DNA Study

Kentucky Transportation Cabinet District 6 Planning
Corrin Gulick, PE

Kenton County

Item Number

06-1075.00 – 11th Street (KY 1120) Bridge

06-1070.00 – 15th Street (CS 2097) Bridge

Kentucky Transportation Cabinet Department of Highways District 6

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Covington, Kentucky 41017

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4/15/2011

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I. INTRODUCTION

Kentucky's FY2010-FY2012 Enacted Biennial Highway Plan, as approved by the May 2010 General Assembly, provides a list of projects for the Kentucky Transportation Cabinet from fiscal year 2010 to fiscal year 2012. The plan includes two bridge replacement projects, on 11th Street and 15th Street in Covington, Kentucky. The following study is a Data Needs Analysis (DNA) of two bridge replacement projects in Covington, Kentucky.

A. Study Purpose

The National Environmental Policy Act of 1969 (NEPA) established a policy for federally funded agencies to consider environmental impacts in the decision making process. A fundamental part of the NEPA process is to develop a Purpose and Need Statement in order to prevent future complications with NEPA documentation. This DNA will develop a draft Purpose and Need Statement as well as define the project scope, possible alternatives, planning-level cost estimates for alternates, an identification of potential environmental impacts, and other information pertinent to the Project Development phase of these projects.

B. Location

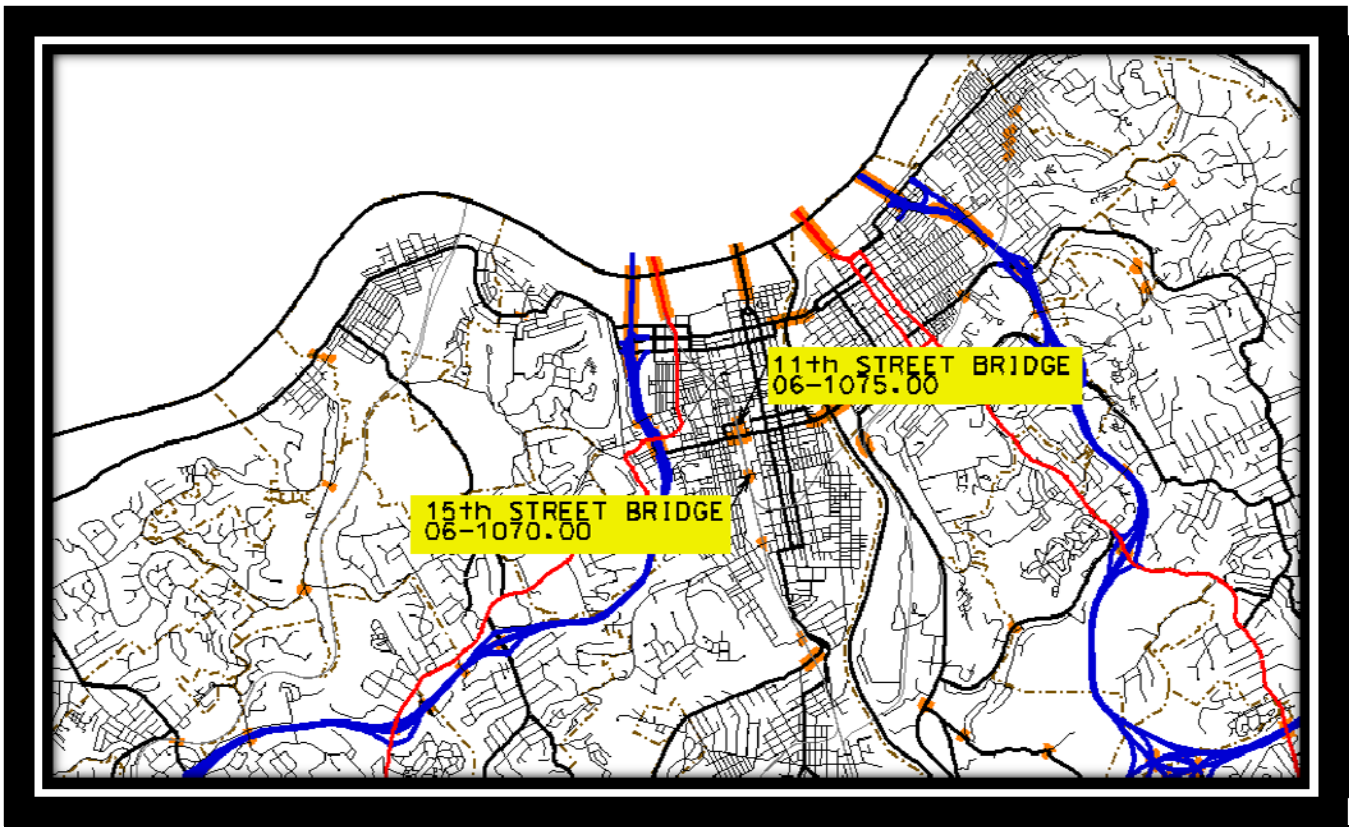


Figure 1 - Location map for the 11th and 15th Street Bridge Projects

Covington, Kentucky is located in Kenton County, one of the northern-most counties of Kentucky. According to Kentucky Data Center, the population of Covington was 43,370 in 2000. However, the population is expected to decrease to 41,653 by the year 2015. Covington is served by Interstate 71/75, which runs north-south through the county. The two bridge replacement projects studied in this report are located in the downtown area to the east of Interstate 71/75 and to the west of the Licking River. Both bridges cross the CSX Railroad.

The southern-most bridge is located along County Route 2097 (West 15th Street) over the CSX Railroad. This bridge is currently closed to vehicular traffic. The northern-most bridge is located along KY 1120 (11th Street) over the CSX Railroad at milepoint 0.62. Both bridges are located in an urban setting, adjacent to several historic districts. See Figure 1 for a location map of the project.

II. PROJECT PURPOSE AND NEED

A. Legislation

The two bridge replacement projects are included in Kentucky's FY2010-FY2012 Enacted Biennial Highway Plan, as approved by the May 2010 General Assembly. A description of the projects as listed in the plan is as follows:

County	Item #	Route	Funding	Phase	Year	Amount
Kenton	06-1070.00	CS-2097	BRZ	D	2011	$200,000
Kenton	06-1075.00	KY 1120	BRO	D	2012	$170,000

- 06-1070.00: WEST 15TH STREET; REPLACE BRIDGE AND APPROACHES OVER CSX RR IN COVINGTON (C29) (SR=3.9)(059C0029N) FROM MP 0.164 TO 0.198

- 06-1075.00: REPLACE BRIDGE ON KY-1120 (MP 0.621) OVER CSX RAILROAD; 11TH ST E OF RUSSEL ST; (STRUCTURALLY DEFICIENT SR=3) 059B00083N FROM MP 0.571 TO 0.671

B. Project Status

Design funds for the 11th and 15th Street Bridge projects have been requested for authorization. The funds are not authorized at this time.

C. System Linkage

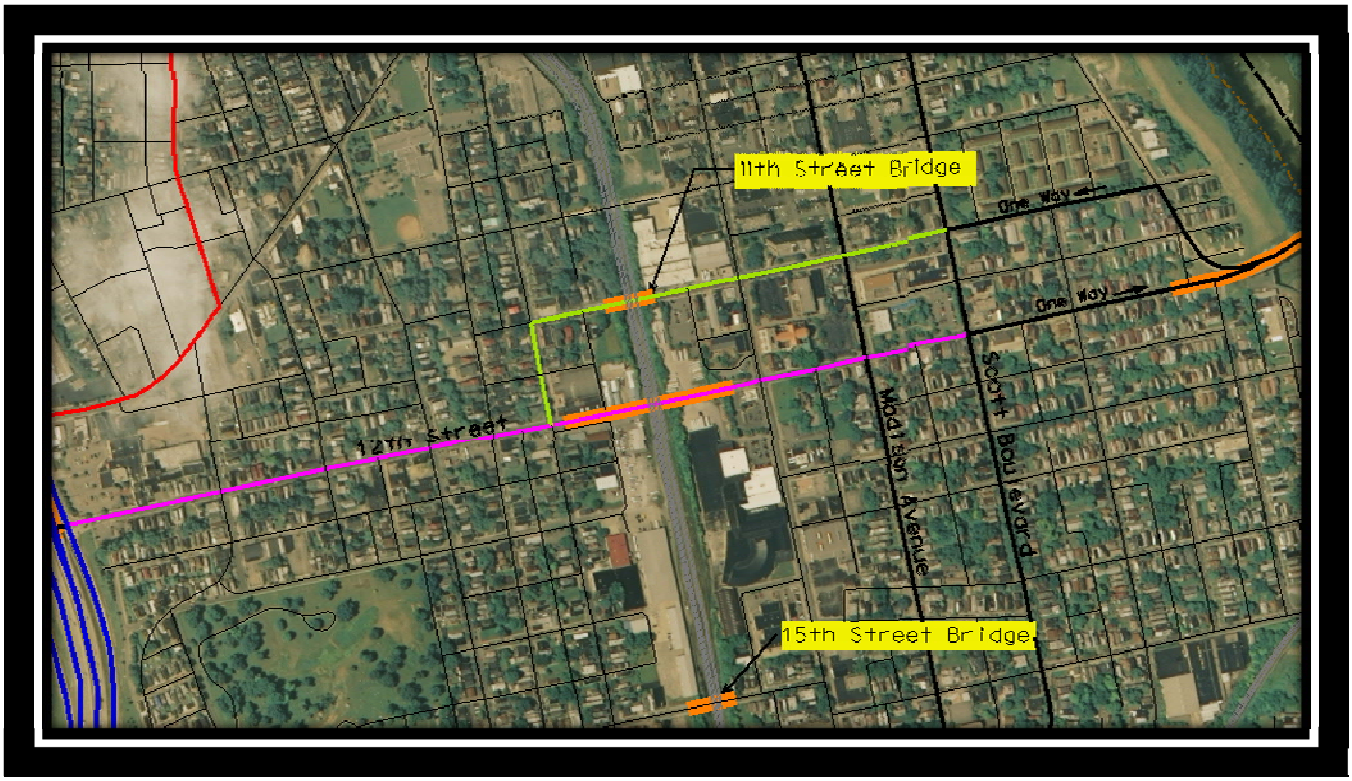


Figure 2 – Aerial view of the project area. The purple line represents the 12th Street widening project, and the green line represents the portion of KY 1120 recommended to be transferred to the local government.

The 11th Street Bridge and the 15th Street Bridge are located in an urban, downtown area. KY 1120 (11th Street) is part of the State Primary System and is functionally classified as an Urban Principal Arterial. CS 2097 is a city street that is functionally classified as an Urban Collector. Local traffic is anticipated to be the primary user of both bridges.

11th Street, from Madison Avenue to the KY 1120 Bridge over the Licking River, is currently the westbound portion of the KY 1120 one-way couplet. The KY 1120 bridge over the Licking River connects the city of Covington to the city of Newport. The eastbound portion of the KY 1120 one-way couplet is 12th Street.

A project to widen 12th Street to two lanes in each direction from Interstate 71/75 to Scott was awarded in construction August 6, 2009. This project is shown as the purple line in Figure 2. Once the project is complete, 12th Street will accommodate two-way traffic for an additional block to the east and the capacity of the roadway will increase. The new limits of the KY 1120 one-way couplet will extend from Scott Boulevard to the bridge over the Licking River.

