Vrooman Road Study
(LAK-Vrooman Road PID #5669)

Vrooman Road Study
Lake County, Ohio
TranSystems Corporation

UPDATED PLANNING STUDY

Revised January, 2007 and May, 2008

TranSystems Corporation

VROOMAN ROAD STUDY
(LAK-VROOMAN ROAD PID #5669)

UPDATED PLANNING STUDY

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Date: 6/30/2008 10:37 AM
Subject: Fw: LAK Vrooman Road Study PID#5669

OES does not have any comments on the conceptual planning study. Please forward this to the Lake County Engineer's Office.

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----- Forwarded by Tom Sorge/Planning/D12/ODOT on 06/30/2008 10:34 AM -----

Mark Locker/Environmental/CEN/ODOT

06/30/2008 09:56 AM

To Mark Carpenter/Planning/D12/ODOT@ODOT
cc James Gates/Environmental/CEN/ODOT@ODOT
Subject LAK Vrooman Road Study PID#5669

Mark,

After careful review of the updated LAK - Vrooman Road conceptual planning study, I do not have additional or substantial comments. The study looks good.

Thank you for the opportunity to review this document.

Mark

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1.0 INTRODUCTION

1.1 BACKGROUND

The Lake County Engineer's Office (LCEO) contracted with TranSystems Corporation to evaluate deficiencies along Vrooman Road (County Road 227) between State Route 84 and Interstate 90 in Lake County, Ohio.

This study was initiated prior to issuance of ODOT's Project Development Process (PDP) guidance. However, the study followed ODOT's Planning Study Process, and as such, meets the intent of Steps 1 through 4 of the current PDP for Major Projects (the project has since been reclassified to follow the Minor PDP). This report will serve to document the results of the study, meeting the intent of the Public Involvement Plan, Draft Purpose and Need, Existing and Future Conditions Report, and Planning Study Report/Strategic Plan. Literature review and field review information was also available that meets the intent of the Red Flag Summary. The Red Flag Summary and Mapping are included in **Appendix D**.

The improvement to Vrooman Road has been studied and examined in various forms since 1963, including the previous engineering and environmental investigation and studies initiated in the early 1990's. The project proceeded into the environmental clearance phase until, during environmental studies Native American burials were identified within the project limits. The project was then suspended. Following the events of September 11, 2001, the Homeland Security Department nominated Vrooman Road as the preferred emergency evacuation route for the Perry Nuclear Power Plant. As such, the project was revived in 2003 to satisfy Homeland Security requirements. Based on that nomination, and the burden of upkeep of the structurally deficient and functional obsolete bridge structure and deficient roadway, it became imperative for Lake County to address the deficiencies of Vrooman Road. The Vrooman Road Bridge was closed due to damage to the approaches, and possible scour damage to the abutments and pier as a result of flooding in July, 2006. The bridge was reopened in December, 2006 after a five (5) month closure.

The objectives of this study were to perform in-depth analysis of deficiencies in the roadway corridor, explore replacement alternatives for the structurally deficient Vrooman Road Bridge, and recommend a Preferred Alternative for further development.

1.2 STUDY CORRIDOR

Vrooman Road provides access to Perry and Leroy Townships, as well as southeastern Painesville from Interstate 90. The north end of Vrooman Road is State Route 84 (South Ridge Road), in Perry Township. The south end of Vrooman Road is the five-point intersection of State Route 86 and County Roads 208 (Leroy Center Road) and 210 (Huntoon Road) in Leroy Township (**Figures 1 and 2**). The Vrooman Road Study Corridor begins at Interstate 90, which crosses Vrooman Road east to west at a full service interchange within Leroy Township. The Grand River, designated a Wild and Scenic River, is the centerpiece of a steep-sided, narrow valley crossed by Vrooman Road north of Interstate 90, adjacent to the Indian Points and Mason's Landing Parks located just

south of State Route 84 (**Figure 3**). The Perry Nuclear Power Plant is located approximately 7 miles north of the study area (**Figure 4**).

FIGURE 1: MAP OF THE STATE OF OHIO SHOWING THE PROJECT AREA IN RELATION TO DRAINAGE AREAS AND COUNTY BOUNDARIES. (ODNR 2004)

FIGURE 2: MAP OF LAKE COUNTY, OHIO SHOWING THE PROJECT AREA (ODOT 1998)

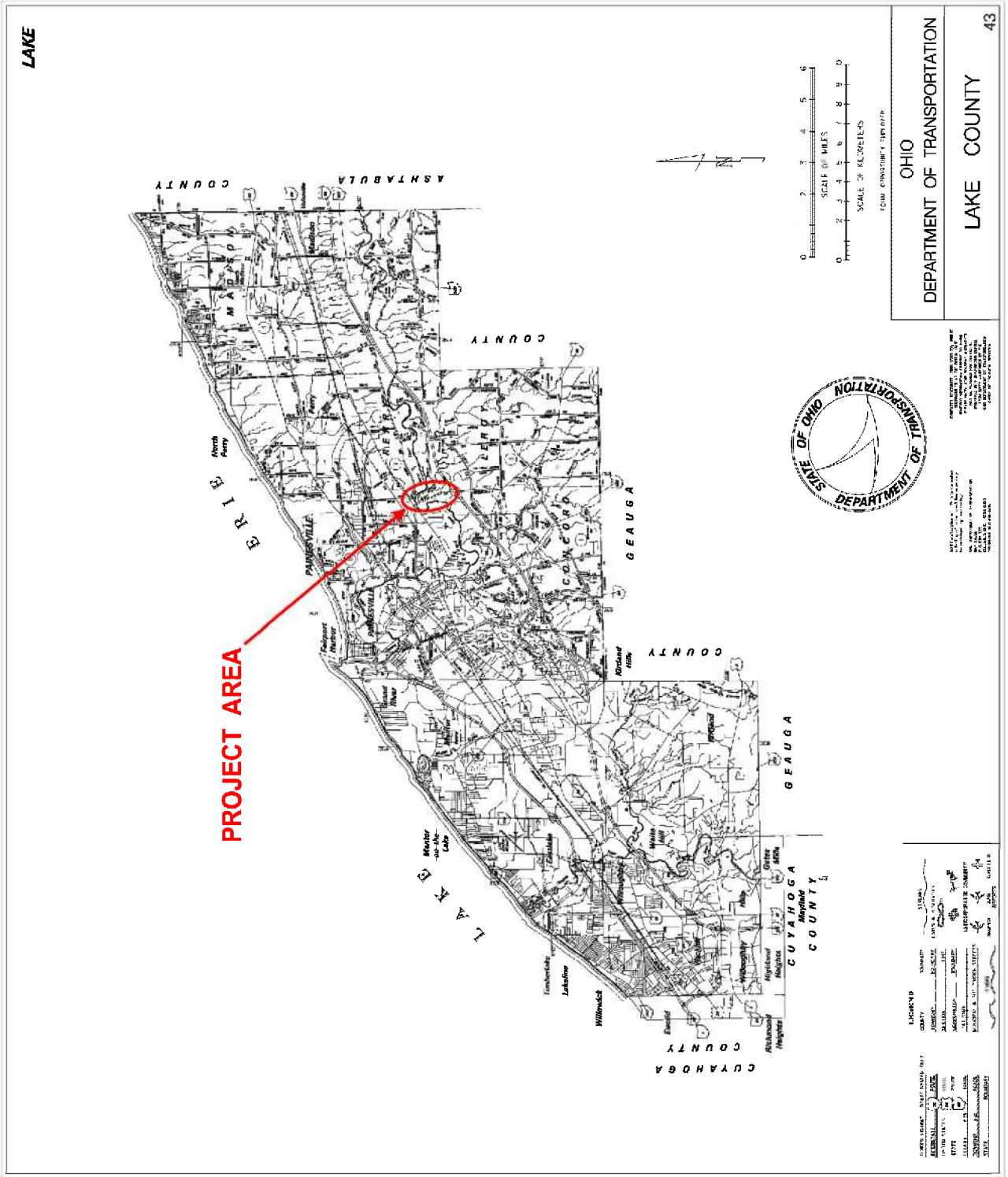

LAKE
PROJECT AREA
OHIO
DEPARTMENT OF TRANSPORTATION
LAKE COUNTY
43
STATE OF OHIO DEPARTMENT OF TRANSPORTATION
GEAUGA COUNTY
CUYAHOGA COUNTY
ASHTABULA COUNTY
LAKE COUNTY
PAINESVILLE
CONCORD
Kirtland Hills
Willoughby
Mentor-on-the-Lake
Fairport Harbor
North Perry
Madison
Mayfield
Highland Heights
Richmond Heights
Lakeline
Willowick
Eastlake
Grand River
Chagrin River
Mentor Marsh
Grand River
Chagrin River
Mentor Marsh
Grand River
Chagrin River
Mentor Marsh

