessness seems to have prevailed. The total cost of more than $9 million for a 20-mile railroad places the L&WV as one of the more expensive carriers built. Promoters in the age of unrestrained and unregulated capitalism often found ways to take their profits "from the top," and although it cannot be proven, the authors feel the Laurel Line lost about a million dollars to the pockets of some of the promoters and contractors. If this conjecture is correct, the L&WV was forced to carry an additional, unnecessary burden.

As has been demonstrated, the line was not particularly well managed during its corporate lifetime. American business has frequently practiced a "hit-or-miss" style of control, with executives assuming responsibilities and often relying upon "on-the-job training" for their expertise. In this respect, the L&WV was probably no better nor worse than its contemporary railway companies and, once operations were underway, the quality of management was generally adequate, but certainly not outstanding or spectacular.

The first of the three phases of control saw the flamboyant and ever-optimistic Charles Conn exercising authority in the name of the Westinghouse group. Neither very experienced nor particularly gifted, Conn often seemed more impressed with his position, his title and his standing in the community than he did with his obligation to establish a profitable and soundly run company. Nor was he aided by the absentee control of the Westinghouse organization, personified by President George Smith in New York. Conn's experiences in developing on-line parks were not particularly fruitful and his pursuit of through freight arrangements with the connecting steam roads can only be judged a failure. Eventually, Westinghouse became disillusioned and sold out at a loss.

The Sproul syndicate ownership marked the second phase of Laurel Line management. Initially, the new owners, recognizing their inexperience, relied on the engineering firm of Ford, Bacon and Davis to guide the line. While Frank Ford especially showed considerable interest in the road, he had many other obligations, and only occasionally was he on hand in Scranton to make decisions.

Fortunately, he had an able ally in Patrick J. Murphy, who gradually assumed complete control as the financial picture darkened and Ford faded from the scene. While sometimes petty and smug in his approach, Murphy was conscientious, diligent and involved on a daily basis with the line's affairs. He was closer to being an "operating man" than the road's other managers. After the sobering experience of the 1920 wreck, Murphy seemed to settle down and grew with the job, running during the bitter Depression years.

By the time the last of the trio of managers took over, the Laurel Line was struggling for survival. E. McLain Watters was particularly well suited to the task of trying to unravel the financial knots and save the line from outright abandonment. He early recognized that merger was the only road to salvation and, even though he was forced to discontinue passenger service and electric motive power, his administration must be judged competent. It is doubtful if anyone could have done more.

The forces of organized labor also performed reasonably well from an overall standpoint. Electric railroads were the "glamor industry" of the day when the road opened, and the company was fortunate in attracting many qualified young men who remained with it for its entire life. There were difficult times during the hectic World War I era, and certainly carelessness contributed to the fatal 1920 wreck.

Considering their wages were relatively low, and often inferior to those of neighboring steam roads, the workers of the Laurel Line performed their daily tasks with a general air of competence and skill. As decline set in following World War II, the inflexibility of rail labor in insisting on full crews and annual raises did not help, but it is unlikely that any concessions on the part of labor would have appreciably changed the line's fate.

More so than most railroads the Laurel Line was heavily dependent on the economy of the region it served. Since Lackawanna and Luzerne counties were dependent in large measure on the anthracite trade, and since the Laurel Line was so short, it was drastically affected by the fall of anthracite mining, especially after the 1920s. Strikes, closures, mine failures, the loss of markets and falling population counts impacted heavily on the L&WV, severely curtailing both its passenger and freight revenues.

Whether the line could have survived even in the present age of public subsidies and ownership is highly problematical, for the valley residents seem closely wedded to their automobiles and the central business districts of Scranton and Wilkes-Barre are in all likelihood too weak to support a rapid transit operation such as the Laurel Line offered.

In summary, the L&WV met a definite transportation need, especially of people, until the 1940s. Its technology was sound if not advanced, and it gave fast, frequent service to the valley region, carrying prodigious numbers of passengers. In time, its crushing debt and falling traffic base, both passenger and freight, led to its acquisition by its large neighbor. Abandoned in piecemeal fashion, parts of it still remain, mostly idle, but perhaps the final chapter has yet to be written along the route of the Lackawanna and Wyoming Valley Railroad.

Commonwealth of Pennsylvania
Pennsylvania Historical and Museum Commission
Bureau for Historic Preservation
Commonwealth Keystone Building, 2nd Floor
400 North Street
Harrisburg, PA 17120-0093

June 20, 2996 ?
2006

David Koenig
NJ Transit
One Penn Plaza East
Newark, NJ 07105-2246

TO EXPEDITE REVIEW USE BHP REFERENCE NUMBER

Re: ER 00-1684-042-I
FTA: NJ Transit: New Jersey-Pennsylvania Lackawanna
Cut-Off Passenger Rail Service Restoration Project
Lackawanna, Wayne, Monroe, Northampton Counties, Pennsylvania
Determination of Eligibility Report: Pennsylvania Resources

Dear Mr. Koenig:

The Bureau for Historic Preservation (the State Historic Preservation Office) has reviewed the above named project in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended in 1980 and 1992, and the regulations (36 CFR Part 800) of the Advisory Council on Historic Preservation as revised in 1999. These requirements include consideration of the project's potential effect upon both historic and archaeological resources.

We concur with the findings of the agency that the following properties are eligible for or listed on the National Register of Historic Places.

1. Delaware Lackawanna & Western Railroad, Lackawanna, Wayne, Monroe and Northampton Counties, Pennsylvania 097540 IND: 9744|

was filed under Scranton

Contributing Features:
- ✓DL & W Railroad Bridge #60, Scranton, Lackawanna County
- ✓Bridge 60 Interlocking Tower, Scranton, Lackawanna County
- ✓East Stroudsburg Interlocking Tower, East Stroudsburg, Lackawanna County
- ✓East Stroudsburg Water Station, East Stroudsburg, Lackawanna County
- ✓East Stroudsburg Freight Station Bumper Block, E. Stroudsburg, Lackawanna Co.
- ✓Tobyhanna Station, Coolbaugh Township, Monroe County
- ✓Tobyhanna Interlocking Tower, Coolbaugh Township, Monroe County
- ✓Ridgeway Street Pony Truss Bridge, East Stroudsburg, Monroe County

Previously reviewed railroad stations, railroad track, ties, switches, lights, signs and other features in the railroad right-of-way.

2. Delaware, Lackawanna & Western Railroad Yard/Dickson Manufacturing Company Site (Steamtown National Historic Site/Scranton Army Ammunition Plant/ Laminations Incorporated Plant, Scranton, Lackawanna County

3. Dansbury Depot, East Stroudsburg Railroad Station, East Stroudsburg, Monroe Co.

4. Delaware Lackawanna & Western Railroad Viaduct over the Delaware River, Upper Mt. Bethel Township, Northampton County and New Jersey.

We concur with the findings of the agency that the following properties are not eligible for the National Register of Historic Places. They are not historically or architecturally significant.

1. Lackawanna Avenue Bridge, Scranton, Lackawanna County
2. Cliff Street Underpass, Cliff Street, Scranton, Lackawanna County
3. Tobyhanna Company Garage/Storage Building, Goodwin Street, Coolbaugh Township, Monroe County
4. Monroe County Bank, 93-95 Crystal Street, East Stroudsburg, Monroe County
5. East Stroudsburg Glassworks, 105 Crystal Street, East Stroudsburg, Monroe County
6. William O'Brien Property, 75 Crystal Street, East Stroudsburg, Monroe County
7. Lackawanna House/Hotel & Ice House, 87 Crystal Street, East Stroudsburg, Monroe County

We disagree with the findings of agency concerning the eligibility of the following resources. In our opinion these properties are not historically or architecturally significant and have suffered a loss of integrity.

1. Camp Tegawitha Boat House, Coolbaugh Township, Monroe County
2. Delaware Lackawanna & Western Railroad Company Houses, 331-333 Crystal Street, East Stroudsburg, Monroe County
3. Delaware Lackawanna & Western Railroad Company Houses, 343-345 Crystal Street, East Stroudsburg, Monroe County

We are unable to complete our review of the following properties until additonal information is submitted.

1. Tobyhanna Mills Historic District, Coolbaugh Township, Monroe County: Please supply additional photographs keyed to a map (especially streetscapes showing the proposed historic district). Please submit a better map of the historic district showing its boundaries, both a U.S.G.S. quadrangle and a street map.

2. Tobyhanna US Post Office, 1 Goodwin Street, Coolbaugh Township, Monroe County: Please submit interior photographs of this former post office and an assessment of its integrity of design and materials, feeling and association.

3. Henry Building/Waring Studio, 1 Washington Street, East Stroudsburg, Monroe County: Please supply interior photographs showing its integrity and historic features. Color photographs are acceptable. Please supply additional contextual information concerning the use of this building by Fred Waring.

Please submit a computer disc with the mapped locations of the Delaware Lackawanna and Western Railroad line and features for placement on our GIS.

If you need further information in this matter please consult Susan Zacher at (717) 783-9920.

Sincerely,

Andrea MacDonald

Andrea MacDonald, Chief
Division of Preservation Services

AM/smz

NPS Form 10-900
(Rev. 8-86)

OMB No. 1024-0018

United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations of eligibility for individual properties or districts. See Instructions in *Guidelines for Completing National Register Forms* (National Register Bulletin 16). Complete each item by marking "x" in the appropriate box or by entering the requested information. If an item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, styles, materials, and areas of significance, enter only the categories and subcategories listed in the instructions. For additional space use continuation sheets (Form 10-900a). Type all entries.

1. Name of Property

historic name Delaware, Lackawanna and Western Railroad line from Scranton to Slateford Junction, Pennsylvania

other names/site number

2. Location

street & number ☐ not for publication

city, town Scranton to Slateford Junction ☒ vicinity

state Pennsylvania code PA county Lackawanna, Wayne and Monroe code 069, 089, 127 zip code 18504

3. Classification

Ownership of Property	Category of Property	Number of Resources within Property	
		Contributing	Noncontributing
☒ private	☐ building(s)	16	3 buildings
☒ public-local	☒ district		sites
☐ public-State	☐ site	266	6 structures
☒ public-Federal	☐ structure		objects
	☐ object	282	9 Total

Name of related multiple property listing:

Number of contributing resources previously listed in the National Register 1

4. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1966, as amended, I hereby certify that this ☐ nomination ☐ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property ☐ meets ☐ does not meet the National Register criteria. ☐ See continuation sheet.

Signature of certifying official — Date

State or Federal agency and bureau

In my opinion, the property ☐ meets ☐ does not meet the National Register criteria. ☐ See continuation sheet.

Signature of commenting or other official — Date

State or Federal agency and bureau

5. National Park Service Certification

I, hereby, certify that this property is:

☐ entered in the National Register.
☐ See continuation sheet.
☐ determined eligible for the National Register. ☐ See continuation sheet.
☐ determined not eligible for the National Register.
☐ removed from the National Register.
☐ other, (explain:) _____

Signature of the Keeper — Date of Action

Historic Functions (enter categories from instructions)	Current Functions (enter categories from instructions)
Transportation: rail-related	Recreation and Culture: Resources related to Steamtown National Historic Site; Delaware Water Gap National Recreation Area (pending)

7. Description

Architectural Classification (enter categories from instructions)	Materials (enter categories from instructions)
Late Victorian; Passenger stations and freight depots are Victorian Railroad Vernacular	foundation Stone and concrete walls Wood frame and concrete roof Wood trusses - roof covering metal other

Describe present and historic physical appearance.

This nomination form covers the area of the Delaware, Lackawanna and Western Railroad right-of-way from mile 137.27 in Scranton to mile 74.10 in Slateford Junction, Pennsylvania, together with the railroad buildings and structures found along that route. For the most part the right-of-way follows the historic route acquired in 1850 from the unconstructed Delaware and Cobb's Gap Railroad. The right-of-way, however, reflects twentieth century modernization between the dates 1899 to 1939. It was in this latter era that the roadway was raised and widened. Approximately eight miles of the line sustained alignment changes in the early twentieth century to eliminate curves. These areas include mile 114.78 to 118.78 and mile 119.38 to 119.83 which were constructed in 1908. The route between mile 90.00 and 91.00, 87.20 and 87.50, and 85.90 and 86.81 was changed in 1911. Approximately one mile in the mile 100.00 area was altered in 1936, while a new route was developed around the old Paradise Tunnel section between mile 98.70 and 99.05 in 1942. As a result, the entire right-of-way except that changed in 1942 is being nominated to the National Register of Historic Places. Currently, the line between Scranton and Moscow is owned by the city of Scranton, including the Moscow passenger station and freight depot. The remainder of the route has been retained by Conrail except for the East Stroudsburg passenger station which is in the possession of Doug and Pat Incorporated, and the Delaware Water Gap passenger station and freight depot owned by the Delaware Water Gap borough.

Rails and crossties within the right-of-way reflect twentieth century development although only a single track remains for most of the approximately fifty-nine mile distance from Scranton to Slateford Junction. The thirteen miles between Scranton and Moscow have a double track as does the approximately three miles between Delaware Water Gap and Slateford Junction. A two-mile section in the East Stroudsburg area has four tracks. Historically, through the first half of the twentieth century, the line contained three tracks over most of its distance with approximately ten miles having four tracks and another eight miles with two tracks. Rails that remain retain the thirty-nine feet length adopted in the mid-1920s and the 131-pounds-per-yard weight prescribed in 1934. Few rails, however, remain from the 1930s. Crossties, for the most part, date from 1947 or later.

The right-of-way also contains passenger stations, freight depots, interlocking towers, block signal bridges, numerous culverts and bridges, and drainage pipes ranging in diameter from eight to thirty-six inches. Most of these buildings and structures fall within the period of significance (1899-1939). All of these buildings and structures were tied to railroad operations. The stations and depots were involved with passenger and freight functions. Interlocking towers and block signal bridges promoted safety and effective train movements through the control of switches and signals. Culverts and bridges allowed the roadbed to cross rivers, streams, and other bodies of water. Finally, the cast iron pipes promoted roadbed drainage. A list of these buildings and structures follows. Their locations are identified by mile number on the accompanying maps.

[X] See continuation sheet

Contributing (Buildings)

Mile	Description	Material	Date
74.19	Two-story interlocking tower	Concrete with hip roof and asphalt shingles	1911

Interlocking towers housed a series of levers which connected to switches by cables. The levers could only be operated in proper sequence so as to prevent two trains from occupying the same track or siding at the same time. This method of switching was also used to establish the particular route set for a train to take.

77.17	Delaware Water Gap Passenger Station	One and a half-story brick with a hip roof covered with slate shingles	1903

This one-and-a-half-story, brick Victorian railroad vernacular station is owned by the Delaware Water Gap borough. It has a low-pitched gable roof canopy supported by heavy, ornamental brackets around the building. it has a gable roof sheltered platform on the north end which also has slate shingles. The building is in an advanced state of decay.

77.17	Delaware Water Gap Freight Depot	One-story brick with a hip roof covered with slate shingles	1903

This one-story, red brick, Victorian railroad vernacular depot is owned by the Delaware Water Gap borough. The overhanging hip roof is covered with slate shingles. Heavy decorative brackets support the overhang. Like the adjacent passenger station, it is in an advanced state of decay.

81.56	East Stroudsburg Passenger Station	One and a half story wood frame with gable roof covered with asphalt shingles	1883 and 1915

This one and a half story, wood frame Victorian railroad vernacular passenger station was placed in the National Register of Historic Places on June 27, 1980. The gable roof contains symmetrical dormers. Exterior walls have a vertical board wainscoting on the lower part with clapboard siding on the upper portion. A low-pitched gable roof canopy extends around the building and is supported by ornamental brackets of a curve and circle design The

building retains its 1883 appearance. Cosmetic alterations, such as colored glass windows in the waiting room, occurred in 1915. A gable roof shelter platform on the north contains the same design elements as the gable roof canopy on the station. Owned by Doug and Pat Incorporated, it currently serves as a restaurant.

Mile	Description	Material	Date
81.65	Two-story interlocking tower	Wood frame with hip roof and wood shingles	1908

This interlocking tower served the same function as the concrete one previously described. It is the only surviving wood frame tower along the route. The first floor exterior is covered with clapboard siding while the upper floor contains fish scale siding below the windows. The second floor overhangs the first story on the track side. This overhang is supported by simple brackets.

83.12	Two-story interlocking tower	Concrete with hip roof and asphalt shingles	1911

This concrete building is identical to the concrete interlocking tower previously described.

85.14	Two-story interlocking tower	Concrete with hip roof and asphalt shingles	1902

This concrete building is identical to the concrete interlocking tower previously described.

94.58	Cresco Passenger Station	One-story wood frame with a gable roof covered with asphalt shingles	1888

This one-story, wood frame Victorian railroad vernacular station has exterior vertical board wainscoting on the lower part with tongue-in-groove-siding on the upper portion. The gable roof has finials at each end and Victorian gable decoration. The roof overhang contains curved brackets. It has been renovated and leased for a storehouse.

Mile	Description	Material	Date
102.52	Pocono Summit Passenger Station	Concrete with hip roof covered with asphalt shingles	1911

This unusual passenger station was constructed with concrete walls. A shelter platform extends on the south end and is covered by an extension of the hip roof. It is supported by square and round concrete pillars. The station was renovated in 1987.

103.16	Two-story interlocking tower	Concrete with hip roof roof and asphalt shingles	1910

This concrete building is identical to the concrete interlocking tower previously described.

107.60	Two-story interlocking tower	Concrete with hip roof and asphalt shingles	1910

This concrete building is identical to the concrete interlocking tower previously described.

107.62	Tobyhanna Station	One-story wood frame with a gable on hip roof covered with asphalt shingles	1908

This one-story, wood frame Victorian railroad vernacular station has exterior vertical wainscoting on the lower part, clapboard siding in the middle wall section, and vertical boards with scallop nosing on the upper portion. Curved brackets support the overhang of the gable on hip roof.

112.19	Two-story interlocking tower	Concrete with hip roof and asphalt shingles	1912

This concrete building is identical to the concrete interlocking tower previously described.

Mile	Description	Material	Date
112.89	Gouldsboro Station	One-story wood frame with a gable on hip roof covered with asphalt shingles	1907

The Gouldsboro station has an identical plan to the Tobyhanna station except that it has a gable on hip roo shelter platform extension on its south end.

120.54	Moscow Passenger Station	One-story brick with a hip roof covered with asphalt shingles	1904

This one-story, red brick Victorian railroad vernacular passenger station has a hip roof covered with asphal shingles. The hip roof extends over a shelter platform on the south end. Square brick columns support the shelte platform roof. Curved brackets support the hip roof overhang. The city of Scranton renovated the building in 1988

120.55	Moscow Freight Depot	One-story wood frame with a hip roof covered with asphalt shingles	1904

This one-story, wood frame Victorian railroad vernacular freight depot has a hip roof covered with asphal shingles. The exterior walls have vertical wainscoting on the lower part, clapboard siding in the middle section, and vertical boards with scallop nosing on the upper portion. Curved brackets support the overhang of the gable roof A. wood platform surrounds the building.

Contributing (Structures)

The following cast iron pipes were placed across the roadbed to facilitate drainage and promote a solid, stable line. As a result, they form an integral part of the right-of-way. Bridges and culverts were necessary to span waterways. Block signal bridges contained the train movement signals.

Mile	Description	Material	Date
74.25	24-inch pipe	cast iron	ca. 1910
74.32	12-inch pipe	cast iron	ca. 1910
74.36	20-inch pipe	cast iron	ca. 1910
74.43	20-inch pipe	cast iron	ca. 1910
74.58	12-inch pipe	cast iron	ca. 1910
74.59	16-inch pipe	cast iron	ca. 1910
74.62	16-inch pipe	cast iron	ca. 1910
74.77	20-inch pipe	cast iron	ca. 1910
74.89	Box culvert (3-foot span)	concrete	ca. 1910
74.95	10-inch pipe	cast iron	ca. 1910
75.02	10-inch pipe	cast iron	ca. 1910
75.10	16-inch pipe	cast iron	ca. 1910
75.14	20-inch pipe	cast iron	ca. 1910
75.20	Box culvert (3-foot span)	concrete	ca. 1910
75.25	20-inch pipe	cast iron	ca. 1910
75.40	10-inch pipe	cast iron	ca. 1910
75.52	16-inch pipe	cast iron	ca. 1910
76.03	32-inch pipe	cast iron	ca. 1910
76.10	16-inch pipe	cast iron	ca. 1910
76.12	10-inch pipe	cast iron	ca. 1910
76.29	10-inch pipe	cast iron	ca. 1910
76.35	Bridge (28-1/2-foot span)	concrete slab	1907
76.42	18-inch pipe	cast iron	ca. 1910
76.52	Rail top culvert (3-foot span)	concrete and steel	ca. 1905
76.53	16-inch pipe	cast iron	ca. 1910
76.61	16-inch pipe	cast iron	ca. 1910
76.62	16-inch pipe	cast iron	ca. 1910
76.72	16-inch pipe	cast iron	ca. 1910
76.85	Two, 16-inch pipes	cast iron	ca. 1910
76.90	Box culvert (3-foot span)	concrete	ca. 1910
77.00	36-inch pipe	cast iron	ca. 1910
77.23	24-inch pipe	cast iron	ca. 1910
77.24	12-inch pipe	cast iron	ca. 1910

Mile	Description	Material	Date
77.30	10-inch pipe	cast iron	ca. 1910
77.50	Bridge 86 (34-1/2-foot span)	deck plate girder and concrete	1914
77.90	Box culvert (3-foot span)	concrete	ca. 1910
78.20	Box culvert (3-foot span)	concrete	ca. 1910
79.35	24-inch pipe	cast iron	ca. 1910
79.37	Rail top culvert (6-foot span)	concrete and steel	1902
79.52	18-inch pipe	cast iron	ca. 1910
79.53	18-inch pipe	cast iron	ca. 1910
79.54	18-inch pipe	cast iron	ca. 1910
79.62	18-inch pipe	cast iron	ca. 1910
79.78	18-inch pipe	cast iron	ca. 1910
79.88	18-inch pipe	cast iron	ca. 1910
79.92	12-inch pipe	cast iron	ca. 1910
80.25	18-inch pipe	cast iron	ca. 1910
80.32	Two, 18-inch pipes	cast iron	ca. 1910
80.41	18-inch pipe	cast iron	ca. 1910
80.53	12-inch pipe	cast iron	ca. 1910
81.22	24-inch pipe	cast iron	ca. 1910
81.29	Through riveted truss bridge (120-foot span)	concrete and steel	1932
81.38	Arched culvert (8-foot span)	concrete	ca. 1912
81.50	Santa Fe type water tower	steel	ca. 1914
81.74	Bridge (3-foot span)	concrete slab	1925
81.76	Block signal bridge	steel frame	1912
82.13	Bridge (5-foot span)	concrete slab	ca. 1912
82.45	Block signal bridge	steel frame	1912
82.57	Box culvert (3-1/2-foot span)	concrete	ca. 1910
82.83	Arched culvert (18-foot span)	concrete	1903
83.04	Block signal bridge	steel frame	1912
83.24	Block signal bridge	steel frame	1912
83.73	Block signal bridge	steel frame	1912
84.14	Box culvert (3-foot span)	concrete	ca. 1910
84.46	Rail top culvert	concrete and steel	1907
85.17	Block signal bridge	steel frame	1912
85.19	Box culvert (6-foot span)	concrete	ca. 1910
85.71	Double box culvert (5-3/4-foot span)	concrete	ca. 1910
85.78	Block signal bridge	steel frame	1912
85.81	Four, 20-inch pipes	cast iron	ca. 1910
86.06	Bridge 82 – Deck plate girder (103-1/2-foot span)	concrete and steel	1913
86.29	Bridge 80 (59-foot span)	concrete slab	1910

Mile	Description	Material	Date
86.68	24-inch pipe	cast iron	ca. 1910
87.42	Bridge 79 (89-foot span)	two concrete arches	1911
87.61	Block signal bridge	steel frame	1912
87.79	16-inch pipe	cast iron	ca. 1911
88.37	Block signal bridge	steel frame	1912
88.59	Box culvert (3-1/2-foot span)	concrete	ca. 1911
89.06	24-inch pipe	cast iron	ca. 1911
89.24	20-inch pipe	cast iron	ca. 1911
89.29	Box culvert (5-foot span)	concrete	ca. 1911
89.35	20-inch pipe	cast iron	ca. 1911
89.37	Block signal bridge	steel frame	1912
89.50	20-inch pipe	cast iron	ca. 1911
89.81	box culvert (3-foot span)	concrete	ca. 1911
90.08	24-inch pipe	cast iron	ca. 1911
90.16	24-inch pipe	cast iron	ca. 1911
90.95	Box culvert (5-foot span)	concrete	ca. 1911
91.00	Block signal bridge	steel frame	1912
91.32	10-inch pipe	cast iron	ca. 1911
91.48	8-inch pipe	cast iron	ca. 1911
91.63	10-inch pipe	cast iron	ca. 1911
91.85	10-inch pipe	cast iron	ca. 1911
92.00	10-inch pipe	cast iron	ca. 1911
92.13	Arched culvert (5-foot span)	concrete	ca. 1905
92.35	20-inch pipe	cast iron	ca. 1905
92.48	10-inch pipe	cast iron	ca. 1905
92.58	Box culvert (2-foot span)	stone	ca. 1865
92.63	10-inch pipe	cast iron	ca. 1905
92.84	Box culvert (4-foot span)	stone	ca. 1865
92.99	10-inch pipe	cast iron	ca. 1905
93.05	10-inch pipe	cast iron	ca. 1905
93.10	10-inch pipe	cast iron	ca. 1905
93.26	10-inch pipe	cast iron	ca. 1905
93.35	Box culvert with 20-inch pipe extension (6-foot span)	stone and cast iron	ca. 1865 and 1905
93.45	Box culvert (3-foot span)	stone	ca. 1865
93.71	24-inch pipe	cast iron	ca. 1905
93.92	10-inch pipe	cast iron	ca. 1905
94.35	Box culvert (5-foot span)	stone	ca. 1865
94.53	Two, 24-inch pipes	cast iron	ca. 1905
94.72	16-inch pipe	cast iron	ca. 1905
94.72	20-inch pipe	cast iron	ca. 1905

Mile	Description	Material	Date
95.05	Arched culvert (6-foot span)	concrete	ca. 1905
96.28	18-inch pipe	cast iron	ca. 1905
96.65	Box culvert (2-foot span)	concrete	ca. 1905
97.26	Arched culvert (17-foot span)	stone	1870
97.84	10-inch pipe	cast iron	ca. 1905
97.96	18-inch pipe	cast iron	ca. 1905
97.97	16-inch pipe	cast iron	ca. 1905
98.09	Three, 16-inch pipes	cast iron	ca. 1905
98.40	Box culvert (4-foot span)	stone	ca. 1865
100.26	Through plate girder bridge (77-1/2-foot span)	concrete and steel	1936
100.65	Pipe culvert	concrete	1912
100.91	Box culvert (2-1/2-foot span)	stone	ca. 1865
101.01	Two, 16-inch pipes	cast iron	ca. 1905
101.51	Two, 24-inch pipes	cast iron	ca. 1905
101.82	Two, 16-inch pipes	cast iron	ca. 1905
101.90	Block signal bridge	steel frame	1910
102.90	Bridge 70 (17-foot span)	concrete and steel I beam	1928
103.19	Two, 20-inch pipes	cast iron	ca. 1905
103.60	Block signal bridge	steel frame	1910
104.34	Arched culvert (13-2/3-foot span)	concrete	1905
104.45	Block signal bridge	steel frame	1910
104.81	Three, 18-inch pipes	cast iron	ca. 1905
105.29	Block signal bridge	steel frame	1910
105.62	Two, 16-inch pipes	cast iron	ca. 1905
106.09	Block signal bridge	steel frame	1910
106.66	16-inch pipe	cast iron	ca. 1905
106.97	Block signal bridge	steel frame	1910
107.05	Bridge (24-foot span)	concrete slab	1917
107.39	Bridge 75 (47-foot span)	concrete arch	1909
107.44	Bridge 74 (18-foot span)	concrete and steel I beam	1908
108.89	Block signal bridge	steel frame	1910
109.45	15-inch pipe	cast iron	ca. 1905
110.29	24-inch pipe	cast iron	ca. 1905
110.43	Box culvert (3-foot span)	concrete	ca. 1905
110.61	Box culvert (2-1/2-foot span)	concrete	ca. 1905
110.78	Block signal bridge	steel frame	1910
112.17	Arched culvert (6-foot span)	concrete	1912
112.79	Two, 18-inch pipes	cast iron	ca. 1910
113.50	Bridge 72 – Deck plate girder (26-3/4-foot span)	concrete and steel	1907