Since 12th Street will accommodate two-way traffic to Scott Street, KY 1120 from Russell Street to Scott Street will no longer act as part of the one-way couplet. As a result, the Transportation Cabinet recommends converting this segment of KY 1120 (shown as a green line in Figure 2) from a state route to a city street.

The 15th Street Bridge over the CSX Railroad was closed to traffic in 2006. Although traffic does not currently use the bridge, the 12th Street Widening Project should reduce the need for additional connectivity in the area.

D. Modal Interrelationships

Neither the 11th or 15th Street Bridge is a designated bus route or bicycle route. However, bother bridges are used by local pedestrians and cyclists. Since the bridge crosses the CSX Railroad, all construction and design activity should be coordinated with CSX Railroad.

E. Social Demands and Economic Development

The 11th Street project area is comprised of a mix of business and residential properties. One of the businesses that will experience a direct impact is Heavenly Daycare. More investigation into this property will be needed to further evaluate the effects on the community. There are several other businesses and schools nearby that will experience impacts to their accessibility; however, this impact should be minimal due to the close proximity of the 12th Street Bridge. A full survey of affected business and points of community cohesion should be done to determine the full range of impacts.

The 15th Street project area is comprised of residential and commercial land uses that will be directly impacted by a transportation project. None of these properties appear to be major points of community cohesion. Since the 15th Street Bridge is already closed, effects to access of nearby businesses and residences should be minor. A full survey of properties and land uses will be needed to fully evaluate impacts on the area.

F. Transportation Demand

A 2008 count with a growth rate adjustment of 0.5% determined the existing 11th Street Bridge will serve 7,550 vehicles per day (vpd) in 2011. Since the 15th Street Bridge is currently closed, it serves 0 vpd. However, the bridge is used by pedestrians and cyclists to cross the CSX railroad.

G. Capacity

Proposed alternates could have an impact on the Level of Service of 12th Street. Highway Capacity Software was used to determine the Level of Service of 12th Street after the widening project, to further analyze potential alternates.

Construction on the 12th Street widening project began in 2009. In order to study the capacity of 12th Street after the widening project, 2008 counts were used with a 0.5% growth rate adjustment. Using this data and a K value of 10%, Highway Capacity Software determined 12th Street would have a Level of Service B, if the construction is completed in 2011.

H. Safety

Needs for the proposed 11th and 15th Street Bridge projects arise from roadway deficiencies, and the possibility of bridge failure. It is these deficiencies that pose a potential safety threat. However, there is no significant crash history at either bridge to date.

I. Roadway Deficiencies

A sufficiency rating of a bridge is based on structural value, functionality and detour length. The sufficiency rating can be as high as 100. However, once this number drops below 50, a bridge is eligible for federal bridge replacement funding. The 11th Street Bridge has a sufficiency rating of 2.0. This number has decreased from 3.9 since the project was entered into the SYP in 2008. As a result of the structural deficiencies, there is currently a weight limit on the 11th Street Bridge.

The clearance under the bridge is incorporated into the final sufficiency rating. The required clearance for a bridge over a railroad is 23.5 feet. The 11th Street Bridge clearance was measured in two locations, at the centerline of a track no longer in use and a track used daily. The clearance above a track that is no longer used is 17.83 feet. The clearance above a track that is used daily was measured to be 21.79 feet. Neither location measured acceptable clearance.

The 15th Street Bridge was closed to vehicular traffic in 2006, due to structural deficiencies. However, pedestrians and cyclists are currently permitted to use the bridge.

Clearance is also an issue with the 15th Street Bridge. The measured clearance of the bridge over the CSX Railroad was 20.93 feet. This does not meet the 23.5 feet requirement. The Structural Inventory and Appraisal Sheets for the 11th and 15th Street Bridges can be found in Appendix 2A and 3A respectively. The inspection report for the 11th and 15th Street Bridges can be found in Appendix 2B and 3B respectively.

III. PRELIMINARY ENVIRONMENTAL OVERVIEW

A. Air Quality

The United States Environments Protection Agency has designated Kenton County as an area of nonattainment for fine particulate matter, pursuant to the Clean Air Act Amendments of 1990. However, the 11th and 15th Street Bridge replacement projects will not add capacity to the entire roadway system. Air quality impacts are not anticipated with this project.

B. Archaeology

11th and 15th Street in Covington have the potential for the discovery of archaeological features and artifacts dating to the nineteenth and twentieth century. An archaeological investigation should be completed upon selection of a preferred alternate.

C. Threatened and Endangered Species

The United States Fish and Wildlife Service has identified Kenton County as a potential habitat for several endangered species. These species include nine different types of clams, the Indiana Bat and the Running Buffalo Clover. Since the projects are not located near any streams or bodies of water, the endangered clams should not be impacted by the project. This narrows the list of potential impacted endangered species down to the Indiana Bat and the Running Buffalo Clover. A full list of species and their scientific names can be found in Appendix 4.

D. Hazardous Materials

Several hazardous material sites were identified with the 12th Street project. These sites will also be a concern for the 11th and 15th Street Bridge projects. Hazardous material sites identified with the 12th Street project in the vicinity of the 11th Street bridge replacement project include the Wadsworth Electric Building and the Norb NE Service Center. A map showing hazardous material sites from the 12th street project can be found in appendix 5. A full survey should be conducted to identify hazardous material sites in the vicinity of the projects.

E. Historic Property

Downtown Covington contains several historic districts in the vicinity of the 11th and 15th Street Bridges. The 11th Street Bridge is within the Seminary Square Historic Preservation Overlay Zone and the Seminary Square National Register Historic District on the west end of the bridge. The Downtown Commercial National Register Historic District is located on the east end of the bridge. The Wadsworth Electric Company is located at 20 West 11th Street, on the east end of the bridge.

The West 15th Street National Register Historic District is located on the east end of the 15th Street Bridge. Impacts to historic overlay zones, districts and properties will require further evaluation. A map showing Covington's Historic Preservation Overlay Zones and a map showing Covington's National Register of Historic Places is located in Appendix 6A and 6B respectively.

F. Permitting

No division of water permits are anticipated for the 11th and 15th Street Bridge projects.

G. Noise

Permanent noise impacts are not anticipated with the project(s). However, the two bridges are in an urban area. Construction activities should be mindful of the surrounding residents and businesses.

H. Socioeconomic

The 11th and 15th Street Bridge project areas are likely to cause socioeconomic impacts. The 2000 Census indicates that the block group directly impacted by the 11th Street project is 71.7% white. Therefore, there is a 28.3% chance that properties directly affected will house a minority. Furthermore, the 2000 Census indicates that the block group directly impacted has a median household income of $25,541, 60% of the national average, and 18.6% of the block group directly impacted is in poverty. These figures suggest environmental justice factors will need further evaluation.

The 2000 Census indicates that the block group directly impacted by the 15th Street Project is 58.2% white. Therefore, there is a 41.8% chance that properties directly affected will house a minority. Furthermore, the 2000 indicates that the median household income is $20,541 48% of the national average, and 33.1% of the block group directly impacted is in poverty. These figures also suggest environmental justice factors will need further evaluation.

I. Section 4(F)

Properties listed on the National Register for Historic Places are eligible for protection through section 4(F) of the Department of Transportation Act of 1966. The 11th Street Bridge project is anticipated to affect the Wadsworth Electric Company, the Seminary Square National Register Historic District, and the Downtown Commercial National Register Historic District.

The 15th Street Bridge project is anticipated to affect the 15th Street National Register Historic District. These properties could be protected by Section 4(F). A full survey should be conducted to determine impacts on the view shed of National Register Historic Places in the area. A map showing Covington's National Register Historic Places can be found in Appendix 6B.

J. Section 6(F)

No publicly financed outdoor recreational facilities are identified within the project areas.

IV. PRELIMINARY PROJECT INFORMATION

A. Existing Conditions

The 11th Street Bridge was constructed in 1927. This two lane bridge is located in a historic, urban area. A sidewalk is located along the north side of the bridge. A field visit indicated that pedestrian and bicycle traffic use the bridge. This single span bridge is on a steel girder and floorbeam system. The center span is 87 feet in length and the total length of the bridge is 91 feet. Pictures of the existing 11th Street Bridge can be found in Appendix 1A.

The existing vertical clearance of the 11th Street Bridge is 21.79 feet. The required clearance of a highway bridge over a railroad is 23 feet. The existing horizontal clearance of the bridge is 11 feet from the centerline of the closest track. The required horizontal clearance for a railroad bridge is 15 feet. The 11th Street Bridge Structural Inventory and Appraisal Sheets can be found in Appendix 2A, and the 11th Street Bridge Inspection Report can be found in Appendix 2B.

The 15th Street Bridge was constructed in 1950. This two lane bridge, located in a historic, urban area is currently closed to vehicular traffic. Pedestrian and bicycle traffic currently use the bridge. One sidewalk is located on the south side of the bridge. A field visit indicated that pedestrian and bicycle traffic use the bridge. This three span bridge is on a steel girder and floorbeam system. The total length of the bridge is 179 feet, and the center span is 107 feet in length. Pictures of the existing 11th Street Bridge can be found in Appendix 1B.

The existing vertical clearance of the 15th Street Bridge is 20.93 feet. The required vertical clearance of a highway bridge over a railroad is 23 feet. The existing horizontal clearance is 11 feet, measured from the centerline of the closest track. The required horizontal clearance is 25 feet. The 15th Street Bridge Structural Inventory and Appraisal Sheets can be found in Appendix 3A, and the 15th Street Bridge Inspection Report can be found in Appendix 3B.

B. Utilities

Overhead utilities were observed near the 11th and 15th Street Bridges. Underground water and sanitary sewer are anticipated to run longitudinally underneath 11th and 15th Street. Also, an underground Sprint line is anticipated to run parallel to the railroad tracks under both bridges. The exact locations of underground utilities should be determined. Information for potential utilities in the area is included in the list below:

Sprint-Nextel Corporation
Joe J. Thomas
11370 Enterprise Park Drive
Sharonville, Ohio 45241
Office: (513) 612-4204
Mobile: (937) 209-9754
Email:
joseph.j.thomas@sprint.com

Insight Communications
Chuck McCarty
7906 Dixie Highway
Florence, Kentucky 41042
Office: (859) 283-4217
Mobile: (859) 393-4203
Fax: (859) 371-5495
Email:
mccarty.c@insightcom.com

Sanitation District 1
Bob Wilson
1045 Eaton Drive
Fort Wright, Kentucky 41017
Office: (859) 578-7469
Mobile: (859) 640-2796
Fax: (859) 331-2436
Email: rwilson@sdi.org

Northern Kentucky Water District
John Scheben
P.O. Box 18640
2835 Crescent Springs Raod
Erlanger, Kentucky 41018-0640
Office: (859) 426-2717
Office: (606) 578-7890
Mobile: (859) 991-1622
Fax: (859) 578-5456
Email: jscheben@nkywater.org

Duke Energy
Laura Mate
139 E. Fourth Street
Room 460A
Cincinnati, Ohio 45201-0960
Office: (513) 287-2594
Fax: (513) 287-2938

Cincinnati Bell Telephone
Tony Niehaus
221 east Fourth Street
Suite 700
Building 121-900
Cincinnati, Ohio 45202-4118
Office: (513) 566-8059
Email:
tony.niehaus@cinbell.com

V. PROJECT PURPOSE AND NEED STATEMENT

The existing 11th and 15th Street Bridges contain many deficiencies, creating an unsafe situation for both the public and the CSX railroad. The purpose of the bridge projects is to improve safety while maintaining connectivity appropriate for an urban environment.