FIGURE 3: VROOMAN ROAD STUDY AREA

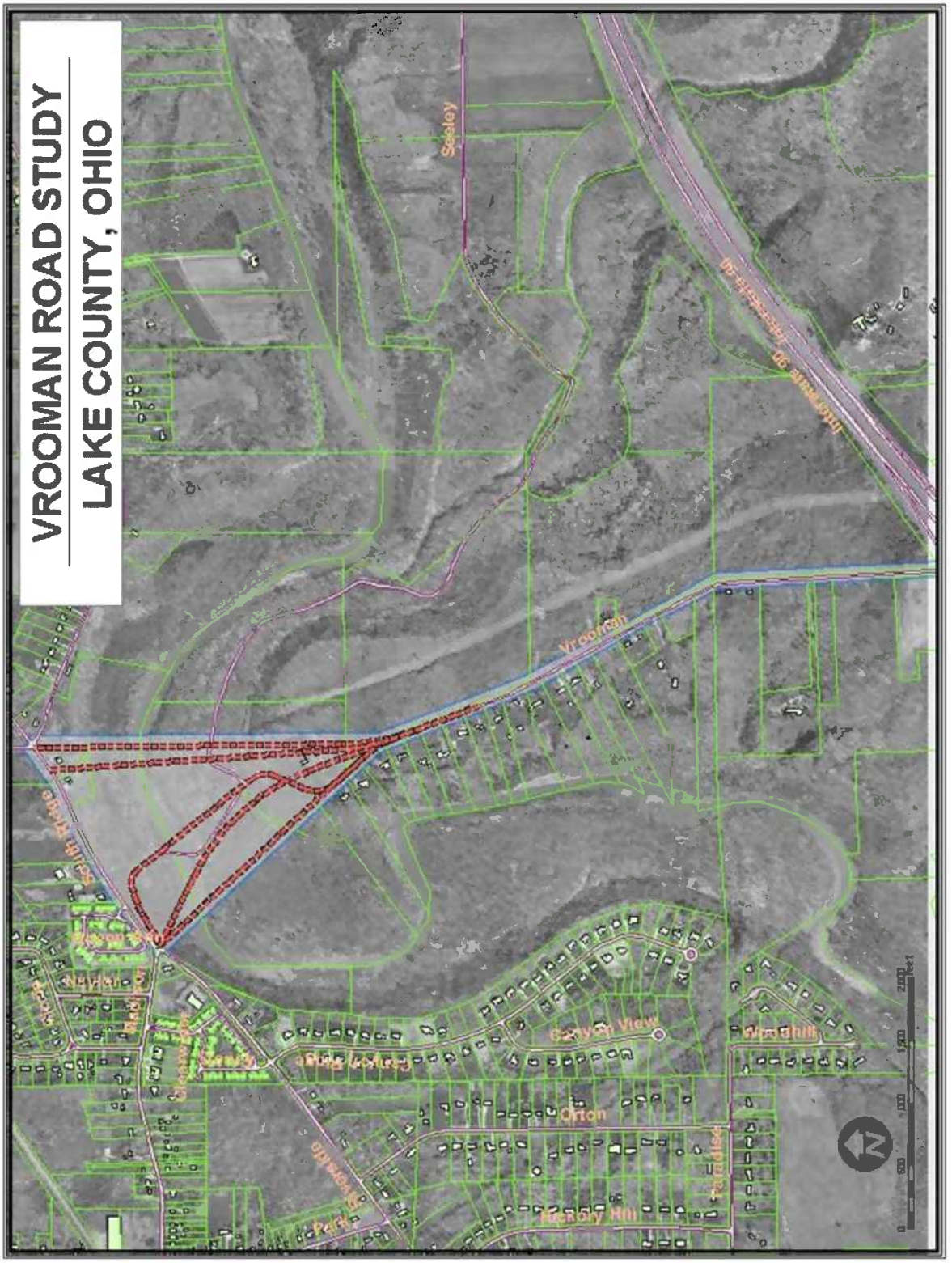
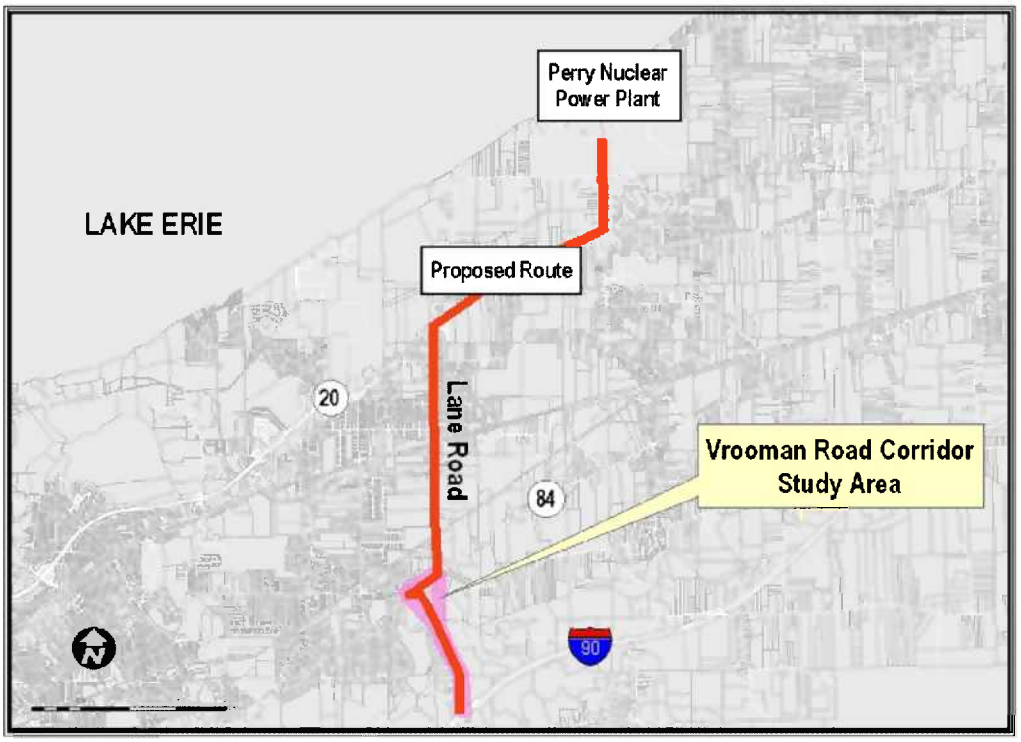


FIGURE 4: PROPOSED PERRY NUCLEAR POWER PLANT EVACUATION ROUTE



PROPOSED PERRY NUCLEAR POWER PLANT EVACUATION ROUTE
VROOMAN ROAD CORRIDOR STUDY

1.3 PUBLIC INVOLVEMENT PLAN

Public involvement during a transportation planning study serves two basic purposes --- to distribute information and to solicit input. In January 2004, TranSystems developed a Public Involvement Plan that addressed both objectives. The Public Involvement Plan summarized how two-way communication would be maintained throughout the Vrooman Road Planning Study and outlined the purpose of public involvement activities:

- Educate the public and decision-makers about the study process and their role within it
- Solicit input on the problems that the study should be designed to solve
- Provide information on the needs identified during the technical analysis
- Solicit input on the alternatives that should be considered
- Provide information on the potential impacts and benefits of each alternative
- Solicit input on the recommended solution
- Provide information on the chosen solution and rationale used in decision-making

STAKEHOLDER COMMITTEE

Step 1 of ODOT's Planning Study Process involves the establishment of two-way communication with the community, other interested parties and the eventual implementing agencies - the Stakeholders. The purpose is to create a mutual understanding between the Project Team and Stakeholders concerning the problem to be addressed, the "critical success factors" for any solution and the process to be followed in analyzing and evaluating solutions.

The Stakeholder Committee was assembled to provide a group of individuals representing various viewpoints and perspectives to be involved in regular progress meetings, providing input and feedback to the study team from the group or agency they represent. Inclusion of all stakeholders was intended to secure their understanding of and "buy-in" to not only the process and the issues, but also the results.

The study began in January of 2004 with the development of a list of potential candidates for the Stakeholder Committee. The Project Team worked with the County to identify appropriate representatives for the Stakeholder Committee. The Project Team contacted these individuals by letter to explain the study, request their involvement, and invite them to the first Stakeholder Committee meeting. A total of six stakeholder meetings were held throughout the Vrooman Road Planning Study.

Stakeholders included:

- Lake County Engineer's Office (LCEO)
- Local Fire and Safety Officials
- Local business owners or community groups
- County Administration
- County Planning and Zoning
- County's Project Manager
- Lake County Metroparks
- Northeast Ohio Area-wide Coordinating Agency (NOACA)
- Ohio Department of Transportation (ODOT)
- Ohio Department of Natural Resources (ODNR)
- Federal Highway Administration (FHWA)
- Communities of Perry, Painesville, Madison, and Leroy Townships

Other citizens and business owners expressed interest and were included as the study progressed. Residents along River Road and on SR 84 became involved subsequent to the public involvement meeting. Details of involvement at each stage are included in the appropriate sections of this document. A complete list of stakeholders is included in **Appendix A**.

NOTIFICATIONS/MAILING LIST

TranSystems developed a general mailing list of all stakeholders as well as residents, property, and business owners, and interested citizens to be kept current on the progress of the study. This list was used to advise of the public meeting.

PUBLIC MEETING

A general public meeting was planned for Step 3 of the study. It was the intent of this meeting to present the conceptual alternative solutions under consideration and solicit feedback from citizens. The content and outcome of this meeting is summarized in Section 3.3 of this report.