Mile	Description	Material	Date
114.13	Box culvert (2-1/2-foot span)	stone with concrete extension	ca. 1907
115.36	Rail top culvert (5-foot span)	concrete and steel	ca. 1907
115.75	24-inch pipe	cast iron	ca. 1907
116.21	24-inch pipe	cast iron	ca. 1907
116.76	24-inch pipe	cast iron	ca. 1907
116.76	Bock signal bridge	steel frame	ca. 1907
117.76	Bridge 71 (16-foot span)	concrete	1908
117.80	Deck plate girder bridge (29.2-foot span)	concrete and steel	1908
118.07	36-inch pipe	concrete	ca. 1908
118.54	Arched culvert (16-foot span)	concrete	1908
118.67	Block signal bridge	steel frame	1910
118.93	Deck plate girder bridge	concrete and steel	1908
119.37	24-inch pipe	cast iron	ca. 1908
119.59	Arched culvert (13-foot span)	concrete	1908
119.77	16-inch pipe	cast iron	ca. 1908
119.85	Box culvert (2-foot span)	concrete	ca. 1908
119.95	Two, 20-inch pipes	cast iron	ca. 1908
120.42	Arched culvert (16-foot span)	concrete	1914
120.47	Concrete slab bridge (48-foot span)	concrete	1911
120.67	Block signal bridge	steel frame	1910
120.85	Two, 16-inch pipes	cast iron	ca. 1908
121.09	16-inch pipe	cast iron	ca. 1908
121.30	16-inch pipe	cast iron	ca. 1908
121.36	16-inch pipe	cast iron	ca. 1908
121.42	16-inch pipe	cast iron	ca. 1908
121.54	Box culvert (4-foot span)	concrete	1907
121.74	20-inch pipe	cast iron	ca. 1908
121.92	16-inch pipe	cast iron	ca. 1908
122.22	Block signal bridge	steel frame	1910
122.24	30-inch pipe	cast iron	ca. 1908
122.37	Box culvert (1-foot span)	concrete	ca. 1907
122.91	Rail top culvert (4-foot span)	concrete and steel	ca. 1907
123.25	30-inch pipe	cast iron	ca. 1908
123.49	16-inch pipe	cast iron	ca. 1908
123.55	Rail top culvert (5-foot span)	concrete and steel	1901
123.70	24-inch pipe	cast iron	ca. 1904
123.72	12-inch pipe	cast iron	ca. 1904
123.80	24-inch pipe	cast iron	ca. 1904
123.98	Rail top culvert (6-foot span)	concrete and steel	1904
124.12	Block signal bridge	steel frame	1910

Mile	Description	Material	Date
124.27	Box culvert (3-foot span)	concrete	ca. 1904
124.76	18-inch pipe	cast iron	ca. 1904
124.98	Block signal bridge	steel frame	1910
125.06	Box culvert (3-foot span)	concrete	ca. 1910
125.27	Box culvert (3-foot span)	concrete	1907
125.79	Block signal bridge	steel fame	1910
126.13	16-inch pipe	cast iron	ca. 1904
127.03	Arched culvert (20-foot span)	concrete	1903
127.34	16-inch pipe	cast iron	ca. 1904
127.41	16-inch pipe	cast iron	ca. 1904
127.51	Two, 16-inch pipes	cast iron	ca. 1904
127.65	16-inch pipe	cast iron	ca. 1904
127.76	Two, 16-inch pipes	cast iron	ca. 1904
127.81	Bock signal bridge	steel frame	1910
128.18	Two, 16-inch pipes	cast iron	ca. 1904
128.55	16-inch pipe	cast iron	ca. 1904
128.63	Block signal bridge	steel frame	1910
129.19	20-inch pipe	cast iron	ca. 1904
129.19	16-inch pipe	cast iron	ca. 1904
129.51	Concrete slab bridge (7-foot span)	concrete	1901
129.63	Block signal bridge	steel frame	1910
129.66	Box culvert (3-1/4-foot span)	concrete	1905
129.84	Box culvert (3-1/4-foot span)	concrete	1905
130.22	Bridge 68 – Deck plate girder (59-1/2-foot span)	concrete and steel	1925
130.38	Rail top culvert (8-foot span)	concrete and steel	1924
130.54	Five, 20-inch pipes	cast iron	ca. 1904
130.66	16-inch pipe	cast iron	ca. 1904
130.73	Arched culvert (26-foot span)	concrete	1906
130.78	Bridge 67 – through plate girder (59-3/4-foot span)	concrete and steel	1905
130.87	Bridge 64 – Deck plate girder (59-1/2-foot span)	concrete and steel	1925
131.12	Concrete slab bridge (41-foot span)	concrete	1912
131.28	18-inch pipe	cast iron	ca. 1904
131.28	Two, 16-inch pipes	cast iron	ca. 1904
131.40	Block signal bridge	steel frame	1910
131.51	24-inch pipe	cast iron	ca. 1904
131.51	10-inch pipe	cast iron	ca. 1904
131.53	10-inch pipe	cast iron	ca. 1904
131.58	24-inch pipe	cast iron	ca. 1904

Mile	Description	Material	Date
131.64	15-inch pipe	cast iron	ca. 1904
131.76	Nay Aug Tunnels	two tunnels	1856 and 1906
132.06	20-inch pipe	cast iron	ca. 1908
132.16	Block signal bridge	steel frame	1910
132.34	12-inch pipe	cast iron	ca. 1908
132.40	24-inch pipe	cast iron	ca. 1908
132.51	30-inch pipe	cast iron	ca. 1908
132.62	36-inch pipe	cast iron	ca. 1908
132.90	Block signal bridge	steel frame	1910
133.27	Two deck plate girder bridges – "Bridge 62"	concrete and steel	1907

Noncontributing

These buildings and structures fall outside of the period of significance.

74.63	Signal shack	concrete	ca. 1965
78.66	Bridge 85--Through plate girder	concrete and steel	1955
84.60	Signal shack	concrete	ca. 1965
97.92	Two, 6-foot pipes	steel	1955
108.37	Bridge 73--Deck plate girder	concrete and steel	1963
108.56	Signal shack	concrete	ca. 1965
131.80	Deck plate girder bridge	concrete and steel	1955
133.09	Deck plate girder bridge	concrete and steel	1970

8. Statement of Significance

Certifying official has considered the significance of this property in relation to other properties:
☐ nationally ☒ statewide ☐ locally

Applicable National Register Criteria ☒ A ☐ B ☒ C ☐ D

Criteria Considerations (Exceptions) ☐ A ☐ B ☐ C ☐ D ☐ E ☐ F ☐ G

Areas of Significance (enter categories from instructions)	Period of Significance	Significant Dates
Transportation	1899-1939 42	1899
Engineering		

Cultural Affiliation
N/A

Significant Person
N/A

Architect/Builder
N/A

State significance of property, and justify criteria, criteria considerations, and areas and periods of significance noted above.

This nomination covers the resources associated with the Delaware, Lackawanna and Western Railroad right-of-way between Scranton, Pennsylvania at mile 133.27 and Slateford Junction, Pennsylvania at mile 74.10. Under criteria A, the railroad right-of-way with buildings and structures falls within a transportation area of significance for the period 1899-1939. Constructed in the 1850s to first haul iron products to market, the railroad's main function soon evolved into hauling anthracite coal.

In the latter half of the nineteenth century the Delaware, Lackawanna and Western management established the railroad as one of seven railroads operating in northeastern Pennsylvania which derived their major revenue from anthracite coal. None of these railroads evolved into major trunk lines. Like the DL&W, they tended to operate in only three states (Pennsylvania, New York, and New Jersey) and each had a total of 1,000 miles or less of track. Competition among these railroads for anthracite profits often proved severe. By the late 1890s several of these anthracite lines determined to expand the freight operation to encompass a preponderance of other products. Efficiency dictated the adoption of larger equipment. Heavier locomotives and rolling stock meant bolstering the roadbed and track to withstand the new increased weight. Without hesitation, a new DL&W management group opted, beginning in 1899, to modernize the line to efficiently meet competition. To that end all of the light, nineteenth century stone masonry bridges were replaced along with most all of the culverts. The roadbed was widened to add more track for speedier operation. Most grade crossings were eliminated. New passenger stations and freight depots were constructed. Modern safety equipment such as an interlocking switch system and an automatic block electric signal system were added to the line. As a result, the right-of-way between Scranton and Slateford Junction still reflects the effects of that modernization period from 1899-1939. Maintenance of the right-of-way, buildings, and structures will necessitate replacement of materials over time. Life and health safety may dictate using modern fabric designed to match original material.

In the 1899-1939 period, the Delaware, Lackawanna and Western management departed from the usual Eastern railroad construction practices for bridges, culverts, and some stations by adopting concrete as the building material. Most of these structures and buildings were constructed with day labor. At first, concrete was used only for bridge abutments with the span comprised of deck plate steel. Within a couple of years all-concrete bridges and culverts began to appear. A concrete semi-circular arch was the typical style for bridges over minor streams and rural highways. An elliptical concrete arch was used in some areas where more vertical clearance was needed. Tracks were elevated over a street by using a double span flat top or concrete slab bridge. Rivulets typically were spanned by arched or box concrete culverts. The Pocono Summit passenger station demonstrated the use of concrete for building construction.

☒ See continuation sheet

Although the DL&W was not a large railroad, its management's farsightedness in the period 1899-1939 led to the development of an efficient operation with unique construction materials for that region. In addition management's emphasis on track and roadbed maintenance gained the line the reputation of being one of the best maintained in the nation. Such emphasis included the placement of cast-iron pipe of various diameters in the roadbed to promote drainage and thus increase efficiency through decreased water damage.

While other area railroads purchased large equipment and modernized their roadbeds and tracks in the same era, none of these lines began an experiment with concrete as a building material for the roadbed structures and some passenger stations. In addition the other railroad owners did not widen their roadbeds to accommodate triple and quadruple trackage as the DL&W management did.

The DL&W had one advantage over other area railroads in that it possessed the shortest route between New York City and Buffalo on Lake Erie. It also served as the only railroad line between Scranton and East Stroudsburg, Pennsylvania. The settlements along that latter part of the route, however, did not develop into centers of note for either industry or agriculture. Only Scranton emerged as a hub of industrial and mining activity along the DL&W's Pennsylvania corridor. East Stroudsburg prospered but not to the extent of Scranton. Most industries served by the DL&W were located in New York and New Jersey. Agriculture, as well, did not thrive in that area of Pennsylvania. Despite these negative aspects, the DL&W did have a large role in the development of vacation resorts along its Scranton to Slateford Junction route. It was here along the line in the Pocono Mountains and Delaware Water Gap that holiday activity developed with the growth of hotels and resorts. With advertisements and encouragement by the DL&W, the vacation business, both summer and winter, grew to form the economic underpinning of the area. The DL&W had little initial competition in transporting vacationers since it functioned as the sole line between East Stroudsburg and Scranton. It was only with the increased use of motor vehicles beginning in the 1920s that the railroad began to lose vacation oriented passengers.

The Delaware, Lackawanna and Western Railroad falls within the context of anthracite railroads in northeastern Pennsylvania. It was enveloped in a broad pattern of American history as signified by railroad competition and the response to that competition by developing an efficient operation through modernization of roadbed and tracks. The line was unique among Eastern railroads in its prolific use of concrete for buildings and structures. At the same time the railroad played a significant role in fostering the Delaware Water Gap and Pocono Mountain vacation business. These aspects are reflected in its line between Scranton and Slateford Junction.

9. Major Bibliographical References

Adams, Braman B. *The Block System of Signaling on American Railroads.* N.Y.: The Railroad Gazette, 1901.

Appel, John C., Joan B. Graff, Joel Keller, Vertie Knapp, Thomas H. Knepp, Reg Nauman, and Edna Ponder. *History of Monroe County, Pennsylvania 1726-1976.* East Stroudsburg, Pa.: Pocono Hospital Auxiliary, 1976.

"A Test to Determine the Cost of Pneumatic Tie Tamping." *Railway Age* 70 (March 21, 1921), 721.

"The Bells Ring the Message of Progress in Monroe County, PA. and Tributary County Where Industry and Recreation Meet." East Stroudsburg, Pa.: Hughes Press, 1915.

No, this applies only to the East Stroudsburg passenger station.

[X] See continuation sheet

Previous documentation on file (NPS):

- [ ] preliminary determination of individual listing (36 CFR 67) has been requested
- [X] previously listed in the National Register
- [ ] previously determined eligible by the National Register
- [ ] designated a National Historic Landmark
- [ ] recorded by Historic American Buildings Survey # _____
- [ ] recorded by Historic American Engineering Record # _____

Primary location of additional data:

- [ ] State historic preservation office
- [ ] Other State agency
- [ ] Federal agency
- [ ] Local government
- [ ] University
- [ ] Other

Specify repository: _____

10. Geographical Data

Acreage of property Approximately 1,200

UTM References

	Zone	Easting	Northing
A	18	444,460	4,583,760
B	18	446,620	4,583,020
C	18	448,820	4,584,800
D	18	451,580	4,582,410

[X] See continuation sheet

Verbal Boundary Description

Beginning at the Mattes Street bridge (mile 133.27) in Scranton the right-of-way proceeds southeast through Cobb's Gap to Elmhurst, Moscow, Gouldsboro, Tobyhanna, Pocono Summit, Mount Pocono, Cresco, Henryville, Analomink, East Stroudsburg, Delaware Water Gap, and terminates at mile 74.10 in Slateford Junction, Pennsylvania. For the most part, it has a 150 feet width.

[ ] See continuation sheet

Boundary Justification

The right-of-way follows the historic route established by the Delaware, Lackawanna, and Western Railroad in the nineteenth century with minor, early twentieth century alignment changes.

[ ] See continuation sheet

11. Form Prepared By

name/title Berle Clemensen, Historian

organization National Park Service date January 1991

street & number 12795 West Alameda Parkway telephone (303) 969-2358

city or town Denver state Colorado zip code 80225

Bogen, Jules I. *The Anthracite Railroads: A Study in American Railroad Enterprise.* N.Y.: The Ronald Press Co., 1927.

Corporate Records of the Delaware, Lackawanna and Western Railroad Company. George Arent Library. University of Syracuse, Syracuse, New York.

Craft, David, W.A. Wilcox, Alfred Hand, and J. Woolridge. *History of Scranton, Penn.* Dayton, Ohio: United Brothern Publishing House, 1891.

"Delaware, Lackawanna & Western." *Railway Age* 31 (March 1, 1901), 157-158.

"Delaware, Lackawanna and Western Railroad." *Railway Age* 32 (August 16, 1901), 135 and 32 (September 13, 1901), 258.

Delaware, Lackawanna and Western Railroad Company. *Annual Report of the Delaware, Lackawanna and Western Railroad Company For the Year Ending December 31, 1900.* N.Y.: Sears and White, 1901.

Delaware, Lackawanna and Western Railroad Company. *Annual Report of the Delaware, Lackawanna and Western Railroad Company For the Year Ending December 31, 1901.* N.Y.: Sears and White, 1902.

Delaware, Lackawanna and Western Railroad Company Records. Record Group 134, Records of the Interstate Commerce Commission. National Archives and Record Center, Suitland, Maryland.

"D.L.&W. Directors Review Truesdale Administration." *Railway Age* 79 (July 4, 1925), 46.

Elliott, W.H. *The ABC of Railroad Signaling.* Chicago: MacKenzie-Klink Publishing Co., 1909.

Even on Quiet Lonely Nights, Someone Waits for a Train." *The Pocono Record* (The Stroudsburg, Pennsylvania), December 28, 1977.

"Financial." *Railway Age* 30 (November 30, 1900), 439.

Hirschthal, M. "Development of Concrete in Railway Construction: A review of the Steps in the Adoption of this Material on the Delaware, Lackawanna & Western." *Railway Age* 73 (October 14, 1922), 705-709; 73 (October 28, 1922), 791-797; 73 (November 4, 1922), 843-846.

Hitchcock, Frederick L. *History of Scranton and Its People.* 3 Vols. N.Y.: Lewis Historical Publishing Co., 1914.

_____. and John P. Downs. *History of Scranton and of the Borough of Lackawanna County.* 2 vols. N.Y.: Lewis Historical Publishing Co., 1914.

Keller, Robert B. *History of Monroe County Pennsylvania.* Stroudsburg, Pa.: The Monroe Publishing Co., 1927.

Landon, H.C. "Maintenance of Line." *Railway Age* 31 (March 15, 1901), 305-307.

Mathews, Alfred. *History of Wayne, Pike and Monroe Counties, Pennsylvania.* Philadelphia: R.T. Peck & Co., 1886

Miller, Donald L. and Richard E. Sharpless. *The Kingdom of Coal: Work, Enterprise, and Ethnic Communities in the Mine Fields.* Philadelphia: University of Pennsylvania Press, 1985.

Monroe County – History Legacy: A Summary of Historic Sites and Structures in Monroe County, Pennsylvania Stroudsburg, Pa.: Monroe County Planning Commission, 1980.

Murphy, Thomas. *Jubilee History Commemorative of the Fiftieth Anniversary of the Creation of Lackawanna County Pennsylvania.* 2 Vols. Indianapolis: Historical Publishing Co., 1928.

"The Newark Improvements of the Lackawanna Railroad – I." *The Engineering Record* 48 (December 26, 1903), 806-808.

O'Hora, Margaret M. *History of Dunmore, Pennsylvania.* Dunmore: Dunmore Improvement Assn., 1937.

Parsons, W.B., Jr. *Track: A Complete Manual of Maintenance of Way.* N.Y.: Engineering News Publishing Co., 1886

The Pocono Record (The Stroudsburgs, Pennsylvania), June 5, 1970; June 13, 1970; June 15, 1970; September 18, 1975; December 28, 1977; April 18, 1978; August 29, 1981).

Saylor, Roger B. *The Railroads of Pennsylvania.* Industrial Research Report No. 4. Bureau of Business Research College of Business Administration. University Park: Pennsylvania State University Press, 1964.

Scranton Times, June 15, 1967.

Tabor, Thomas T. *The Delaware, Lackawanna and Western Railroad: The Road of Anthracite in the Nineteenth Century 1828-1899.* Williamsport, Pa.: Lycoming Printing Co., 1977.

_____. and Thomas T. Tabor III. *The Delaware, Lackawanna and Western Railroad in the Twentieth Century 1899-1960.:* Two parts. Williamsport, Pa.: Lycoming Printing Co., 1981.

Willard, William C. *Maintenance of Way and Structures.* N.Y.: McGraw-Hill Book Co., 1915.

	EASTING	NORTHING	
E	452500	4583620	
F	453930	4580720	
G	456630	4576090	Moscow Station
H	460250	4572020	
I	461920	4569040	
J	461960	4565920	Gouldsboro Station
K	463050	4559700	
L	464860	4558560	Tobyhanna Station
M	466440	4557600	
N	467460	4551360	Pocono Summit Station
O	467820	4550620	
P	469830	4551640	
R	472000	4552600	
S	471320	4553320	
T	472380	4554180	
U	476290	4555760	Cresco Station
V	476700	4553800	
W	478320	4552820	
X	478610	4551500	
Y	479740	4548770	
Z	481600	4545320	
AA	481330	4544180	
BB	484580	4539300	
CC	484700	4538360	East Stroudsburg Station
DD	484040	4537880	
EE	486120	4537220	
FF	486500	4538070	
GG	487660	4538430	
HH	488460	4536580	Delaware Water Gap Station
II	489000	4535040	
JJ	489470	4535150	
KK	490300	4532780	

Bridge Resource Information

- Identification

BMS#: *351000050034426*
Key #: *000124*
Property Name: *Harrison Avenue Bridge*
Resource Type: *Structure*
Crossing: *Roaring Creek*

- Location

Lackawanna: *Scranton City*
Address: *Harrison Ave.*
Location: *L.R. 5*
UTM: *Zone 18 4583150 445520*
USGS Quadrangle: *Scranton*
Tax Parcel:

- General Characteristics

Predominant Material: *Concrete*
 # Spans: *2*
 # Main Spans: *1*
Overall Length: *277*

- Substructure Characteristics

Substructure Material 1:
Substructure Material 2:
Substructure Feature: *Solid Intrados*
Substructure Configuration:

- Main Span

Material 1: *Concrete*
Material 2:
Span Type: *Arch*
Design Type: *Open Spandrel*
Length: *202*
Structural Feature 1:
Structural Feature 2:

+ Secondary Span 1 — No Data Present

+ Secondary Span 2 — No Data Present

+ Secondary Span 3 — No Data Present

- Status

NR Status: *Listed*
Contributes:
Owner:
Condition: *Unreported*

- Historic Information

Year Built: *1922*
Alterations/Additions:
Architect/Engineer: *Schunk, W.*
Builder: *Anthracite Bridge Co.*

- Historic Function

Transportation: *Road-Related (Vehicular)*
Transportation: *Bridge*

+ Current Function	No Data Present
+ Inventory Items	No Data Present
+ Ancillary Features	No Data Present
+ Associated Resources	No Data Present

- Administrative Actions

12/13/1996: *Date Record Changed*
06/22/1988: *NR Listed*
04/25/1988: *Sent to NPS*
01/14/1986: *Board Approved*
01/06/1986: *NR Nom. 1st Submission*

- National Register Information

Criteria: *C*
Considerations:
Period of Significance:
Contributing: *0 Buildings, 1 Structures, 0 Objects, 0 Sites*
Non-Contributing: *0 Buildings, 0 Objects, 0 Structures, 0 Sites*
Acreage: *0.9*
Multiple Property Listings: *Highway Bridges Owned by the Commonwealth of Pennsylvania, Department of Transportation TR (RefNo 64000726)*
Cultural Affiliation:

- Links

Photograph: *H000124_01B.jpg*
Form: *H000124_01D.pdf*
Associated Reports:

- Comments

Bridge Survey

CONCRETE ARCH BRIDGE

OPEN SPANDRAL

Survey Number:	C-18
Bridge Name and Address:	Harrison Avenue Bridge L.R. 5 over L.R. 35009 Roaring Brook & RR Lackawanna County
Owner:	Commonwealth of Pennsylvania Department of Transportation Transportation & Safety Building Harrisburg, Pennsylvania 17120
Statement of Significance:	The Harrison Avenue Bridge is an important open-spandrel bridge, comprising three spans with a main span which measures 201 feet. The longest spanning typical open-spandrel arch in this nomination, it also rises high above Roaring Brook. The massiveness of the arch is accentuated by minimal surface treatment; only the piers on this bridge have been articulated. This otherwise stark bridge is softened by the use of symmetrically placed spandrel arches instead of spandrel posts. As the longest-spanning nominated example of this often used type of concrete bridge, this structure warrants listing on the National Register.
Area of Significance:	Engineering
Boundary Description:	The nominated property consists of a 600 feet long by 50 feet wide rectangle whose vertices correspond to the outside corners of the bridge's wing walls, and includes only superstructure and substructure.
Acreage of Nominated Property:	Less than one acre.

000124

PENNSYLVANIA HISTORIC RESOURCE SURVEY FORM
Bureau for Historic Preservation — Box 1026
PA Historical & Museum Commission — Harrisburg, PA 17120

1. County: Lackawanna

2. Municipality: Scranton City

3. Structure No.: 35 L 0 0005 0 034425

4. Survey Code: 40-112 C-18

5. Present Name: Harrison Avenue Bridge

6. Other name (historic name, if any): N/A

7. Crossing: L.R.5 over L.R.35009 Par-Roaring Br.RR

8. USGS QUAD. Scranton

UTM's: Zone 18

E	4 4 5 5 2 0
N	4 5 8 3 1 5 0
E	
N	

9. HISTORICAL DATA

Designer/Engineer:
Schunk, William

Builder/Contractor:
Anthracite Bridge Company

Bridge Company:
Anthracite Bridge Company

Date(s): 1922 ; basis Plaque

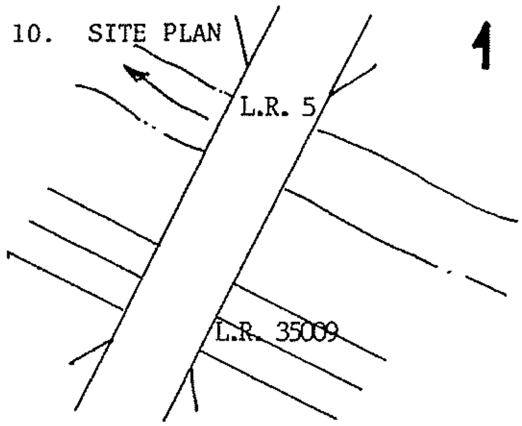
; basis

; basis

; basis

Use: Vehicular present; Vehicular original.

10. SITE PLAN



11. INTEGRITY

x altered;

__ unaltered;

__ moved;

Explain: Extension parapet and super structure concrete repairs

12. VIEW no.

PHOTO

13. COMMENTS

Unusual features:

Multiple span

Locale/environment:
Urban

Machinery (describe/identify type/equipment):

N/A

14. DIMENSIONS

spans: 1 / 2 no., 201.67' / 75 ft. O/A

main: 1 no., 201 ft.

secondary: __ no., __ ft.

approach: __ no., __ ft.

piers: __ no.

towers: __ no., __ ft.

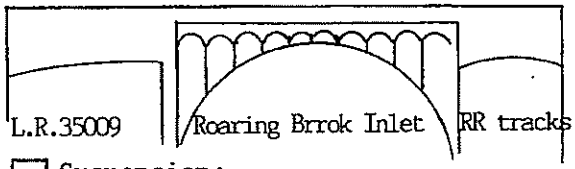
15. TYPE

CHARACTERISTICS

[ ] Truss: continuous/cantilever:

- [ ] webbing: _____.
- [ ] anchor span: _____.
- [ ] cantilever span: _____.
- [ ] suspended span: _____.
- [ ] thru/deck/low (pony): full-slope/half-hip.
- [ ] connections: pin/riveted.
- [ ] eyebars: loop welded/die forged.
- [ ] railing: _____.
- [ ] columns: _____.

[x] Arch: masonry/metal: concrete



- [x] thru/deck/½-thru.
- [ ] fixed (hingeless) /1/2/3-hinged.
- [ ] ribs: solid/braced; crescent/parallel.
- [x] spandrels: open/solid/braced.
- [x] intrados/vault; ribbed/solid.
- [x] shape: semi-circular/elliptical/segmental; stilted.
- [ ] skew (main arch)

[ ] Suspension:

- [ ] stiffening: braced-chain (1/2/3-hinged) /suspended truss.
- [ ] wire cable: twisted/parallel.
- [ ] eyebar chain.
- [ ] back-stay: straight/curved.

[ ] Bascule:

- [ ] single/double leaf.
- [ ] rolling lift: Schertzer.
- [ ] trunnion: simple (Chicago) /multiple (Strauss).
- [ ] counterweights: heel/overhead.
- [ ] Page/Rall.
- [ ] semi-lift/direct lift.

[ ] Swing:

- [ ] bearing: center/rim/combination.
- [ ] (see Truss above).

[ ] Vertical Lift:

- [ ] (see Truss above).