VI. POSSIBLE ALTERNATIVES

A. No Build

The no-build alternate consists of not implementing the proposed project improvements described in the following alternates. The existing conditions would persist under this alternate. As a result, it will be necessary to remove the 11th and/or 15th Street Bridges if the no-build alternate is selected. Bridge approaches and abutments would also need to be removed and landscaped for a more permanent effect. A barrier would need to be placed at the east and west end of the bridges, to protect vehicles from a severe drop-off.

Planning Level Highway Capacity Analysis software shows that 12th Street should have a Level of Service B after the widening project. Assuming 100% of the existing 11th Street traffic uses the 12th Street Bridge once it is removed, 12th Street will have a Level of Service C. Since the 15th Street Bridge is currently closed, no change to existing traffic patterns are anticipated with removal of the bridge. However, 12th Street should experience an increase in the level of pedestrians and bicycles that use the bridge.

Cost Estimate (Per Bridge)

Design	$50,000
Utilities	$200,000
Right-of-Way	$50,000
Construction	$200,000
Total	**$500,000**

B. Alternate 1A: Replacement of 11th Street Bridge with a vehicular bridge

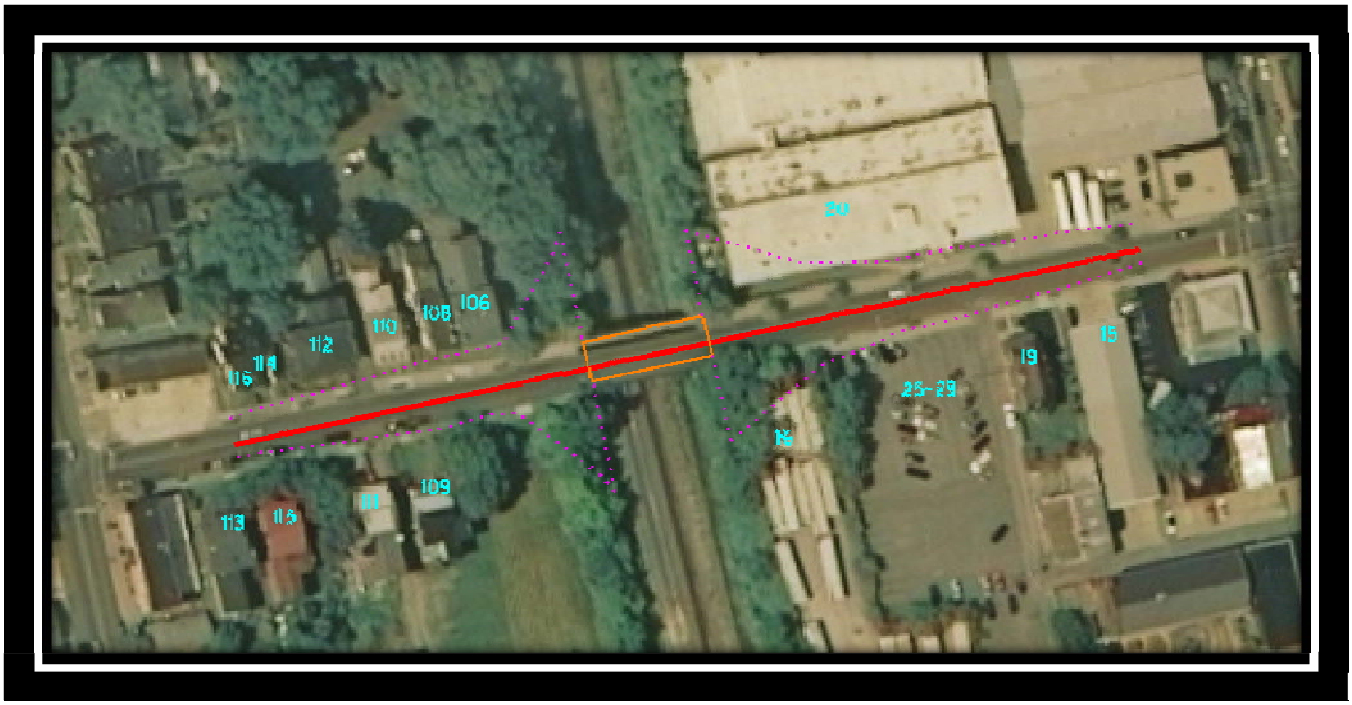


Figure 3 - Preliminary plan view of Alternate 1A. The red line represents the proposed centerline of the new approaches. The orange box represents the proposed bridge, and the purple dotted line shows the approximate disturb limits. The blue numbers depict the addresses of properties along 11th Street.

Alternate 1A, as shown in Figure 3, proposes replacing the existing 11th Street Bridge. The existing 11th Street Bridge does not have sufficient horizontal or vertical clearance. In order to obtain the proper vertical clearance over the CSX Railroad, the new bridge would need to be constructed at a higher elevation than the existing bridge. In order to accommodate the height of the new bridge, the east and west approaches would need to be reconstructed. A design similar to the 12th Street Bridge was considered when determining the disturb limits for this alternate.

The purple dotted line in Figure 3, shows the disturb limits of the east and west approach, assuming a 3:1 fill slope. Most properties along the frontage of the project would be affected by the fill. Consequently, this design would require additional right-of-way and cause historic impacts.

In order to minimize impacts on properties fronting 11th Street, a retaining wall could be considered. However, the height of a retaining wall would impact properties fronting 11th Street. Figure 3 below shows approximate heights of a retaining wall at the center of the frontage along 11th Street. As shown in Figure 3, 16 and 20 11th Street would have an 8.5 to 10 foot wall along the frontage of the property with this alternate. It is important to note that 20 11th Street is the Wadsworth Electric Company.

The Wadsworth Electric Company is listed on the National Register for Historic Places. All of the impacted property along 11th Street is located in the Seminary Square Historic Preservation Overlay Zone. All impacted property to the west of the western bridge abutment is included in the Seminary Square Historic District. All property to the east of the eastern bridge abutment is included in the Downtown Historic District. See Appendix 6A for a map of Covington's National Register Historic Places and Appendix 6B for a map of Covington's Historic Preservation Overlay Zones.

11th Street Address	Approximate Height of Retaining Wall Near the Center of the Property Frontage (feet)
106	3
108	3
109	3
110	2
111	0.5
112	0.5
114	<0.5
115	<0.5
116	<0.5
15	8.5
16	10
19	2
20	1
25-29	8.5

Figure 4 - Approximate height of a retaining wall near the center of property frontage along 11th Street. All values rounded to the nearest 0.5 foot.

The Level of Service on 12th Street is not anticipated to change with this alternate.

Cost Estimate

Design	$200,000
Utility	$500,000
Right-of-Way	$350,000
Construction	$2,500,000
Total	**$3,550,000**

C. Alternate 1B: Replacement of 11th Street Bridge with a pedestrian bridge

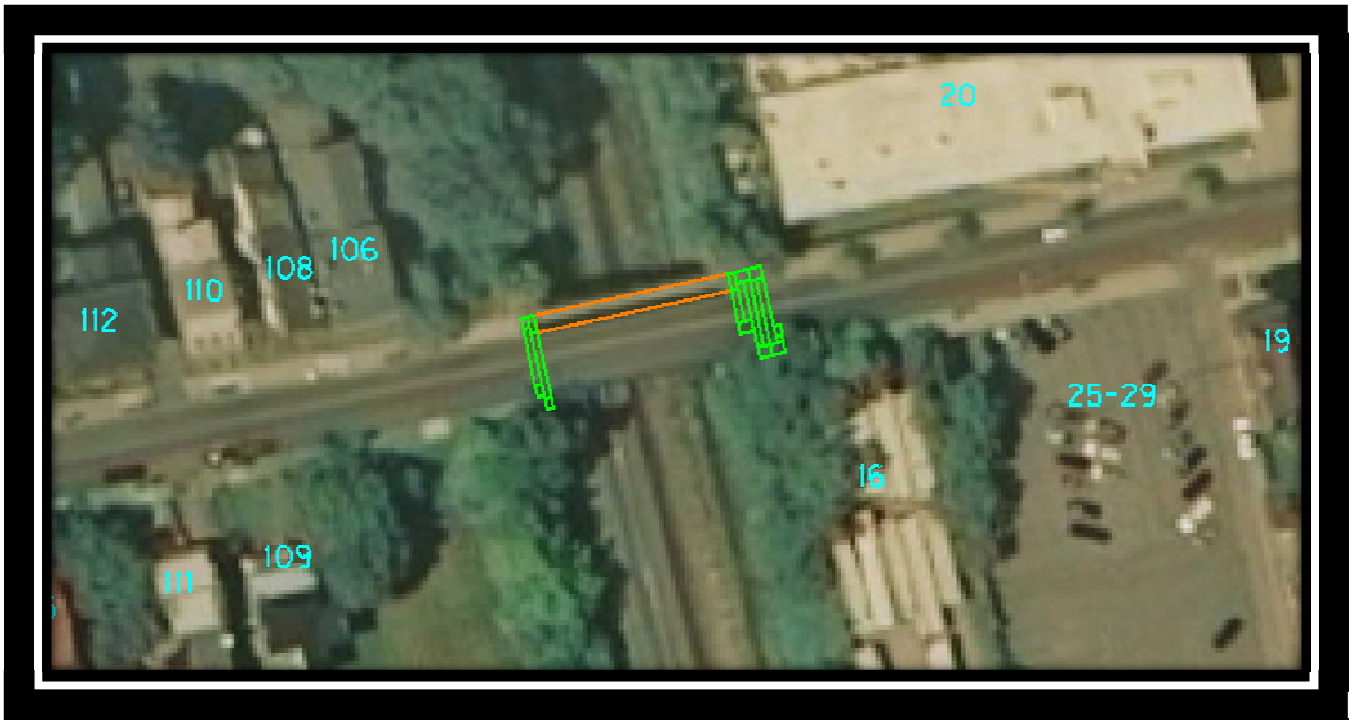


Figure 5 - Preliminary plan view of Alternate X. The orange lines represent the proposed pedestrian bridge, and the green lines represent the proposed pedestrian ramp to the bridge.

Alternate 1B, as shown in Figure 5, proposes replacing the existing 11th Street Bridge with a 7.5 foot wide pedestrian bridge. Since the existing bridge does not meet horizontal or vertical clearance requirements set by CSX Railroad, a new structure for pedestrians would be required. A design providing a walkway for pedestrians between beams would allow for greater clearance under the bridge. ADA compliant ramps would be placed at each end of the structure.

The ADA compliant, pedestrian walkway proposed in Alternate 1B would impact the frontage of 20, 16 and 106 11th Street. The existing 11th Street Bridge can be viewed by several properties in the area. This alternate will impact the view from these properties. See Appendix 6A for a map of Covington's National Register Historic Places and Appendix 6B for a map of Covington's Historic Preservation Overlay Zones.

According to Highway Capacity Software, the Level of Service on 12th Street is anticipated to reduce from a B to a C with this alternate.