1.4 STAKEHOLDER GOALS AND OBJECTIVES

As part of Step 1, a kick-off Stakeholder Committee Meeting was held on January 21, 2004. The Project Team explained the purpose of the study, the planning study process, and the role of the Stakeholder Committee in conjunction with the project. After the group had an understanding of the purpose of the study and their role in the decision-making process, the Project Team solicited input from the group concerning their perception of the situation, the nature of the problems to be solved, and the factors that would define success. This information was used to develop a "Problem Statement" outlining the Stakeholder Committee's definition of the problem to be solved and the desired goals for the Vrooman Road Planning Study:

PROBLEM STATEMENT

The Vrooman Road Planning Study will:

- *Provide acceptable traffic operation for future traffic volumes*
- *Correct identified accident problems*
- *Eliminate flooding of a new bridge spanning across Grand River*
- *Reduce dangerous current steep grade near Vrooman's intersection with State Route 84*
- *Accommodate transit needs; improve safety for truck travel*
- *Provide safe and good access to the Nuclear Power Plant in Perry Township providing unrestricted weight limits;*
- *Eliminate or avoid current geotechnical problems near Vrooman's intersection with State Route 84*
- *Provide an aesthetically pleasing bridge to complement the scenic Grand River*
- *Minimize short and long term impacts on the Grand River*
- *Try to implement an alternative transportation plan (for pedestrians and bicyclists) without using funds from license plate and gas funds*
- *Bring bridge up to standards*
- *Keep utilities along Vrooman Road consistent with future plans and minimize the impacts thereof*

The problem statement was used by the project team in subsequent steps to guide the technical studies to determine Purpose and Need and to develop evaluation criteria for comparing alternatives.

2.0 Existing and Future Conditions / Purpose and Need

The improvement to Vrooman Road has been studied and examined in various forms since 1963, including the previous engineering and environmental investigation and studies initiated in the early 1990's. The project proceeded into the environmental clearance phase until, during environmental studies Native American burials were identified within the project limits. The project was then suspended.

Following the events of September 11, 2001 the Homeland Security Department nominated Vrooman Road as the preferred emergency evacuation route for the Perry Nuclear Power Plant. The structural deficiencies of the bridge, including closure during flooding events, and the geometric deficiencies of both approach roadways reduce the effectiveness of this route. Based on that nomination, and the burden of upkeep of the structurally deficient and functional obsolete bridge structure and deficient roadway, it became imperative for Lake County to address the deficiencies of Vrooman Road.

The project was revived in 2003 to address the deficiencies of the bridge and roadway, and to satisfy Homeland Security requirements. This current project effort, and associated engineering and environmental investigations, were initiated prior to issuance of ODOT's current Project Development Process (PDP) guidance. However, the study followed ODOT's Planning Study Process, and as such, meets the intent of Steps 1 through 4 of the current PDP for Major Projects.

Data analysis conducted in Step 2 focused on quantifying the problems and needs expressed by the Stakeholder Committee in order to develop a Purpose and Need statement. Toward this end, the Project Team obtained and reviewed existing reports to utilize the available information in subsequent activities. Base files were generated in GIS and Microstation for use in project exhibits and design activities. This information was supplemented by evaluation of existing site conditions and original data collection. The results are summarized below. Literature review and field review information was also available that meets the intent of the Red Flag Summary. The Red Flag Mapping is included in **Appendix D**. This report will serve to document the results of the study, meeting the intent of the Public Involvement Plan, Draft Purpose and Need, Existing and Future Conditions Report, and Planning Study Report/Strategic Plan.

The purpose of this project is to replace the structurally-deficient and functionally-obsolete bridge that regularly closes during flood events with a facility that meets current design standards and improves existing geometrics that correct existing roadway deficiencies, while providing a safe, efficient evacuation route that meets the requirements of the US Department of Homeland Security.

2.1 BRIDGE CONDITION

The Vrooman Road Bridge (SFN 4337107) is a structurally deficient and functionally obsolete low-level bridge that carries Vrooman Road over the Grand River. It is a two-span steel Warren Polygonal pony truss structure built in 1951. The bridge has an overall structure length of 179'-4½" with each span approximately 88' - 4" center-to-center of truss bearing. The trusses are

spaced 23'-0" center-to-center. A galvanized steel guardrail has been attached to the interior of the truss verticals, effectively reducing the roadway opening. In 1980 the structure underwent a major rehabilitation with the removal and replacement of the timber deck and steel stringers with a timber deck and asphalt wearing surface. The bridge is posted with a 16 ton load limit. While the bridge is posted for no trucks, it is still used by school buses and some emergency vehicles.

The superstructure bears on stone abutments dating from the previous bridge crossing. The stone abutments have a concrete abutment cap that the bridge rests on. The south abutment was reinforced with steel sheet piling in the 1990s to stabilize shifting masonry units. Three of the four stone wingwalls have been retained from the previous bridge crossing, with the southeast wing wall constructed from steel sheet pile.

The current weight limit of 16 tons is too low to allow proper emergency vehicles to traverse the bridge safely. If prompt attention is to be given to emergencies, it is imperative that standard emergency vehicles are able to cross the bridge safely. The current bridge is unacceptable for this purpose because of the load limit and geometric constraints (See **Appendix B**).

The bridge is located within the Grand River flood plain and the bridge deck is below the 100-year flood elevation. See **Figures 5A and 5B**. Over the last 5 years, the bridge and Vrooman Road have been closed on average 2 to 3 times annually in the spring and/or fall, with the typical closure lasting 1 to 2 days. In 2005 the bridge was closed 4 times. In 2006 the bridge was closed from July to December due to extensive damage to the bridge and approach roadway caused by severe flooding of the Grand River. The nearest crossings for emergency use during flood events are Blair Road (2 miles east), an 8-mile detour along a roadway with sharp curves, steep grades and poor sight distances; or State Route 84 (4 miles west), a 9-mile detour through the City of Painesville. These two alternative routes are also subject to occasional flooding. The bridge would need to be raised above the 100 year flood mark to insure that it is not subject to closure as a result of flooding events.

In a 2002 Physical Condition Report, prepared by HNTB Ohio Inc. for the Lake County Engineer, the Vrooman Road Bridge was rated a 4 (in a fair to poor condition) on a scale from 1 (that could assume an imminent failure condition), to 9 (excellent condition). This overall rating is mainly due to the condition of the superstructure (steel trusses, rated as 4), the condition of the substructure (stone abutments rated as a 5) and the condition of the deck (roadway, rated as 6). The condition of all parts of the bridge was reported, as presented in **Table 1**.

In a 2006 Physical Condition Report, prepared by Richland Engineering, Ltd. for the Lake County Engineer, the Vrooman Road Bridge was rated a 3 (in a fair to poor condition) on a scale from 1 (that could assume an imminent failure condition), to 9 (excellent condition). This overall rating is mainly due to the condition of the superstructure (steel trusses, rated as 3), the condition of the substructure (stone abutments rated as a 5) and the condition of the deck (roadway, rated as 5). The condition of all parts of the bridge was reported, as presented in **Table 1**:

TABLE 1: VROOMAN ROAD BRIDGE CONDITION

Bridge Parts	2002 Condition*			2006 Condition**		
	Good	Fair	Poor	Good	Fair	Poor
Bearings			X			X
Channel and Scour		X			X	
Wearing Surface & Floor	X				X	
Floor Beam Connections			X			X
Floor Beams		X			X	
Lower Lateral Bracing			X			X
Abutments, Abutment Seats and Backwalls		X			X	
Pier and Pier Seat		X			X	
Trusses		X			X	
Railing		X				X
Wingwalls		X			X	

* 2002 Physical Condition Report, HNTB Ohio, Inc.
**2006 Physical Condition Report, Richland Engineering, Ltd.

A new bridge structure could be constructed at an elevation higher than the 100 year flood elevation, to make the bridge less susceptible to flooding events. A new bridge structure and approach roadways would be designed to meet current design standards, eliminating structural deficiencies. This would provide a crossing of the Grand River for residents in case of emergency and would provide an evacuation route meeting the needs of the Department of Homeland Security directives. With the replacement of the Vrooman Road Bridge the need for periodic closures, and associated costs, would be eliminated.

2.2 EXISTING ROADWAY DEFICIENCIES

Vrooman Road is classified as an Urban Collector within the Project Limits. Replacement of the Vrooman Road Bridge will necessitate the replacement of the approach roadways to meet current design standards. Each approach has inadequate geometrics, steep grades, unacceptable curves and poor sight distance as compared to applicable roadway standards for its functional classification. The north approach is flanked by a retaining wall that accommodates the differences in grade between State Route 84 and Vrooman Road. The retaining wall itself is in poor condition and has exhibit signs of movement. The cost of maintaining this wall is escalating each year. The replacement of the Vrooman Road Bridge will require that the approach roadways be replaced to meet the design requirements for an Urban Collector.