[ ] Other:

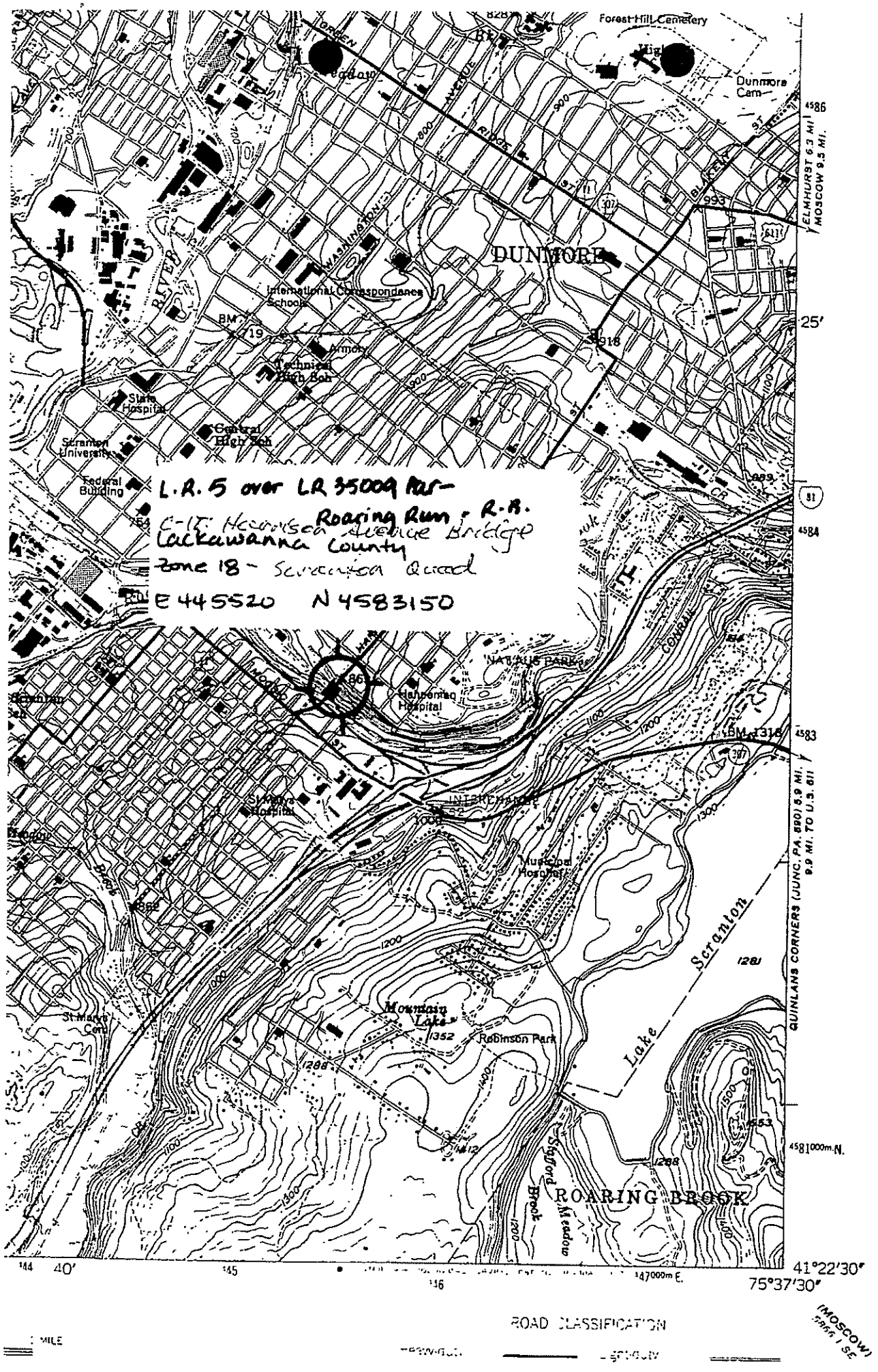
- [ ] other: _____.

16. MATERIALS (primary)

	Superstructure type		treatment/finish		source
main span:	Concrete	;	Smooth	;	local
towers:	Concrete	;	Smooth	;	local
railings:	Concrete with chain link	;	Smooth	;	local
Substructure					
piers:	Concrete	;	Smooth	;	local
abutments:	Concrete	;	Smooth	;	local
wings:	Concrete	;	Smooth	;	local
intrados/ribs:	Concrete	;	Smooth	;	local
voussiors:	Concrete	;	Smooth	;	local

17. PHOTO NO's. Roll #2
21-22-23-24-25-26-27-28-29

18. PREPARED BY: Edward P. Osnick
AGENCY/ORGANIZATION: PennDOT
; DATE: 7-21-82


L.R. 5 over LR 35009 Par-
Roaring Run - R.R.
C-LT. Harrison Avenue Bridge
Lackawanna County
Zone 18 - Scranton Quad
E 445520 N 4583150
DUNMORE
ROARING BROOK
Lake Scranton
Mountain Lake
Robinson Park
Forest Hill Cemetery
Dunmore Cem.
International Correspondence School
Armory
Technical High Sch.
State Hospital
Central High Sch.
Scranton University
Federal Building
Hahnemann Hospital
St. Mary's Hospital
Municipal Hospital
St. Mary's Cem.
Stafford Meadow Brook
ELMHURST 6.3 MI.
MOSCOW 9.5 MI.
QUINLANS CORNERS (JUNC. PA. 590) 5.9 MI.
9.9 MI. TO U.S. 611
CONRAIL
41°22'30"
75°37'30"
ROAD CLASSIFICATION
(MOSCOW) PA 1 SE

NATIONAL REGISTER 000124

PENNSYLVANIA HISTORIC RESOURCE SURVEY FORM
Bureau for Historic Preservation Box 1026
PA Historical & Museum Commission Harrisburg, PA 17120

8. USGS QUAD. Scranton

UTM's: Zone 18

E	4	4	5	5	2	0
N	4	5	8	3	1	5	0
E							
N							

9. HISTORICAL DATA

Designer/Engineer: ~~William~~ Schunk, William Schunk

Builder/Contractor: Anthracite Bridge Co.

Bridge Company: Anthracite Bridge Company

Date(s): 1922 ; basis Plaque

_____; basis

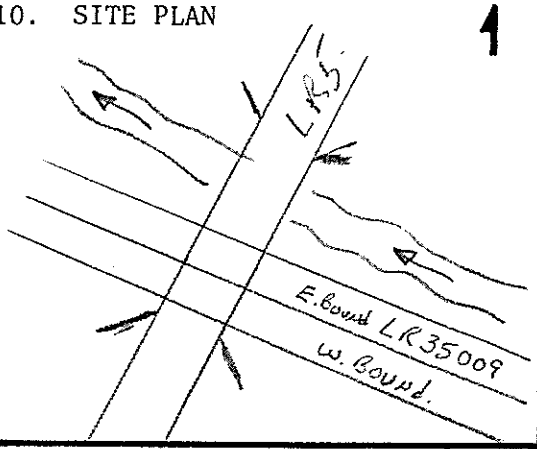
_____; basis

_____; basis

Use: Vehicular present; Vehicular original.

10. SITE PLAN

1



11. INTEGRITY

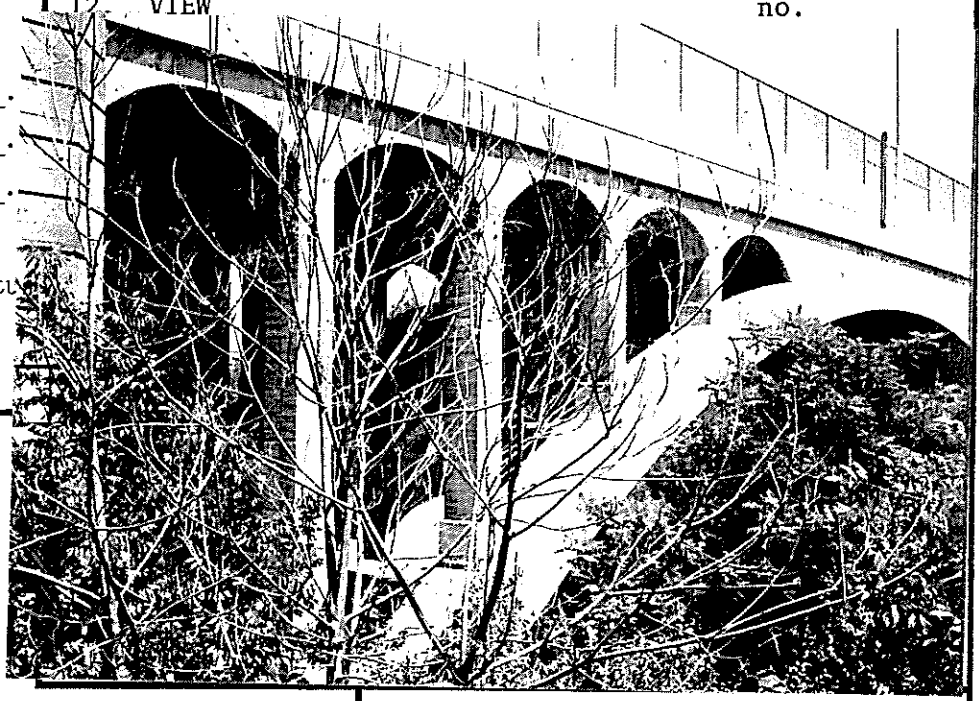
X altered;_____.

__unaltered;_____.

__moved;_____.

Explain: Extension parapet and super structu concrete repairs

12. VIEW no.



13. COMMENTS

Unusual features:
Multiple span

Locale/environment: Urban

Machinery (describe/identify type/equipment): N/A

14. DIMENSIONS

spans: 2 no., 201.67' 75.0ft. O/A

main: 1 no., 201' ft.

secondary: ___no., _____ft.

approach: ___no., _____ft.

piers: ___no.

towers: ___no., _____ft.

1. County: Lackawanna

5. Present Name: Harrison Avenue 369

2. Municipality: Scranton City

6. Other name (historic name if any)

3. Structure No.: 35 1 0 0 0 0 5 0 0 3 4 4 2 6

7. Crossing: L.R. 5 over L.R. 35009 Par-Roaring Br. RR

4. Survey Code: 40-112

City of Scranton
Lackawanna County

Historic Resource Information

- Identification

Key #: *115381*
Property Name: *Lackawanna Valley Railroad: Laurel Line*
Resource Type: *District*
Survey Code:
ER #: *2001-6001-069*
Tax Credit #:

- Location

Lackawanna: *Scranton City*
Address:
Location:
UTM:
USGS Quadrangle:
Tax Parcel:

- Status

NR Status: *Eligible*
Contributes: *Undetermined*
Owner:
Related Program(s):
Condition: *Unreported*
Form Year:

+ Historic Information — No Data Present

- Physical Description

Style:
Width: *0 feet, 0 Bays*
Height: *0 Stories, 0 feet*
Depth: *0 Rooms, 0 feet*
Walls:
Foundation:
Roof:
Other:
Structural System:
Floor Plan:
Layout:

- Historic Function

Transportation: *Rail-Related*

+ Current Function — No Data Present

+ Inventory Items — No Data Present

+ Ancillary Features — No Data Present

+ Associated Resources — No Data Present

- Administrative Actions

10/27/2000: *Date Record Changed*
10/27/2000: *Date Record Added*
10/20/2000: *SHPO: Eligible*
10/13/2000: *HRSF/DOE Received*

- National Register Information

Criteria:

Considerations:
Period of Significance:
Contributing: *0 Structures, 0 Objects, 0 Buildings, 0 Sites*
Non-Contributing: *0 Sites, 0 Objects, 0 Buildings, 0 Structures*
Acreage:
Multiple Property Listings:
Cultural Affiliation:

+ Links	No Data Present
- Comments	

Re-evaluation of National Register eligibility may be necessary due to the date of the initial evaluation. Please contact the SHPO for guidance.

115381

HISTORIC RESOURCE FORM REVIEW SHEET MEETING DATE 10/18/00

PROPERTY NAME Lackawanna & Wyoming Valley Railroad/Laurel Line

ADDRESS

MUNICIPALITY Scranton COUNTY Lackawanna

I. REQUEST TYPE: X DOE (ER # 01-6001-069-B)
___ NR, Priority: ___
___ NR, No Priority

II. PREVIOUSLY SURVEYED? ___ No; ___ Yes/Survey Yr.: ___

Recommendation: ___ Elig.; ___ Not Elig.; ___ None

III. AGENCY RECOMMENDATION: ___ Elig.; ___ Not Elig.; ___ None

IV. TEAM EVALUATION

___ Resource appears to meet NR criteria
___ Contributes to ___ historic district
___ Resource does not meet NR criteria
___ More information

Present to full committee? ___ Yes; ___ No/Proceed to VI.

Your initials: ___ Other Team Members: ___ ___

V. STAFF COMMITTEE RECOMMENDATION

X Meets NR criteria

National Register Criteria

X A. Events
___ B. Individual
___ C. Design/Construction
___ D. Information Potential

Criteria Exception: ___ Cemetery; ___ Less than 50 years;
___ Moved; ___ Birthplace/Grave; ___ Religious Property;
___ Commemorative; ___ Reconstruction

Areas of Significance

transportation

Programmatic Agreement for Minor Transportation Projects
Submittal under Stipulation D.2
NO HISTORIC PROPERTIES OR NO EFFECT

Date: ER #: ~~06-6316~~ 01-6001-069-B
County: Lackawanna Municipality(ies): City of Scranton
S.R.: 3021 Section: 270 Name: Stafford Ave. Bridge Replacement
Funding Source or Lead Agency: State

To: Brenda S. Barrett, Director
Bureau for Historic Preservation
Pennsylvania Historical and Museum Commission

From: Susan L. McDonald
FOR Director
Bureau of Environmental Quality

As per terms of the Programmatic Agreement for Minor Transportation Projects, executed December 17, 1996, the Department finds that the above-referenced project has **No Historic Properties Present or Affected.**

The following documentation is included:

x a copy of the Cultural Resource Field Assessment Forms for archaeology and historic structures
x a description of the project
x the location of the project mapped on a USGS 7.5 Minute Topographic Map
four copies (3 bound, 1 unbound) with original photographs of the archaeological survey report, and BHP report summary form
x one (1) copy with original photographs of Pennsylvania Historic Resource Survey Forms
one (1) copy with original photographs of the survey report, and one (1) unbound copy with original photographs of Pennsylvania Historic Resource Survey Forms

Historic Structures Qualified Professional

Archaeological Qualified Professional

If the Department does not receive an objection within 15 days of your receipt of a notification of *No Historic Properties Present or Affected*, the Department will proceed with this project without further review. If you have any questions please contact Matt W. Hamel at 570-368-4414 or Jamie McIntyre at 814-765-1024.

cc: BOD Engineer, FP, 7th, BOD: Daryl Kearns, P.E.
District Environmental Unit: Jamie McIntyre, 3-0
Qualified Professional Submitters: Matt Hamel, 3-0
Jamie McIntyre, 4-0

To be completed by BEQ:

☐ No objection received from SHPO.
Proceed with Project.

☐ Objection received from SHPO.
Do not proceed until contacted by BEQ.

Date:

By:

SHPO rec'd date: 10/13/00

Date of 15 days: 10/28/00

- SCOPING FIELD VIEW PROJECT DESCRIPTION -

(submit at least two weeks prior to planned field inspection)

DISTRICT: 4 - 0 COUNTY: Lackawanna MUNICIPALITY: Scranton

SR: 3021 SECTION: 270 DATE: 8/7/00 FUNDING: FEDERAL STATE ☒ LOCAL ☐

SPN # : 8157 ER # : 00-6316 - 069 CONTACT: Jamie McIntyre

PROJECT NAME: Stafford Ave. Bridge Replacement BMS # :

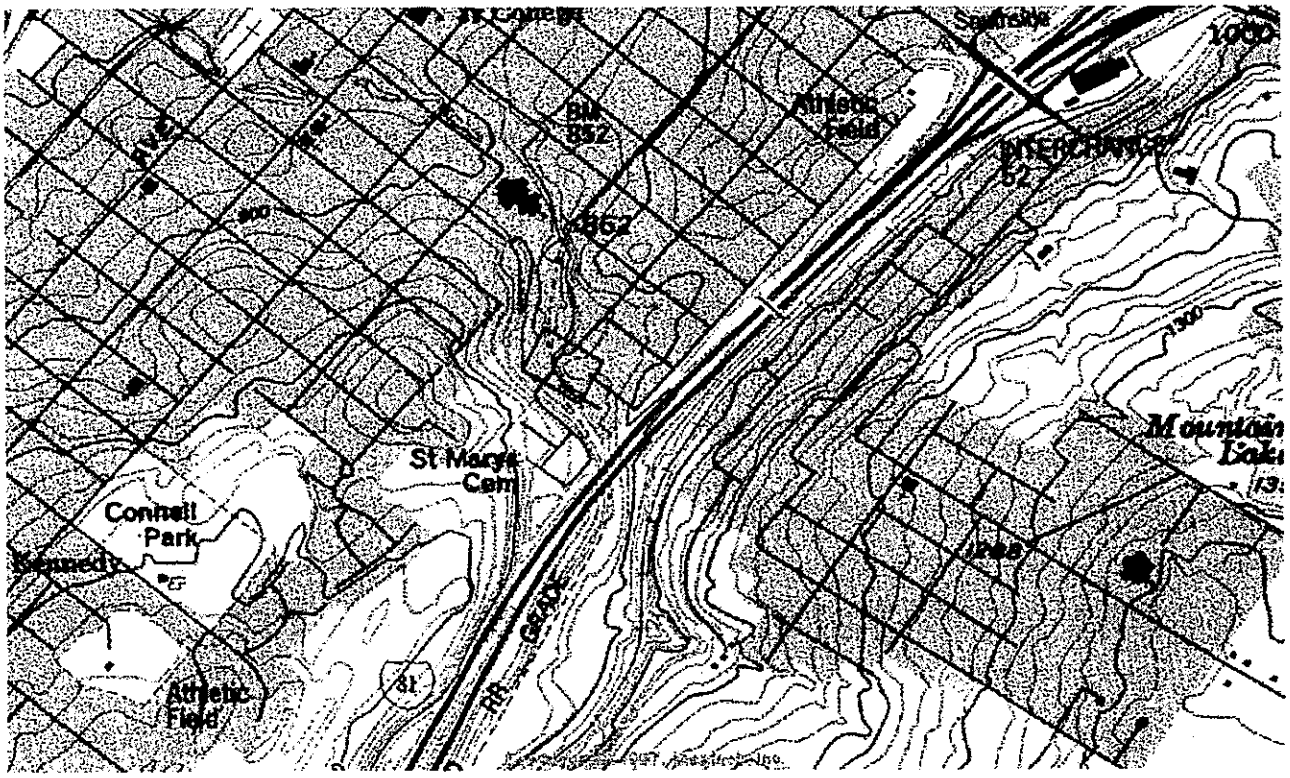
PROJECT DESCRIPTION:

A bridge will be installed to carry Stafford Ave. over the Laurel Line, an electric train line that is being reactivated for excursions.

PADOT had a bridge at this location but removed it and added fill to maintain the elevation of the road.

USGS QUADRANGLE (S): Scranton SCALE: 1: 24000

Attach, below, a copy of the section of the USGS Quad. centered on the proposed project's location. Clearly mark the project boundaries and attach within the rectangle below (north up).



Cultural Resource Field Assessment and Finding
Archaeology

County: Lackawanna SR: 3021 Sec: 270
Municipality: Scranton
Name of Project: Stafford Ave. Bridge
USGS Quad: Scranton
ER# 00-6316-069
Project Description Attached Yes [x] No [ ]

I. Area of Potential Effect Description: A bridge will be installed to carry Stafford Ave. over the Laurel Line, an electric train line that is being reactivated for excursions. PADOT had a bridge at this location, which was removed and fill added to maintain the elevation of the road. The area has been disturbed by construction and removal of previous bridge.

II. Sources Checked:
PASS Files: x
Historic Maps: x
USGS County Soils Maps: Dumps, Mine etc. Da
Other:

III. Known Archaeological Resources:
Historic: None

Prehistoric: None

IV Type and estimated amount of disturbance and how estimated: 100%. Mining, Residential, rail related, etc.

Cultural Resource Field Assessment Finding - Archaeology (P.2)

Name of project: Stafford Ave. Bridge
ER# 00-6316-069
Date of Field View :

V. Archaeological Potential:
Historic [x] Prehistoric [x]

Justification: None. Previous disturbance.

VI. Finding:
- [x] No Archaeological Resources Present or Affected
- [ ] No Archaeological Sites Present
- [ ] Archaeological Sites Present; Not Eligible
- [ ] Archaeological Sites May or May not be Present; No Effect
- [ ] Potentially Eligible Archaeological Sites Present; No Effect
- [ ] Eligible Archaeological Sites Present; No Effect
- [ ] No Adverse Effect on Archaeological Resources
- [ ] Archaeological Sites May or May not be Present; No Adverse Effect
- [ ] Potentially Eligible Archaeological Sites Present; No Adverse Effect
- [ ] Eligible Archaeological Sites Present; No Adverse Effect

Basis for Finding: See #V above

VII. Recommendation for next action: None recommended.

Qualified Professional Jamie Waldron Date 8/7/00

Cultural Resource Field Assessment and Finding
Historic Structures

County: Lackawanna SR: 3021 Sec: 270
Municipality(ies): City of Scranton
Name of Project: Stafford Ave. Bridge Replacement
USGS Quadrangle(s): Scranton, PA
Project Description Attached: Yes

I. **Area of Potential Effect Description**:

The APE for this project includes the visual and aural area immediately surrounding the proposed location of the project (approximately 50 yards north, south, east and west).

II. Sources Checked:
- **X** National Register Files:
- **X** PHRS Files:
- ☐ Historic Maps:
- ☐ Local Historical Society:
- ☐ Other:

III.

Identified Eligible Properties	**Reference**			
	PHRS Files	PHRS Survey Form	Stip D Abbreviated PHRS Survey Form	Hist. Res. Survey Report

Comments:
Project will replace an earlier bridge that carried the railroad over Stafford Avenue. There are no National Register listed or previously surveyed properties within the project's APE. Following a project field view the Qualified Professional identified no other individually eligible buildings, structures or sites, and the surrounding area does not appear to meet the National Register's criteria for listing as a historic district.

Environmental Review Number: 00-6316-069

IV. Finding:

X No Historic Properties Present or Affected
- X No Historic Properties Present
- ☐ Historic Properties Present but not Affected

☐ Further Study Needed

Basis for Finding:

There are no National Register-eligible or listed structures or historic districts within the project's APE. The surrounding area does not meet the National Register's criteria for consideration as an eligible historic district. Both the northeast and northwest quadrants are scrub and tree growth associated with the ridge containing the Scranton Tunnel. The southeast and southwest quadrants contain mixed 1920s housing all of which exhibit non-historic siding and replacement windows. The area does not have the cohesiveness or integrity necessary to be a potential historic district and does not possess the characteristics or historical significance necessary to be considered eligible for the National Register.

V. Recommendation for Next Action:

No further historic structures work is necessary.

Qualified Professional: _____ Date: 10/19/00
Matt W. Hamel

Environmental Review Number: 00 - 6316 - 069

PENNSYLVANIA HISTORIC RESOURCE SURVEY FORM- PHOTO/SITE PLAN SHEET

89A

Pennsylvania Historical and Museum Commission
Bureau of Historic Preservation
Box 1026, Harrisburg, PA 17108-1026

115342

Survey Code/Tax Parcel/Other No N/A County: Lackawanna

Municipality: City of Scranton/Borough of Moosic Address: The L&WVRR extends south from the east side of Cedar Ave. to Rocky Glenn Pond

Historic Name/Other Name Lackawanna & Wyoming Valley Railroad/Laurel Line

SITE PLAN

SEE ATTACHED SITE PLAN

PHOTO INFORMATION

Number	Description of View	Direction of Camera
1	Looking east from the L&WV RR freight depot. The trolley wires located along the line were not originally associated with the L&WV RR, which utilized third rail power.	East

Photographer Name: Charles Richmond Date: 7/13/00

Negative Location: McCormick, Taylor & Associates, Inc./Harrisburg

PENNSYLVANIA HISTORIC RESOURCE SURVEY FORM- DATA SHEET

89B

Pennsylvania Historical and Museum Commission, Bureau for Historic Preservation

IDENTIFICATION AND LOCATION

Survey Code: N/A Tax Parcel/Other No.: N/A

County: 1. Lackawanna 0 6 9 2.

Municipality: 1. City of Scranton 2. Borough of Moosic

Address: The L&WV RR extends south from the east side of Cedar Avenue to Rocky Glenn Pond.

Historic Name: Lackawanna & Wyoming Valley Railroad

Other Name: Laurel Line

Owner Name/Address: Lackawanna County Railroad Authority, 701 Wyoming Avenue, Scranton, PA 18509

Owner Category: ___ Private X Public-local ___ Public-state ___ Public-federal

Resource Category: ___ Building X District ___ Site ___ Structure ___ Object

Number/Approximate Number of Resources Covered by This Form: 5

USGS Quad: 1. Scranton, PA 2. Avoca, PA

UTM References:						
A.	17 E 444600	N 4583630	C.	17 E 444020	N 4582540
B.	17 E 445430	N 4583280	D.	E	N

HISTORIC AND CURRENT FUNCTIONS

Historic Function Category:	Subcategory:	Code:		
A. Transportation	Rail related	1	6	A
B. Transportation	Rail related	1	6	A
C. Transportation	Rail related	1	6	A
D. Transportation	Rail related	1	6	A

Particular Type
A. Freight station
B. Car shop
C. Tunnel
D. Rail road

Current Function Category:	Subcategory:	Code:		
A. Commerce	Warehouse	0	2	H
B. Industry	Manufacturing	1	0	A
C. Transportation	Rail related	1	6	A
D. Transportation	Rail related	1	6	A

PHYSICAL DESCRIPTION

Architectural Classification: A. Other: Industrial 8 0

B. C.

D. Other:

Exterior Materials: Foundation Concrete 6 5 Roof Asphalt 6 3

Walls Brick 3 0 Walls Concrete 6 5

Other Other

Structural System: 1. Concrete 5 0 2.

Width: 3 Bay C Depth: 1 Room A Stories/Height 1 1/2 A

HISTORICAL INFORMATION

Year Built: C. 1901 to C. 1905 Additions/Alterations Dates: C. 1916 to C. 1985

Basis for Dating: X Documentary X Physical

Explain: Architectural Field Survey and Secondary Historical Sources.

Cultural/Ethnic Affiliation:	1.	N/A	2.	N/A
Associated Individuals:	1.	George Westinghouse	2.	N/A
Associated Events:	1.	N/A	2.	N/A
Architects/Engineers:	1.	Westinghouse,Church,Kerr&Co.	2.	N/A
Builders:	1.	Transit Contract Company	2.	N/A

MAJOR BIBLIOGRAPHICAL REFERENCES

See Continuation Sheet 6

PREVIOUS SURVEY, DETERMINATIONS

The L&WV RR Scranton Tunnel was evaluated by the Pennsylvania Historical and Museum Commission and determined eligible for listing on the National Register of Historic Places.

EVALUATION (Survey Director/Consultants Only)

Individual NR Potential: ___ Yes X No Context(s):

Contributes to Potential District: ___ Yes X No District Name/Status: L&WV RR

Explain:

See Continuation Sheet 5

THREATS

Threats: 2 1. None 2. Public Development 3. Private Development 4. Neglect 5. Other

Explain: The Lackawanna County Railroad Authority intends to re-open the L&WV RR as an excursion trolley an attraction in association with the Trolley Museum at the Steamtown Historic Site.