Cost Estimate	
Design	$200,000
Utilities	$500,000
Right-of-Way	$30,000
Construction	$700,000
Total	**$1,430,000**

D. Alternate 2A: Replacement of 15th Street Bridge with a vehicular bridge

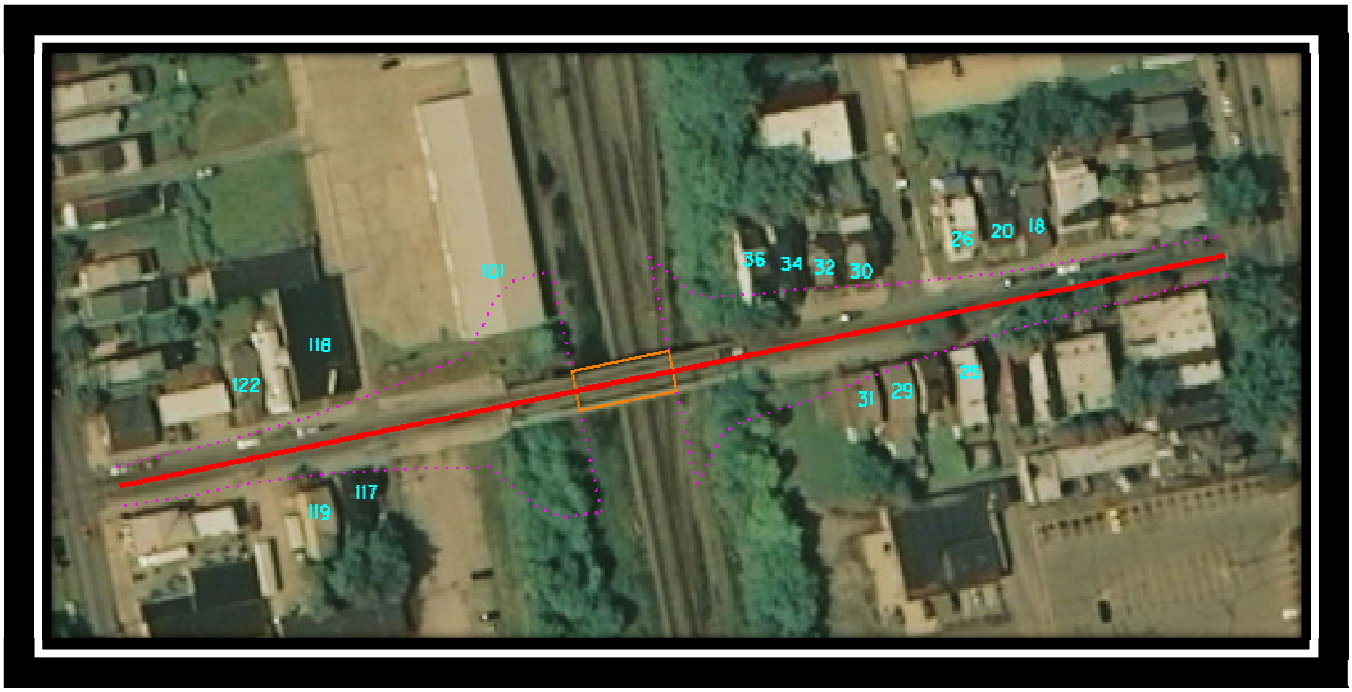


Figure 6 - Preliminary plan view of Alternate 2A. The red line represents the proposed centerline of shows the approximate disturb limits. The blue numbers depict the addresses of properties along 15th Street.

Alternate 2A, as shown in Figure 6, proposes replacing the existing 15th Street Bridge. The existing 15th Street Bridge does not have sufficient vertical or horizontal clearance. In order to obtain the proper vertical clearance over the CSX Railroad, the new bridge would need to be constructed at a higher elevation than the existing bridge. As a result, the east and west approaches would also need to be reconstructed. In order to determine approximate disturb limits, a design similar to the 12th Street Bridge was considered.

The purple dotted line in Figure 6, shows the disturb limits of the east and west approach, assuming a 3:1 fill slope. Most properties along the frontage of the project would be affected by the fill. Consequently, this design would require additional right-of-way and cause historic impacts.

In order to minimize impacts on properties fronting 15th Street, a retaining wall could be considered. However, the height of a retaining would impact properties fronting 15th Street. As shown in Figure 6, 101, 36 and 34 15th Street would have an 8.5 to 11 foot wall along the frontage of the property with this alternate. It is important to note that all impacted property to the east of the bridge to Madison Avenue, is included in the West 15th Street Historic District. See Appendix 6A for a map of Covington's National Register Historic Places and Appendix 6B for a map of Covington's Historic Preservation Overlay Zones.

15th Street Address	Approximate Height of Retaining Wall Near the Center of the Property Frontage (feet)
122	1
121	1
120	1.5
119	1.5
118	2.5
117	2.5
101	8.5
36	11
34	10
32	9
31	9
30	7.5
29	7.5
27	6
26	4
25	5
20	3
18	2.5
1451 Madison Avenue	1

Figure 7 - Approximate height of a retaining wall near the center of property frontage along 15th Street. All values rounded to the nearest 0.5 foot.

This alternate is anticipated to reduce the volume of traffic on 12th Street. However, Highway Capacity software does not anticipate the Level of Service to increase from a B to an A.

Cost Estimate

Design	$200,000
Utilities	$500,000
Right-of-Way	$1,800,000
Construction	$4,500,000
Total	**$7,000,000**

E. Alternate 2B: Replacement of 15th Street Bridge with a pedestrian bridge

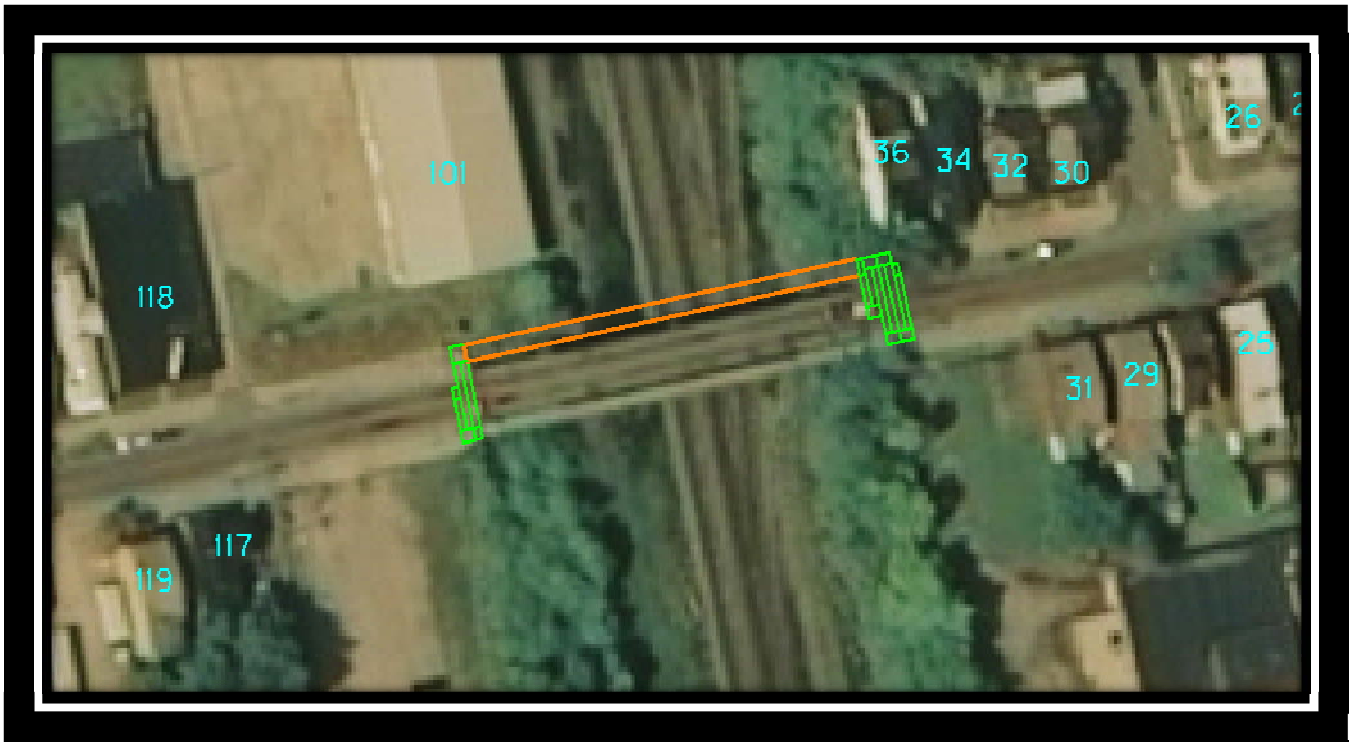


Figure 8 - Preliminary plan view of Alternate X. The orange line represents the proposed pedestrian bridge, and the green line represents pedestrian ramps to the bridge.

Alternate 2B, as shown in Figure 8, proposes replacing the existing 15th Street Bridge over the CSX Railroad with a 7.5 foot wide pedestrian bridge. Since the existing bridge does not meet horizontal or vertical clearance requirements set by CSX Railroad, a new structure for pedestrians would be required. A design providing a walkway for pedestrians between beams would allow for greater clearance under the bridge. ADA compliant ramps would be placed at each end of the structure.

The ADA compliant, pedestrian walkway proposed in Alternate 2B would impact the frontage of 101 15th Street. Furthermore, the existing 11th Street Bridge can be viewed by several properties in the area. This alternate would impact the view from these properties. See Appendix 6A for a map of Covington's National Register Historic Places and Appendix 6B for a map of Covington's Historic Preservation Overlay Zones.

The Level of Service on 12th Street should not be affected by this alternate.

Cost Estimate	
Design	$200,000
Utilities	$500,000
Right-of-Way	$30,000
Construction	$1,000,000
Total	**$1,730,000**

VII. SUMMARY

The DNA for the 11th Street (KY 1120) Bridge and the 15th Street (CS 2097) Bridge projects studied the need for the two projects, located in Covington, Kentucky. The study also identified several alternates and potential issues related to the alternates.

Evaluation of the existing bridges indicated that there is a need for a project on the 11th and 15th Street bridges. The 15th Street Bridge is currently closed to traffic due to structural concerns. The 11th Street Bridge has a low sufficiency rating, and will likely be closed soon as well. A majority of the vehicles who currently use the 11th Street Bridge are projected to use the 12th Street Bridge to cross the CSX Railroad, once the 11th Street Bridge is closed. There is an existing construction project to increase capacity of the 12th Street corridor. However, once the 11th Street Bridge is closed, the additional traffic is likely to cause a reduction in the level of service on 12th Street. These concerns helped develop the alternates proposed in the DNA.

Three alternates were proposed for each bridge. These alternates included a no build, replacement with a pedestrian bridge and replacement with a vehicular bridge. Due to the poor condition of the 11th and 15th Street Bridges, no build alternates proposed complete removal of each bridge.

Each alternate studied in the DNA posed a potential impact to the community. The most significant impacts identified included cost, connectivity impacts, historic impacts, and right-of-way impacts. The table below summarized the impacts for each alternate. The score in the table ranges from 0 to 3 indicating the significance of the impact as compared to other alternates in the DNA (0 = no impact, 3 = significant impact), determined by the planning level analysis preformed in this study.