The existing roadway is approximately 30' wide including two 10'-6" lanes and 4'-6" graded shoulders. The paved shoulder width is approximately 1'-6. Existing roadway conditions are shown in **Photographs 1 through 14**. The LCEO estimates that the stretch of Vrooman Road within the Project Study area requires approximately $75,000 more in annual maintenance costs than similar

lengths of non-deficient roadway. Additional costs are attributable to: increased salting and plowing because of steep grades; special pavement and drainage treatments because of steep grades; repair costs resulting from flooding; guide rail maintenance costs resulting from high number of accidents; and costs associated with closing, cleaning and reopening the road during flood events. ODOT maintenance personnel indicate that no above normal maintenance is required on SR 84 within the Project Limits. The following photographs document some of the existing roadway conditions and deficiencies:

Photograph 1 - Vrooman Road south of the existing bridge, looking south west.

Photograph 2 - Vrooman Road Bridge and the southern approach, looking north.

Photograph 3 - Vrooman Road south of the existing bridge, looking southeast. Seeley Road is on the left side of Vrooman Road

Photograph 4 - Vrooman Road at the intersection of Seeley Road, looking south. The intersection is at the curve at the bottom of the hillside.

Photograph 5 - Vrooman Road at the southern hillside, looking southwest. Approaches to Vrooman Road Bridge are characterized by steep grades and curving alignment.

Photograph 6 - Vrooman Road at the top of the southern hillside, looking south.

Photograph 7 - Vrooman Road Bridge at the northern approach, looking northwest.

Photograph 8 - Vrooman Road north of the Vrooman Road Bridge, looking northwest. This section of Vrooman Road includes the entrance to Mason's Landing Park on the left and the bottom of the northern hillside, from SR 84 in the background.

Photograph 9 - Vrooman Road at the bottom of the northern hillside looking southeast. Vrooman Road Bridge is in the background and Mason's Landing Park entrance on the right.

Photograph 10 - Vrooman Road at the base of the northern hillside, looking northwest. This curve in the road is at the bottom of a steep grade.

Photograph 11 - Vrooman Road at the bottom of the northern hillside, looking west. The retaining wall is on the left side of the roadway.

Photograph 12 - The intersection of SR 84, Vrooman Road, and Madison Avenue at the top of the northern hillside, looking northeast.. Note poor intersection geometry.

Photograph 13 - The intersection of SR 84, Vrooman Road, and Madison Avenue at the top of the northern hillside, looking west along Madison Avenue.

Photograph 14 - The intersection of SR 84, Vrooman Road, and Madison Avenue at the top of the northern hillside, looking south west along SR 84.

Geometrics

Vrooman Road passes through the Grand River Valley between Interstate 90 and State Route 84. The Valley is flanked by steep sided shale cliffs that constrain the geometrics of Vrooman Road. On the southern, more gradual slope of the Grand River Valley, Vrooman Road is forced to traverse a series of curves into the valley bottom; while on the northern end, the roadway makes a sharp turn north of the bridge and then continues up a steep slope to the State Route 84 intersection at a considerable grade. This section of Vrooman Road is classified by ODOT as an Urban Collector with a design speed of 45 MPH.

Grade

The acceptable grade for Vrooman Road given its classification and description as a level road in the ODOT's *Location and Design Manual Volume I* is an 8% grade. Currently, Vrooman Road has a 12% grade on the south side of the Grand River Valley and a 15% grade on the north side. The steep grades make it difficult for motorists with standard transmission vehicles to operate the vehicle safely and properly on the hills, especially at the intersection with State Route 84. All vehicle types are affected in poor weather conditions. Vehicles have slid backwards when forced to stop while climbing the grade north of the river in snowy or icy conditions.

The steep grade also lends itself to problems concerning sight distance to the bridge. A driver approaching the Vrooman Road Bridge is unable to see it until they are almost upon it, making a dangerous approach for motorists traveling southbound from State Route 84. This becomes a problem if the bridge or roadway is too icy, if there is an accident, or any other obstruction on the

bridge or roadway. Further, during the summer months when the Indian Point's and Mason's Landing Parks have the most visitors, issues with poor sight distance pose a danger for pedestrians and bicyclists utilizing the road.

Alignment (Horizontal Curves)

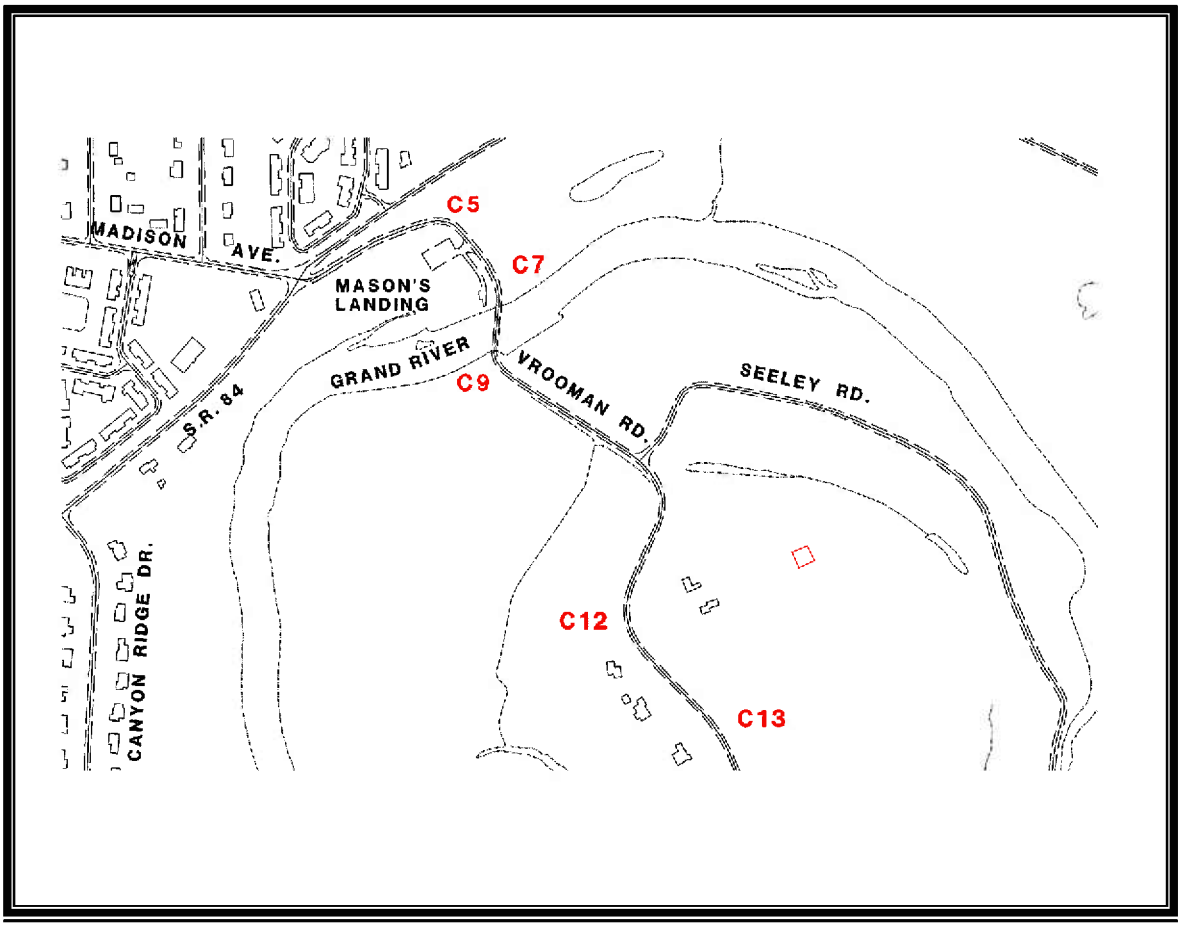
Horizontal curves near the Grand River Valley on the north side approaching State Route 84 are presented in **Table 2**:

TABLE 2: HORIZONTAL CURVES

Curve	Existing		Minimum Acceptable		Check
	D_c	Radius (Feet)	D_c	Radius (Feet)	Yes/No
C5	47° +/-	120 +/-	8°30'	674	No
C7	81° +/-	200 +/-	8°30'	674	No
C9	30° +/-	70 +/-	8°30'	674	No
C12	24° +/-	240 +/-	8°30'	674	No
C13	8° +/-	715 +/-	8°30'	674	Yes

Four of the five curves are below the minimum acceptable radius based on applicable design criteria for Vrooman Road as given by ODOT's *Location and Design Manual Volume I*. The remaining curve is acceptable for this classification of roadway. **Figure 5** shows the locations of the curves.

FIGURE 5: MAP OF EXISTING HORIZONTAL CURVE LOCATIONS



Sight Distance

The sight distance for the intersection of Vrooman Road and State Route 84 is practically non-existent due to the angular approach of Vrooman Road up the Grand River Valley. The proper site distance for a left turn is 500 feet and for a right turn is 430 feet as given in the Ohio Department of Transportation's *Location and Design Manual Volume I*.

The extreme grade on the approach makes mathematical calculations of site distance difficult to perform, but estimates of the existing sight distance were developed based upon field observations. If traffic were to stop at the stop bar, sight distance to the right would be an estimated 50', as the driver must look up and over his right shoulder through guardrail to see oncoming traffic. This is further limited if vegetation has grown up near the guardrail. If the driver were to pull up beyond the stop bar to be at SR 84, it is dangerous because the vehicle would then be in traffic, but the driver would only be able to see approximately 150'. To the left, the driver can see only about 130' along eastbound SR 84, but that would be limited by vegetative growth as well.