SURVEYOR INFORMATION

Surveyor Name/Title: Charles Richmond Date: 7/28/00

Project Name: Lackawanna County Railroad Authority

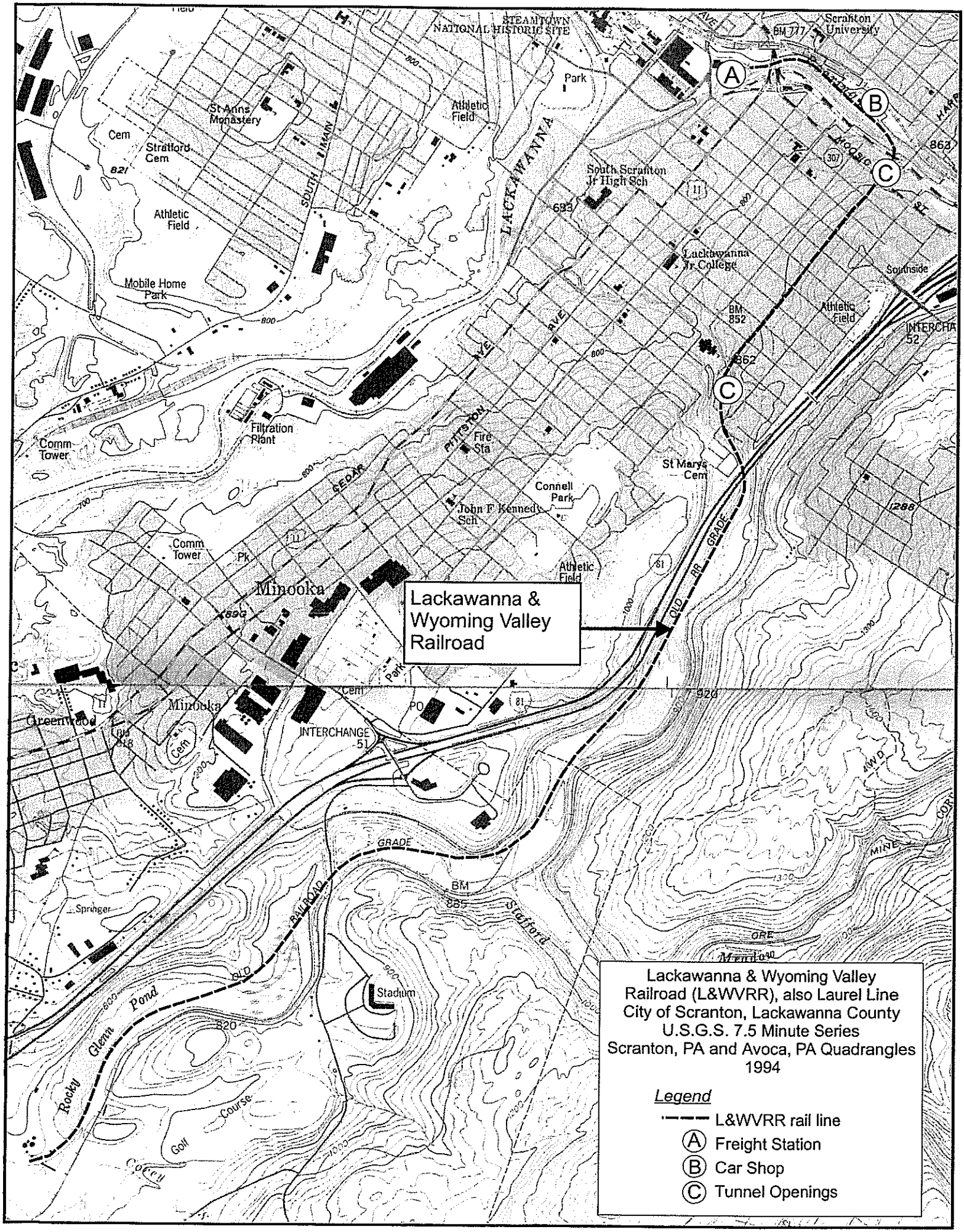
Organization: McCormick, Taylor & Associates, Inc. Telephone: (717) 540-6040

Street and No.: 75 Shannon Road

City, State: Harrisburg, PA Zip Code: 17112

Additional Survey Documentation:

Associated Survey Codes:


Lackawanna & Wyoming Valley Railroad
Lackawanna & Wyoming Valley Railroad (L&WVRR), also Laurel Line
City of Scranton, Lackawanna County
U.S.G.S. 7.5 Minute Series
Scranton, PA and Avoca, PA Quadrangles
1994
Legend
L&WVRR rail line
A Freight Station
B Car Shop
C Tunnel Openings
STEAMTOWN NATIONAL HISTORIC SITE
Scranton University
St Anns Monastery
Stratford Cem
Athletic Field
Mobile Home Park
South Scranton Jr High Sch
Lackawanna Jr College
Southside
Filtration Plant
Comm Tower
Fire Sta
St Marys Cem
Connell Park
John F Kennedy Sch
Minooka
INTERCHANGE 51
INTERCHANGE 52
Greenwood
Springer
Rocky Glenn Pond
Golf Course
Stadium
Stafford Meadow
OLD RR GRADE
OLD RAILROAD GRADE

Site Plan

Survey Code: N/A Tax Parcel/Other No. N/A
County: Lackawanna Municipality: City of Scranton/Borough of Moosic
Address: The L&WV RR extends south from the east side of Cedar Avenue to Rocky Glenn Pond
Historic/Other Name: Lackawanna & Wyoming Valley Railroad/Laurel Line

PHYSICAL DESCRIPTION

The Lackawanna & Wyoming Valley Railroad (L&WV RR), also known as the Laurel Line, is located within the City of Scranton and Borough of Moosic, Lackawanna County ***(See Site Plan USGS Map)*** ***(See Photograph 1)***. The Lackawanna County Railroad Authority owns the property. The L&WV RR consists of siding, two associated buildings, a deck girder bridge, abandoned bridge abutments, and a tunnel. Presently there are two miles of single track and four miles of abandoned right-of-way associated with the L&WV RR. The L&WV RR travels east from the site of the former passenger station, along Cedar Avenue in Scranton, and is carried over Roaring Brook Creek by a deck girder bridge ***(See Photograph 2).*** The line turns south after crossing Roaring Brook Creek and passes through the 1905 Scranton Tunnel. Large sections of the L&WV RR line have been removed south of the Scranton Tunnel. The L&WV RR right-of-way continues southwest, parallel to I-81, and terminates at the southern end of Rocky Glenn Pond.

The original L&WV RR facilities in the City of Scranton included a passenger station, freight station, car shop, and power station. The power plant and passenger station no longer exist. The freight station has undergone significant alterations throughout the 20th century and no longer resembles the original structure ***(See Photograph 3)***. The freight station is a one-and-a-half story brick structure with a gabled roof. The freight station maintains less than fifty percent of its original fabric. The distinctive polygonal bay window, originally located along the northern façade of the building, has been eliminated by a one-story brick addition. Two brick additions have been made to the structure as part of the Standard Beef Company facilities.

The car shop is located along the L&WV RR line and is currently known as the Laurel Line Processing Center, of the Poly Hi Solidar Company ***(See Photograph 4).*** The structure has been heavily altered with shed roof additions, removal of rail car portals, resurfaced exterior, changes in fenestration, and addition of silos to the rear. The structure no longer possesses its original early 20th century features, including quoins, stone lentils, and masonry work. During the 1960s the Brady Yard, a section of siding intended to be used by the Erie-Lackawanna Railroad, was constructed adjacent to the car shops. The Brady Yard is still located immediately south of the Laurel Line Processing Center ***(See Photograph 5).***

The Scranton Tunnel is located along the L&WV RR line south of Roaring Brook Creek ***(See Photograph 6 & 7)***. The 1905 tunnel was constructed in order to avoid a four percent grade and difficult curve encountered on the line from Scranton to Wilkes-Barre. The tunnel is 4,747 feet in length and is considered the longest interurban railway tunnel

CONTINUATION SHEET: 2

in the United States (Hilton & Due 1960: 294, Springirth 1971: 68). The tunnel was originally constructed with a combination of rock, masonry, and timber. The timber sections were removed in 1916 and replaced with concrete. The Pennsylvania Historical and Museum Commission (PHMC) determined the tunnel to be eligible for listing on the National Register of Historic Places under Criterion C for its engineering significance.

The original length of the L&WV RR line was twenty miles between Scranton and Wilkes-Barre, with a branch line to Dunmore. The railway was powered by an electrified third rail, except for sections in Wilkes-Barre where overhead power lines were used. The L&WV RR was a double track line, excluding the Scranton Tunnel. The Dunmore branch and large segments of the line in and around Scranton were removed in order to construct Interstate 81 (Yungkurth 1999: 64). During the 1960s Brady Yard was built in the area adjacent to the car shop. The original line was removed to allow the construction of a roadway to the car shop at that time (Yungkurth 1999: 87). After 1976 Conrail removed the southern section of the L&WV RR, from Rocky Glenn to Wilkes-Barre, because the company already possessed several main line approaches to Wilkes-Barre (Yungkurth 1999: 78).

HISTORICAL SIGNIFICANCE

During the mid-19th to mid-20th century Lackawanna and Luzerne Counties were leading producers of anthracite coal in Pennsylvania. The cities of Wilkes-Barre and Scranton were the population centers for the anthracite region. During the 19th century several steam powered railroads competed for the coal traffic, including the Delaware & Hudson Railroad, Lehigh Valley Railroad, Delaware, Lackawanna & Western Railroad, Erie Railroad, and Central Railroad of New Jersey. The cities of Scranton and Wilkes-Barre, separated by approximately twenty miles, lacked effective passenger transportation systems to connect the two communities. By the late 1890s and early 1900s interurban railways were being organized to meet public transportation demands.

Public transportation systems developed during the mid-to-late 19th century to meet the needs of the nation's growing population. The steam-powered railroads did not meet the demands of the public for local transportation. The omnibus and horse car railways were the first attempts to meet transportation needs in urban areas. Cable cars and the electric trolley followed. During the 1880s a number of electric rail powered systems were developed. In Scranton, the electric trolley era began with the Scranton Suburban Railway Company during the late 1880s (Hitchcock 1914: 118). The Valley Passenger Railway, Nay Aug Cross Town Railway, and Northern Electric Street Railway were organized during the 1890s (Hitchcock 1914: 123-125).

The construction of interurban railways began during the late 1890s in an attempt to combine freight and passenger traffic along electrically powered lines between urban

CONTINUATION SHEET: 3

areas. George W. Hilton, in his book *The Electric Interurban Railways in America*, noted that construction of interurban lines experienced tremendous growth between 1901-1904 and 1905-1908. By the late 1910s the industry was failing, due to pressure from automobile travel, and continued to decline throughout the 1920s and 1930s (Hilton and Due 1960: 3).

Interurban railways generally shared several characteristics, including the use of electric power, emphasis on passenger service, use of heavier equipment than street car lines, on-street construction in urban areas, and construction on private right-of-ways in rural areas (Cavin 1976: x). The L&WV RR embraced all of those characteristics, until its transformation during the 1950s into a primarily freight carrying diesel powered branch line for major railroads.

The L&WV RR had its origins in 1900 and 1901 when several companies were organized with the purpose of constructing an interurban railway between the cities of Scranton and Wilkes-Barre. On March 16, 1903 the Lackawanna & Wyoming Valley Railroad (L&WV RR) was incorporated by an act of the Pennsylvania legislature (Henwood & Muncie 1986: 18). The merged companies included the Central Valley Railroad, Northern Lackawanna Railroad, and Scranton & Northeastern Railroad. The L&WV RR was intended to provide passenger and freight carrying services between Scranton and Wilkes-Barre (Henwood & Muncie 1986: 17).

Actual construction of the L&WV RR began in 1901 (Hitchcock 1914: 114). The L&WV RR purchased property for their facilities from the Scranton Iron Company. The firm of Westinghouse, Church, Kerr & Company was selected as project engineers with Charles Fuller Conn, future general manager and vice-president of the company, in charge of the operations. Inventor and industrialist George Westinghouse was associated with the engineering firm and the L&WV RR, but was not active in the affairs of the company. Associates of Westinghouse served as officers and board members with the L&WV RR (Henwood & Muncie 1986: 19, 22). The Transit Contract Company was hired as the general contractors for the construction of the line (Henwood & Muncie 1986: 18).

The L&WV RR was constructed as a double track line between Scranton and Wilkes-Barre, with single track used for the 17 foot wide and 22 foot high Scranton Tunnel (Yungkurth 1999: 64). Overhead electrical trolley wires were incorporated in the congested areas of Wilkes-Barre. The L&WV RR's cars were propelled by a third rail power generating system. The electricity was provided by the power station located in Scranton, near the passenger station. The power station was equipped with Westinghouse generators and turbines. The Lackawanna & Wyoming Valley Power Company was incorporated in 1906 and provided the railway with power (Henwood & Muncie 1986: 54).

CONTINUATION SHEET: 4

Service began on the L&WV RR on December 25, 1903. The venture was an immediate success with the communities along the line. The interurban railway became known to the public as the "Laurel Line," a reference to the abundance of mountain laurels along the railway's path. Passenger cars provided service between Scranton and Wilkes-Barre every twenty minutes and throughout the evening. The L&WV RR accomplished its goal of connecting the communities and providing interurban service that was not offered by steam powered railroads.

A branch line was constructed to Dunmore and was completed on June 20, 1904 (Hitchcock 1914: 115). A proposed branch line was contemplated to reach Carbondale, but was never constructed. The L&WV RR included stops at the communities of Virginia, Rocky Glenn, Moosic, Avoca, South Avoca, Heidleberg, Dupont, North Pittston, Pittston, South Pittston, Ewen, Inkerman, Hilldale, North Plains, Plains, and Midvale (Springirth 1971: 69).

A popular passenger destination along the L&WV RR line was Rocky Glenn Park. It was common for promoters of interurban and trolley lines to construct amusement parks and other forms of entertainment to attract passengers. Luna Park, Valley View Park, Linwood Park, and Nay Aug Park were other popular destinations for passengers on the L&WV RR (Henwood & Muncie 1986: 39-43).

Freight service was an important aspect of the development of the L&WV RR. The company shipped anthracite coal from operations located along its line and between Scranton and Wilkes-Barre. The existence of major anthracite shippers such as the Lehigh Valley Railroad, Delaware, Lackawanna & Western Railroad, and Delaware & Hudson Railroad diminished the importance of the L&WV RR as a coal carrier, but it was still an important commodity for the company. Milk, produce, and meat from the surrounding communities were shipped along the line (Yungkurth 1999: 64).

During 1912, financial difficulties resulted in the L&WV RR defaulting on mortgage payments. In 1913 the L&WV RR was sold at public auction on May 29, 1913 (Springirth 1971: 68). The company was purchased by William Sproul, Bioren & Company, and other investors (Henwood & Muncie 1986: 70-71). The L&WV RR was merged with several other passenger railways in Scranton, including the Scranton & Binghamton Street Railway Company and Northern Electric Street Railway Company, on June 20, 1913 (Murphy 1928: 108, Springirth 1971: 68). The various companies were organized as the Scranton & Wilkes-Barre Traction Company (Henwood & Muncie 1986: 71).

Several factors led to the decline of the L&WV RR during the 20th century. The decline of the anthracite industry was a major setback for Lackawanna and Luzerne Counties. The decline is anthracite production injured the increasingly important freight transportation business of the L&WV RR. The rise of automobile travel, for both

CONTINUATION SHEET: 5

personal and commercial uses, reduced traffic on the L&WV RR. Safety issues and transportation improvements dampened enthusiasm for the third rail power system.

In 1949 the L&WV RR declared bankruptcy, went into receivership, and the new management stressed the importance of freight service for the future of the company. Passenger service was eliminated in 1952. In 1953 the L&WV RR adopted diesel-powered locomotives as the line shifted to freight traffic alone. The installation of new track was a result of the change to diesel powered freight trains (Yungkurth 1999: 78).

On February 24, 1960 the Delaware, Lackawanna & Western Railroad (DL&W RR) acquired control of the L&WV RR. The L&WV RR facilities were abandoned in an effort to cut expenses while the line was maintained as a branch line of the DL&W RR. On October 17 1960 the Erie Railroad and DL&W RR merged to create the Erie-Lackawanna Railroad (Henwood & Muncie 1986: 184-186). In 1976 the Erie-Lackawanna Railroad and Lehigh Valley Railroad became part of Conrail. It was determined to close the southern section of the L&WV RR because of the number of connections that already existed to Wilkes-Barre. The southern section of the L&WV RR was dismantled in 1976. The northern section remained in active service as a regional short line railroad, as part of the Pocono Northwest Railroad. The L&WV RR is currently owned by the Lackawanna County Railroad Authority and is being considered as part of a tourist attraction in connection with the Trolley Museum at Steamtown Historic Site.

EVALUATION

The L&WV RR does not meet the criteria of eligibility for listing on the National Register of Historic Places. The L&WV RR is not historically significant under Criterion A. The L&WV RR was not an early or innovative example of interurban electric railways, but was instead typical of interurban electric railways during the early 20th century. The L&WV RR is not eligible under Criterion B. The company was affiliated with George Westinghouse, but he played a minor role in the company's affairs and the significant achievements of his life were not related to the L&WV RR. The L&WV RR is not eligible under Criterion C due to numerous alterations to the remaining structures. Approximately two miles of track remain of the original twenty-mile L&WV RR. The Scranton Tunnel has already been determined eligible for the National Register of Historic Places due to its engineering significance. The L&WV RR does not appear to have the potential to yield information important in prehistory or history due to continued disturbances to the property and would not be eligible under Criterion D.

CONTINUATION SHEET: 6

BIBLIOGRAPHY

Ruth Cavin, *Trolleys: Riding and Remembering the Electric Interurban Railways* (New York: Hawthorne Books, Inc. 1976)

Carl Condit, *The Pioneer Stage of Railroad Electrification* (Philadelphia: The American Philosophical Society, 1977)

James N. J. Henwood and John G. Muncie, *Laurel Line: An Anthracite Region Railway* (Glendale, Ca.: Interurban Press, 1986)

George W. Hilton and John F. Due, *The Electric Interurban Railways In America* (Stanford, Ca.: Stanford University Press, 1960)

Frederick L. Hitchcock, *History of Scranton and Its People* (New York: Lewis Historical Publishing Company, 1914)

Thomas Murphy, *History of Lackawanna County, Pennsylvania* (Indianapolis: Historical Publishing Company, 1928)

Pennsylvania Department of Highways, *General Highway Map, Lackawanna County, Pennsylvania* (Harrisburg, Pa.: Pennsylvania Department of Highways, 1953)

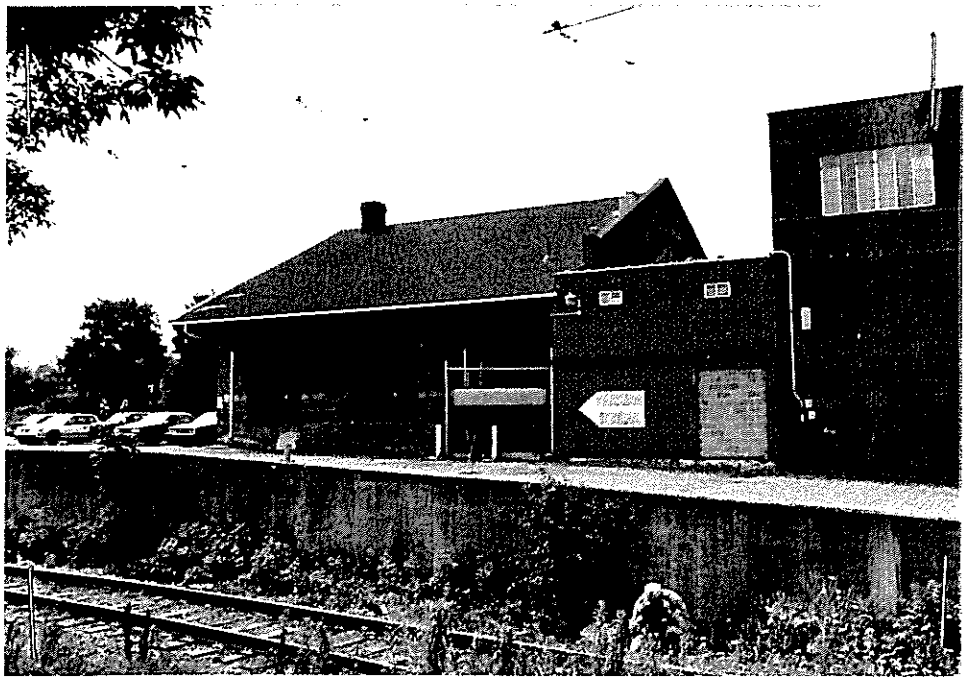
Pennsylvania Department of Highways, *General Highway Map, Luzerne County, Pennsylvania* (Harrisburg, Pa.: Pennsylvania Department of Highways, 1941)

Pennsylvania Department of Transportation, *General Highway Map, Luzerne County, Pennsylvania* (Harrisburg, Pa.: Pennsylvania Department of Transportation, 1969)

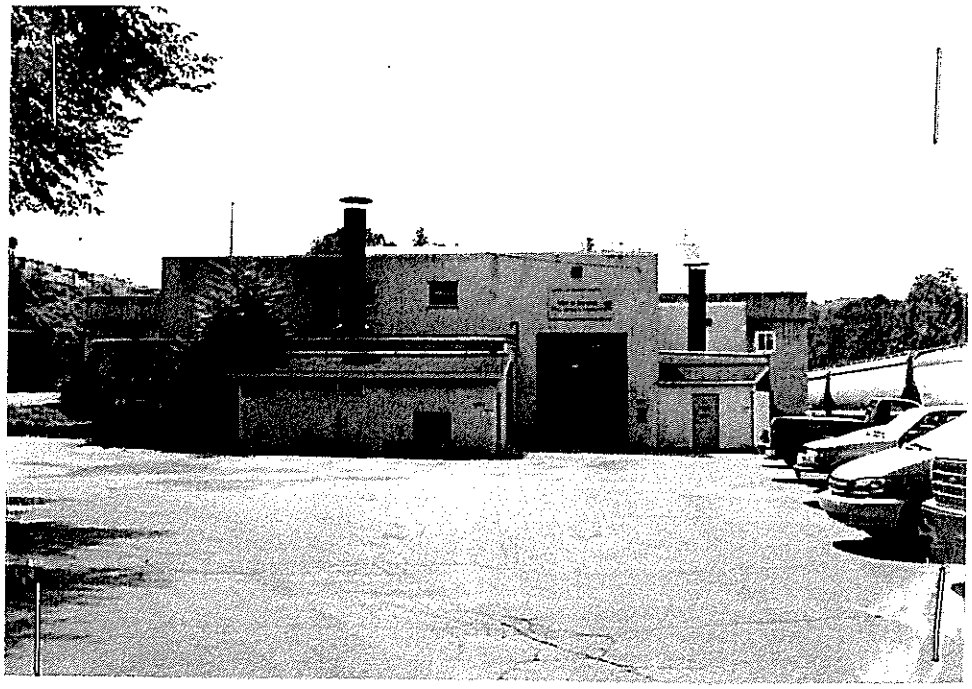
Kenneth C. Springirth, *Viewing Pennsylvania Trolleys* (Erie, Pa.: Kenneth C. Springirth, 1971)

Chuck Yungkurth, *Trackside around Scranton, Pennsylvania 1952-1976 with Edward S. Miller* (Kutztown, Pa.: The Kutztown Publishing Company, 1999)

Photograph 2: View of east elevation of the L&WV RR deck girder bridge spanning the Roaring Brook Creek.

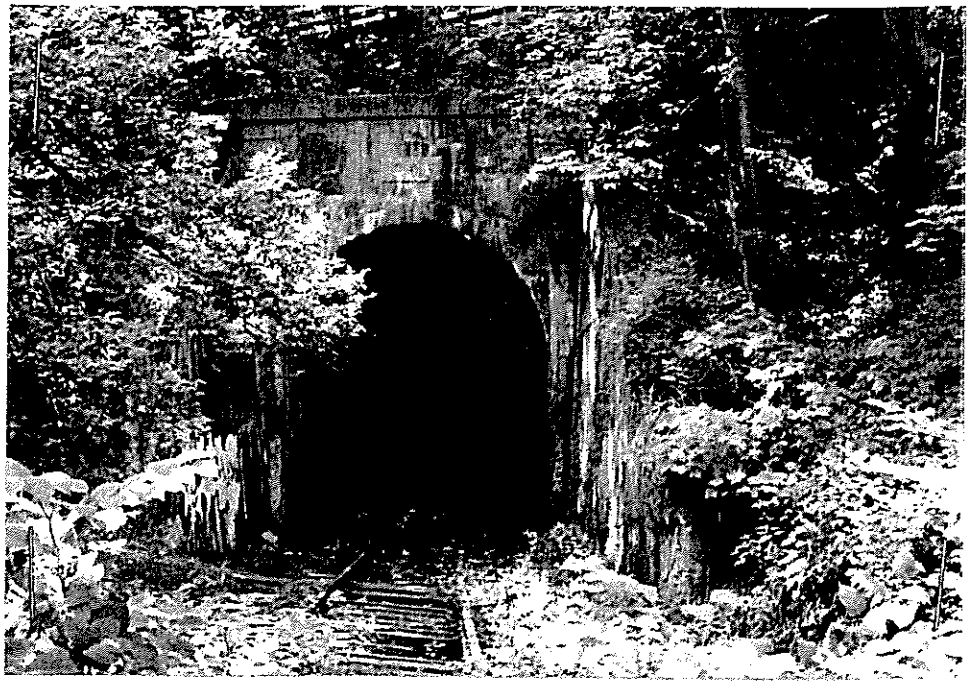


Photograph 3: Looking southeast at the L&WV RR freight station. Note the modern brick additions to the west façade of the freight station.



Photograph 4: Looking southeast toward the Laurel Line Processing Center, formerly the car shop of the L&WV RR.

Photograph 5: Looking northwest from the Brady Yard, a switching yard constructed during the 1960s. The paved roadway to the right was the L&WV RR original alignment.



Photograph 6: View looking toward the north portal of the 1905 Scranton Tunnel, determined eligible for the National Register of Historic Places.

Photograph 7: Looking north toward the south portal of the 1905 Scranton Tunnel. The L&WV RR track has been dismantled a short distance south of the tunnel.

PENNSYLVANIA DEPARTMENT OF TRANSPORTATION
BUREAU OF ENVIRONMENTAL QUALITY

A.G. LICHTENSTEIN & ASSOCIATES, INC.

PENNSYLVANIA HISTORIC BRIDGE INVENTORY & EVALUATION

BMS #: 35601101900452 **DIST:** 4 **UTM:**

OLD BMS #: 35001101900476 **CTY:** LACKAWANNA **OWNER:** C PENN DOT

MUNICIPALITY: SCRANTON **LOCATION:** .2 MI S OF SR 3027

FACILITY CARRIED: SR 6011 (HARRISON AVENUE)

NAME/ FEATURE INTERSECTED: SR 6011 OVER SR 3022/ROARING BROOK/RR

TYPE: OPEN SPANDREL ARCH **DESIGN:**

MATERIAL: REINFORCED CONCRETE

#SPANS: 3 **LENGTH:** 392 (119.5 m) **WIDTH:** 42.5 (13.0 m)

YR BUILT: 1921-22 **ALTERATION:** **SOURCE:** PLAQUE

DESIGNER/BUILDER: WM SHRUNK, A BURTON COHEN/ANTHRACITE BRIDGE CO.

SETTING/CONTEXT:

CY01 INDIVIDUAL ELIGIBILITY: Listed. 6/22/88
CY01 CONTRIBUTING STATUS: Not Contributing

AGL NR RECOMMENDATION: Listed. 6/22/88.

AGL SUMMARY: The reinforced concrete open spandrel arch bridge has had chain link fence placed on top of the parapets.

PHOTO INDEX (DATE): 430:28-31 (10/97) **REVIEWED BY/ DATE:** JPH (12/98)

Appendix C:
Consulting Party Coordination and Public Involvement

Dewberry

101 Noble Boulevard
Carlisle, PA 17013-4109

717 240 0344
717 240 0466 fax
www.dewberry.com

MEETING REPORT

Harrison Avenue Bridge Project
SR 6011, Section 273 over Roaring Brook, S.R. 30122 and Delaware, Lackawanna & Western Railroad
City of Scranton
Lackawanna County, PA
March 10, 2011 Public Meeting

Prepared by: Dewberry-Goodkind, Inc. (Gary Frenette, Lee Smith)

Attachments:
- Public Meeting Sign-In Sheet
- Comment Form Summary
- Comment Forms Received
- Copies of Display Boards
- Copy of Powerpoint slides from presentation
- Newspaper Articles:
  - Scranton Times, March 11, 2011
  - Scranton Times, March 13, 2011

A Public Meeting was held at the Scranton High School, City of Scranton, PA on March 10, 2011 to present and discuss the Harrison Avenue Bridge Project. The Public Meeting consisted of informational displays held from 6:30 pm to 7:00 pm followed by a presentation held from 7:00 pm to approximately 8:15 pm.

The following project team members attended:

PennDOT District 4-0	A.D. Marble & Company
Charles Reuther	Colleen Kelly
James May	Russell Stevenson
Kevin Atkins	
Greg Augustine	Dewberry-Goodkind, Inc.
Kevin Mock	Gary Frenette
Kris Thompson	Lee Smith

Sign-in sheets listing the attendees of the Public Meeting are attached. In addition to the project team, 53 attendees signed in at the Public Meeting.

A series of display boards were on exhibit. The displays included: plan views of the project area, conditions of the existing bridge, concerns with bridge rehabilitation as a long-term project solution, conceptual alignments for bridge replacement and conceptual structure types for bridge replacement.

A comment form with a questionnaire and space for comments was provided. Attendees were requested to fill out the form and leave it in a collection box at the meeting or mail it in.

Summary of the Information Displays – 6:30 pm to 7:00 pm

Display of Project Information

The display boards were set up for the public to view and discuss with the project team prior to the start of the presentation. Copies of the displays are attached to this report.

Summary of the Presentation – 7:00 pm to approximately 8:15 pm

Presentation

The presentation included a discussion of the environmental clearance process and environmental issues, results of the bridge condition survey, project alternatives under consideration and the anticipated project time line. A copy of the Powerpoint slides included in the presentation is attached. Following the presentation, the meeting was then opened to questions and comments.

Questions and Discussion

- *Question:* Where are the three homes that will be displaced with the replacement option?
- *Response*: They are all in the northwestern quadrant of the project area. The first three homes in that quadrant would be affected by the alignment on the west side of the existing bridge.

- *Question:* How will the contractor access the bridge location during construction due to the steep slopes of Roaring Brook?
- *Response*: The anticipated access would be along the Railroad right-of-way and the Expressway; one side of the expressway would be closed at a time. To access the area over the gorge, large cranes would likely be used along the railroad or along the expressway to erect the steel.