Alternate	Cost	Connectivity Impacts	Historic Impacts	Right-of-Way Impacts
No-Build	$500,000	3	1	1
11th Street				
1A (Vehicular Bridge)	$3,550,000	0	3	3
1B (Pedestrian Bridge)	$1,430,000	2	1	1
15th Street				
2A (Vehicular Bridge)	$7,000,000	0	3	3
2B (Pedestrian Bridge)	$1,730,000	2	1	1

APPENDIX 1A

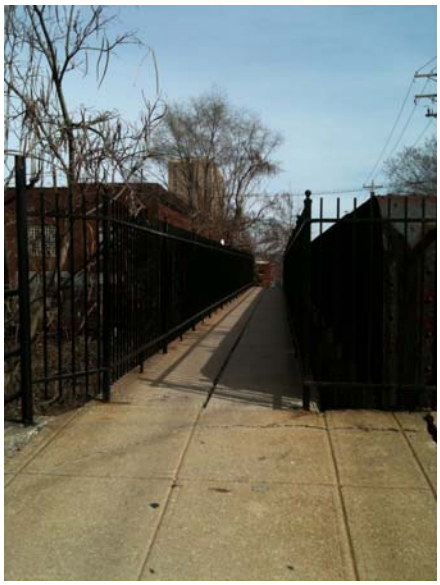
11th STREET PICTURES

11th Street Looking West

11th Street Looking West

11th Street Bridge from CSX Railroad

11th Street Space between Bridge and Sidewalk



11th Street Bridge Sidewalk Looking West

Underneath 11th Street Bridge

Watson Electric Company Building

Watson Electric Company

11th Street Bridge Looking West

11th Street Bridge from CSX Railroad

APPENDIX 1B

15th STREET PICTURES

15th Street Pictures

15th Street Bridge Looking East

15th Street Bridge Looking East from CSX Railroad

15th Street Historic District Sign

15th Street Bridge Looking East

15th Street Bridge Looking West

15th Street Looking East

15th Street Looking West

15th Street Bridge Profile

Underneath 15th Street Bridge

15th Street Looking East

APPENDIX 2A

11th STREET
STRUCTURAL INVENTORY AND
APPRAISAL SHEETS

KENTUCKY TRANSPORTATION CABINET

Division Of Operations

STRUCTURAL, INVENTORY, AND APPRAISAL SHEET

8. PROJECT NUMBER	1. STATE CODE 214 (KY)	2. HIGHWAY DISTRICT	3. COUNTY	4. PLACE CODE CITY/TOWN
06-MP-059-1120-B00083	214	06	059	0465

5. INVENTORY ROUTE	6. FEATURES INTERSECTED	7. FACILITY NAME
ON 1 3 1 1120 0	CSX RAILROAD	
UNDER		

9. LOCATION	10. INVENTORY ROUTE - MIN. VERTICAL CLEARANCE	11. MILEPOINT
11TH ST E OF RUSSELL ST	10 FT. LANE ON ____ FT. ____ IN.	ON .53
	UNDER ____ FT. ____ IN.	UNDER

16. LATITUDE	17. LONGITUDE	19. BYPASS, DETOUR LENGTH	20. TOLL	21. MAINTENANCE RESPONSIBILTY
		1	3	01

22. OWNER	26. FUNCTIONAL CLASSIFICATION	27. YEAR BUILT	28. LANES ON STRUCTURE
01	ON 14	1927	2
	UNDER		UNDER 0

29. AVERAGE DAILY TRAFFIC	30. A.D.T. YEAR	31. DESIGN LOAD	32. APPROACH ROADWAY WIDTH W / SHOULDER	APPROACH ROADWAY PAVEMENT
ON 12948	ON 2004	2	28	28
UNDER	UNDER			

33. BRIDGE MEDIAN	34. SKEW	35. STRUCTURE FLARED	36. TRAFFIC SAFETY FEATURES	37. HISTORICAL SIGNIFICANCE	38. NAVIGATION CONTROL	39. NAVIGATION VERTICAL CLEARANCE
0	0	0	0 0 0 0	5	0	0

40. NAVIGATIONAL HORIZONTAL CLEARANCE	41. STRUCTURE OPEN, POSTED, CLOSED	42. TYPE SERVICE	43. STRUCTURE TYPE MAIN	44. STRUCTURE TYPE APPROACH
0	A	ON 1	3 03	0 00
		OVER 2		

NO. OF SPANS	47. TOTAL HORIZONTAL CLEARANCE	48. LENGTH OF MAXIMUM SPAN	49. STRUCTURE LENGTH
45. MAIN 1	ON. 27 FT.	87 FT.	91 FT.
46. APPROACH 0	UNDER ____ FT.		

50 CURB - SIDEWALK WIDTHS	51. BRIDGE WIDTH, CURB TO CURB	52. DECK WIDTH OUT - TO - OUT	53. MIN. VERTICAL CLEARANCE OVER DECK
LEFT 0 FT.	27 FT.	49.8 FT.	99 FT. 99 IN.
RIGHT 0 FT.			

54. MIN. VERTICAL UNDERCLEARANCE	55. MIN. LATERAL RIGHT UNDERCLEARANCE	56. MIN. LATERAL LEFT UNDERCLEARANCE
REFERENCE FEATURE H 22 FT. 0 IN.	REFERENCE FEATURE ____ 10 FT.	0 FT.

100. DEFENSE HIGHWAY	101. PARALLEL STRUCTURE	102. TRAFFIC DIRECTIO	103. TEMPORARY STRUCTURE	104. HIGHWAY SYSTEM	105. YEAR RECONSTRUCTED
ON 0	N	2		ON 1	0
UNDER				OVER	

BRIDGE DESCRIPTION

SINGLE SPAN (88'0") STEEL GIRDER & FLOOR BEAM SYSTEM

107. DECK TYPE	108. WEARING SURFACE / PROTECTIVE SYSTEM		
1	SURFACE 6	MEMBRANE 0	PROTECTION 0

ASPHALT THICKNESS	ROAD CLASS	APPROACH SIGHT DISTANCE AND SPEED	ROAD NAME
3 INCHES	14	LENGTH 1. 100 2. 100 SPEED 1. 25 2. 25	11TH ST IN COVINGTON

BRIDGE CONDITION RATINGS

	MATERIAL	CONDITION	RATING
58. DECK			5
59. SUPERSTRUCTURE			5
60. SUBSTRUCTURE			6
61. CHANNEL AND CHANNEL PROTECTION			N
62. CULVERTS - WINGWALLS			N

64. OPERATING RATING	66. INVENTORY RATING
1	1

90. INSPECTION DATE	91. DESIGNATED INSPECTION FREQUENCY
29-NOV-05	24

SIGNATURE	TITLE

92. CRITICAL FEATURE	93. CRITICAL FEATURE DATE
A. N	A.
B. N	B.
C. N	C.

BRIDGE APPRAISAL RATINGS

	DEFICIENCIES	RATING
67. STRUCTURAL EVALUATION		5
68. DECK GEOMETRY		3
69. UNDERCLEARANCES, VERT. & HORIZ.		4
70. BRIDGE POSTING		5
71. WATERWAY ADEQUACY		N
72. APPROACH ROADWAY ALIGNMENT		5
75. TYPE OF WORK	34	1
76. LENGTH OF STRUCTURE IMPROVEMENT		9.1

94. BRIDGE IMPROVEMENT COSTS *	95. ROADWAY IMPROVEMENT COSTS *	96. TOTAL PROJECT COSTS *	97. YEAR OF ESTIMATE	MEMORIAL BRIDGE NAME
1258	0	1258	2004	

98. BORDER BRIDGE *	99. BORDER BRIDGE NUMBER	109. AVERAGE DAILY TRUCK TRAFFIC % *	110. NATIONAL NETWORK *	111. PIER ABUTMENT PROTECTION
A. B.		5	ON 0 UNDER 0	

112. NBIS BRIDGE LENGTH *	113. SCOUR CRITICAL BRIDGES	114. FUTURE A.D.T.. *	115. A.D.T. YR. *	116. VERTICAL LIFT BRIDGE CLEARANCE *
Y	N	23200	2019	

DRAWING NUMBER	KY. ROAD SYSTEM	PAINT DATE CONDITION	FILL ON CULVERTS	INDEPTH INSPECTION - DAT
	04	3	FT.	

REMARKS

* COMPLETED BY CENTRAL OFFICE STAFF

KENTUCKY TRANSPORTATION CABINET

APPENDIX 2B

11th STREET

INSPECTION REPORT

059B00083N

KYTC Bridge Inspection Report

Summary:
Inspection Date: 1/26/2011
Inspector: GCOCHRAN (23)
Primary Type: Substandard (12 Months)

Types of Inspections Performed:

National Bridge Inventory:	Y
Element:	Y
Fracture Critical:	N
Underwater:	N
Other Special:	N

Inspector Signature:

District Review Date: 2/1/2011
District Reviewer: BSEITER (55)

IDENTIFICATION

Bridge ID (8):	059B00083N MAP BRIDGE	**District Number:**	6
Route Carried (7):	11TH STREET	**County (3):**	59 Kenton
Mile Point:	0.621	**Feature Intersected (6):**	CSX RAILROAD
Location (9):	11TH ST E OF RUSSELL ST	**Road Name:**	WEST 11TH ST NC
Structure Description:	90 Foot - Single Span Steel Girder and Floorbeam System		

NBI CONDITION

Deck (58):	4
Superstructure (59):	3
Substructure (60):	4
Culverts (62):	N
Channel/Protection (61):	N

SCHEDULE TAB

Schedule:	Required (Y/N)	Last Date		Frequency	Next Date
NBI (90):		1/26/2011	**(91):**	12 mos	1/26/2012
Fracture Critical (92A):	Y	**(93A):** 1/1/1901	**(92A):**	24 mos	1/1/1901
Underwater (92B):	N	**(93B):** 1/1/1901	**(92B):**	mos	1/1/1901
Other Special (92C):	N	**(93C):** 1/1/1901	**(92C):**	mos	1/1/1901
Elemental:	NA			12 mos	1/26/2012

Load Rating and Posting

Truck Type	Typ I	Typ II	Typ III	Typ IV	Gross
Recomm. Posting:	20	22	22	22	
Field Posting:	-1	-1	-1	-1	-1

Posting Status (41): A Open, no restriction
Signs Posted: Cardinal: N Non-Cardinal: N

WATERWAY

Scour Critical (113):	N
Observed 113 Rating:	N
Waterway Adeq. (71):	N

DECK/WEARING SURFACE

Deck Type (107):	1 Concrete-Cast-In-Place
Wearing Surface/Protective System (108):	**Type:** 6 **Membrane:** 0 **Protection:** 0
Traffic Safety Features (36):	**Bridge Rail:** 0 **Transition:** 0 **Appr. Rail:** 0 **Rail Ends:** 0
Overlay:	Y
Overlay Type:	Asphalt
Overlay Thickness:	2.99

Vertical Clearances

Minimum Vertical Overclearance (53):	99.99
Minimum Vertical Underclearance (54):	0.00
Maximum Vertical Clearance (10):	99.99
Minimum Vertical Clearance:	

Sufficiency Ratings

SR: 3.00 **SD/FO:** 1 Structurally Deficient

Element Condition State Data

Elm/Env	Description	Units	Total Qty.	Qty. CS1	Qty. CS2	Qty. CS3	Qty. CS4	Qty. CS5
104/3	P/S Conc Box Girder	LF	180.00	176.00	4.00	0.00	0.00	0.00
107/3	Paint Stl Opn Girder	LF	178.00	0.00	44.00	44.00	44.00	46.00
113/3	Paint Stl Stringer	LF	360.00	360.00	0.00	0.00	0.00	0.00

059B00083N

KYTC Bridge Inspection Report

Summary:

Inspection Date: 1/26/2011
Inspector: GCOCHRAN (23)
Primary Type: Substandard (12 Months)

Types of Inspections Performed:

National Bridge Inventory:	Y
Element:	Y
Fracture Critical:	N
Underwater:	N
Other Special:	N

Element Condition State Data

Elm/Env	Description	Units	Total Qty.	Qty. CS1	Qty. CS2	Qty. CS3	Qty. CS4	Qty. CS5
13/3	Unp Conc Deck/AC Ovl	SF	2,340.00	2,340.00	0.00	0.00	0.00	0.00
151/3	Unpnt Stl Floor Beam	LF	300.00	200.00	0.00	0.00	100.00	0.00
215/3	R/Conc Abutment	LF	100.00	25.00	25.00	50.00	0.00	0.00
311/3	Moveable Bearing	EA	2.00	0.00	0.00	2.00	0.00	0.00
312/3	Enclosed Bearing	EA	4.00	4.00	0.00	0.00	0.00	0.00
313/3	Fixed Bearing	EA	2.00	0.00	0.00	2.00	0.00	0.00
334/3	Metal Rail Coated	LF	180.00	180.00	0.00	0.00	0.00	0.00
357/3	Pack Rust Smart Flag	EA	1.00	0.00	0.00	1.00	0.00	0.00
359/3	Soffit Smart Flag	EA	1.00	0.00	0.00	0.00	1.00	0.00
363/3	Section Loss SmFlag	EA	1.00	0.00	0.00	1.00	0.00	0.00
503/3	RC Curb	LF	180.00	45.00	45.00	45.00	45.00	0.00
505/3	RC Sidewalk	LF	90.00	89.00	1.00	0.00	0.00	0.00
609/1	Debris on Superstruc	EA	1.00	0.00	0.00	1.00	0.00	0.00

Element Condition State Data

Str Unit	Elm/Env	Description	Description
1	104/3	P/S Conc Box Girder	Box Beam- Note that P.P.C. Box Beam deck units have been placed on the left exterior side of structure for only pedestrian sidewalk use. Topside surface of box beams could not be viewed for inspection, due to snow cover. Box beam element #2 was found to have spalling located in the right most upper corner, at union between topside of beam and right web. Spalling conditions were found at both the rear and forward ends of element, which are approximately 1.5 to 2.0 feet in length at this time. Bottom side of beams were found to have a moderate to heavy amount of very dark staining, due to both longitudinal joint failure and soot from train traffic below. Note that box beam #1 was found to have longitudinal cracking in bottom side, with seepage and dark staining. Detected crack starts at or near the forward abutment seat and extends outward into span approximately 15.0 feet. Tensioning tie-rods were found to be in place at this time. (See Photos)
1	107/3	Paint Stl Opn Girder	Steel Girders- Steel girder elements throughout structure are approximately 9.5 feet in height, with the lower 4.25 feet of elements totally encased in cast-in-place concrete material. Concrete encasement design along lower portion of elements is prevent view of for inspection. Exposed upper portion of steel beam elements were found to have a severe loss of protective paint coating system typical throughout, along with varying degrees of rusting conditions occurring from moderate to severe. Steel girders along areas where concrete encasement stops were found to have varying degrees of sufficient section loss in webs and vertical stiffeners at connection locations between elements. Corrosion in elements is advanced. Webs of girders at or near connection areas of vertical stiffeners were found showing approximately 30% section loss at this time, along with thick sheets of rust. Several vertical stiffeners throughout the exterior face of girder #1 (left most) were found to have section loss of up to 100% at this time. Note that exterior side of girder #2 (right most) could not be viewed for inspection, due to older sidewalk being completely removed some time during the past and chainlink fence now blocking access to area. As noted above lower section of steel girder elements are completely encased in concrete material. Several areas of encasement along bottom flange of both girders were found failing and starting to fall off of elements exposing conditions of steel material. Buildup plates in bottom flange of girders in areas of exposure were found to have a heavy amount of section loss, along with connection rivets also showing a severe loss of section. Note that more and more concrete material throughout encasement areas appear to be failing and spalling completely off of elements, which in some areas is falling onto railroad tracks below. A thorough inspection could not be performed on these two girder elements, due to encasement. (See Photos)

059B00083N

KYTC Bridge Inspection Report

Summary:

Inspection Date: 1/26/2011
Inspector: GCOCHRAN (23)
Primary Type: Substandard (12 Months)

Types of Inspections Performed:

National Bridge Inventory:	Y
Element:	Y
Fracture Critical:	N
Underwater:	N
Other Special:	N

Element Condition State Data

Str Unit	Elm/Env	Description	Description
1	113/3	Paint Stl Stringer	Steel Stringers- NOTE THAT STEEL STRINGER ELEMENTS THROUGHOUT THIS STRUCTURE ARE 100% COMPLETELY ENCASED IN CONCRETE MATERIAL AND COULD NOT BE AND WERE NOT VIEWED FOR INSPECTION. Quantity's for element in Pontis program were not rated during this inspection on structural elements that could not be viewed. For a thorough inspection review of elements all concrete encasements would need to be completely removed. Concrete encasement was found to have random areas of cracking, rust staining, efflorescence and stalactites up to 3.0 inches in length. (See Photos)
1	13/3	Unp Conc Deck/AC Ovl	Deck- Note that topside surface of deck area could not be viewed for inspection, due to asphalt overlay cover. Asphalt material throughout overlay was found to have a moderate amount of transverse and diagonal cracking along both the rear and forward ends of structure, at union between structure and approach roadway transitions. Randomly spaced transverse cracking was noted in asphalt overlay throughout the eastbound lane of travel. Overlay material was found starting to show a minor amount of wear typical throughout, with exposure of aggregate material. (See Photos)
1	151/3	Unpnt Stl Floor Beam	Steel Floorbeam's- NOTE THAT STEEL FLOORBEAM ELEMENTS THROUGHOUT THIS STRUCTURE ARE 100% COMPLETELY ENCASED IN CONCRETE MATERIAL AND COULD NOT BE AND WERE NOT VIEWED FOR INSPECTION. Quantity's for element in Pontis program were not rated during this inspection on structural elements that could not be viewed. Note that random sections throughout bottom flange of beams were found to have concrete encasements falling off, exposing flanges. A heavy amount of section loss was found in areas of exposure throughout bottom flange of elements, causing severe damages to occur in both buildup plates and connection rivets. For a thorough inspection review of elements all concrete encasements would need to be completely removed. Concrete encasement was found to have random areas of cracking, rust staining, efflorescence and stalactites up to 3.0 inches in length. (See Photos)
1	215/3	R/Conc Abutment	Abutments- Both the rear and forward abutment elements were found to have large area of concrete deterioration in random locations throughout breastwall fascias, along with random map cracking, spalling, rust staining and efflorescence. Bearing areas/beam seats of abutments could only be viewed from ground during time of this inspection, but appear to have a heavy amount of concrete deteriorating conditions. Lift equipment is needed for closer review of areas. Note that abutment elements appear to be stay very damp for long periods of time, due to joints above. (See Photos)
1	311/3	Moveable Bearing	Moveable Bearings- Moveable bearing devices throughout structure are of Steel Roller Nest design, which are located on the forward abutment seat. Note that bearing devices could only be viewed from ground level during time of this inspection. Lift equipment is needed for closer review of elements. Moveable roller nest bearing devices were found to be encased in roadway debris and fallen concrete debris, which has failed and fallen from abutment backwall fascia area. Both the left and right roller nest bearing devices appear to have a heavy to severe amount of pack rust conditions throughout, along with varying degrees of section loss in material. Moveable bearing devices appear to be no longer operating as designed and may not have been for some time now. (See Photos)
1	312/3	Enclosed Bearing	Enclosed Bearings- Noted that this element description was opened for bearing devices located under box beam deck units, if any. Bearing devices under box beams could not be viewed for inspection at this time.
1	313/3	Fixed Bearing	Fixed Bearings- Fixed bearing devices are located on the rear abutment seat and could only be viewed from ground level during time of this inspection. Lift equipment is needed for closer review of elements. Fixed bearing devices were found to be encased in roadway debris and fallen concrete debris, which has failed and fallen from abutment backwall fascia area. Both the left and right devices appear to have a heavy to severe amount of pack rust conditions throughout, along with varying degrees of section loss in material.
1	334/3	Metal Rail Coated	Bridge Railing- This element description was opened for railing system/hand rail (wrought iron vandal protection system) along both left and right sides of sidewalk located on left side of structure, which is independent of thru girder system.
1	357/3	Pack Rust Smart Flag	Pack Rust- Pack rusting conditions were found in random locations throughout connections between steel structural elements (vertical stiffeners to girder webs, sway bracing material to stiffeners, etc.), causing distress and deformation in steel material. Varying degrees of pack rust appears to be typical throughout all bearing devices of two girder system, but lift equipment is needed for closer review of elements.

APPENDIX 3A

15th STREET

STRUCTURAL INVENTORY AND APPRAISAL SHEETS

KENTUCKY TRANSPORTATION CABINET

Division Of Operations

STRUCTURAL, INVENTORY, AND APPRAISAL SHEET

8. PROJECT NUMBER	1. STATE CODE	2. HIGHWAY DISTRICT	3. COUNTY	4. PLACE CODE CITY/TOWN
06-MP-059-1120-B00083	214 (KY) 214	06	059	0465

5. INVENTORY ROUTE	6. FEATURES INTERSECTED	7. FACILITY NAME
ON 1 3 1 1120 0	CSX RAILROAD	
UNDER		

9. LOCATION	10. INVENTORY ROUTE - MIN. VERTICAL CLEARANCE	11. MILEPOINT
11TH ST E OF RUSSELL ST	10 FT. LANE ON ___ FT. ___ IN.	ON .53
	UNDER ___ FT. ___ IN.	UNDER

16. LATITUDE	17. LONGITUDE	19. BYPASS, DETOUR LENGTH	20. TOLL	21. MAINTENANCE RESPONSIBILTY
		1	3	01

22. OWNER	26. FUNCTIONAL CLASSIFICATION	27. YEAR BUILT	28. LANES ON STRUCTURE
01	ON 14	1927	2
	UNDER		UNDER 0

29. AVERAGE DAILY TRAFFIC	30. A.D.T. YEAR	31. DESIGN LOAD	32. APPROACH ROADWAY WIDTH W / SHOULDER	APPROACH ROADWAY PAVEMENT
ON 12948	ON 2004	2	28	28
UNDER	UNDER			

33. BRIDGE MEDIAN	34. SKEW	35. STRUCTURE FLARED	36. TRAFFIC SAFETY FEATURES	37. HISTORICAL SIGNIFICANCE	38. NAVIGATION CONTROL	39. NAVIGATION VERTICAL CLEARANCE
0	0	0	0 0 0 0	5	0	0

40. NAVIGATIONAL HORIZONTAL CLEARANCE	41. STRUCTURE OPEN, POSTED, CLOSED	42. TYPE SERVICE	43. STRUCTURE TYPE MAIN	44. STRUCTURE TYPE APPROACH
0	A	ON 1	3 03	0 00
		OVER 2		

NO. OF SPANS	47. TOTAL HORIZONTAL CLEARANCE	48. LENGTH OF MAXIMUM SPAN	49. STRUCTURE LENGTH
45. MAIN 1	ON 27 FT.	87 FT.	91 FT.
46. APPROACH 0	UNDER ___ FT.		