Retaining Wall

A retaining wall is located on the north side of the Grand River Valley along the south side of Vrooman Road and roughly parallel to State Route 84. This wall was constructed in or around 1972. and is approximately 250' long and 25' high. The wall is structurally deficient and exhibits some signs of movement. LCEO forces have repaired the retaining wall twice over the last 5 years, at a total cost of approximately $10,000, for an average annual cost of $2000. Repairs have included installing additional bracing and tiebacks. Photographs 15 through 17 show the existing condition of the retaining wall. The wall is a critical structure supporting an already slipping Vrooman Road and SR 84 from sliding into the valley. This retaining wall structure keeps the buildings and structures near the intersection of Vrooman Road and SR 84 from falling into the valley, while also preventing a landslide onto Vrooman Road that would result in the closure of both SR 84 and Vrooman Road.

Photograph 15 - The base of the Vrooman Road retaining wall, looking west.

Photograph 16 - The base of the Vrooman Road retaining wall, looking east.

Photograph 17 - The base of the Vrooman Road retaining wall, looking down from the top.

2.3 CLOSURE DUE TO FLOODING

The Vrooman Road Bridge represents a recurrent maintenance problem for the Lake County Engineer. The maintenance issues are due in part to the bridge structure being below the 100-year flood elevation and subject to repeated flooding. The bridge and Vrooman Road have been closed on average 2 to 3 times annually over the last 5 years in the spring and/or fall (total 10-15 times), with the typical closure lasting 1 to 2 days. Flooding is more prevalent during the months of April through May and October through November as a result of winter thaw and increased rainfall, respectively. The Lake County engineer reports that this route was closed 4 times for over 20 days in 2005. The Vrooman Road Bridge was closed in July, 2006 to December, 2006, due to severe damage to the approach roadway and possible scour damage to the substructure resulting from an extreme flood event. Several times a year, the river empties its banks and floods the approaches, forcing closure. When the Vrooman Road Bridge is closed, the nearest alternative crossings of the Grand River are Blair Road, located approximately 2 miles to the east; and State Route 84 located approximately 4 miles to the west. National Flood Plain maps are included as **Figures 6A and 6B**.

Normal water surface elevation for the Grand River under the Vrooman Road Bridge is 628.3 +/-. The 25 year flood level elevation is 641.02, and the 100 year flood level elevation is 641.66. Refer to Figures 6A and 6B. Existing roadway elevation at the crossing is approximately 641.0. Existing low point elevations (sumps) in the approach roadway to the north and south of the bridge are approximately 632.0 and 631.0, respectively.

The minimum profile for a replacement structure would need to be established so that the low structure elevation would provide one foot of freeboard above the 25 year flood level. So the low structure elevation would need to be above elevation 642.02. Structure depth would then determine the roadway profile elevation. Structure depth is a function of span length and span arrangement. The minimum structure depth for a 240' continuous span structure would be in the range of 7.75' to 9.00'. This would then establish the required low profile elevation somewhere between 649.75 and 651.00, representing a change in profile grade elevation of at least 10' on the approaches and at least 8.75' at the bridge. Current design criteria prohibit a profile that allows the approaches to flood.

FIGURE 6A: FLOOD PLAIN MAP

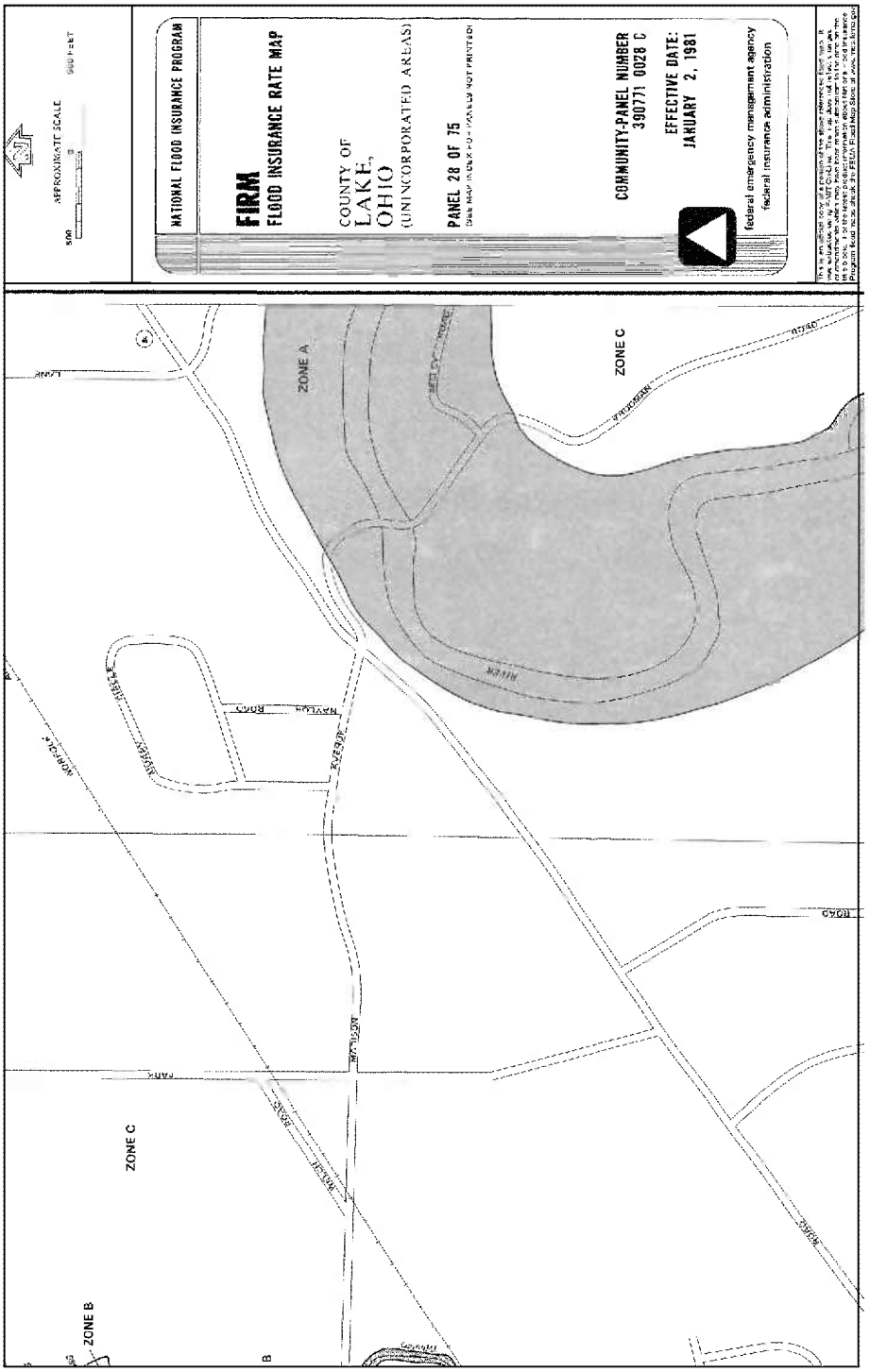
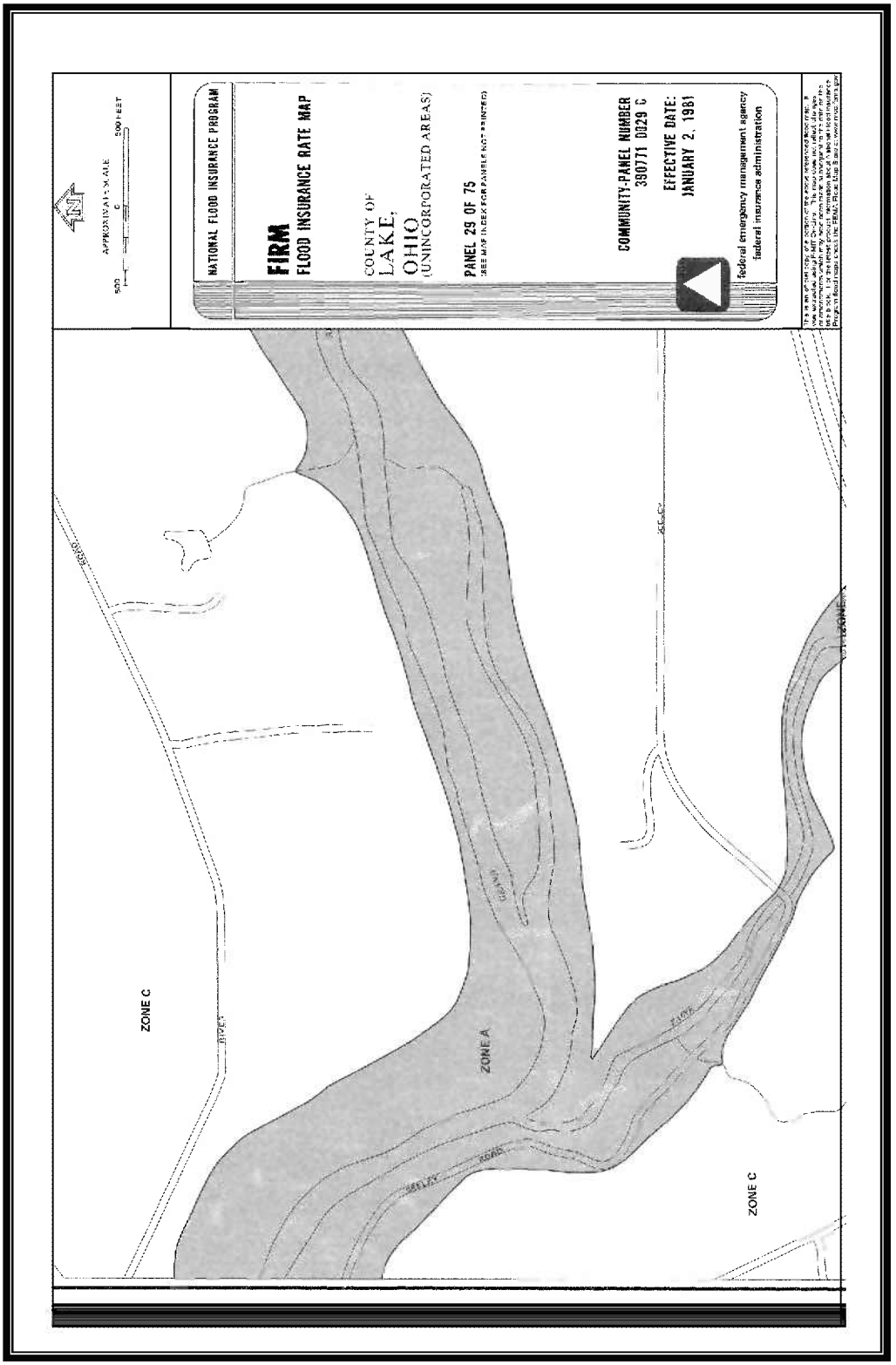