- *Question:* Can a new/temporary bridge be built from Arthur Avenue, across the gorge, to Moosic? This route would be shorter for emergency vehicles.
- *Response*: We haven't considered that option, but can look into it. We focused closer to the existing bridge.

- *Question:* When will PennDOT reach a decision for the direction of the project?
- *Response*: A timeline of the project was displayed. A design will be selected in Spring 2012, the process of obtaining environmental clearance and design approval will be completed in Summer of 2012, final design will occur from Summer 2012 through Summer 2013, advertisement for bids in 2013 and construction starting in 2014.

- *Comment:* At the Section 106 Consulting Party meeting, Richard Leonom spoke strongly about Harrison Avenue being a gateway to East Scranton. He also spoke about old bridges in Europe and their ongoing maintenance; he seemed to be in favor of the rehabilitation option. The Harrison Avenue Bridge has not been maintained which created the state of disrepair the bridge is currently in.

- *Question:* Please discuss the third alternative that was displayed on the display boards during the open house.

- *Response*: In March 2010, various alternatives were evaluated on either side of the existing bridge. The alignment shown during the Powerpoint presentation (west of the existing bridge) has been advanced further because it appears to have fewer impacts. The other alignments for replacement have not been advanced.

- *Question:* Instead of demolishing the existing bridge, could you use it as a pedestrian bridge?
- *Response*: There would still be concerns about the viability of repair and maintenance for the long term. On the Lackawanna Avenue Bridge, the plan was to leave the arches in place below the new beams and deck; however, during construction it was found that the damage was too severe and they did not stand in place. This is a possibility with Harrison Avenue.

- *Question:* Would the old bridge be demolished if a new structure is built?
- *Response*: Yes, because of maintenance issues and future demolition complications. Postponing demolition would only increase costs and difficulty of demolition.

- *Question:* How long will it take to build a new bridge?
- *Response*: It is estimated to be a two-year project. There is a possibility for the construction to be completed in one year, and the contractor would be encouraged to have it completed in the shortest possible duration.

- *Question:* Who makes the final decision on which alternative is selected?
- *Response*: PennDOT and FHWA will make the final decision. Dewberry has made a recommendation to PennDOT to replace the structure. The environmental process will be followed, and the input of the public and consulting parties is important throughout the decision making process. We urge you to complete the comment cards. Again, it was noted by a PennDOT representative that when they tried to preserve the arches on the Lackawanna Bridge, the advanced deterioration caused the arches to fall themselves. There will likely be future public meetings and all comments will be taken into consideration during the decision process.

- *Question:* In the northwestern quadrant, what will happen to the home in the back of the homes abutting Harrison Avenue that will be acquired? Harrison Avenue provides the driveway access to these rear homes.
- *Response*: As the alternatives are refined, this and similar specific impacts will be identified and resolved.

- *Question:* Can the slides be placed on a website?
- *Response*: Yes, the slides will be placed on PennDOT's website.

- *Question:* What will happen to Crown Avenue?
- *Response*: As design progresses, the details along Crown Avenue will be worked out. We recognize that parking is an issue along Crown and that some form of parking access is needed.

- *Question:* Have you evaluated the Crown Avenue tunnel?
- *Response*: The tunnel was surveyed from the portal along Crown Avenue. As design progresses, the location of the tunnel will be reviewed to ensure we are clear of the tunnel.

- *Question:* As design progresses, can you evaluate pulling the replacement bridge further away from Crown Avenue to create more frontage for the residents along Crown?
- *Response*: Yes, that can certainly be investigated.

With no further questions or comments, the meeting was adjourned at approximately 8:15 pm.

Q:\50003929\50003931\Adm\Community Relations\Public Meeting No 1\Public Meeting Summary\Harrison Ave mtg .doc

A.D. MARBLE & COMPANY
Environmental, Cultural & Engineering Services

MEMORANDUM OF MEETING

DATE OF MEETING: February 10, 2011

LOCATION AND TIME: City Hall, 2nd Floor, Governors Room, 6:30pm

PROJECT: S.R. 6011, Section 273, Harrison Avenue Bridge Project, City of Scranton, Lackawanna County

SUBJECT: Section 106 Consulting Party Meeting

PARTICIPANTS: See attached list

PURPOSE: The purpose of this meeting was to review the Section 106 regulations and process with the identified Section 106 consulting parties for the project. Meeting agenda is attached.

1. K. Thompson began the meeting by discussing the intent of Section 106 of the National Historic Preservation Act. Per Section 106, consulting parties need to meet the test of having a demonstrated interest in the project whether it be a legal, economic, or historic property interest. The level of consultation is dependent on the historic resources present in the project area. The Harrison Avenue Bridge is listed in the National Register of Historic Places. K. Thompson indicated that 40 individuals/organizations were invited to become consulting parties for the project and 17 responded that they wished to be a consulting party. A Bridge Feasibility Study was prepared and will be discussed in detail throughout the meeting. Prior to the meeting, the consulting parties were offered the opportunity to review the feasibility study and other supporting documents.
2. Following the explanation of the purpose of the meeting, introductions of the project team and consulting parties occurred.
3. G. Frenette referred to a PowerPoint presentation and began discussing the project description and status. The Engineering Studies focused on the following: condition survey to determine repair and rehabilitation needs; development of rehabilitation considering the historic character of the bridge; limiting reconstruction of the approach roadways; and determining an acceptable method to maintain traffic during construction.
4. Early on in the project Dewberry met with PennDOT to discuss the critical conditions of the columns. PennDOT recognized the need for interim repairs to spandrel columns and the repairs were completed during Summer-Fall 2007. Repairs completed under a "sole source" contract (no competitive bidding) due to the emergency nature.

5. The objective of the interim repairs was to eliminate safety concerns with condition of columns and to preserve condition until full rehabilitation. The repair work yielded additional information on the bridge condition such as deck deterioration.

6. A Condition Survey occurred in 2008 and resulted in field inspection, core samples from bridge, laboratory testing of core samples, and load capacity analysis ("Load ratings"). The conditions survey led to a Feasibility Study and alternative recommendations to PennDOT in September 2008. The recommendations of the Condition Survey included serious concerns with rehabilitation and an alternatives comparison that favored bridge replacement. This led to re-scoping of Engineering and Environmental Studies and the expansion of the study area to investigate bridge replacement.

7. G. Frenette noted that a meeting with City officials occurred in July, 2010. A public newsletter was distributed in December, 2010, and a public meeting will be held in March, 2010 (date to be announced).

8. B. Frederick began a discussion on the purpose of Section 106. One of the first items completed during the Section 106 process is the definition of the Area of Potential Effect (APE) or the area within which a project may have an effect on historic properties. An effect would result in an alteration in character or use of a historic property. This area is defined in consultation with the State Historic Preservation Office (SHPO) and used as the study area for the cultural resources studies. The area of potential effect for above ground resources includes potential visual effects; thus, it is larger than the project footprint. B. Frederick referenced project mapping which identified the APE.

9. B. Frederick then described the identification of historic properties step of the Section 106 process. Historic properties include those resources that have been listed in the National Register or determined eligible for listing in coordination with the State Historic Preservation Office. To be listed on or determined eligible a resource must meet National Register criteria. Generally, a resource must be 50 years in age or older, have historic or architectural significance, and retain sufficient integrity to convey the period in history for which it is significant. Three resources within the APE were previously determined listed or eligible: Harrison Avenue Bridge (listed), Delaware, Lackawanna & Western Railroad (eligible), and Lackawanna Valley Railroad/Laurel Line (eligible). She noted despite the removal of obelisks and the railing from the bridge as part of a 1970s rehabilitation, the bridge retains sufficient integrity to convey its historic and engineering significance.

10. A survey of above ground resources within the APE was conducted. She explained the survey began with an examination of previous documentation on file at the SHPO and other local repositories. Field recordation of the resources occurred and research into property histories was conducted to determine their historic development. Using the information collected in the field and during research, state-level survey forms were prepared which

included descriptions, histories and detailed evaluations of National Register eligibility. She presented the resources that were further evaluated for National Register significance in the APE.

a. Hill Historic District (northwest of the APE) was previously delineated in 2000 and determined eligible for its historical associations with the development of Scranton in the late nineteenth and early twentieth century and for its notable collection of architectural styles. A.D. Marble & Company was asked to prepare an addendum form to determine if the Hill Historic District could extend down the hill to include the area on the north side of the bridge as these dwellings were from the same period of time (late nineteenth to early twentieth century). The survey found that the dwellings in the APE on the north side of the bridge were historically different in a number of ways and determined that they are not part of the Hill Historic District.
b. Three resources on the southeast side of the bridge were surveyed and evaluated for National Register significance. The Colonel Frank J. Duffy Memorial Park, which is located at the intersection of Moosic Street, Harrison Ave and Crown Ave, includes .5 acres, flag pole and statue of a World War I soldier. The sculpture is not actually a replica of Colonel Duffy but one of a nationwide series of sculptures. While the statue is in good condition, it was recommended not eligible as background research revealed neither the park nor the statue were constructed as part of a public fund drive or city initiative but was privately funded by the VFW post. As the statue is one of a number that were massed produced under a patent by the sculptor during the 1920s and 1930s, it is not considered significant for its design features.
c. 920 Front Street and 26 Crown Avenue are American Foursquare dwellings that were evaluated for their historic and architectural significance. Due to alterations, including rear additions and changes to the windows and/or siding, these dwellings were recommended not eligible.
d. The PHMC made a field view to the project location and agreed that there was no extension of the historic district down the hill into the APE as well as with the other eligibility recommendations.
e. Since the project is located in a previously disturbed area, it was determined that archaeological studies to identify below ground features that might be eligible for the National Register would not be necessary.

11. A question was raised about the Duffy statue and whether local significance was researched. B. Frederick responded that while the VFW funded the building of the statue, there were no local records/public fund drives to support this. B. Frederick asked that if anyone has further information on the statue and park to please provide it to the project team. K. Mock stated that just because the park is not eligible per National Register criteria does not mean that the park does not have importance; if the park is impacted, PennDOT will move the statue and relocate it. G. Augustine noted that the

park is protected by Section 4(f), another federal legislation. K. Thompson stated that the form prepared to document Duffy Park is located on the PATH site and invited the consulting parties to review the form and to provide more information on its local signification if that information is available.

12. G. Frenette discussed the bridge inspection and repair history of the bridge and provided a detailed discussion of the May 2008 In-Depth Inspection. The below points were noted:

- The underside of Span 1 exhibits exposed rebar and white staining. This indicates "top down" deterioration due to water and road salts leaking through the deck and fill material over the arch barrel. Much of the deterioration is near the deck joints which allows water to penetrate the concrete.
- The underside of Span 3 exhibits more extensive spalling and cracks than Span 1. Black carbon deposits from the railroad are evident on the span. The previously placed patches on the concrete are failing and breaking away. The failure of these patches shows the difficulty of making the patches last a long time.
- Span 2 deck elements showed extensive deterioration such as spalls, disintegration, corroded rebar, cracks. The most severe deterioration occurred at and near deck joints; deck joints were misaligned vertically and horizontally. Loose concrete was evident in the deck.
- The underside of Span 2 shows deterioration on the bottom. This is indicative of the deck being penetrated from the top down by water and deicing salt. The rebars are exposed and concrete is breaking off.
- The spandrel columns in column lines 4 and 5 of Span 2 were reaching a critical condition prior to emergency interim repairs (2007). Overall, the exterior columns were more deteriorated than interior columns. The concrete is breaking away (spalling) from the corners of columns and exposed rebar was evident, particularly near the tops and bottoms. The columns do not have many reinforcing bars compared with modern design, which uses more bars to create a cage that contains the concrete, preventing as much concrete from breaking away. Some areas of the spandrel columns where spalling has not occurred have a distinct hollow sound to them, which indicates that the concrete is breaking internally and will eventually spall away.
- The deck joints allow expansion and contraction movements to occur. Since the deck joints have uneven openings and are tight in some places, forces can develop which can affect the columns.
- The spandrel column repairs made by the contractor in 2007 were very difficult and time-consuming to complete. The work space below the deck was very confined, the old concrete had to be removed from the column without damaging other portions, and new rebars had to be spliced with the old rebars and doweled in to the existing concrete.

- One of the issues with repairing reinforced concrete is that a good connection is needed between the new material and existing portions. If the new concrete is placed against old loose concrete, the connection will be prone to deterioration and failure. Where damaged concrete is removed, it is important to be able to reach a limit of solid existing concrete to place the new repair against.
- N. Bisignani noted that she did not see why the bridge cannot be repaired or rebuilt in the same place. She noted it was a Gateway to the City and connects two historic neighborhoods.
- R. Leonom noted that this bridge is a gateway and could return pride to the area. Modern bridges have no character and requested that the proposed Harrison Avenue Bridge be built with character and that it needs to be a visual landmark. J. Moore and W. Evans expressed their concurrence with R. Leonom's statement.

13. G. Frenette discussed the Core Sampling and Lab Testing Program. Some cores were in good condition and did not show evidence of being affected by salt; however, other samples showed evidence of damage. The concrete strength was generally good, but the test results of some samples were much lower than others. The variation of the strength results raises some concern about the consistency of the concrete quality. Chloride testing revealed widespread penetration and concentrations that are considered high enough to accelerate corrosion of the rebar, although the rate of corrosion cannot be accurately predicted.

14. G. Frenette continued his presentation in discussing the Load Rating Analysis. In Span 2, the interior arch ribs carry most of the traffic load, and the exterior arch ribs carry almost none of the traffic load. A more even distribution of the traffic load among the four arch ribs would be preferable. The ribs and barrels have adequate capacity for the self-weight of the structure and the traffic loads, but the analysis indicates that the ribs and barrels are overstressed when temperature forces are included. A question was asked about whether precast arch ribs were possible. G. Frenette indicated that both precast and cast in place were possible; however, precast were not as common. A question was asked as to what temperature forces affect the structure. G. Frenette indicated that the range of both heat and cold causing the structure to expand and contract. The forces are caused by restraining the movement.

15. The scope of work necessary for a bridge rehabilitation was discussed by G. Frenette. Rehabilitation would include reconstruction of the portions above the arch barrels (Spans 1 and 3) and above the arch ribs (Span 2). The upper portions of the piers and abutments would also be replaced. Repairs would be made to the arch barrels, arch ribs and lower portions of the piers and abutments.

16. G. Frenette discussed the Watsontown Bridge Rehabilitation as an example of a successful rehabilitation of a reinforced concrete arch, and explained why

rehabilitation is feasible on one bridge and not another. On the Watsontown Bridge, it was possible to remove deteriorated concrete with solid concrete remaining at the removal limits. The reinforcing bars were in good condition and new bars could be spliced with existing bars and doweled in to solid existing concrete. The structure was finished in two construction seasons with a full detour. Rehabilitation included reconstruction of entire portions of the bridge above the arches.

17. G. Frenette noted that for Harrison Avenue, the potential detour is 1.7 miles. To avoid the detour, a temporary runaround could be designed for the bridge rehabilitation alternative to carry both vehicle and pedestrians. The cost of the rehabilitation is estimated at would be $12 million.

18. There are a number of concerns with rehabilitation. One is the unknown cause of unusual structural displacements in Span 2. The cracks and deterioration noted early during life of bridge may be related to these displacements. Other related conditions, in addition to the misalignment of transverse deck joints, may include the structural distress in columns and the arches at column bases. Other concerns are that the traffic load in Span 2 is carried almost entirely by two interior arch ribs, and that there is a lack of reinforcement in arch barrels and arch ribs for ductility and serviceability.

19. R. Leonom suggested building members down the middle of the arch to add strength. G. Frenette indicated that this is possible and could be designed.

20. G. Frenette explained that there are uncertainties about the existing chloride levels, and it is difficult for effective repairs to critical locations. There is no way to address actively corroding rebar and the target life of arch rehabilitation is questionable. New concrete construction is expected to last for 100 years, and it is uncertain whether the rehabilitation could achieve 50 years. Other concerns include difficulty of future inspection, maintenance and repair. These factors add up to a high risk of investment.

21. A discussion with the consulting parties occurred. Questions were raised as to what architectural features would be added to the bridge. W. Evans noted that he would like to see the pre-1972 design. K. Atkins stated that certain architectural features could be incorporated into the design. W. Evans stated that at this point, he is not willing to give up on the rehabilitation option. N. Bisignani stated that the design of a new bridge should consider incorporating architectural features up to a cost at least comparable with bridge rehabilitation. She also inquired if there was an elevation view of the standard replacement option that could be shared. K. Thompson noted that once the feasibility analysis is complete, if rehabilitation is eliminated, then discussion of architectural details of the replacement alternative will be developed in consultation with the consulting parties.

22. A question was asked abut how safe the bridge is at the present time. K. Atkins stated that the bridge posting will continue to go lower. If more deterioration affects the bridge load capacity, the bridge could be closed.

23. A question was asked about how often the bridge is inspected. D. Elmer noted that the bridge is inspected every 6 months.

24. K. Atkins stated that the method to maintain traffic, using either a temporary bridge or a detour, is a key issue for this project. Another key issue is the uncertainty of removal limits once construction is started. If good existing concrete is not found at the removal limits, it may not be feasible to save the remaining structure.

25. G. Augustine stated that the overall goal is to avoid a detour and maintain traffic through the project area. N. Bisignani stated that PennDOT will incur the cost with either option. G. Augustine stated that in a replacement scenario, the current bridge could be used to maintain traffic while a new bridge is constructed adjacent to it.

26. S. Zacher asked if replacement is the selected alternative whether PennDOT could look at different designs for the bridge. K. Atkins stated that this was possible. K. Henderson agreed with S. Zacher's comment. The consulting parties' consensus was that the new bridge needed to look architecturally distinctive. W. Evans noted that the 1972 design resulted in a disgrace on the upper deck. K. Mock noted that a replacement option allows for more architectural treatment options and a design advisory committee could be created to further discuss the treatment.

27. N. Bisignani expressed her concern over the MOA and mitigation stipulations. She cited the Steamtown Mall construction project as an example and issues with HUD not following through on mitigation commitments. K. Thompson assured the consulting parties that FHWA is the lead federal agency for this project and they have a renewed commitment to carry out the measures. K. Atkins noted that if PennDOT does not follow-through on the MOA stipulations, then they lose funding for the project.

28. The discussion about restoring/rehabilitating the original bridge continued. G. Frenette noted that with the rehabilitation, the arches would need to be retained. If the arches are not repaired, the bridge would have to be rebuilt from the ground up. The arches provide a platform for reconstruction of the upper portions. Reconstruction of the entire arch span would require re-evaluation of the construction impacts.

29. J. Moore was concerned that the rehabilitation option was presented as a "doom and gloom" and positive points about rehabilitation were not pointed out. G. Frenette noted that the bridge project began as a replacement and concerns developed as went though feasibility analysis. Dewberry's recommendation to PennDOT is replacement as a result of this process.

30. P. Nape inquired about the existing weight restrictions on the bridge and how it was enforced. G. Frenette responded that the legal load limits on a bridge with no posted limits are 37 tons for a single truck and 40 tons for a semi tractor trailer; the Harrison Avenue Bridge is posted for a 15 ton truck limit and a 25 ton semi. K. Atkins noted that PennDOT is not the enforcement

agency and he would make a few calls to ensure that the bridge postings are being adhered to.

31. R. Leonom asked if the bridge could be replaced above the arches and supported by separate beams. K. Atkins noted that this would destroy the historic integrity. K. Mock noted that this could also add extra stress to the arches. D. Elmer stated that this is similar to what was done on the Lackawanna Avenue bridge, and the original arches fell down.

32. S. Zacher noted beams through the middle would have an adverse effect and asked K. Henderson to supply examples of other designs of bridges of similar scale, design, and length from throughout the country that PennDOT could use for this bridge.

33. K. Thompson asked for all consulting parties to provide comments. PennDOT will take the comments into consideration. As the project progresses, the consulting parties will be involved in the various design options. The meeting minutes will be posted to the PATH site and the comments provided will become part of the public record. A public meeting will be held and after that time, a decision will be made. She noted that after the public meeting in March, the alternative to be selected will be determined. The consulting parties will receive invitations to the meeting via email.

34. R. Leonom inquired if the cost of the demolition of houses and city park relocation was included in the cost breakdowns provided in the presentation. G. Frenette noted cost of acquisition was not factored into the costs in the presentation.

There were no additional questions or comments, and the meeting was adjourned at 8:30 p.m.

Please submit any comments or revisions to these minutes to Colleen Kelly via e-mail at ckelly@admarble.com or via fax at 484.533.2599 within 5 business days.

Reported by,
A.D. Marble & Company

Colleen M. Kelly
Project Manager/Environmental Planner

Sign-In Sheet

Pennsylvania Department of Transportation
Engineering District 4-0

S.R. 6011, Section 273
Harrison Avenue Bridge Project
City of Scranton, Lackawanna County, Pennsylvania

Section 106 Consulting Parties Meeting
February 10, 2011
6:30-8:30 PM

City Hall, 2nd Floor, Governors Room
340 North Washington Avenue, Scranton, PA 18503

Name	*Representing*	*Address*	*Telephone/E-mail*
PATRICK HAFNER	SELF	PO BOX 766 TOBYHANNA PA 18466	570 894-2885
NANCY D. BISIGNANI AHA		PO. BOX 1301 SCRANTON PA 18503	570-347-6076
Lori Reed	City of Scranton DECD, HPO	538 Spruce St. Ste. 800 Scranton PA 18503	(570) 348-4216 x130
GREG AUGUSTINE	PENNDOT - ENV. UNIT.	DISTRICT 4 DUNMORE PA	(570)963-4070
KEVIN MOCK	"	"	9634364
DAVID K. ELMER	PennDOT Bridge	District 4 Dunmore PA	570 963 4091
KEVIN ATKINS	PennDOT LIAISON	DISTRICT 4-0 DUNMORE PA	570-963-3190
LEE SMITH	DEWBERRY	101 NOBLE BLVD CARLISLE, PA	961-5079
GARY FRENETTE	" "	" "	717-961-5055

Sign-In Sheet

Pennsylvania Department of Transportation
Engineering District 4-0

S.R. 6011, Section 273
Harrison Avenue Bridge Project
City of Scranton, Lackawanna County, Pennsylvania

Section 106 Consulting Parties Meeting
February 10, 2011
6:30-8:30 PM

City Hall, 2nd Floor, Governors Room
340 North Washington Avenue, Scranton, PA 18503

Name	*Representing*	*Address*	*Telephone/E-mail*
RICHARD J. LEONARD, AIA.	LACKAWANNA HISTORICAL SOCIETY/ SCRANTON HISTORIC ARCH. REVIEW BOARD	848 N. IRVING AVE. SCRANTON, PA.	570-961-4502 EXT. 3012
Mary Elizabeth Owens	property owner	215 Harrison Ave. Scranton, Pa.	(570) 344-6098
SARAH Owens	property owner	215 HARRISON AVE SCRANTON PA	570 344-6098
Patricia Nape	property owner	239-241 Harrison Scranton Pa	18510 3476 46
BOB NAPE		241 HARRISON AVE " "	BOBNAPE@AOL.C
Madelyn Fleck	property resident	241 Harrison ave scr PA	
JOHN MOORE	CHAIR of HARB 13	315-13TH AVE. SCRANTON PA	18504
WAYNE EVANS	SOUTH SCRANTON RESIDENTS ASSN.	705 PITTSTON AVE, SCRANTON PA	18504
Susan Zacher	PHMC	Hbg	szacher@state.pa.us

Sign-In Sheet

Pennsylvania Department of Transportation
Engineering District 4-0

S.R. 6011, Section 273
Harrison Avenue Bridge Project
City of Scranton, Lackawanna County, Pennsylvania

Section 106 Consulting Parties Meeting
February 10, 2011
6:30-8:30 PM

City Hall, 2nd Floor, Governors Room
340 North Washington Avenue, Scranton, PA 18503

Name	*Representing*	*Address*	*Telephone/E-mail*
Charles Rather	PennDOT	District 4-0	570 963 4334 crather@state.pa.us
Barbara Frederick	A D Marble	3913 Hartzdale Dr. Camp Hill	bfrederick@admarble.com
Colleen Kelly	AD Marble	375 East Elm St Consh.	ckelly@admarble.com

Pennsylvania Department of Transportation
Engineering District 4-0

S.R. 6011, Section 273
Harrison Avenue Bridge Project
City of Scranton, Lackawanna County, Pennsylvania

Section 106 Consulting Parties Meeting
February 10, 2011
6:30-8:30 PM

City Hall, 2nd Floor, Governors Room
340 North Washington Avenue, Scranton, PA 18503

Meeting Agenda

- Welcome and introductions (PennDOT District 4-0)
  - Purpose of Meeting
  - Review of Section 106 regulations and process
- Project description and status (Dewberry)
- Status of Section 106 process to date
  (PennDOT District 4-0/A.D. Marble & Company)
- Feasibility Report/Alternatives analysis (Dewberry)
- Section 106 Next Steps (PennDOT District 4-0/A.D. Marble & Company)
- General Discussion

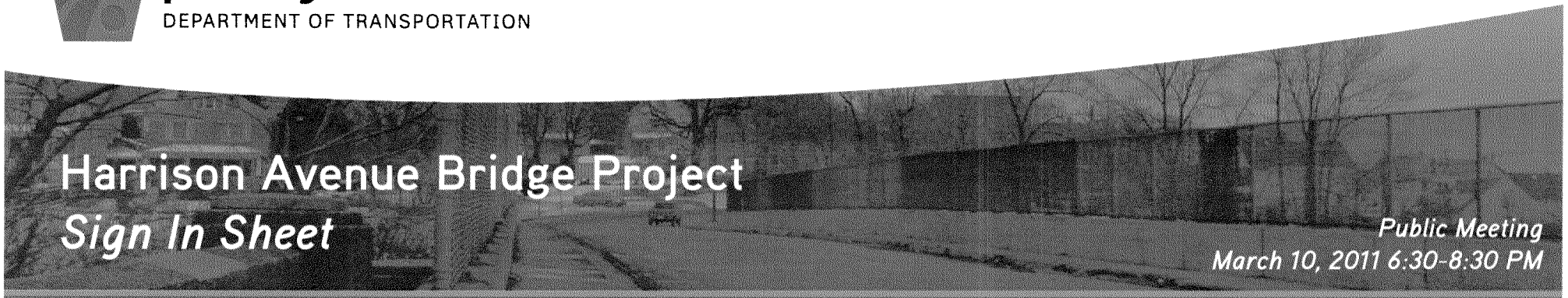
pennsylvania
DEPARTMENT OF TRANSPORTATION

Harrison Avenue Bridge Project
Sign In Sheet

Public Meeting
March 10, 2011 6:30-8:30 PM

Name	Address	Phone	Email	Organization/Representing
Mary Beth Yonmath	2118 Myrtle St	342-6628		N/A
Bill Mathins	"	"		
CATHERINE SLANGAN	831 MOOSIC ST	344-9009		
Robert Slangan	"	"		
Catherine Conway	2 CROWN AVE	343-4591		
D R Panaite	26 Crown Ave	955-5624		
RICHARD BECKER	1623 MYRTLE ST	961 1038		
Joe & Ann Schimes	220 HARRISON AVE	341-7508		
Josh Mrozinski	Times-Tribune	348-9100, ext 5386		
Laura Inshetski	#6 CROWN AVE	346-6167		
Rosemary Yukinavich	235 Nay Aug Place	3436220		
Charles Reuther	Penn Dot	963 4334		
James May	137 Kimberly Circle, Clarks Summit	585-8586		PennDOT
Maritza Ramirez	1600 HARRISON AVE	570 677-4376		private residense.

pennsylvania
DEPARTMENT OF TRANSPORTATION



Harrison Avenue Bridge Project

Sign In Sheet

Public Meeting
March 10, 2011 6:30-8:30 PM

Name	Address	Phone	Email	Organization/Representing
TOM DAVIS	SCR. FIRE DEPT 340 E. WASH AVE	3485172		SCR FIRE
Jeff Brazil	922 Front Scr. Pa	903-9100	JBRAZ.10@ScrantonPA.gov	City of Scranton
JACK LOSCOMBE	311 PARALLEL DR.	348 4113	JDLOSCOMBE@GMAIL	SCRANTON CITY COUNCIL
Nancy Fiumano	4 Crown Ave	341-3448		
Ken/Debi Sheridan	606 Harrison Ave			
Lori Reed	City of Scranton 538 Spruce St. 18503	348-4216	lreed@scrantonpa.gov	City of Scranton HARB
Donna Adler	1332 E Elm St SCRANTON PA 18505			
Irwin Adler				
MARIE SCHUMACHER	1799 E MOUNTAIN RD SCRANTON 18505	342-4505	maschu4@gmail.com	TAXPAYER
BOB NAPE	241 HARRISON AVE	3476046	BOBNAPE@AOL.COM	
PAT FLANNERY	235 HARRISON AVE	342-0135	FCBI ATTEPIX.NET	
Patricia Nape	241-239 Harrison Ave.	347-6046	No	Home owner.
Madelyn Pfleckl	241 Harrison Ave	347-6046	NO	

pennsylvania
DEPARTMENT OF TRANSPORTATION

Harrison Avenue Bridge Project
Sign In Sheet

Public Meeting
March 10, 2011 6:30-8:30 PM

Name	Address	Phone	Email	Organization/Representing
Mary Elizabeth Owens	215 Harrison Ave	(570) 344-6098		Homeowner
Sarah Owens	215 Harrison Ave	(570) 344-6098		
Joan Morgan	213 Harrison Ave	570 (344-6719		Homeowner
Bernard Morgan	213 Harrison Ave	570 (344-6719		
David Owens	215 Harrison Ave	570 (344-6098)		
JESSICA Bechtel	319 Maple St			homeowner
Paul Bechtel	Peckville, PA	pbechtel407 @yahoo.com		
MICHAEL F. OSBORNE	227 WHEELER AVE	(570) 575-1564		Home OWNER
Rich + DONNA Green	1604 RoseLynn St	570 3468273		homeowner
Tom UNGVARSKY	728 PRESCOTT AV	343-6664	tomnkatz1@comcast.net	Taxpayer
Paul Casey	1505 S. IRVING AVE			RESIDENT / TAXPAYER
Linda Minielle	211 Harrison Ave - Rear.	575-6560		resident
Donald & Dorothy Thomas	211 Harrison Ave.	344-6701		resident / Homeowner / taxpayer

pennsylvania
DEPARTMENT OF TRANSPORTATION

Harrison Avenue Bridge Project

Sign In Sheet

Public Meeting
March 10, 2011 6:30-8:30 PM

Name	Address	Phone	Email	Organization/Representing
Lou Russinger	PennDOT 4-0 55 Keystone Ind. Pk. Dunmore	963-4044	lrussinger@state.pa.us	
Audrey Black	26 Crown Ave. Rear	347-6145	ablack1116@comcast.net	
Marion Wickel	829 Moosic St., Rear	342-0181	N/A	
Laura + Jason Heffron	920 Front St.	578-5761	laura-heffron@yahoo.com	
Larry West		207-2881	lwest@pasenate.com	Sen. John P. Wozniak
Carrie Gubanics	1823 Olive St	941-3339	cag519@verizon.net	
Mori Wilner	312 Wheeler Ave	407-0000	Mori3n@aol.com	
Joan Balestri	425 Harrison	347843	jmom425@yahoo.	
Bruchaltski	6 CROWN ~~AVE~~.	498-9122		
Al Lucas	2722 Birney Ave		alucas@scrantonpa.gov.	Scranton Fire Dept
ALAN Holbrook	1 LAUREL LINE DRIVE	558-6061	alan.holbrook@qplas.com	QUADRANT PLASTICS

pennsylvania
DEPARTMENT OF TRANSPORTATION

Section 106 Consulting Party Meeting Comment Form

Pennsylvania Department of Transportation
Engineering District 4-0

S.R. 6011, Section 273
Harrison Avenue Bridge Project
City of Scranton, Lackawanna County, Pennsylvania

Section 106 Consulting Party Meeting
February 10, 2011 6:30-8:30 PM

OPTIONAL *Please print clearly.*

Name: Lori Reed

Address: City of Scranton - OECD
538 Spruce St.
Ste. 812

City/Town, State, Zip:
Scranton, PA
18503

Email:
lreed@scrantonpa.gov

Please list any comments, concerns or questions that you may have regarding the Section 106 effects to cultural resources from the Harrison Avenue Bridge Project.