50 CURB - SIDEWALK WIDTHS	51. BRIDGE WIDTH, CURB TO CURB	52. DECK WIDTH OUT - TO - OUT	53. MIN. VERTICAL CLEARANCE OVER DECK
LEFT 0 FT.	27 FT.	49.8 FT.	99 FT. 99 IN.
RIGHT 0 FT.			

54. MIN. VERTICAL UNDERCLEARANCE	55. MIN. LATERAL RIGHT UNDERCLEARANCE	56. MIN. LATERAL LEFT UNDERCLEARANCE
REFERENCE FEATURE H 22 FT. 0 IN.	REFERENCE FEATURE ___ 10 FT.	0 FT.

100. DEFENSE HIGHWAY	101. PARALLEL STRUCTURE	102. TRAFFIC DIRECTIO	103. TEMPORARY STRUCTURE	104. HIGHWAY SYSTEM	105. YEAR RECONSTRUCTED
ON 0	N	2		ON 1	0
UNDER				OVER	

BRIDGE DESCRIPTION

SINGLE SPAN (88'0") STEEL GIRDER & FLOOR BEAM SYSTEM

107. DECK TYPE	108. WEARING SURFACE / PROTECTIVE SYSTEM		
1	SURFACE 6	MEMBRANE 0	PROTECTION 0

ASPHALT THICKNESS	ROAD CLASS	APPROACH SIGHT DISTANCE AND SPEED	ROAD NAME
3 INCHES	14	LENGTH 1. 100 2. 100 SPEED 1. 25 2. 25	11TH ST IN COVINGTON

BRIDGE CONDITION RATINGS

	MATERIAL	CONDITION	RATING
58. DECK			5
59. SUPERSTRUCTURE			5
60. SUBSTRUCTURE			4
61. CHANNEL AND CHANNEL PROTECTION			N
62. CULVERTS - WINGWALLS			N

64. OPERATING RATING	66. INVENTORY RATING
9	9

90. INSPECTION DATE	91. DESIGNATED INSPECTION FREQUENCY
03-AUG-04	12

SIGNATURE

TITLE

92. CRITICAL FEATURE	93. CRITICAL FEATURE DATE
A. N	A.
B. N	B.
C. N	C.

BRIDGE APPRAISAL RATINGS

	DEFICIENCIES	RATING
67. STRUCTURAL EVALUATION		3
68. DECK GEOMETRY		2
69. UNDERCLEARANCES, VERT. & HORIZ.		4
70. BRIDGE POSTING		5
71. WATERWAY ADEQUACY		N
72. APPROACH ROADWAY ALIGNMENT		4
75. TYPE OF WORK	34 1	
76. LENGTH OF STRUCTURE IMPROVEMENT	17.9	

94. BRIDGE IMPROVEMENT COSTS *	95. ROADWAY IMPROVEMENT COSTS *	96. TOTAL PROJECT COSTS *	97. YEAR OF ESTIMATE	MEMORIAL BRIDGE NAME
2000	550	3360	1999	

98. BORDER BRIDGE *	99. BORDER BRIDGE NUMBER	109. AVERAGE DAILY TRUCK TRAFFIC % *	110. NATIONAL NETWORK	111. PIER ABUTMENT PROTECTION
A.			ON 0	
B.			UNDER 0 *	

112. NBIS BRIDGE LENGTH *	113. SCOUR CRITICAL BRIDGES	114. FUTURE A.D.T.. *	115. A.D.T. YR. *	116. VERTICAL LIFT BRIDGE CLEARANCE *
Y	N	23200	2016	

DRAWING NUMBER	KY. ROAD SYSTEM	PAINT DATE	CONDITION	FILL ON CULVERTS	INDEPTH INSPECTION - DAT
	08	01-2001	3	FT.	

REMARKS **REOPENED TO TRAFFIC 8-3-00**

* COMPLETED BY CENTRAL OFFICE STAFF

KENTUCKY TRANSPORTATION CABINET

APPENDIX 3B

15TH STREET

INSPECTION REPORT

059C00029N

KYTC Bridge Inspection Report

Summary:
Inspection Date: 6/3/2010
Inspector: RSEMONES (179)
Primary Type: SIA (Initial Inventory

Types of Inspections Performed:

National Bridge Inventory:	Y
Element:	Y
Fracture Critical:	N
Underwater:	N
Other Special:	N

Inspector Signature:

District Review Date: 8/2/2010
District Reviewer: BSEITER (55)

IDENTIFICATION

Bridge ID (8):	059C00029N MAP BRIDGE	**District Number:**	6
Route Carried (7):	WEST 15TH STREET	**County (3):**	117 Kenton
Mile Point:	0.18	**Feature Intersected (6):**	CSX RAILROAD
Location (9):	EAST OF RUSSEL ST.ON 15TH	**Road Name:**	WEST 15TH ST
Structure Description:	179.2 Foot - 3 Span Steel Girder and Floorbeam System		

NBI CONDITION

Deck (58):	N
Superstructure (59):	N
Substructure (60):	N
Culverts (62):	N
Channel/Protection (61):	N

SCHEDULE TAB

Schedule:	Required (Y/N)	Last Date		Frequency	Next Date
NBI (90):		6/3/2010	**(91):**	12 mos	6/3/2011
Fracture Critical (92A):	N	**(93A):** 1/1/1901	**(92A):**	mos	1/1/1901
Underwater (92B):	N	**(93B):** 1/1/1901	**(92B):**	mos	1/1/1901
Other Special (92C):	N	**(93C):** 1/1/1901	**(92C):**	mos	1/1/1901
Elemental:	NA			12 mos	6/3/2011

Load Rating and Posting

Truck Type	Typ I	Typ II	Typ III	Typ IV	Gross
Recomm. Posting:	9	9	9	9	9
Field Posting:	-1	-1	-1	-1	3

Posting Status (41): K Bridge closed to all traffic
Signs Posted: Cardinal: Y Non-Cardinal: Y

WATERWAY

Scour Critical (113):	N
Observed 113 Rating:	N
Waterway Adeq. (71):	N

DECK/WEARING SURFACE

Deck Type (107):	8 Wood or Timber						
Wearing Surface/Protective System (108):	**Type:** 6	**Membrane:** 0	**Protection:** 0				
Traffic Safety Features (36):	**Bridge Rail:** 0	**Transition:** 0	**Appr. Rail:** 0	**Rail Ends:** 0			
Overlay:	Y						
Overlay Type:	Asphalt						
Overlay Thickness:	2.01						

Vertical Clearances

Minimum Vertical Overclearance (53):	99.99
Minimum Vertical Underclearance (54):	0.00
Maximum Vertical Clearance (10):	99.99
Minimum Vertical Clearance:	99.99

Sufficiency Ratings

SR: 19.00 **SD/FO:** 1 Structurally Deficient

Element Condition State Data

Elm/Env	Description	Units	Total Qty.	Qty. CS1	Qty. CS2	Qty. CS3	Qty. CS4	Qty. CS5
107/1	Paint Stl Opn Girder	LF	354.10	0.00	0.00	0.00	0.00	354.10
113/1	Paint Stl Stringer	LF	531.15	531.15	0.00	0.00	0.00	0.00
117/1	Timber Stringer	LF	2,478.70	0.00	1,859.03	619.68	0.00	0.00

059C00029N

KYTC Bridge Inspection Report

Summary:
Inspection Date: 6/3/2010
Inspector: RSEMONES (179)
Primary Type: SIA (Initial Inventory

Types of Inspections Performed:

National Bridge Inventory:	Y
Element:	Y
Fracture Critical:	N
Underwater:	N
Other Special:	N

Element Condition State Data

Elm/Env	Description	Units	Total Qty.	Qty. CS1	Qty. CS2	Qty. CS3	Qty. CS4	Qty. CS5
152/1	Paint Stl Floor Beam	LF	503.85	0.00	0.00	0.00	128.85	375.00
202/1	Paint Stl Column	EA	2.00	0.00	0.00	0.00	2.00	0.00
206/1	Timber Column	EA	3.00	0.00	3.00	0.00	0.00	0.00
211/1	Other Mtl Pier Wall	LF	29.11	0.00	29.11	0.00	0.00	0.00
215/1	R/Conc Abutment	LF	28.93	28.93	0.00	0.00	0.00	0.00
217/1	Other Mtl Abutment	LF	74.27	0.00	74.27	0.00	0.00	0.00
235/1	Timber Cap	LF	15.88	15.88	0.00	0.00	0.00	0.00
311/1	Moveable Bearing	EA	12.00	0.00	8.00	4.00	0.00	0.00
32/1	Timber Deck/AC Ovly	SF	3,445.39	0.00	0.00	0.00	3,445.39	0.00
334/1	Metal Rail Coated	LF	317.11	317.11	0.00	0.00	0.00	0.00
356/1	Steel Fatigue SmFlag	EA	1.00	0.00	0.00	1.00	0.00	0.00
357/1	Pack Rust Smart Flag	EA	1.00	0.00	0.00	1.00	0.00	0.00
358/1	Deck Cracking SmFlag	EA	1.00	0.00	0.00	0.00	1.00	0.00
363/1	Section Loss SmFlag	EA	1.00	0.00	0.00	1.00	0.00	0.00
604/1	2nd Elem Dist	EA	1.00	0.00	0.00	1.00	0.00	0.00

Element Condition State Data

Str Unit	Elm/Env	Description	Description
1	107/1	Paint Stl Opn Girder	Structure is through girder construction, which has plating welded to girder at roadway level and throughout structure. (See Photos) All steel components has various degrees of section loss. from 10 % up to 100%. same comments by Robert Semones dated June 3, 2010
1	113/1	Paint Stl Stringer	South sidewalk has been replaced with steel stringer and fiber-reinforced concrete deck. All deteriorated floorbeam extensions under south sidewalk were either repaired or replaced. North sidewalk was removed to face of beam connections using cutting torch during repairs with cut areas having coat of paint applied to slow rusting. same comments by Robert Semones dated June 3, 2010
1	117/1	Timber Stringer	Decay, splitting, cracking, or crushing has produced loss of strength or deflection of the element but not of a sufficient magnitude to affect the serviceability of the bridge.
1	152/1	Paint Stl Floor Beam	All steel components has various degrees of section loss. from 10 % up to 100%. All deteriorated clip angles on floor beams have been repaired by either welded gusset plates or replacement. Moderate to heavy surface rusting showing throughout unrepaired areas of thru girders and floorbeams. There is also rust form on repaired areas. Floor beam in span #1 has temporary support in place and should be temporary. same comment by Robert Semones dated June 3, 2010
1	202/1	Paint Stl Column	All steel components has various degrees of section loss. from 10 % up to 100%. Pier #2 lateral bracing of steel bent has heavy deterioration of lower angles and lattice bracing. Pier #2 is constructed of buildup steel plating with lower section encased in concrete, which is showing loss of section at point of encasement. Upper lateral bracing has heavy loss of section with top bracing having large area with 100% loss of section. (See Photos)
1	206/1	Timber Column	Floor beam in span #1 has temporary support inplace and should be temporary.
1	211/1	Other Mtl Pier Wall	Pier #1 is constructed of sandstone. Heavy debris found on all caps. (People/Trash)
1	215/1	R/Conc Abutment	Wingwall are cast in place reinforced concrete.