FIGURE 6B: FLOOD PLAIN MAP



2.4 EMERGENCY EVACUATION ROUTE

First Energy Corporation has identified designated emergency evacuation routes from the Perry Nuclear Power Plant and the immediate vicinity. These routes are documented on the First Energy web site (www.firstenergycorp.com/perryepi), which is linked to the Lake County EMA website (www2.lakecountyohio.org/ema/). Lake County Residents within a 10-mile radius of the plant have received documents outlining emergency evacuation procedures and routes.

Each of the routes runs effectively east or west, and then in some cases south from the plant. There is at present no route running directly south from the plant. Vrooman Road is not currently included in any of these routes because of previously noted issues limiting its utility. However, the Lake County EMA recognizes that it (Vrooman Road) could provide a vital southbound route away from the plant. Please refer to their letter to the County Engineer's Office dated April 11, 2006 (Appendix E).

Following the events of September 11, 2001, the Homeland Security Department nominated Vrooman Road as the preferred emergency evacuation route for the Perry Nuclear Power Plant. See **Appendix E**. The preferred route follows Lane Road south from State Route 44 State Route 84, where it continues southwest on State Route 84 periodically to Vrooman Road. The route remains on Vrooman Road to the I-90 interchange. See **Figure 2**. The existing geometric and structural deficiencies of this section of Vrooman Road, particularly closures due to flooding, reduce the effectiveness of Vrooman Road as an emergency evacuation route for the Perry Nuclear Power Plant.

2.5 TRAFFIC VOLUMES AND LEVELS OF SERVICE

Existing traffic counts for the study area were obtained and reviewed. Requests for additional traffic data were also prepared and submitted to Lake County. Traffic counts were used to develop existing, opening day, and design year traffic data for the project for use during the study phase. The existing traffic operations were analyzed to determine the presence of any deficiencies under existing conditions for use in the Purpose and Need document and to establish the base condition against which the alternatives were measured. Analysis outputs are included in **Appendix C**.

Traffic Volumes

Turning movement counts collected by GGC Engineers, Inc. and Traff-Pro Consultants, Inc. on 2/10/04 at the study intersections were the basis of the capacity analyses. In addition, TranSystems Corporation estimated the amount of new, heavy vehicle/semi (truck) traffic that is expected to use the new bridge. The number of vehicles that use Vrooman Road to access the park and natural areas was not counted or calculated as part of this effort. This estimation was based on the following assumptions:

- Roughly 75% of the existing truck traffic on State Route 528 north of the State Route 528 Interstate 90 interchange will relocate to Vrooman Road
- Of that traffic, 10% will travel during the Design Hour (AM and PM Peak hours)

- Of the Design Hour truck traffic, 55% will travel in the peak direction
- The peak direction for the truck traffic was assumed to be opposite of the peak passenger vehicle traffic, in order to have the most conservative analysis
- The new truck traffic will increase at the same rate as the existing traffic
- Current routes used by truck traffic are State Route 44 and State Route 528
- There are no businesses within the Project Area generating a large amount of truck traffic
- There is no seasonal adjustment in traffic counts or calculations
- No new truck traffic will reroute from the State Route 44 & Interstate 90 interchange because it travels on limited access facilities
- All of the new truck traffic was assumed to travel north on Vrooman Road to Lane Road

From these assumptions, the additional truck traffic calculated for Opening Year is 458 vehicles per day (vpd), with 46 vehicles in the Peak Hours; for the Design Year it is 679 vpd with 68 vehicles in the Peak Hours. TranSystems estimated that the Opening Year is 2010 and the Design Year is 2030. Using historic traffic data on Vrooman Road, an annual growth rate of 2% per year was calculated. This rate was applied to all the AM and PM Peak Hours to determine the Opening Year and Design Year Peak Hours. These assumptions were not certified and should be treated as a preliminary planning tool.

Level of Service

Based upon traffic counts conducted in 2004, existing Vrooman Road through the study area currently services approximately 14,000 vehicles per day. By 2010, the traffic volume is expected to be 15,300 vehicles per day. By the design year (2030), this is estimated to increase to approximately 17,380 vehicles per day.

Capacity analyses are performed to estimate the maximum amount of traffic that can be accommodated by a roadway facility while maintaining prescribed operational qualities. This analysis is a set of procedures used to estimate the traffic-carrying ability of a roadway facility. This is accomplished using the level of service concept, which generally describes conditions in terms of factors as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety. Each level of service is given a letter designation: A to F. Level of service "A" represents the best operation and "F" the worst. The signalized intersection capacity analyses were performed using *Highway Capacity Software (HCS2000)* version 4.1d. The results of the analysis are presented in **Tables 3 and 4**:

TABLE 3: MADISON AVENUE/VROOMAN ROAD AND STATE ROUTE 84 INTERSECTION

Time Period	EB SR 84		WB SR 84		NB Vrooman Rd		SB Madison Ave		Intersection Total	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
2010 AM Peak	10.2	B	13.2	B	12.9	B	13.3	B	12.6	B
2010 PM Peak	12.2	B	12.7	B	12.7	B	13.1	B	12.7	B
2030 AM Peak	9.8	A	27.1	C	19.6	B	26.3	C	21.9	C
2030 PM Peak	12.2	B	12.7	B	12.7	B	13.1	B	12.7	B

The 2010 Opening Day No Build conditions were analyzed using *HCS2000* for the AM and PM peak hours and the results showed no capacity deficiencies. All intersections were found to operate overall at LOS C or better. Level of service "C" or better is considered acceptable for a facility of this classification.

The 2030 No Build conditions were analyzed for the AM and PM Peak Hour and limited capacity deficiencies were found. The State Route 84 and Vrooman Road/Madison Road intersection was found to be operating at an overall LOS C during AM Peak hours and LOS B for PM peak hours. The level of service for the intersection at State Route 84 and River Road/Lane Road was found to be LOS B for both AM and PM peak hours. Neither intersection had any deficient approaches. This analysis indicates that the existing number and configuration of lanes are adequate for design year traffic. However, it should be noted for all these analyses that the HCS results do not take into consideration inefficiencies resulting from the poor geometrics of the intersection.

TABLE 4: RIVER ROAD/LANE ROAD AND STATE ROUTE 84 INTERSECTION

Time Period	EB SR 84		WB SR 84		NB River Rd		SB Lane Rd		Intersection Total	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
2010 AM Peak	11.2	B	11.8	B	11.4	B	10.5	B	11.4	B
2010 PM Peak	12.4	B	8.9	A	11.9	B	12.5	B	11.7	B
2030 AM Peak	11.9	B	13.2	B	13.2	B	11.4	B	12.6	B
2030 PM Peak	16.4	B	7.3	A	14.6	B	15.9	B	14.5	B

While Level of Service and capacity, have been analyzed for this planning study, they do not appear to be a problem to be addressed by the Purpose and Need for this project. Rather, these appear to be problems caused by inadequacy in the characteristics of the roadway. If the existing structure is replaced and the geometrics of the approaches are brought up to standard, any capacity and Level of Service issues will be addressed.

2.6 SAFETY

A secondary purpose for replacing the Vrooman Road Bridge and its approaches is to improve safety, both on the bridge itself and at the Vrooman Road, Madison Avenue and State Route 84 intersection, and the Vrooman Road and Seeley Road intersection. A new bridge structure and approach roadways would be designed to meet current design standards, eliminating structural and operational deficiencies, and resulting in improved safety on the bridge and at these intersections.