Kris:
Please find attached Newspaper article - 2/15
Steps being taken Re: signage, weight restriction & enforcement efforts due to citizen's comments & concerns at the 2/10 consulting party meeting.
Lori

REC'D 2/17/11

pennsylvania
DEPARTMENT OF TRANSPORTATION

Additional Project-Related Questions

1. Please indicate your interest in the Harrison Avenue Bridge Project.
(Please check all that apply)

I own property in the project area.
I am a resident in the project area.
I work or run a business in the project area.
I shop or do personal business (banking, medical, etc.) in the project area.
I visit the project area for recreation, entertainment, dining out, etc.
I commute to work or school through the project area.
Emergency Service.
Other (please specify): Historical Preservation Officer City of Scranton

2. How often do you use the bridge?

Daily
Weekly
Monthly
Not at all

3. Would a detour be tolerable?

Yes
No

How would you be impacted by the detour?
(Please check all that apply)

Commute ___ times per day/week/month (circle one)
School Bus Route
Shopping/ Personal Business/Recreation
Other: (Please List) _____

4. How often do you walk across the bridge?

Frequently (every day)
Often (several times per week)
Occasionally (several times per month)
Seldom
Never

5. How often do you bike across the bridge?

Frequently (every day)
Often (several times per week)
Occasionally (several times per month)
Seldom
Never

pennsylvania
DEPARTMENT OF TRANSPORTATION

6. Please rank the issues or concerns you have for the Harrison Avenue Bridge Project (rank each item from #1 for "most important" through #8 for "least important").

4.	Displacements of homes / businesses	7.	Promotion of economic growth
3.	Community / neighborhood impacts	6.	Appearance of the bridge
2.	Access to homes / businesses	5.	Impacts to natural/historic resources (i.e., wildlife, streams, historic bridge, etc.)
1.	Safety for local and through traffic		
____	Other		

7. Are there sensitive features (i.e., socioeconomic resources, natural resources, historic resources, public facilities, etc.) in the project study area that you would like the Project Team to consider while developing the project?

_____
_____
_____
_____
_____

8. Please provide additional comments here.

_____
_____
_____
_____
_____

Please provide the following information if you would like to be added to our mailing list:

Name _____

Address _____

City _____ State _____ Zip _____

Please return completed form to a PennDOT or A.D. Marble & Company representative.

If you would prefer, completed forms may be mailed to the address below by February 18, 2010:

Kristina Lammi Thompson | Regional Architectural Historian
PA Department of Transportation
BOD/EQAD| Districts 4 & 5
1002 Hamilton Street | Allentown PA 18101
Phone: 610.871.4459 | Fax: 610.871.4122

Erin Carson

From: Thompson, Kristina L [krthompson@state.pa.us]
Sent: Thursday, February 17, 2011 8:05 AM
To: Kitty Henderson
Subject: RE: Harrison Ave Bridge

Kitty,

That would be fine by me. I'd be glad to pass any contact information along. I suspect Gary's the kind of guy that is always willing to build up his knowledge bank, and even if it's not something he's able to apply to this project, he'll have it for future ones.

Thanks so much,
Kris

Kristina Lammi Thompson | Regional Architectural Historian
PA Department of Transportation
BOD/EQAD| Districts 4 & 5
1002 Hamilton Street | Allentown PA 18101
Phone: 610.871.4459 | Fax: 610.871.4122
www.dot.state.pa.us

-----Original Message-----
From: Kitty Henderson [mailto:kitty@historicbridgefoundation.com]
Sent: Wednesday, February 16, 2011 2:34 PM
To: Thompson, Kristina L
Subject: Harrison Ave Bridge

Kris
My inquiries about replacement bridges has resulted in a number of people saying that a lot of these type bridges can be saved it you are willing to do it. In particular, Oregon has a great record of trying to save concrete arch bridges. If you google concrete arch bridge rehabilitation oregon, you get a lot of examples. Would it be of help if I contacted Oregon DOT to see if someone there might talk to Greg about rehab--engineer to engineer? I am not trying to undermine the knowledge of Dewberry-Goodkind, but maybe the experiences of other DOTs might shed some light on the concerns raised.

Kitty Henderson
Executive Director
Historic Bridge Foundation
PO Box 66245
Austin, Texas 78766
512/407-8898
kitty@historicbridgefoundation.com

Erin Carson

From: Kitty Henderson [kitty@historicbridgefoundation.com]
Sent: Wednesday, February 16, 2011 2:34 PM
To: Thompson, Kristina L
Subject: Harrison Ave Bridge

Follow Up Flag: Follow up
Flag Status: Flagged

Kris
My inquiries about replacement bridges has resulted in a number of people saying that a lot of these type bridges can be saved it you are willing to do it. In particular, Oregon has a great record of trying to save concrete arch bridges. If you google concrete arch bridge rehabilitation oregon, you get a lot of examples. Would it be of help if I contacted Oregon DOT to see if someone there might talk to Greg about rehab--engineer to engineer? I am not trying to undermine the knowledge of Dewberry-Goodkind, but maybe the experiences of other DOTs might shed some light on the concerns raised.

Kitty Henderson
Executive Director
Historic Bridge Foundation
PO Box 66245
Austin, Texas 78766
512/407-8898
kitty@historicbridgefoundation.com

Erin Carson

From: Kitty Henderson [kitty@historicbridgefoundation.com]
Sent: Monday, February 14, 2011 6:43 PM
To: Thompson, Kristina L
Subject: New Bridge

http://www.cement.org/bridges/br_awards.asp
This link goes to a page with several years of concrete bridge awards.

Kitty Henderson
Executive Director
Historic Bridge Foundation
PO Box 66245
Austin, Texas 78766
512/407-8898
kitty@historicbridgefoundation.com

Erin Carson

From: Kitty Henderson [kitty@historicbridgefoundation.com]
Sent: Monday, February 14, 2011 6:40 PM
To: Thompson, Kristina L
Subject: New bridges

http://www.cement.org/newsroom/bridgeawards20040930.asp#creve
Kris,
The email link above list winners of concrete design for 2004. I am having some trouble finding more recent, but I bet between the two of us we can find more recent design awards.

Kitty Henderson
Executive Director
Historic Bridge Foundation
PO Box 66245
Austin, Texas 78766
512/407-8898
kitty@historicbridgefoundation.com

Erin Carson

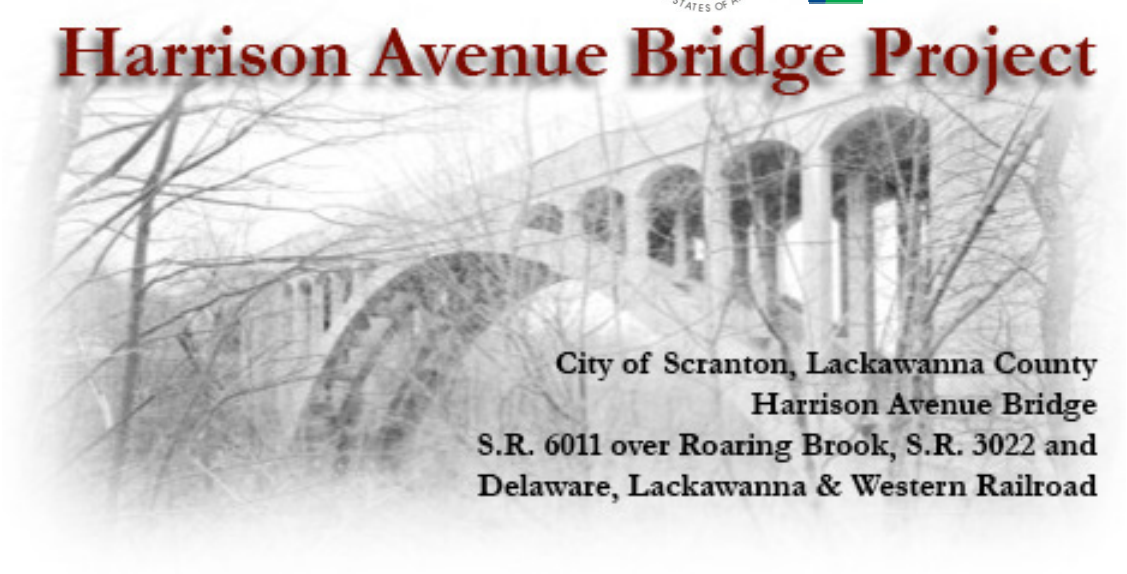
From: Kitty Henderson [kitty@historicbridgefoundation.com]
Sent: Monday, February 14, 2011 6:32 PM
To: Thompson, Kristina L
Subject: New Bridges

Kris
As I gather information on new bridges, re: Harrison Ave, I am going to send the information. Here is an article from WSDOT.

http://www.aspirebridge.com/pdfs/magazine/issue_07/state_WA_sum08.pdf

Kitty Henderson
Executive Director
Historic Bridge Foundation
PO Box 66245
Austin, Texas 78766
512/407-8898
kitty@historicbridgefoundation.com

Harrison Avenue Bridge Project



PennDOT Newsletter
Volume 1 - Fall 2010

The Harrison Avenue Bridge Project

The Harrison Avenue Bridge is a three-span reinforced concrete arch structure that carries State Route 6011 (S.R. 6011, or Harrison Avenue) over S.R. 3022 (the Central Scranton Expressway), Roaring Brook gorge and the Delaware, Lackawanna & Western Railroad (DL&W). The 200-foot main span over Roaring Brook gorge is comprised of four concrete arch ribs and columns which support the deck of the structure. The smaller 75-foot barrel arches span the expressway and railroad, which parallel both sides of the gorge.

Over 15,000 vehicles and a significant volume of pedestrian traffic utilize the Harrison Avenue Bridge each day. This arterial transportation route provides a vital link between the neighborhoods, schools, businesses, hospitals and other services on both sides of the Roaring Brook gorge. The bridge is also used extensively by ambulances and other emergency service providers.

With the bridge deteriorating due to advanced age, long-term improvements are needed to maintain a safe crossing for travelers on Harrison Avenue. To accomplish this goal, the Pennsylvania Department of Transportation (PennDOT) is exploring several alternatives, detailed in this newsletter.

Bridge History

A. Burton Cohen, a prominent engineer who also designed the DL&W's historic Nicholson Viaduct Bridge in Wyoming County, was selected by the City of Scranton to design the Harrison Avenue Bridge. The City awarded the construction contract to the Anthracite Bridge Company, a Scranton-based firm, and the bridge was completed in 1922. The design and construction *(continued)*

methods used for the Harrison Avenue Bridge are similar to the recently replaced Lackawanna Avenue Bridge, which was also designed by Cohen and built about 20 years later. Completion of the Harrison Avenue Bridge marked the culmination of the city's desire to develop a monumental structure and to link two economically and geographically disparate communities, East Scranton and South Scranton. The bridge remains a symbol of the city's progressive era in the early twentieth century and because of its size and historical significance, the Harrison Avenue Bridge was listed on the *National Register of Historic Places (NRHP)* in 1988.

Over its life, the Harrison Avenue Bridge has undergone several alterations. In 1937, unexpected cracks on the bridge were reported, and the city council began to consider necessary repairs. The first major rehabilitation of the bridge was performed in 1946 and included the removal of the original roadway surface, base course, and earth and cinder fill over the barrel arches. In 1972 and 1973, another major rehabilitation was carried out. What began as "a routine repair" project became a more extensive reconstruction, as the contractors found hidden defects in the bridge such as corroded reinforcement and internal voids in the concrete. The removal of the original pylons on the central piers and removal of the original bridge railings were the most visible changes to the bridge when the rehabilitation was completed in 1973.

PennDOT completed emergency repairs to the bridge in December 2007 to maintain its structural integrity until long-term improvements can be carried out. Due to its deteriorated condition, the bridge posting was lowered to 15-ton Truck and 25-ton Combination weight limits.

Results of Bridge Condition Survey

Deterioration of Vertical Spandrel Column in Span 2

Engineers have completed a detailed Condition Survey of the bridge to determine the extents of the deterioration and identify the repairs necessary to remove the weight limit posting and extend the life of the bridge. The engineering studies included an in-depth inspection and laboratory testing of material from the bridge. The in-depth inspection found that upper portions of the bridge, including the deck, deck beams and deck arches, have suffered extensive deterioration such as loose or disintegrating concrete and severely corroded reinforcing bars. Deck joints are misaligned both vertically and horizontally. Many of the vertical spandrel columns that support the deck over the arches were found to have deep cracks and areas of broken and disintegrating concrete with exposed reinforcement bars at crucial locations. The arches and lower portions of the bridge are in better condition than the deck and columns, but also have areas of deteriorated concrete and corroding reinforcement bars.

Concrete core samples drilled from the arches and columns were examined and tested by a laboratory to determine material conditions, such as concrete strength, chloride levels and aggregate flaws. The lab tests revealed that high chloride levels (typically caused by long-term exposure to road salts) are causing corrosion of the steel reinforcing bars in the concrete, and that the concrete is vulnerable to freeze-thaw damage from winter weather cycles. These laboratory test results provide further information to evaluate the bridge's condition.

Project Alternatives

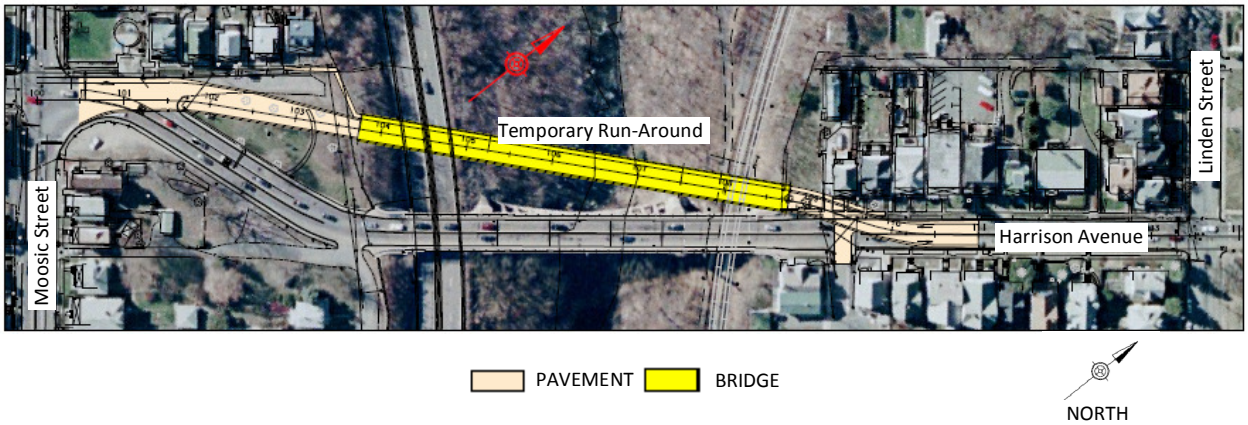
PennDOT is using the information from the bridge Condition Survey to evaluate the long-term options for the Harrison Avenue Bridge, including these alternatives:

- **"Do-Nothing" Alternative -** This alternative consists of completing only minor repairs to the structure to prolong its service life. The findings from the Condition Survey indicate that if only minor repairs are made, the remaining life of the bridge would be very limited and the bridge would eventually need to be closed to traffic. This alternative clearly does not meet the project goal of maintaining a safe crossing for travelers on Harrison Avenue.
- **Rehabilitation Alternative** – This alternative, described in more detail below, involves investing in major structural repairs and partial reconstruction to eliminate the weight limit posting and make the necessary long-term improvements to maintain the crossing.
- **Replacement Alternatives** – Bridge replacement alternatives, also described in more detail below, would also involve significant investment. A new bridge, which could be constructed at the same location as the existing structure or on a new alignment, would have a design life of at least 100 years.

Rehabilitation Alternative

Rehabilitation of the Harrison Avenue Bridge would be an extensive project involving complete removal and reconstruction of the bridge members above the arches – the railings, sidewalks, deck slab, beams supporting the deck and the vertical spandrel columns. In addition, repairs would be made to cracks and deteriorated areas on the lower parts of the bridge – the arches, piers and abutments.

Under this alternative, the bridge would need to be closed to all traffic for the duration of the project to allow reconstruction of the upper members and provide sufficient space for work activities. Construction is anticipated to require more than one year to complete. Because a detour route would obviously be extremely disruptive for local traffic, a temporary "run-around" is being considered as a way of maintaining traffic along Harrison Avenue. The temporary run-around would consist of a temporary bridge and roadway, as shown below. Although the temporary run-around avoids rerouting Harrison Avenue traffic to an alternate crossing within the city, it would likely displace a minimum of one home at the northwest corner of the bridge. *(continued)*



Temporary Run-Around for Bridge Rehabilitation

Although rehabilitation would extend the life of the historic Harrison Avenue Bridge, serious concerns regarding the long-term results and feasibility of this alternative remain. Some of the main issues are:

- The new portions of the bridge – sidewalks, barriers, deck and support beams and vertical columns – would be expected to last for 100 years. However, the remaining life of the existing arches that would support these reconstructed members is uncertain, and is likely much less than 100 years.
- The quantity and qaulity of steel reinforcement in the concrete is crucial to the strength and durability of the bridge. However, the existing arch ribs and arch barrels contain less reinforcement than called for by today's standard practice. Furthermore, some of the reinforcement is actively corroding and there is no way to effectively stop the corrosion from progressing.
- The rehabilitated bridge would still need to be carefully inspected and monitored in the future. Access for inspection and monitoring of this type of structure is very difficult.

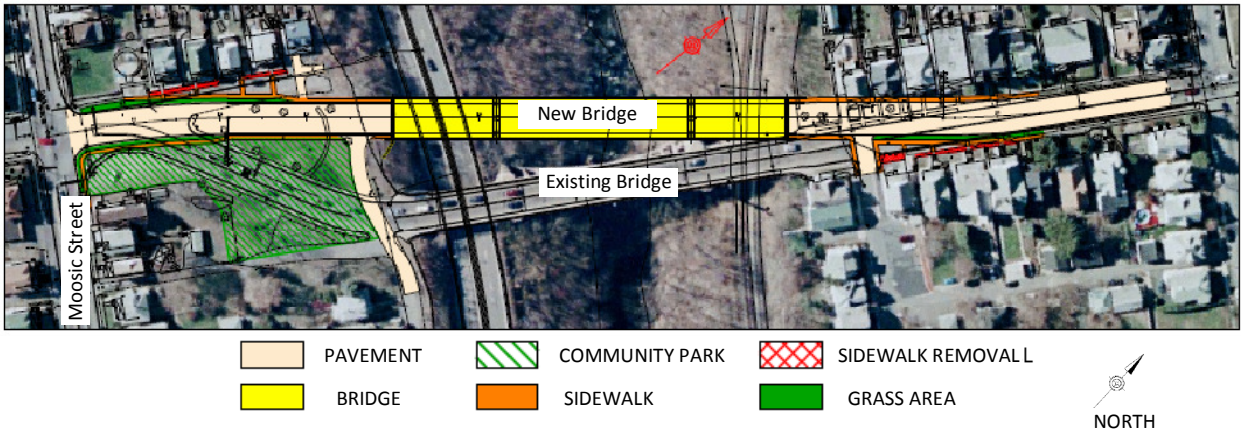
The estimated construction cost for rehabilitating the existing Harrison Avenue Bridge is over $17,000,000. Moreover, on large rehabilitation projects such as this it is not uncommon to encounter unforeseen repair areas. Unanticipated conditions encountered during construction could significantly increase the cost.

Replacement Alternatives

Bridge replacement alternatives are also being studied for the project. Replacement at the existing location requires use of either a detour or temporary run-around for Harrison Avenue traffic, similar to the Rehabilitation Alternative.

Replacement of the bridge on a new alignment, however, would allow Harrison Avenue traffic to use the existing bridge during construction. One concept being investigated is to construct the new bridge immediately to the west of the existing bridge, with reconstructed roadway approaches between Moosic Street and Linden Street. It is anticipated that this realignment would result in three residential displacements immediately northwest of the bridge and the reconfiguration of Duffy Park at the south end of the bridge. Impacts to other homes and properties along the project are also being studied. Other locations for the new bridge, such as on the east side of the existing bridge, appear to result in greater impacts than the location shown below.

(continued)

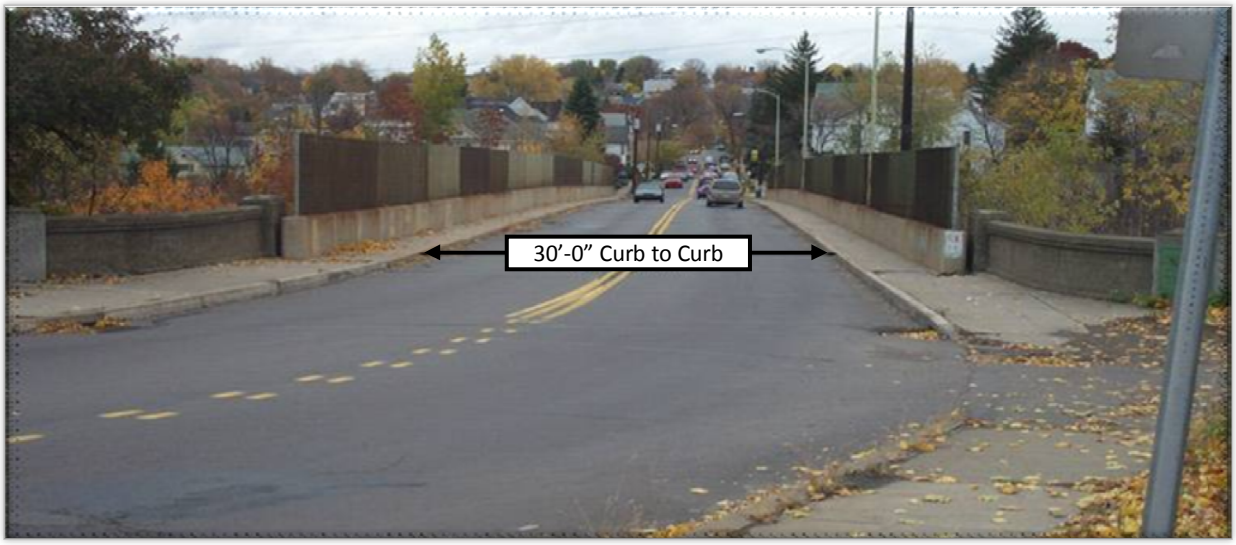


Conceptual Alignment for Bridge Replacement

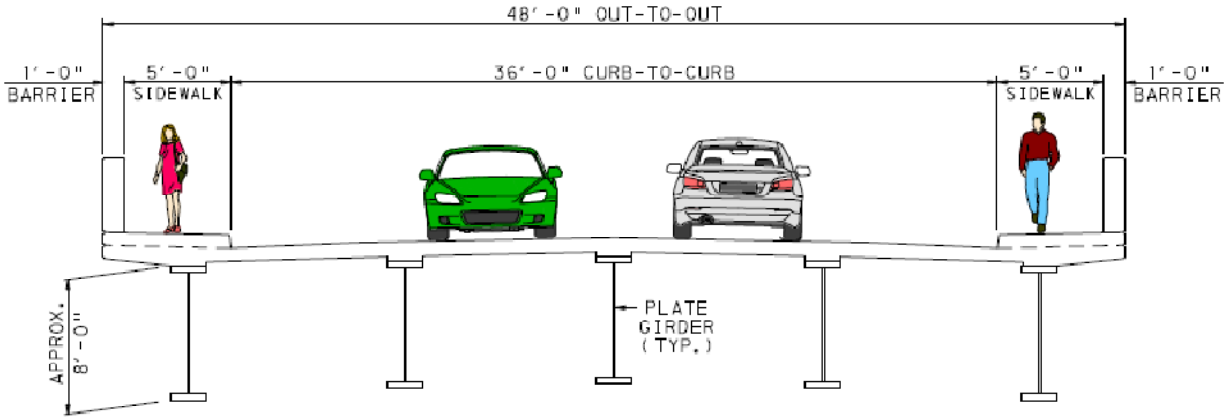
Although the replacement structure would be a modern design (possibly consisting of steel plate girders supporting a reinforced concrete deck), the design could include architectural treatments to reflect the character of the existing bridge. These may include concrete surface treatments, decorative lighting hardware, and historical markers.

A new bridge would be designed to last for at least 100 years and would include design features to eliminate the long-term inspection and maintenance issues associated with rehabilitation of the existing bridge. Unlike rehabilitation, there would be no assumptions regarding the remaining life of the structure or quality of the concrete, since modern design methods and construction materials would be utilized.

The photograph below shows the roadway over the existing bridge, while the drawing illustrates a cross-sectional view of the conceptual replacement structure.