059C00029N

KYTC Bridge Inspection Report

Summary:

Inspection Date: 6/3/2010
Inspector: RSEMONES (179)
Primary Type: SIA (Initial Inventory

Types of Inspections Performed:

National Bridge Inventory:	Y
Element:	Y
Fracture Critical:	N
Underwater:	N
Other Special:	N

Element Condition State Data

Str Unit	Elm/Env	Description	Description
1	217/1	Other Mtl Abutment	Abutment are constructed of large cut sand stone, which is showing moderate deterioration at abutment #1. Random cracking found typical throughout. Heavy debris found on all caps. (People/Trash)
1	235/1	Timber Cap	Floor beam in span #1 has temporary support inplace and should be temporary.
1	311/1	Moveable Bearing	Roller nest at pier #2 is not working. Device rusted in place. Roller nest at pier #3 unknown if it is working. Slide plates at abutment #1 and #2, Pier #2 and #3.
1	32/1	Timber Deck/AC Ovly	Bridge has been closed by the city of Covington in 2006 to vehicle traffic, open to pedestrian traffic only. Concrete barricades were placed across both roadway approaches of structure to prevent vehicle traffic from crossing. THIS STRUCTURE WAS REPAIRED BY THE CITY OF COVINGTON AND REOPENED TO TRAFFIC ON 8/3/00. ALL REPAIRS BEGINNING TO SHOW DETERIORATION THROUGHOUT. Deck timbers are beginning to lose floorboard connectors which is allowing independent movement of flooring timbers. This independent movement of flooring timbers is allowing asphalt wearing surface movement, causing heavy transverse, map cracking, and severe potholes to form. Topside of timber deck could not be inspected this date, due to asphalt overlay. Moderate rotting, sagging, breakage, and staining of floor timbers and timber beams found on bottom. (See Photos) Wearing surface continues to show map cracking and reflective cracking from timbers below. Newer patches showing through structure. (See Photos) Wearing surface very uneven allowing for additional (Severe) impact to structure and should be repaired A.S.A.P. All steel components has various degrees of section loss. from 10 % up to 100%. Pier #2 lateral bracing of steel bent has heavy deterioration of lower angles and lattice bracing. All deteriorated clip angles on floor beams have been repaired by either welded gusset plates or replacement. same comments by Robert Semones dated June 3, 2010 (see photos)
1	334/1	Metal Rail Coated	Sidewalk railing replaced with angle iron and chain link fencing. This fence shows moderate deflection when shaken. Several welds have broken in angles at attachment of horizontal bracing. (See Photos)
1	356/1	Steel Fatigue SmFlag	All steel components has various degrees of section loss. from 10 % up to 100%. Pier #2 lateral bracing of steel bent has heavy deterioration of lower angles and lattice bracing.
1	357/1	Pack Rust Smart Flag	All steel components has various degrees of section loss. from 10 % up to 100%. Pier #2 lateral bracing of steel bent has heavy deterioration of lower angles and lattice bracing.
1	358/1	Deck Cracking SmFlag	Wearing surface continues to show map cracking and reflective cracking from timbers below. Newer patches showing through structure. (See Photos) Wearing surface very uneven allowing for additional (Severe) impact to structure
1	363/1	Section Loss SmFlag	All steel components has various degrees of section loss. from 10 % up to 100%.
1	604/1	2nd Elem Dist	All steel components has various degrees of section loss. from 10 % up to 100%. Pier #2 lateral bracing of steel bent has heavy deterioration of lower angles and lattice bracing.

BRIDGE.Notes

*Notes For Central Office Request: Structure was closed during the year of 2006 to all vehicle traffic, but pedestrians are still using structure for travel. There are plans to reopening or replace this structure by the City of Covington.

Work Candidates

Inspector Candidates:

Candidate ID:	Status	Priority	Assigned	Action	Elem	Date Recommended
059-C00029N-1	Approved	High	Unassigned	11	0	10/28/2009

APPENDIX 4

THREATENED AND ENDANGERED SPECIES FOR KENTON COUNTY

U.S. Fish & Wildlife Service
Kentucky Ecological Services Field Office

U.S. Fish & Wildlife Service
330 West Broadway, Rm 265
Frankfort, KY 40601
Phone: 502-695-0468
Fax: 502-695-1024

Endangered, Threatened, & Candidate Species in ____KENTON_____ County, KY

Group	Species	Common name	Legal* Status	Known** Potential	Special Comments
Mammals	*Myotis sodalis*	Indiana bat	E	P	
Mussels	*Epioblasma o. obliquata*	purple catspaw pearlymussel	E	K	
	Pleurobema clava	clubshell	E	K	
	Cyprogenia stegaria	fanshell	E	K	
	Epioblasma torulosa rangiana	Northern riffleshell	E	K	
	Plethobasus cooperianus	orangefoot pimpleback	E	K	
	Lampsilis abrupta	pink mucket	E	K	
	Obovaria retusa	ring pink	E	K	
	Pleurobema plenum	rough pigtoe	E	K	
	Plethobasus cyphyus	sheepnose	C	P	
Plants	*Trifolium stoloniferum*	running buffalo clover	E	K	

NOTES:

* Key to notations: E = Endangered, T = Threatened, C = Candidate, CH = Critical Habitat

**Key to notations: K = Known occurrence record within the county, P = Potential for the species to occur within the county based upon historic range, proximity to known occurrence records, biological, and physiographic characteristics.

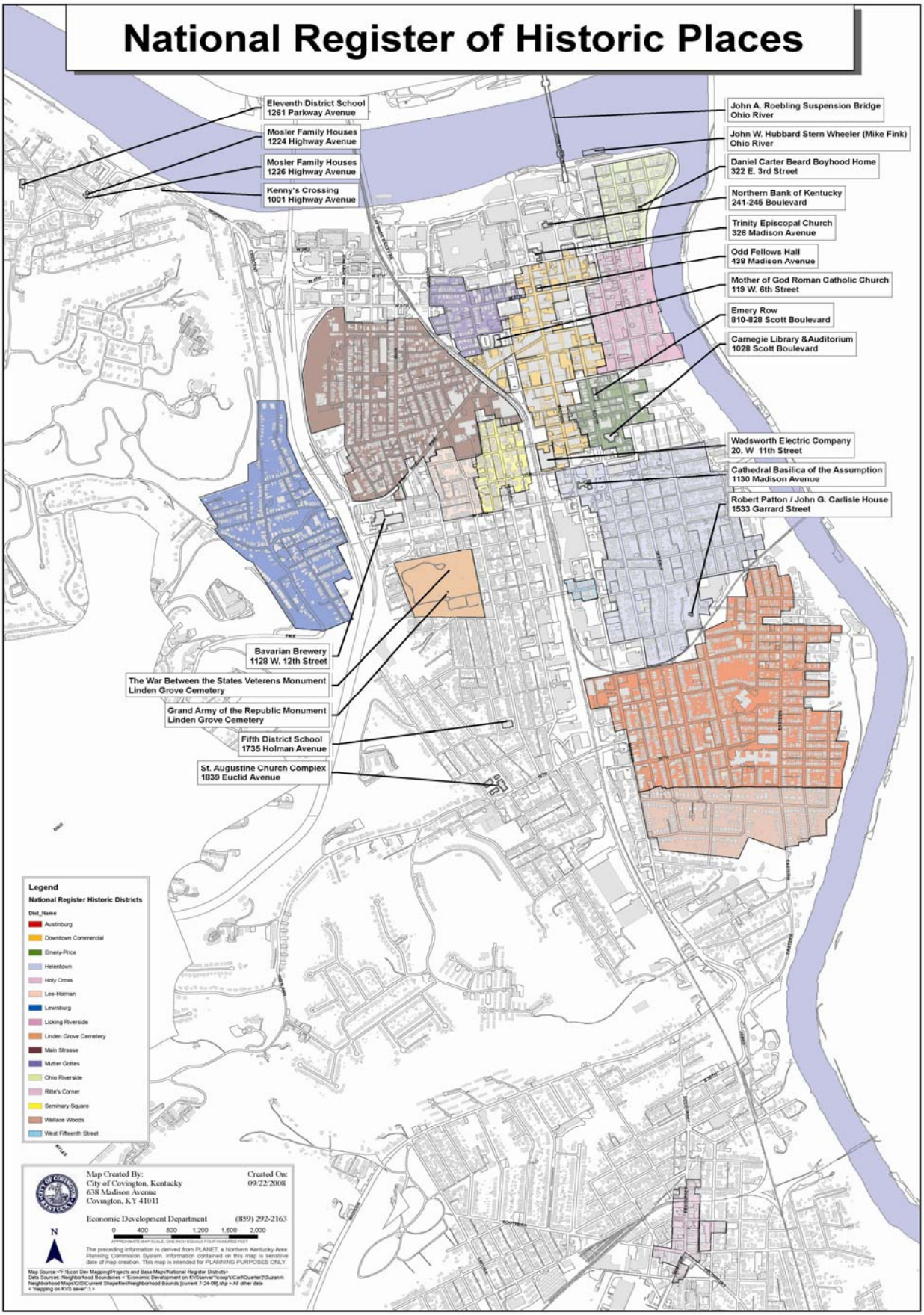
APPENDIX 5

HAZARDOUS MATERIAL SITE MAP FROM THE 12th STREET WIDENING PROJECT

Note: The Hazardous Material Site Map is taken from the August 2004, "Finding of No Significant Impact" for the 12th Street widening project (Item Number 06-0273.00), Exhibit 12

APPENDIX 6A

MAP OF COVINGTON NATIONAL REGISTER OF HISTORIC PLACES


National Register of Historic Places
Eleventh District School
1261 Parkway Avenue
Mosler Family Houses
1224 Highway Avenue
Mosler Family Houses
1226 Highway Avenue
Kenny's Crossing
1001 Highway Avenue
John A. Roebling Suspension Bridge
Ohio River
John W. Hubbard Stern Wheeler (Mike Fink)
Ohio River
Daniel Carter Beard Boyhood Home
322 E. 3rd Street
Northern Bank of Kentucky
241-245 Boulevard
Trinity Episcopal Church
326 Madison Avenue
Odd Fellows Hall
438 Madison Avenue
Mother of God Roman Catholic Church
119 W. 6th Street
Emery Row
810-828 Scott Boulevard
Carnegie Library &Auditorium
1028 Scott Boulevard
Wadsworth Electric Company
20. W 11th Street
Cathedral Basilica of the Assumption
1130 Madison Avenue
Robert Patton / John G. Carlisle House
1533 Garrard Street
Bavarian Brewery
1128 W. 12th Street
The War Between the States Veterens Monument
Linden Grove Cemetery
Grand Army of the Republic Monument
Linden Grove Cemetery
Fifth District School
1735 Holman Avenue
St. Augustine Church Complex
1839 Euclid Avenue
Legend
National Register Historic Districts
Dist_Name
Austinburg
Downtown Commercial
Emery-Price
Helentown
Holy Cross
Lee-Holman
Lewisburg
Licking Riverside
Linden Grove Cemetery
Main Strasse
Mutter Gottes
Ohio Riverside
Ritte's Corner
Seminary Square
Wallace Woods
West Fifteenth Street
Map Created By:
City of Covington, Kentucky
638 Madison Avenue
Covington, KY 41011
Created On:
09/22/2008
Economic Development Department
(859) 292-2163
0 400 800 1,200 1,600 2,000
N

APPENDIX 6B

COVINGTON MAP OF COVINTON HISTORIC PRESERVATION OVERLAY ZONES

Covington Historic Preservation Overlay Zones