The most recent three years of collision data were obtained from the Ohio Department of Public Safety and local jurisdictions. The data were analyzed to identify any patterns in the history. An accident analysis summary follows showing current accident patterns in the study area.

As shown in **Figure 7**, accidents along Vrooman Road and State Route 84 are located at four major points, three of them are intersections and one is the Vrooman Road Bridge over the Grand River.

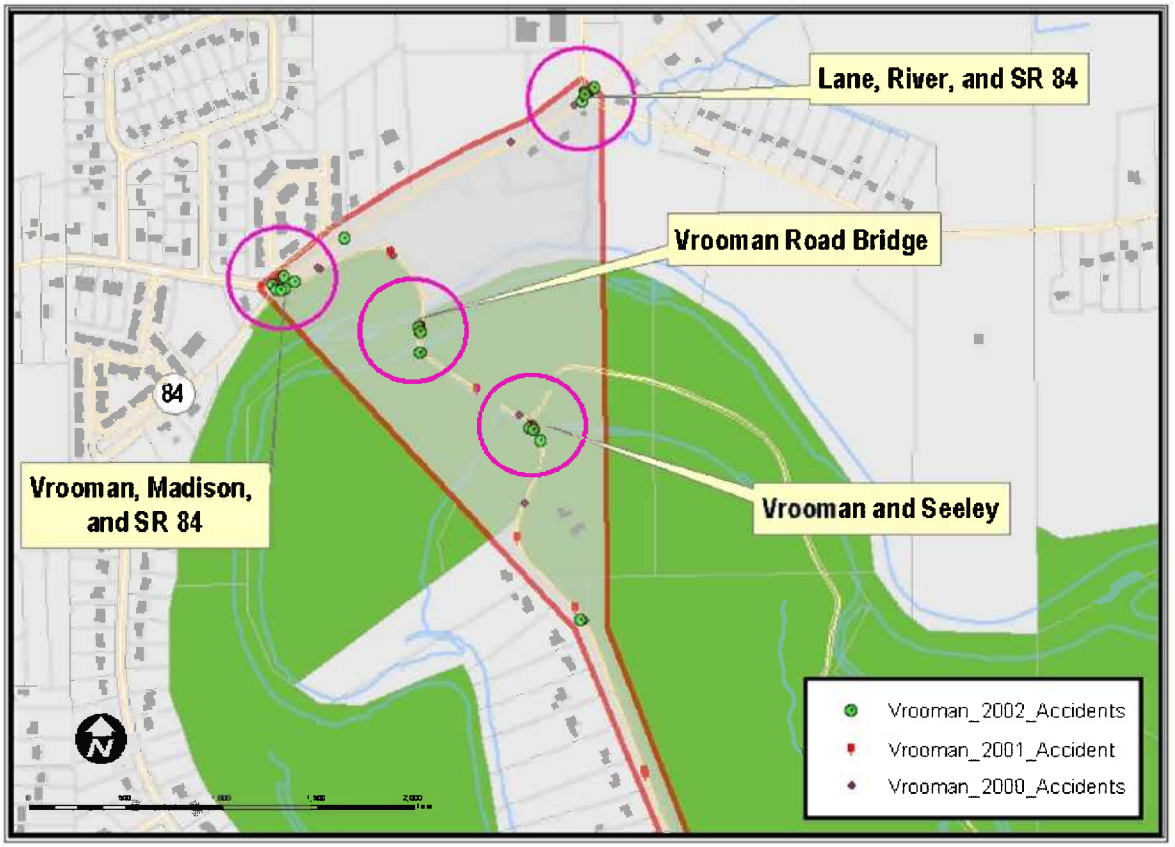
From 2000 to 2002, the total number of accidents at these four locations is as follows:

- Location 1: Vrooman, Madison, and State Route 84 – 12 total accidents
- Location 2: Lane, River, and State Route 84 – 10 total accidents
- Location 3: Vrooman Road Bridge – 8 total accidents
- Location 4: Vrooman and Seeley – 8 total accidents

Over a three-year period, eight accidents or more at a given intersection/location is noteworthy. Geometric problems at Locations 1 and 4 may be the cause for increased crash numbers over this time period. Geometric problems along with substandard lane widths may contribute to accidents at the Vrooman Road Bridge location. The high accident numbers at the intersection of Lane, River, and State Route 84 (Location 2) may be caused by the unusual intersection angles of the two side roads.

The Vrooman Road, Madison Avenue and SR-84 intersection had an accident rate of 3.425 accidents per million vehicles entering the intersection. The Lane Road, River Road and SR-84 intersection had an accident rate of 2.854 accidents per million vehicles entering intersection. The Vrooman Road and Seeley Road intersection had an accident rate of 2.283 accidents per million vehicles entering intersection. The state average accident rate for similar intersections during the same period was 0.20 accidents per million vehicles entering intersections. The accident rate for Vrooman Road between Seeley Road and SR-84 was 2.283 accidents per million vehicle miles. The state average accident rate for two-lane, undivided urban collectors for the same period was 2.186 accidents per million vehicle miles.

FIGURE 7: THREE YEAR ACCIDENT LOCATIONS (2000-2002)



THREE YEAR ACCIDENT LOCATIONS (2000-2002)
VROOMAN ROAD CORRIDOR STUDY

2.7 PURPOSE AND NEED SUMMARY

The purpose of this project is to replace the structurally-deficient and functionally-obsolete bridge that regularly closes during flood events with a facility that meets current design standards and improves existing geometrics correcting existing roadway deficiencies, while providing a safe, efficient evacuation route meeting the requirements of the US Department of Homeland Security.

As part of Stakeholder Committee Meeting # 2, held on February 11, 2004, the Purpose and Need and technical results were discussed. The project team explained that the Purpose and Need was a document that establishes the needs that the project is intended to address and provides the basis or foundation with which to evaluate the alternatives --- those that do not meet the primary needs of the project may be eliminated from further consideration as part of the study.

The Stakeholder Committee identified primary needs of concern and secondary goals to use in the development of the project's Purpose and Need. The primary needs or concerns include:

- Improve the bridge condition
- Improve connection from SR 84 to I-90 to provide access route to power plant that can accommodate all standard vehicle sizes (Homeland Security)
- Eliminate safety and community impacts associated with closure of Vrooman Road due to flooding
- Eliminate existing geometric deficiencies (steep grade, substandard curves)

Secondary project goals include:

- Reduce number of accidents
- Reduce maintenance problems associated with slope adjacent to Vrooman Road at SR 84
- Provide acceptable traffic operation for future traffic volumes
- Accommodate transit needs/school transportation
- Provide an aesthetically pleasing bridge to complement the scenic Grand River;
- Minimize short and long term impacts on the Grand River;
- Accommodate pedestrians and bicyclists
- Accommodate future plans for utilities along Vrooman Road

The Stakeholder Committee established that alternatives should not be discarded based upon failure to meet secondary project goals; however, these factors should be considered if possible in the evaluation of alternatives, along with other criteria such as impacts on residences and communities, consistency with local development goals, cemeteries, park property, historic and archaeological resources, streams, floodplain, and project cost.

The Purpose of this project was developed based on the results of the technical analysis and input from the project's Stakeholder Committee. The current Vrooman Road Bridge is a structurally-deficient and functionally-obsolete bridge that regularly closes during flood events. The primary Purpose of the Vrooman Road Project is to:

- Provide a structurally sufficient crossing of the Grand River that meets the current design standards
- Improve the existing geometrics and correct existing roadway deficiencies
- Provides a safe, efficient evacuation route that meets the requirements of the Department of Homeland Security.

Secondary goals of the Vrooman Road Bridge Project are:

- Provide an acceptable level of service for existing and design year traffic volumes.
- Reduce number of accidents
- Reduce maintenance problems and safety concerns associated with slope adjacent to Vrooman Road at SR 84

3.0 IDENTIFICATION AND EVALUATION OF ALTERNATIVES

3.1 IDENTIFICATION OF CONCEPTUAL ALTERNATIVE SOLUTIONS

A Stakeholder Committee was established as the primary forum for public input for this project as part of the Public Involvement Plan and process. The Stakeholder Committee has been involved in each phase of the project to date to provide feedback, including input into project alternatives. Stakeholder Committee Meeting # 1 was held on January 21, 2004 to introduce the group to the PDP and NEPA processes, including how the Preferred Alternative would be selected; to provide input into the Public Involvement Plan and Problem Statement; and to initiate discussions on concepts that may be developed into Conceptual Alternatives and then into Feasible Alternatives.