View of Harrison Avenue Roadway over Existing Bridge



Cross-Sectional View of Conceptual Bridge Replacement - Three-Span Steel Plate Girder Bridge

The estimated construction cost for the conceptual replacement alternative is approximately $14,000,000, which is about 20 percent less than the estimated cost of the rehabilitation alternative.

Alternative Comparison

The table below compares some of the impacts associated with the Rehabilitation and Replacement Alternatives. The items listed are some, but not necessarily all, of the factors which will be considered in selecting the recommended project solution.

COMPARISON OF BRIDGE REHABILITATION AND BRIDGE REPLACEMENT

	Bridge Rehabilitation	Bridge Replacement
Estimated Construction Cost	$17,317,000	$14,051,000
Estimated Residential Displacements	1	3
Impacts to National Register Listed or Eligible Historic Sites	No adverse effect (if bridge is rehabilitated according to the Secretary of Interior's standards)	Adverse effect (removal of existing bridge)
Duffy Park	Temporary closure during project	Permanent relocation
Method of Maintaining Traffic During Construction	Temporary Run-Around	Existing Bridge

Public Involvement

PennDOT will continue to evaluate the effects of the project, and will develop the project design to avoid or minimize adverse impacts as much as possible. Public involvement during the design process is a key method for PennDOT to fully understand the impacts of project alternatives and to ensure that the project meets the needs of the community.

An initial meeting to inform City Officials about the project was held in July 2010. PennDOT is presently making plans to hold a public meeting in the coming months. The location and date of the meeting, along with other details, will be announced soon. This meeting will be an opportunity to view information about the project, discuss details with the design team, and provide comments. Following this public meeting, PennDOT will plan additional meetings and opportunities for public and community involvement, which may include meetings with special interest groups and stakeholders, in addition to one or more meetings for the public at-large. Future newsletters and press releases will provide further developments and updated information.

Environmental Clearance Process

Under the National Environmental Policy Act of 1969 (NEPA), all transportation improvement projects such as this bridge project must be evaluated for impacts to natural resources, community resources and cultural resources. The Federal Highway Administration (FHWA) is mandated with the authority and responsibility of ensuring that project impacts are thoroughly evaluated and properly addressed prior to commitment of federal funding. The intent of NEPA is to avoid, minimize, and mitigate impacts to these resources.

(continued)

Section 106 of the National Historic Preservation Act (NHPA) requires all federal agencies to evaluate the effects of project undertakings to historic properties. Since the Harrison Avenue Bridge is a historic property listed on the *NRHP*, FWHA is required to address the project's effect to the bridge. Section 106 also provides for the involvement of ***Consulting Parties***. Consulting Parties are defined as "Certain individuals and organizations with a demonstrated interest in the undertaking… [who] may participate as consulting parties due to the nature of their legal or economic relation to the undertaking or affected properties, or their concern with the undertaking's effect on historic properties." Consulting Parties provide input on project information and findings during key points throughout the process. The regulations emphasize that the "views of the public are essential to informed Federal decision-making in the Section 106 process." PennDOT is inviting individuals and organizations, with interests in the project that meet the Section 106 definition, to become Consulting Parties for the Harrison Avenue Bridge Project.

Section 4(f) of the U.S. Department of Transportation Act of 1966, as amended, protects publicly owned land within parks, recreation areas and wildlife and waterfowl refuges, and historic sites whether publicly or privately owned. Section 4(f) resources within the project area include the Harrison Avenue Bridge, listed on the *NRHP*, and Duffy Park, a public recreation park. Under Section 4(f), an alternatives analysis is performed to identify alternatives that avoid the use of Section 4(f) resources. Each project alternative will be evaluated to determine if it meets the identified project needs, whether it is a feasible alternative, and if it is prudent.

Presently, the project is in the Preliminary Design and Environmental Clearance phase. During this phase, the design team is conducting studies to determine potential project impacts on the community, the natural environment and the historic bridge. The objective during this phase is to identify the project alternative that meets the project needs and complies with the above regulations. PennDOT will incorporate efforts to minimize impacts to the resources, as well as the development of specific measures to mitigate project impacts. The culmination of the preliminary project phase will be Environmental Clearance and Design Approval. Following this milestone, PennDOT will proceed with final design of the project, obtain necessary permits and acquire right-of-way and any temporary easements from properties adjacent to the project. The estimated timeline for these activities is shown below.

Anticipated Project Timeline

Initial Public Meeting	Winter 2010/11
Consulting Party Review and Meetings	Winter 2010/11 through Summer 2011
Public and Community Involvement / Opportunities to Comment	Winter 2010/11 through Winter 2011/12
Future Public Meeting to Present Selected Design	Spring 2012
Environmental Clearance & Design Approval	Summer 2012
Final Design	Fall 2012 through Fall 2013
Right-of-Way Clearance	Fall 2013
Construction	2014

Additional Information

Your comments and questions are always welcome. Please contact Charles Reuther at PennDOT's Engineering District 4-0 Office:

Charles Reuther, Project Manager

Phone	**570-963-4334**
Email	**creuther@state.pa.us**
Mail Address	**PennDOT Engineering District 4-0** **55 Keystone Industrial Park** **Dunmore, PA 18512**

PennDOT Engineering District 4-0
55 Keystone Industrial Park
Dunmore, PA 18512

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	LACKAWANNA	6011	273	4 OF 7
CITY OF SCRANTON				

REVISION NUMBER	REVISIONS	DATE	BY

START WORK
STA. 10+25.00
SEG. 0190 OFFSET 0035
S.R. 6011 SEC. 273

LIMIT OF WORK
STA. 10+00.00
SEG. 0190 OFFSET 0010
S.R. 6011 SEC. 273
CITY OF SCRANTON
LACKAWANNA COUNTY

P.O.C. STA. 13+59.00 S.R. 6011 = P.O.T. STA. 0+00.00 FRONT ST.

START WORK
STA. 0+18.00
FRONT ST.

STOP WORK
STA. 2+16.00
FRONT ST.

S.R. 6011 SURVEY & CONSTR. ℄

FRONT ST. ℄ & CONSTR. ℄ SURVEY

S.R. 6011 HARRISON AVE.

S.R. 3022 CENTRAL SCRANTON EXPRESSWAY

CROWN AVE.

WOOSIC ST.

LAUREL LINE CROWN AVENUE TUNNEL

UNDERGROUND RAILROAD

ROARING BROOK

TBM#5

N38° 19' 01"E

N47° 48' 08"E

S.R. 6011

P.I.	STA. 11+27.04
Δ	= 9° 29' 07" RIGHT
T	= 82.96'
L	= 165.55'
R	= 1000.00'
E	= 3.44'
P.C.	STA. 10+44.08
P.T.	STA. 12+09.63
SUPERELEVATION:	NC

FRONT STREET

P.I.	STA. 0+74.28
Δ	= 28° 56' 28" LEFT
T	= 39.74'
L	= 77.79'
R	= 154.00'
E	= 5.05'
P.C.	STA. 0+34.54
P.T.	STA. 1+12.34
SUPERELEVATION:	NC

FRONT STREET

P.I.	STA. 1+90.61
Δ	= 15° 16' 15" RIGHT
T	= 20.65'
L	= 41.05'
R	= 154.00'
E	= 1.38'
P.C.	STA. 1+69.97
P.T.	STA. 2+11.01
SUPERELEVATION:	NC

SCALE
0 25 50 FEET

SEE SHEET 5

CONCEPTUAL LINE, GRADE & TYPICAL SECTION PLANS
NOVEMBER 22, 2010

PREPARED BY:
DEWBERRY-GOODKIND, INC.
101 NOBLE BLVD.
CARLISLE, PA 17013

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	LACKAWANNA	6011	273	5 OF 7
CITY OF SCRANTON				

REVISION NUMBER	REVISIONS	DATE	BY

S.R. 6011

P.I. STA. 21+16.68
Δ = 9°06'18" LEFT
T = 79.62'
L = 158.91'
R = 1000.00'
E = 3.17'
P.C. STA. 20+37.06
P.T. STA. 21+95.97
SUPERELEVATION: NC

DELAWARE, LACKAWANNA & WESTERN RAILROAD

LINDEN AVE.

SEE SHEET 4

S.R. 6011 HARRISON AVE.

S.R. 6011 SURVEY & CONSTR. ℄

ROSELYNN ST. & CONSTR. ℄ ROSELYNN ST. SURVEY

START WORK
STA. 0+19.26
ROSELYNN ST.

STOP WORK
STA. 0+65.00
ROSELYNN ST.

P.O.T. STA. 19+40.37 S.R. 6011 =
P.O.T. STA. 0+00.00 ROSELYNN ST.

STOP WORK
STA. 23+00.00
SEG. 0190 OFFSET 1310
S.R. 6011 SEC. 273

LIMIT OF WORK
STA. 24+00.00
SEG. 0190 OFFSET 1410
S.R. 6011 SEC. 273
CITY OF SCRANTON
LACKAWANNA COUNTY

LEGAL RIGHT-OF-WAY LINE

ROARING BROOK

SCALE
0 25 50 FEET

CONCEPTUAL LINE, GRADE & TYPICAL SECTION PLANS
NOVEMBER 22, 2010

PREPARED BY:
DEWBERRY-GOODKIND, INC.
101 NOBLE BLVD.
CARLISLE, PA 17013

Section 106 Consulting Party Response Form

S.R. 6011, Section 273
Harrison Avenue Bridge Project
Lackawanna County

TO: Pennsylvania Department of Transportation
Engineering District 5-0
Attention: Kris Thompson
1002 Hamilton Street
Allentown, Pennsylvania 18101

DATE: _____

Phone: 610-871-4459
Fax: 610-871-4122
Email: krthompson@state.pa.us

FROM:

Name: PATRICIA NAPE **Telephone:** 570-347-6046

Address: 241 HARRISON AVE
(Street)
SCRANTON PA 18510
(City) (State) (ZipCode)

Email: _____

✓ **Yes.** I, or my organization, would like to be a consulting party in the Section 106 process for the S.R. 6011, Section 273 project.

_____ (Organization) will be represented by

Patricia Nape (Representative)

(Please provide mailing address of representative if different than address provided above).

_____ **No.** I, or my organization, do(es) not wish to participate as a consulting party for the S.R. 6011, Section 273 project. Please note that this does not preclude you/your organization from requesting to participate as a consulting party, nor will it preclude consideration of comments from you/your organization as the project progresses.

Individual's or Organization's Interest
Please Check Appropriate Box(es)

- ☐ 1. legal interest
- ☑ 2. economic interest
- ☐ 3. historic property(s) concerns

Briefly justify your interest: I have no intentions of moving from my home (241 Harrison) of 49 years, constructed by my father.

Do you know of another potential consulting party for this project?
Please list their name and phone number or address below.

_____

_____

Please return this form in the pre-addressed envelope provided, or via email/fax.

REC'D 9/21/10

Section 106 Consulting Party Response Form

S.R. 6011, Section 273
Harrison Avenue Bridge Project
Lackawanna County

TO: Pennsylvania Department of Transportation
Engineering District 5-0
Attention: Kris Thompson
1002 Hamilton Street
Allentown, Pennsylvania 18101

DATE: 9-18-10

Phone: 610-871-4459
Fax: 610-871-4122
Email: krthompson@state.pa.us

FROM:

Name: GRACE Lynn **Telephone:** 5703466167

Address: # 6 crown Ave
Street

Scranton Pa 18505
City *State* *ZipCode*

Email: Bingo BABBe 1966@aol.com

X **Yes.** I, or my organization, would like to be a consulting party in the Section 106 process for the S.R. 6011, Section 273 project.

_____ will be represented by
(Organization)

_____
(Representative)

(Please provide mailing address of representative if different than address provided above).

_____ **No.** I, or my organization, do(es) not wish to participate as a consulting party for the S.R. 6011, Section 273 project. Please note that this does not preclude you/your organization from requesting to participate as a consulting party, nor will it preclude consideration of comments from you/your organization as the project progresses.

Individual's or Organization's Interest
Please Check Appropriate Box(es)

- ☐ 1. legal interest
- ☒ 2. economic interest
- ☐ 3. historic property(s) concerns

Back

Briefly justify your interest: me & my Family have lived for 46 years We love our house and Dont want To move and at my age I can't even think of moving from my Family Home. We Want To STAY Here - Please Consider other alternative

Do you know of another potential consulting party for this project? Please list their name and phone number or address below.

_____

_____

Please return this form in the pre-addressed envelope provided, or via email/fax.

It is not fair to expect families to
Be uprooted and made To move.
Just replace the Bridge, or fix it
The way the Bridge is now.
It would be an Extreme hardship
for me and my Family ex, my age
Great Grand school, church, relocating etc.
We love are Neighborhood and
our house!!!

Section 106 Consulting Party Response Form

S.R. 6011, Section 273
Harrison Avenue Bridge Project
Lackawanna County

TO: Pennsylvania Department of Transportation
Engineering District 5-0
Attention: Kris Thompson
1002 Hamilton Street
Allentown, Pennsylvania 18101

DATE: 9/19/10

Phone: 610-871-4459
Fax: 610-871-4122
Email: krthompson@state.pa.us

FROM:

Name: Catherine A Conway **Telephone:** 570-343-4591

Address: 2 Crown Avenue
Street

Scranton *City* PA *State* 18505 *ZipCode*

Email: Cathconway@verizon.net

X **Yes.** I, or my organization, would like to be a consulting party in the Section 106 process for the S.R. 6011, Section 273 project.

Catherine A. Conway *(Organization)* will be represented by

Catherine A Conway *(Representative)*

(Please provide mailing address of representative if different than address provided above).

_____ **No.** I, or my organization, do(es) not wish to participate as a consulting party for the S.R. 6011, Section 273 project. Please note that this does not preclude you/your organization from requesting to participate as a consulting party, nor will it preclude consideration of comments from you/your organization as the project progresses.

Individual's or Organization's Interest
Please Check Appropriate Box(es)

- ☒ 1. legal interest
- ☒ 2. economic interest – I have a mortgage on property
- ☐ 3. historic property(s) concerns

Briefly justify your interest: Home was built by my father
Economically beneficial for me

Do you know of another potential consulting party for this project?
Please list their name and phone number or address below.

_____

_____

Please return this form in the pre-addressed envelope provided, or via email/fax.

Section 106 Consulting Party Response Form

S.R. 6011, Section 273
Harrison Avenue Bridge Project
Lackawanna County

TO: Pennsylvania Department of Transportation
Engineering District 5-0
Attention: Kris Thompson
1002 Hamilton Street
Allentown, Pennsylvania 18101

DATE: 9/22/10

Phone: 610-871-4459
Fax: 610-871-4122
Email: krthompson@state.pa.us

FROM:

Name: City of Scranton **Telephone:** (570) 348-4100

Address: 340 N. Washington Ave
Street
Scranton *City* Pa. *State* 18503 *ZipCode*

Email: SWalker@Scrantonpa.gov

✓ **Yes.** I, or my organization, would like to be a consulting party in the Section 106 process for the S.R. 6011, Section 273 project.

City of Scranton (Organization) will be represented by

Brian Swanson - City Engineer (Representative)

(Please provide mailing address of representative if different than address provided above).

____ **No.** I, or my organization, do(es) not wish to participate as a consulting party for the S.R. 6011, Section 273 project. Please note that this does not preclude you/your organization from requesting to participate as a consulting party, nor will it preclude consideration of comments from you/your organization as the project progresses.

Individual's or Organization's Interest

Please Check Appropriate Box(es)

- ☒ 1. legal interest
- ☒ 2. economic interest
- ☒ 3. historic property(s) concerns

Briefly justify your interest: - All of the above will have a significant interest.

Do you know of another potential consulting party for this project?
Please list their name and phone number or address below.

_____

_____

Please return this form in the pre-addressed envelope provided, or via email/fax. rcvd 9/24/10

Section 106 Consulting Party Response Form

S.R. 6011, Section 273
Harrison Avenue Bridge Project
Lackawanna County

TO: Pennsylvania Department of Transportation
Engineering District 5-0
Attention: Kris Thompson
1002 Hamilton Street
Allentown, Pennsylvania 18101

DATE: 9/24/10

Phone: 610-871-4459
Fax: 610-871-4122
Email: krthompson@state.pa.us

FROM:

Name: Andrew Mohring **Telephone:** 570 420 9091

Address: 100 CANTERBURY CIRCLE
Street

E. STROUDSBURG *City* PA *State* 18301 *ZipCode*

Email: Andrew_Mohring@ADP.com

✓ **Yes.** I, or my organization, would like to be a consulting party in the Section 106 process for the S.R. 6011, Section 273 project.

THE Mohring GROUP, LLP (Organization) will be represented by

Andrew Mohring President (Representative)

(Please provide mailing address of representative if different than address provided above).

_____ **No.** I, or my organization, do(es) not wish to participate as a consulting party for the S.R. 6011, Section 273 project. Please note that this does not preclude you/your organization from requesting to participate as a consulting party, nor will it preclude consideration of comments from you/your organization as the project progresses.

Individual's or Organization's Interest
Please Check Appropriate Box(es)

- ☒ 1. legal interest
- ☒ 2. economic interest
- ☒ 3. historic property(s) concerns

Briefly justify your interest: We own 243 HARRISON AVENUE house in Scranton PA REGARDING SR6011

Do you know of another potential consulting party for this project?
Please list their name and phone number or address below.

_____

_____

Please return this form in the pre-addressed envelope provided, or via email/fax.

REC'D 9/27/10

Section 106 Consulting Party Response Form

S.R. 6011, Section 273
Harrison Avenue Bridge Project
Lackawanna County

TO: Pennsylvania Department of Transportation
Engineering District 5-0
Attention: Kris Thompson
1002 Hamilton Street
Allentown, Pennsylvania 18101

DATE: September 27, 2010

Phone: 610-871-4459
Fax: 610-871-4122
Email: krthompson@state.pa.us

FROM:

Name: Steve Pitoniak, Trans. Plan. Mgr. **Telephone:** (570) 963-6400

Address: 507 Linden Street, 5th Floor, Scranton, PA 18503
Street

Scranton *City* | PA *State* | 18503 *ZipCode*

Email: PitoniakS@lackawannacounty.org

XX **Yes.** I, or my organization, would like to be a consulting party in the Section 106 process for the S.R. 6011, Section 273 project.

Lackawanna County Regional Planning Commission (Organization) will be represented by

Steve Pitoniak, Transportation Planning Manager (Representative)

(Please provide mailing address of representative if different than address provided above).

_____ **No.** I, or my organization, do(es) not wish to participate as a consulting party for the S.R. 6011, Section 273 project. Please note that this does not preclude you/your organization from requesting to participate as a consulting party, nor will it preclude consideration of comments from you/your organization as the project progresses.

Individual's or Organization's Interest
Please Check Appropriate Box(es)

- ☐ 1. legal interest
- ☐ 2. economic interest
- ☐ 3. historic property(s) concerns

Briefly justify your interest: Transportation Planning

Do you know of another potential consulting party for this project?
Please list their name and phone number or address below.

Please return this form in the pre-addressed envelope provided, or via email/fax.

rcvd 9/28/10

Section 106 Consulting Party Response Form

S.R. 6011, Section 273
Harrison Avenue Bridge Project
Lackawanna County

TO: Pennsylvania Department of Transportation
Engineering District 5-0
Attention: Kris Thompson
1002 Hamilton Street
Allentown, Pennsylvania 18101

DATE: _____

Phone: 610-871-4459
Fax: 610-871-4122
Email: krthompson@state.pa.us

FROM:

Name: Donald R Paciorka **Telephone:** 570 955-0611

Address: 26 Crown Ave
Street

Scranton *City* Penna *State* 18505 *ZipCode*

Email: _____

X **Yes.** I, or my organization, would like to be a consulting party in the Section 106 process for the S.R. 6011, Section 273 project.

D R Paciorka *(Organization)* will be represented by

_____ *(Representative)*

(Please provide mailing address of representative if different than address provided above).

_____ **No.** I, or my organization, do(es) not wish to participate as a consulting party for the S.R. 6011, Section 273 project. Please note that this does not preclude you/your organization from requesting to participate as a consulting party, nor will it preclude consideration of comments from you/your organization as the project progresses.

Individual's or Organization's Interest
Please Check Appropriate Box(es)

- ☒ 1. legal interest
- ☒ 2. economic interest
- ☒ 3. historic property(s) concerns

Briefly justify your interest: My family + I have been on this property since before 1900, 2yrs ago given award for property

Do you know of another potential consulting party for this project?
Please list their name and phone number or address below.

_____

_____

Please return this form in the pre-addressed envelope provided, or via email/fax.

rec'd 9/28/10

Section 106 Consulting Party Response Form

S.R. 6011, Section 273
Harrison Avenue Bridge Project
Lackawanna County

TO: Pennsylvania Department of Transportation
Engineering District 5-0
Attention: Kris Thompson
1002 Hamilton Street
Allentown, Pennsylvania 18101

DATE: 9-28-10

Phone: 610-871-4459
Fax: 610-871-4122
Email: krthompson@state.pa.us

FROM:

Name: Larry Malski **Telephone:** 570-963-6676

Address: 280 Cliff Street
Street

Scranton *City* PA *State* 18503 *ZipCode*

Email: lmalski@pnrra.org

✓ **Yes.** I, or my organization, would like to be a consulting party in the Section 106 process for the S.R. 6011, Section 273 project.

PA Northeast Regional Railroad Authority *(Organization)* will be represented by

Larry Malski, President *(Representative)*

(Please provide mailing address of representative if different than address provided above).

_____ **No.** I, or my organization, do(es) not wish to participate as a consulting party for the S.R. 6011, Section 273 project. Please note that this does not preclude you/your organization from requesting to participate as a consulting party, nor will it preclude consideration of comments from you/your organization as the project progresses.

Individual's or Organization's Interest
Please Check Appropriate Box(es)

- ☑ 1. legal interest
- ☑ 2. economic interest
- ☐ 3. historic property(s) concerns

Briefly justify your interest: property owner

Do you know of another potential consulting party for this project?
Please list their name and phone number or address below.

Lorie Ransom, General Superintendent, Delaware-Lackawanna Railroad, 280 Cliff St, Scranton, PA 18503 (570) 343-4580

Please return this form in the pre-addressed envelope provided, or via email/fax.

Rec'd 10/1/10

Section 106 Consulting Party Response Form

S.R. 6011, Section 273
Harrison Avenue Bridge Project
Lackawanna County

TO: Pennsylvania Department of Transportation
Engineering District 5-0
Attention: Kris Thompson
1002 Hamilton Street
Allentown, Pennsylvania 18101

DATE: September 28, 2010

Phone: 610-871-4459
Fax: 610-871-4122
Email: krthompson@state.pa.us

FROM:

Name: Mr. David R. and Sarah A. Owens **Telephone:** (570)344-6098

Address: 1516 Linden Street
Street

Scranton *City* PA. *State* 18510 *ZipCode*

Email: _____

_____ **Yes.** I, or my organization, would like to be a consulting party in the Section 106 process for the S.R. 6011, Section 273 project.

_____ will be represented by
(Organization)

_____
(Representative)

(Please provide mailing address of representative if different than address provided above).

_____ **No.** I, or my organization, do(es) not wish to participate as a consulting party for the S.R. 6011, Section 273 project. Please note that this does not preclude you/your organization from requesting to participate as a consulting party, nor will it preclude consideration of comments from you/your organization as the project progresses.

Individual's or Organization's Interest
Please Check Appropriate Box(es)

- [X] 1. legal interest
- [X] 2. economic interest
- [ ] 3. historic property(s) concerns

Briefly justify your interest: _____

_____

Do you know of another potential consulting party for this project?
Please list their name and phone number or address below.

_____

_____

Please return this form in the pre-addressed envelope provided, or via email/fax.

rec'd 10/4/10

Section 106 Consulting Party Response Form

S.R. 6011, Section 273
Harrison Avenue Bridge Project
Lackawanna County

TO: Pennsylvania Department of Transportation
Engineering District 5-0
Attention: Kris Thompson
1002 Hamilton Street
Allentown, Pennsylvania 18101

DATE: Oct. 4, 2010

Phone: 610-871-4459
Fax: 610-871-4122
Email: krthompson@state.pa.us

FROM:

Name: Lori Reed **Telephone:** (570) 348-4216 x130

Address: 538 Spruce St.
Street

Scranton *City* PA *State* 18508 *ZipCode*

Email: lreed@scrantonpa.gov

✓ **Yes.** I, or my organization, would like to be a consulting party in the Section 106 process for the S.R. 6011, Section 273 project.

City of Scranton - OECD/HARB *(Organization)* will be represented by

Lori Reed, OECD Deputy Director & Historical Preservation Officer *(Representative)*

(Please provide mailing address of representative if different than address provided above).

____ **No.** I, or my organization, do(es) not wish to participate as a consulting party for the S.R. 6011, Section 273 project. Please note that this does not preclude you/your organization from requesting to participate as a consulting party, nor will it preclude consideration of comments from you/your organization as the project progresses.

Individual's or Organization's Interest
Please Check Appropriate Box(es)

- ☐ 1. legal interest
- ☑ 2. economic interest
- ☑ 3. historic property(s) concerns

Briefly justify your interest: _____

Do you know of another potential consulting party for this project?
Please list their name and phone number or address below.

Richard J. Leonori, AIA - Lackawanna Historical Society (570) 961-1302 x3012

John Moore - HARB chairman - (570) 347-5956

Please return this form in the pre-addressed envelope provided, or via email/fax.

RECD 10/6/10

Section 106 Consulting Party Response Form

S.R. 6011, Section 273
Harrison Avenue Bridge Project
Lackawanna County

TO: Pennsylvania Department of Transportation
Engineering District 5-0
Attention: Kris Thompson
1002 Hamilton Street
Allentown, Pennsylvania 18101

DATE: 10/6/10

Phone: 610-871-4459
Fax: 610-871-4122
Email: krthompson@state.pa.us

FROM:

Name: MARTINA BACARELLA **Telephone:** 570-563-2653

Address: 735 DEAN RD.
Street

DALTON City PA. State 18414 ZipCode

Email: ARCHITECTS@MARTINABACARELLA.COM

√ **Yes.** I, or my organization, would like to be a consulting party in the Section 106 process for the S.R. 6011, Section 273 project.

ARCHITECTURAL HERITAGE ASSOCIATION (Organization) will be represented by

MARTINA BACARELLA (Representative)

(Please provide mailing address of representative if different than address provided above).

_____ **No.** I, or my organization, do(es) not wish to participate as a consulting party for the S.R. 6011, Section 273 project. Please note that this does not preclude you/your organization from requesting to participate as a consulting party, nor will it preclude consideration of comments from you/your organization as the project progresses.

Individual's or Organization's Interest
Please Check Appropriate Box(es)

- ☐ 1. legal interest
- ☐ 2. economic interest
- ☒ 3. historic property(s) concerns

Briefly justify your interest: WE ARE A SCRANTON BASED NON-PROFIT PRESERVATION ORGANIZATION. INTERESTED IN PRESERVING THE INTEGRITY OF THE SPAN

Do you know of another potential consulting party for this project? Please list their name and phone number or address below.

_____

_____

Please return this form in the pre-addressed envelope provided, or via email/fax.

recd 10/12/10

Section 106 Consulting Party Response Form

S.R. 6011, Section 273
Harrison Avenue Bridge Project
Lackawanna County

TO: Pennsylvania Department of Transportation
Engineering District 5-0
Attention: Kris Thompson
1002 Hamilton Street
Allentown, Pennsylvania 18101

DATE: 10-7-10

Phone: 610-871-4459
Fax: 610-871-4122
Email: krthompson@state.pa.us

FROM:

Name: Sharon Spence **Telephone:** (570) 894-2885

Address: P. O. Box 766
Street

Toby hanna | PA | 18466
City | *State* | *ZipCode*

Email: mseshi45@hotmail.com

_____ **Yes.** I, or my organization, would like to be a consulting party in the Section 106 process for the S.R. 6011, Section 273 project.

SELF will be represented by
(Organization)

Sharon Spence / Patrick Hafner (Spouse)
(Representative)

(Please provide mailing address of representative if different than address provided above).

_____ **No.** I, or my organization, do(es) not wish to participate as a consulting party for the S.R. 6011, Section 273 project. Please note that this does not preclude you/your organization from requesting to participate as a consulting party, nor will it preclude consideration of comments from you/your organization as the project progresses.

Individual's or Organization's Interest
Please Check Appropriate Box(es)

- [x] 1. legal interest
- [x] 2. economic interest
- [x] 3. historic property(s) concerns

Briefly justify your interest: Property owner

Do you know of another potential consulting party for this project?
Please list their name and phone number or address below.

Please return this form in the pre-addressed envelope provided, or via email/fax.

rec'd 10/12/10

Section 106 Consulting Party Response Form

S.R. 1029, Section 770
Tunkhannock Creek Bridge Project
Wyoming County

TO: Pennsylvania Department of Transportation
Engineering District 4-0
Attention: Kris Thompson, c/o District 5-0
1002 Hamilton Street
Allentown, Pennsylvania 18101

DATE: 10/5/2010

Phone: 610-871-4459
Fax: 610-871-4122
Email: krthompson@state.pa.us

FROM:

Name: David L. Oakley **Telephone:** (845) 339-5594

Address: 1151 State Route 28A
Street

West Hurley *City* NY *State* 12491 *ZipCode*

Email: ashoakan@yahoo.com

✓ **Yes.** I, or my organization, would like to be a consulting party in the Section 106 process for the S.R. 1029, Section 770 project.

_____ will be represented by
(Organization)

_____
(Representative)

(Please provide mailing address of representative if different than address provided above).

_____ **No.** I, or my organization, do(es) not wish to participate as a consulting party for the S.R. 1029, Section 770 project. Please note that this does not preclude you/your organization from requesting to participate as a consulting party, nor will it preclude consideration of comments from you/your organization as the project progresses.

Individual's or Organization's Interest
Please Check Appropriate Box(es)

- ☐ 1. legal interest
- ☒ 2. economic interest
- ☒ 3. historic property(s) concerns

Briefly justify your interest: Some of the options could have an effect on our land and would like to see old bridge preserved.

Do you know of another potential consulting party for this project?
Please list their name and phone number or address below.

_____

_____

Please return this form in the pre-addressed envelope provided.

recd 10/12/10

Section 106 Consulting Party Response Form

S.R. 6011, Section 273
Harrison Avenue Bridge Project
Lackawanna County

TO: Pennsylvania Department of Transportation
Engineering District 5-0
Attention: Kris Thompson
1002 Hamilton Street
Allentown, Pennsylvania 18101

DATE: 10-7-10

Phone: 610-871-4459
Fax: 610-871-4122
Email: krthompson@state.pa.us

FROM:

Name: Sharon Spence **Telephone:** (570) 894-2885

Address: P. O. Box 766
Street

Toby hanna | PA | 18466
City | *State* | *ZipCode*

Email: mseshi45@hotmail.com

_____ **Yes.** I, or my organization, would like to be a consulting party in the Section 106 process for the S.R. 6011, Section 273 project.

SELF will be represented by
(Organization)

Sharon Spence / Patrick Hafner (Spouse)
(Representative)

(Please provide mailing address of representative if different than address provided above).

_____ **No.** I, or my organization, do(es) not wish to participate as a consulting party for the S.R. 6011, Section 273 project. Please note that this does not preclude you/your organization from requesting to participate as a consulting party, nor will it preclude consideration of comments from you/your organization as the project progresses.

Individual's or Organization's Interest
Please Check Appropriate Box(es)

- [x] 1. legal interest
- [x] 2. economic interest
- [x] 3. historic property(s) concerns

Briefly justify your interest: Property owner

Do you know of another potential consulting party for this project?
Please list their name and phone number or address below.

Please return this form in the pre-addressed envelope provided, or via email/fax.

rec'd 10/12/10

Section 106 Consulting Party Response Form

S.R. 6011, Section 273
Harrison Avenue Bridge Project
Lackawanna County

TO: Pennsylvania Department of Transportation
Engineering District 5-0
Attention: Kris Thompson
1002 Hamilton Street
Allentown, Pennsylvania 18101

DATE: 10/6/10

Phone: 610-871-4459
Fax: 610-871-4122
Email: krthompson@state.pa.us

FROM:

Name: MARTINA BACARELLA **Telephone:** 570-563-2653

Address: 735 DEAN RD.
Street

DALTON City PA. State 18414 ZipCode

Email: ARCHITECTS@MARTINABACARELLA.COM

√ **Yes.** I, or my organization, would like to be a consulting party in the Section 106 process for the S.R. 6011, Section 273 project.

ARCHITECTURAL HERITAGE ASSOCIATION (Organization) will be represented by

MARTINA BACARELLA (Representative)

(Please provide mailing address of representative if different than address provided above).

_____ **No.** I, or my organization, do(es) not wish to participate as a consulting party for the S.R. 6011, Section 273 project. Please note that this does not preclude you/your organization from requesting to participate as a consulting party, nor will it preclude consideration of comments from you/your organization as the project progresses.

Individual's or Organization's Interest
Please Check Appropriate Box(es)

- ☐ 1. legal interest
- ☐ 2. economic interest
- ☒ 3. historic property(s) concerns

Briefly justify your interest: WE ARE A SCRANTON BASED NON-PROFIT PRESERVATION ORGANIZATION. INTERESTED IN PRESERVING THE INTEGRITY OF THE SPAN

Do you know of another potential consulting party for this project? Please list their name and phone number or address below.

_____

_____

Please return this form in the pre-addressed envelope provided, or via email/fax.

recd 10/12/10

Section 106 Consulting Party Response Form

S.R. 6011, Section 273
Harrison Avenue Bridge Project
Lackawanna County

TO: Pennsylvania Department of Transportation
Engineering District 5-0
Attention: Kris Thompson
1002 Hamilton Street
Allentown, Pennsylvania 18101

DATE: 10/6/10

Phone: 610-871-4459
Fax: 610-871-4122
Email: krthompson@state.pa.us

FROM:

Name: WAYNE EVANS **Telephone:** 570-906-8600

Address: 429 PITTSTON AVE
Street

SCRANTON *City* PA *State* 18505 *ZipCode*

Email: WAYNE.EVANS19@VERIZON.NET

✓ **Yes.** I, or my organization, would like to be a consulting party in the Section 106 process for the S.R. 6011, Section 273 project.

SOUTH SCRANTON RESIDENTS ASSOCIATION (Organization) will be represented by

WAYNE EVANS (Representative)

(Please provide mailing address of representative if different than address provided above).

____ **No.** I, or my organization, do(es) not wish to participate as a consulting party for the S.R. 6011, Section 273 project. Please note that this does not preclude you/your organization from requesting to participate as a consulting party, nor will it preclude consideration of comments from you/your organization as the project progresses.

Individual's or Organization's Interest
Please Check Appropriate Box(es)

- ☐ 1. legal interest
- ☑ 2. economic interest
- ☑ 3. historic property(s) concerns

Briefly justify your interest: STAN IS EASTERN GATEWAY TO NEIGHBORHOOD, WOULD LIKE TO ENHANCE APPEARANCE

Do you know of another potential consulting party for this project?
Please list their name and phone number or address below.

_____

_____

Please return this form in the pre-addressed envelope provided, or via email/fax. rec'd 10/12/10

From:	Kitty Henderson
To:	Thompson, Kristina L
Subject:	Fwd: Consulting Party Solicitation for Harrison Avenue Bridge Project, Lackawanna County, PennDOT District 4-0
Date:	Monday, September 27, 2010 10:40:48 PM
Attachments:	SR 6011-273 Consulting Party Response Form.doc ATT00002..htm

---

Dear Ms. Thompson,
The Historic Bridge Foundation is writing to request consulting party status on the above referenced bridge. As per our arrangement with Penndot, this email serves as our official request.

Kitty Henderson
Executive Director

Begin forwarded message:

> **From:** "Thompson, Kristina L" <krthompson@state.pa.us>
> **Date:** July 19, 2010 6:59:41 AM CDT
> **To:** Kitty Henderson <kitty@historicbridgefoundation.com>
> **Subject: RE: Consulting Party Solicitation for Harrison Avenue Bridge Project, Lackawanna County, PennDOT District 4-0**
>
> Kitty,
>
> Replacement is one of the options that is being investigated along with rehabilitation. There has been an in-depth inspection completed, and we are working forward from there. We are still in the eligibility stages of the project, so it's early on in the Section 106 process. A rehabilitation feasibility report will be produced. I think this is likely one that would be worth your time, in terms of significance of the bridge and community value/support. I'm attaching the CP response form in case you decide to request CP status.
>
> Did you find the extra I added to the scoping form useful on your end (the photographs and the AGL survey sheet)? I'm trying to determine what information is the most helpful to include beyond what is on the scoping form itself.
>
> Take care,
> Kris
>
> Kristina Lammi Thompson | Regional Architectural Historian
> PA Department of Transportation
> BOD/EQAD| Districts 4 & 5
> 1002 Hamilton Street | Allentown PA 18101
> Phone: 610.871.4459 | Fax: 610.871.4122
> www.dot.state.pa.us
>
> -----Original Message-----
> From: Kitty Henderson [mailto:kitty@historicbridgefoundation.com]

Sent: Friday, July 16, 2010 4:36 PM
To: Thompson, Kristina L
Subject: Fwd: Consulting Party Solicitation for Harrison Avenue Bridge Project, Lackawanna County, PennDOT District 4-0

Kris
Is this a potential replacement project?
Kitty

From: Barbara Frederick
Sent: Monday, July 19, 2010 8:51 AM
To: Colleen Kelly
Cc: Emma Young
Subject: FW: Consulting Party Solicitation for Harrison Avenue Bridge Project, Lackawanna County, PennDOT District 4-0

Attachments: PDOT E-POSTING - Lackawanna County - SR 6011 Sec 273 - MPMS#07838 - ER#07-8035-069 - Scoping on Listed Bridge.pdf
FYI

From: Thompson, Kristina L [mailto:krthompson@state.pa.us]
Sent: Monday, July 19, 2010 7:27 AM
To: Emma Young; Barbara Frederick
Subject: FW: Consulting Party Solicitation for Harrison Avenue Bridge Project, Lackawanna County, PennDOT District 4-0

For your files.

Kristina Lammi Thompson | Regional Architectural Historian
PA Department of Transportation
BOD/EQAD| Districts 4 & 5
1002 Hamilton Street | Allentown PA 18101
Phone: 610.871.4459 | Fax: 610.871.4122
www.dot.state.pa.us

From: PennDOT Clearinghouse [mailto:Clearinghouse@preservationpa.org]
Sent: Friday, July 16, 2010 3:14 PM
To: MacDonald, Alexander M; bill_brookover@nps.gov; jdziak@gmail.com; president@wallenpaupackhistorical.org; kitty@historicbridgefoundation.com; kbeadenkopf@louisberger.com; benacklisa@comcast.net; klines6019@aol.com; nathan@historicbridges.org; michael.stewart@temple.edu; rgeidel@navarrowright.com; SSuter@stellee.com; sbuonopa@bucknell.edu; terri.paroute6@penn.com; golden6727@aol.com; lackawannahistory@gmail.com; heritage@lhva.org; pitoniaks@lackawannacounty.org; info@eldcps.org; lrca@lrca.org; nsolfanelli@lhva.org
Cc: Thompson, Kristina L; Mock, Kevin W; clearinghouse@preservationpa.org
Subject: Consulting Party Solicitation for Harrison Avenue Bridge Project, Lackawanna County, PennDOT District 4-0

This email is a solicitation to potential consulting parties for the **Harrison Avenue Bridge Project.**

PennDOT Engineering District 4-0 is considering options to improve the Harrison Avenue Bridge's load capacity and safety. The bridge spans the Central Scranton Expressway, Roaring Brook, and an active railroad line to connect two residential neighborhoods in downtown Scranton. This three span open-spandrel concrete arch bridge was constructed in 1921-1922 and is listed on the National Register of Historic Places.

Attached is a digital submission from Kristina Thompson, the Above Ground Cultural Resource Professional for District 4-0. **Please contact Kristina Thompson at krthompson@state.pa.us to request consulting party status on this project.**

To access the server which contains the supporting documentation for these notices please visit:
http://hssadm4.chss.iup.edu/
Enter the following case sensitive username and password.

Username: Projectfiles
Password: Download

For more information, and instructions to access the FTP server which contains additional documentation, please visit Preservation PA's website at:
http://www.preservationpa.org/programs/clearinghouse/theclearinghouse.php

Please feel free to contact Preservation Pennsylvania at clearinghouse@preservationpa.org with any questions.

Preservation Pennsylvania
257 North Street
Harrisburg, PA 17101
717-2342310 ext. 18
clearinghouse@preservationpa.org

MINUTES OF MEETING

To: Attendees

From: Gary Frenette

Date: July 14, 2010

Re: Harrison Avenue Bridge Rehabilitation
S.R. 6011 Sec. 273
Lackawanna County
July 9, 2010 Meeting – Review of Project Scope and Status / Kick-off to Move Project Forward
Dewberry Project No. 50003929

A meeting was held at 1:00 pm on July 9, 2010 at the PennDOT District 4-0 office. The following people attended:

Name	Representing	Phone	Email
Charles Reuther	PennDOT District 4-0 Project Manager	570-963-4334	creuther@state.pa.us
Kevin Atkins	PennDOT District 4-0 Liaison Engineer	570-963-3190	katkins@state.pa.us
Kris Thompson	PennDOT Regional Architectural Historian	610-871-4459	krthompson@state.pa.us
Greg Augustine	PennDOT District 4-0 Environmental Manager	570-963-4070	gaugustine@state.pa.us
Peter Dunford	PennDOT District 4-0 Environmental Unit	570-963-4070	peter.dunford@wilkes.edu
Lori Reed	City of Scranton OECD and HARB	570-903-9134	lreed@scrantonpa.gov
Mark Seitzinger	City of Scranton Director – Lic., Permits & Inspection, BCO	570-903-9092	mseitzinger@scrantonpa.gov
Debbie Noone	PennDOT District 4-0 Assistant District Executive – Design	570-963-4045	dnoone@state.pa.us
Harold Hill	PennDOT District 4-0 District Bridge Engineer	570-963-4091	hshill@state.pa.us
Susan Hazelton	PennDOT District 4-0 Portfolio Manager	570-963-3028	shazelton@state.pa.us
Joe Cassaro	PennDOT District 4-0	570-963-3324	jcassaro@state.pa.us
Keith Williams	PennDOT District 4-0 Traffic Engineer	570-963-4819	keiwilliam@state.pa.us
Brian Swanson	City of Scranton	570-706-1890	bswanson@pennoni.com
Jeffrey Brazil	City of Scranton Department of Public Works	570-903-9100	jbrazil@scrantonpa.gov
Tom Davis	City of Scranton Fire Department	570-348-4132	
Gary Frenette	Dewberry-Goodkind, Inc.	717-961-5055	gfrenette@dewberry.com
Pat Gerstner	Dewberry-Goodkind, Inc.	717-961-5057	pgerstner@dewberry.com

SUMMARY OF MEETING DISCUSSION

Dewberry gave a Powerpoint presentation showing the results of the bridge condition survey and recommendations for the project. The information on the existing bridge included: past history of the bridge, results of Dewberry's May 2008 in-depth inspection, lab tests and core sampling, and load ratings. Based on the results of these studies, Dewberry has recommended bridge replacement instead of bridge rehabilitation. Problems with bridge rehabilitation include:

- The only portions of the existing bridge which could be salvaged and rehabilitated are the arch barrels (Spans 1 and 3), the four arch ribs (Span 2) and the lower portions of the piers and the abutments.
- The arch barrels (Spans 1 and 3) and arch ribs (Span 2) have high chloride levels. There is no sure way to arrest the on-going corrosion of reinforcing steel. The future life of the structure is uncertain if rehabilitated and repaired.
- It would be difficult to make effective repairs to splice in new reinforcement bars to the spalled areas of the arches.

- A major concern with rehabilitation of Span 2 is that most of the vehicle live load is carried by the interior arch ribs; the exterior ribs below the sidewalks carry a much smaller portion of the traffic load. Damage and deterioration to the interior ribs therefore has a much greater impact on the structural capacity of the span than for a barrel arch or other type of structure with greater load path redundancy.
- The arch ribs, columns and other structural elements are sparsely reinforced, including both longitudinal and tie reinforcement.
- There is both lateral and vertical displacement at the transverse joints in the deck and T-beams in Span 2. The cause of this displacement is not definitely known; however, excessive rib shortening is suspected.

A conceptual bridge replacement adjacent to the existing structure was compared with bridge rehabilitation:

- Dewberry's preliminary construction cost estimate (dated 2008) for bridge rehabilitation is $15,445,000 and for bridge replacement is $11,699,000. Right-of-way costs are not included.
- Bridge replacement would allow maintenance of vehicle and pedestrian traffic on the existing structure. Rehabilitation would require a detour over 2 construction seasons or utilization of a temporary run-around. Detour impacts would not be tolerable, so the use of a temporary run-around is included in the comparison of impacts for bridge rehabilitation versus replacement.
- Utility impacts for bridge rehabilitation would be minimal. Bridge replacement would involve relocation of underground facilities (natural gas, sanitary sewer and water) and overhead lines (electric and telephone).
- Bridge rehabilitation would involve at least one residential displacement (due to the temporary run-around) and temporary use of Duffy Park. Bridge replacement would involve at least 3 residential displacements and relocation of Duffy Park. Duffy Park is located south of the bridge along Harrison Avenue. If agreeable to the City of Scranton, the relocation of Duffy Park would not be considered a Section 4(f) impact.

Bridge replacement would result in an adverse impact to the existing historic bridge.

Harold Hill noted that the cost estimate for bridge rehabilitation includes only the known repair needs from the inspection. The actual cost could rise significantly during construction when the full extent of the damage and deterioration becomes known.

Greg Augustine commented that an in-depth inspection study is crucial to define the scope and goal of the project: rehabilitation or replacement. This approach is in line with Secretary of Transportation Biehler's desire to weigh the future costs of a rehabilitation project against the uncertain design life of rehabilitation due to difficulty in knowing the full extent of existing damage. The studies completed to-date have concluded that bridge replacement is the preferred long-term alternative.

For bridge replacement, the type of bridge would likely be a reinforced concrete deck on steel plate girders. An estimated web depth of the bridge girders would be approximately 8 feet. Setting the girders over the deep gorge of Roaring Brook would be a factor influencing the size of the girders, including the size of the segments hauled to the site and spliced together to form the span. The bridge will likely be a 3-span structure with the span lengths and locations of piers and abutments similar to the existing bridge.

From the plan view layout of the conceptual bridge replacement, it is estimated that 3 residential displacements would directly result from the project. This is the minimum number of displacements, however, and additional displacements could also result as the design is further developed.

Kris Thompson outlined the process that is being followed for the National Register-listed historic bridge. A formal rehabilitation feasibility study will be completed. In order to avoid an adverse impact to the historic bridge, the rehabilitation work would have to be in line with the Secretary of Interior's standards for historic integrity. The feasibility study will be made available for review by the Pennsylvania Historical and Museum Commission (PHMC) as well as responsible consulting parties. A Determination of Effects on the historic resource will be completed, and if it is determined that an adverse impact to the historic resource will result, a Memorandum of Agreement will be developed that will outline agreeable mitigation.

Jeffrey Brazil commented that he resides in the neighborhood south of the bridge, and that he would expect that residents will not be opposed to replacement of the bridge instead of rehabilitation, especially since the existing bridge would continue to carry traffic during construction and a detour would not be required.

Greg Augustine noted that impacts to Duffy Park will need to be evaluated under Section 4(f) of the Transportation Act, and the City's input will be important if relocation of the park is necessary. The relocation will have to result in no reduction of the park area, and no permanent degradation of the park.

Jeffrey Brazil noted that Duffy Park is presently located along both sides of S.R. 6015. If the park is relocated and the adjacent streets are aligned so that the park lies completely on one side of S.R. 2015 without being severed by any street, the changes could improve the park.

Draft historic resource surveys completed by A.D. Marble (subconsultant to Dewberry) have recommended that there are no eligible historic resources that would be affected by the project, except for the bridge. The World War I doughboy statue in the park is not eligible, although it has local significance. The statue is one of only 8 remaining statues out of 100 that were originally cast from pennies that were collected by war widows.

Jeffrey Brazil will be the initial contact for A.D. Marble to gain additional information on Duffy Park for determination of Section 4(f) eligibility and impacts.

The next steps in developing the project will be:

- Completion of the Rehabilitation Feasibility Study and review by PHMC and consulting parties.
- Further development of the bridge replacement concept to identify impacts to adjacent properties and Duffy Park.
- Conduct a public meeting to present the results of the inspection and rehabilitation study, and explain that bridge replacement is being considered as an alternative to rehabilitation. Adjoining property owners, local officials and emergency service providers will receive invitation by direct contact, and the meeting will be advertised in advance for the public at large.

PennDOT would like to hold the public meeting at a location close to the project area which is accessible to physically disabled persons. Possible locations include local schools (John J. Audubon Elementary School), University of Scranton or City Hall. The Clarion Hotel would have generous parking areas, but facility rental cost would be disadvantageous.

When PennDOT has set the time frame for the public meeting, Jeffrey Brazil will be contacted to help coordinate arrangements for the location and scheduling of the meeting.

Greg Augustine would like to identify a small focus group consisting of key City officials and others. The focus group will help ensure that PennDOT identifies and addresses local issues and concerns.

Keith Williams commented that pedestrian traffic will need to be maintained along both sides of Harrison Avenue, except in the northwest quadrant of the existing bridge, where construction activity will preclude pedestrian access. Pedestrian crossings to maintain traffic on the east side will be needed.

Dewberry will determine the location of the Laurel Line tunnel on the south side of the expressway and ascertain that the project will not affect the tunnel. It was suggested to conduct a pre-construction inspection of the tunnel during final design as a benchmark to determine any damages during construction.

These minutes should be considered a reasonably complete and accurate summary of the discussion and conclusions during the meeting. Please provide any clarifications or additional items within 10 days of receiving these minutes.

Q:\50003929\50003931\Adm\Correspondence\Meetings\mtg min 7 09 10.doc

Appendix D:
Qualifications of Researchers

Colleen M. Kelly
Project Manager/Environmental Planner

Ms. Kelly is a project manager experienced in managing all aspects of NEPA documentation including, Section 106 studies, hazardous waste studies, noise and air studies, and socioeconomic studies. She is experienced in preparing technical studies and documents to meet NEPA clearance. She has managed numerous projects involving Environmental Evaluations (EAs) and Categorical Exclusion Evaluations (CEEs), as well as worked on Environmental Impact Statements (EISs) level documents for transportation projects throughout the Mid-Atlantic region. Ms. Kelly has completed Section 4(f) Evaluations, Environmental Assessments, Farmland Evaluations, and Phase I Environmental Site Assessments. Ms. Kelly has successfully coordinated with various resource agencies, including the USACE, PADEP, US EPA, USFWS, FHWA, and PHMC.

Education

2009 M.S. Community and Regional Planning, Temple University Ambler

1998 B.S. Environmental Science/Biology, Marywood University, Scranton, PA

Professional Experience

2000 – Present	A.D. Marble & Company	*Project Manager*
1998-1999	Property Solutions	*Environmental Scientist*

Barbara Frederick
Senior Architectural Historian

Barbara Frederick is a senior architectural historian with over 15 years of experience in cultural resources management, including positions in both the private and public sectors. She has extensive experience in the preparation of historic resources surveys, National Register nominations, historic contexts, assessment of effect documents, EIS documents, public involvement and education, and HABS/HAER recordations. Ms. Frederick has worked throughout the Mid-Atlantic region surveying thousands of properties including architectural, agricultural, industrial, and engineering resources. For two years, Ms. Frederick worked for divisions of the National Park Service, including the National Historic Landmarks Survey. She is particularly knowledgeable of the qualifications necessary for both National Historic Landmark and National Register listings. Ms. Frederick exceeds the National Park Service's professional requirements as specified in the Secretary of the Interior's Professional Qualification Standards.

Education

1996 B.A., Historic Preservation, Mary Washington College, Fredericksburg, Virginia

1997 Pacific Northwest Preservation Field School, Silverton, Oregon

Professional Experience

2001 – Present	A.D. Marble & Company, Inc.	*Sr. Architectural Historian*
1999 - 2001	John Milner Associates, Inc.	*Architectural Historian*
1997-1998	NPS, National Historic Landmarks Survey	*Program Assistant*
1996-1997	NPS, Museum Management Program	*Collections Automation Assistant*
1996	NPS, George Washington Memorial Parkway	*Historic Preservation Specialist*
1994	Massey-Maxwell Associates	*Cultural Resources Surveyor*

Papers and Publications

2004 "Old Order Amish of the Pequea Valley." Paper given at the Pioneer America Society Conference on the Cultural Landscape of Southeastern Pennsylvania.

2003 "Buildings, Boundaries, and Bridges: Using GIS and Relational Databases in Historic Resource Surveys" Transportation Research Board, Winter.

1996 "Railroads and Reapers: Agricultural History of Mid-Nineteenth Century Spotsylvania County." Statistical analysis of agricultural censuses. Published in the *Journal of Fredericksburg History*, Fall 1996 issue. Senior Research Project, Mary Washington College, Department of Historic Preservation.

Emma K. Young Diehl
Architectural Historian

Ms. Young Diehl is an architectural historian with over seven years of experience in cultural resource management, including positions in both historical research and historic preservation. She has extensive experience in the preparation of historic resources surveys, as well as National Register of Historic Places nominations. Her primary responsibilities consist of conducting historic architectural surveys and research, evaluating architectural resources for National Register eligibility, documenting architectural resources, and writing assessment of eligibility and effect reports. She has identified, evaluated, and documented numerous individual resources and historic districts, including residential, industrial, commercial, civic, and agricultural resources throughout the Mid-Atlantic region. She has also prepared Historic American Buildings Survey/Historic American Engineering Record (HABS/HAER) documentation as part of the Mid-Atlantic HABS program. Ms. Young Diehl is knowledgeable of federal and state regulations and guidelines concerning the treatment of historic properties, including but not limited to Sections 106 and 110 of the National Historic Preservation Act of 1966; the Secretary of the Interior's Standards for the identification and evaluation of historic resources; and State Historic Preservation Office (SHPO) guidelines for several states in the Mid-Atlantic region. Ms. Young Diehl exceeds the Secretary of the Interior's Professional Qualifications Standards for Architectural Historians.

Education

2005 M.A., University of Delaware, Historic Preservation
2003 B.A., Pennsylvania State University, History
2002 University of Aberystwyth, Wales, United Kingdom, Study Abroad

Professional Experience

August 2005 - Present	A.D. Marble & Company	*Architectural Historian*

Educational Experience

August 2004 -July 2005	Center for Historic Architecture and Design	*Research Assistant*
August 2003-June 2004	Delaware State Historic Preservation Office	*Preservation Intern*
Summer 1999-2005	National Park Service, Gettysburg	*Historian and Archives Intern*

Papers and Publications

2009 "Alice Orme Smith," in *Shaping the American Landscape: New Profiles from the Pioneers of American Landscape Design Project*, Charles Birnbaum and Stephanie Foell, eds. , University of Virginia Press.

2005 "Fronting the American Dream: The Porch as an Icon of American Architecture." Master's Thesis. University of Delaware, School of Urban Affairs and Public Policy, Historic Preservation.

2003 "Crème de la Crème: Delaware's National Historic Landmarks," *Preservation Delaware*, Winter 2004 issue.

2003 "Thay will Remember Gettysburg: Rupp House and Tannery." Monograph published by the Friends of the National Parks at Gettysburg, January 2003.

Shauna J. Haas
Architectural Historian

Ms. Haas has ten years of cultural resource experience focusing on the research and documentation of historic structures, districts, and cultural landscapes, as well as the development patterns and design of cities, towns and regions. She has completed architectural descriptions and historic contexts for documentation and evaluation projects on rural, urban, and suburban cultural resources. She has also completed multiple reconnaissance and intensive level surveys in New York, Illinois, Maryland, and Pennsylvania. Ms. Haas has worked in both the public and private sector in Illinois, Louisiana, Massachusetts, New York, Florida, Maryland, and Pennsylvania. She has participated in projects for the Pennsylvania Turnpike Commission, PennDOT, and FEMA, as well as several local government, academic, and private sector organizations. She meets the Secretary of the Interior Standards for Professional Qualifications (36 CFR 61).

Education

2004 M.A., Cornell University, Historic Preservation Planning

2000 B.A., University of Illinois, Urban and Regional Planning

Professional Experience

2005 - Present	A.D. Marble & Company	*Architectural Historian*
2004-2005	ATCS, PLC, Dulles, VA	*Planner II, Long Term Recovery*
2003	Lyndhurst (NTHP), Tarrytown, NY	*Restoration Crew*
2000-2002	Town of Dartmouth, MA, Planning Board	*Assistant Town Planner*

Training

Fall 2006	Cultural Resources Workshop	*NJSHPO; Trenton, NJ*
Spring 2007	Section 106 in the New Regulatory Environment	*PennDOT, Harrisburg, PA*