Stakeholder Committee Meeting # 2 was held on February 11, 2004 for the Stakeholder Group to identify and discuss an initial range of concepts or ideas that may be used in the development of potential conceptual alternatives. Concepts that were indentified and discussed throughout the meeting that the Stakeholders would like to see considered were:

- Do nothing or No Build
- Replace bridge at its same current location and elevation
- Realign Vrooman Road, raising it to the minimal allowed elevation for 100-year floodplain, eliminating sub-standard curves, and alleviate problems with retaining wall
- Realign Vrooman Road to connect with Lane Road using minimal standards
- Vacate road altogether from State Route 84 to Seeley
- Vacate road, vacate interchange at Vrooman Road, and make new interchange elsewhere
- High level bridge straight across to Lane Road or Madison
- Improve Vrooman from State Route 84 to I-90 eliminating sub-standard items
- Reroute Vrooman east, not necessarily to Lane Road
- Consider ODOT "Alternative 5" from comprehensive plan
- Modify river to address flooding (spillway)

Stakeholder Committee Meeting #3 was held on March 31, 2004 to discuss conceptual alternatives developed by the Project Team from the concepts previously identified in Stakeholder Committee Meeting #2, and the reason for eliminating two of the identified concepts. Nine Conceptual Alternatives along with the No Build option were presented by the Project Team. These Concepts and the Conceptual Alternatives are summarized in **Table 5A** below.

TABLE 5A: CONCEPTS THAT WERE CONSIDERED FOR POTENTIAL CONCEPTUAL ALTERNATIVES

Preliminary Concepts	Stakeholder Input	Conceptual Alternatives Recommended for Further Consideration
Do Nothing or No Build	Carried Forward for Comparison	No Build
Replace bridge at its same current location and elevation	Carried Forward	Replace bridge in Current Location
Realign Vrooman Road, raising it to the minimal allowed elevation for 100-year floodplain, eliminating sub-standard curves, and alleviate problems with retaining wall	Carried Forward	Alternative D: Includes bringing the roadway and bridge just above the 100-year floodplain.
Realign Vrooman Road to connect with Lane Road using minimal standards	Carried Forward	Alternative F: Straightens out Vrooman Road through the valley and ties the road into a five point intersection with Lane, River Road, and State Route 84.
Vacate road altogether from State Route 84 to Seeley	Eliminated as It Does Not Meet All Elements of Purpose and Need	
Vacate road, vacate interchange at Vrooman Road, and make new interchange elsewhere	Carried Forward	Interchange In Alternate Location
High level bridge straight across to Lane Road or Madison	Carried Forward	Alternative A: Straightens the road through the valley tying in at Madison. Alternative B: Includes slightly curved bridge closer to the existing roadway than Alternative A, but still has a straighter roadway throughout the valley. Alternative C: Stays close to the original roadway but would be a curved bridge. Alternative F: Straightens out Vrooman Road through the valley and ties the road into a five point intersection with Lane, River Road, and State Route 84.

Improve Vrooman from State Route 84 to I-90 eliminating sub-standard items	Carried Forward	Incorporated into all remaining Conceptual Alternatives
Reroute Vrooman east, not necessarily to Lane Road	Carried Forward	Alternative E: Straightens out Vrooman Road through the valley and ties the road into State Route 84 just west of Lane.
Consider ODOT "Alternative 5" from comprehensive plan	Carried Forward	Alternative G: "Concept 5" from an ODOT study done in the 1960s.
Modify river to address flooding (spillway)	Eliminated as it will Likely have Very High Environmental Impacts and will not be permissible by ODNR, ACOE, and OEPA	

The Stakeholder Committee eliminated three of the nine Conceptual Alternatives developed by the Project Team.

The "Interchange in Alternate Location" alternative was eliminated because it failed to meet most of the elements of Purpose and Need, only serving to provide improved emergency evacuation, while ignoring the primary Purpose and Need elements of bridge structural deficiencies, retaining wall condition, and closure due to flooding.

Conceptual Alternative C was eliminated because it took up more natural and park land than any of the alternatives with similar concepts, and had an unnecessarily long curve adding to the safety concerns of having a longer bridge during winter months.

Conceptual Alternative G was eliminated because it deviated too far from the original path of the current roadway, and would impact a greater amount of natural and park land in comparison. Conceptual Alternatives A and B were merged together with the idea that the Project Team could adjust or modify slight curvature of the road to optimize the intersection with SR 84 and Madison Avenue. Conceptual Alternatives E and F were also merged together as one concept that could be moved from a pivotal point along River Road and State Route 84 to optimize the intersection with SR 84, Lane Avenue, and River Road.

The Conceptual Alternatives that were not eliminated from the alternative selection process were developed in more detail and were further evaluated by the Stakeholder Committee and the Project Team. These Feasible Alternatives are summarized in **Table 5B** and described in subsequent sections.

The Conceptual Alternatives carried forward as Feasible Alternatives for further evaluation are presented in the following table:

TABLE 5B: FEASIBLE ALTERNATIVES CARRIED FORWARD FOR FURTHER ENVIRONMENTAL AND DESIGN ANALYSIS

Preliminary Conceptual Alternative	Stakeholder Input	Feasible Alternative
No Build	Carried Forward for Comparison	No Build
Replace bridge in Current Location	Carried Forward; Does Not Meet All Elements of Purpose and Need	Alternative D
Interchange in Alternate Location	Eliminated for Failure to Address Most Elements of Purpose and Need	
Alternative A: Straightens the road through the valley tying in at Madison.	Carried Forward; Alternatives A & B Merged	Alternative A
Alternative B: Includes slightly curved bridge closer to the existing roadway than A, but still has a straighter roadway throughout the valley.		
Alternative C: Stays close to the original roadway but would be a curved bridge.	Eliminated; Higher Likely Impacts with No Apparent Advantages Over Other Alternatives	
Alternative D: Includes bringing the roadway and bridge just above the 100-year floodplain.	Carried Forward; Does Not Meet All Elements of Purpose and Need	Alternative C
Alternative E: Straightens out Vrooman Road through the valley and ties the road into State Route 84 just west of Lane.	Carried Forward: Alternatives E & F Merged	Alternative B
Alternative F: Straightens out Vrooman Road through the valley and ties the road into a five point intersection with Lane, River Road, and State Route 84.		
Alternative G: "Concept 5" from an ODOT study done in the 1960s.	Eliminated; Likely Additional Impacts with No Apparent Advantages Over Other Alternatives	

The Conceptual Alternatives that underwent the Stakeholder Committee's screening process and were developed into Feasible Alternatives were developed in more detail and were further evaluated by the Stakeholder Committee. These Feasible Alternatives are described below.

ALTERNATIVE A

Alternative A is a high-level bridge connecting to Madison. This alternative includes intersection improvements at State Route 84 and Madison and State Route 84 and Lane. Along with the intersection improvements, the stretch of State Route 84 between these two intersections will need to be improved as well. Alternative A is presented in **Figure 8**.

Alternative A would accomplish all of the goals of the purpose need. By creating a high-level bridge, Alternative A would: 1) alleviate the flooding problem by bringing the bridge well above the 100-year floodplain; 2) eliminate geometric problems going into the valley; 3) eliminate problems concerning the substandard bridge; 4) reconstruct or remove the retaining wall; and 5) relieve Lake County from maintenance concerns beyond typical needs. Alternative A would also offer an acceptable evacuation route for the Perry Nuclear Power Plant.

ALTERNATIVE B

Alternative B is a high-level bridge connecting to Lane. This alternative will include improvements to the intersection at State Route 84 and Lane. It will also include the reconfiguring of River Road access to State Route 84: either by redirecting its connection with State Route 84 east of its current location, or by turning River Road into a cul-de-sac and developing a side road for access to State Route 84. Alternative B is presented in **Figure 9**.

Alternative B would accomplish all of the goals of the Purpose and Need. By creating a high-level bridge Alternative B would: 1) alleviate the flooding problem bringing the bridge well above the 100-year floodplain; 2) eliminate geometric problems going into the valley; 3) eliminate problems concerning the substandard bridge; 4) reconstruct or remove the retaining wall; and 5) relieve Lake County from maintenance concerns beyond typical needs. Alternative B would also offer an acceptable evacuation route for the Perry Nuclear Power Plant.

ALTERNATIVE C

Alternative C replaces the bridge just above the 100-year floodplain. This alternative also includes widening the roadway up the hill on the northern slope. This results in pushing the intersection of State Route 84 and Madison north of its current location. Alternative C is presented in **Figure 10**.

Alternative C would accomplish replacing the current substandard bridge and retaining wall, along with bringing the bridge and roadway above the 100-year floodplain. However, the substandard

geometrics would still be present thereby not offering an acceptable evacuation route for homeland security purposes.

Although this option fails to meet several elements of the Purpose and Need, it was carried forward for comparison. This was recommended primarily to determine if an option that met most, but not all, of the Purpose and Need elements could have fewer impacts, particularly to the Lake Metroparks property.

ALTERNATIVE D

Alternative D replaces the bridge in its current location only. This alternative only accomplishes replacement of the current substandard bridge and rehabilitation of the retaining wall. As a result, the current issues with flooding and poor geometrics coming in and out of the valley would still exist, thereby not offering an acceptable evacuation route for the Perry Nuclear Power Plant.

Although this option fails to meet many of the elements of the Purpose and Need, it was carried forward for comparison, primarily for use during the coordination process (Section 4(f)) for impacts on the Lake Metroparks property.

NO BUILD

The No Build alternative is a "Do Nothing" alternative which would leave Vrooman Road as is, and require no other action. The No Build alternative would result in the eventual closure of Vrooman Road altogether, due to the poor condition of the bridge. This alternative does not meet the Purpose and Need, but is carried forward for comparison throughout the Project Development Process.

FIGURE 8: ALTERNATIVE A

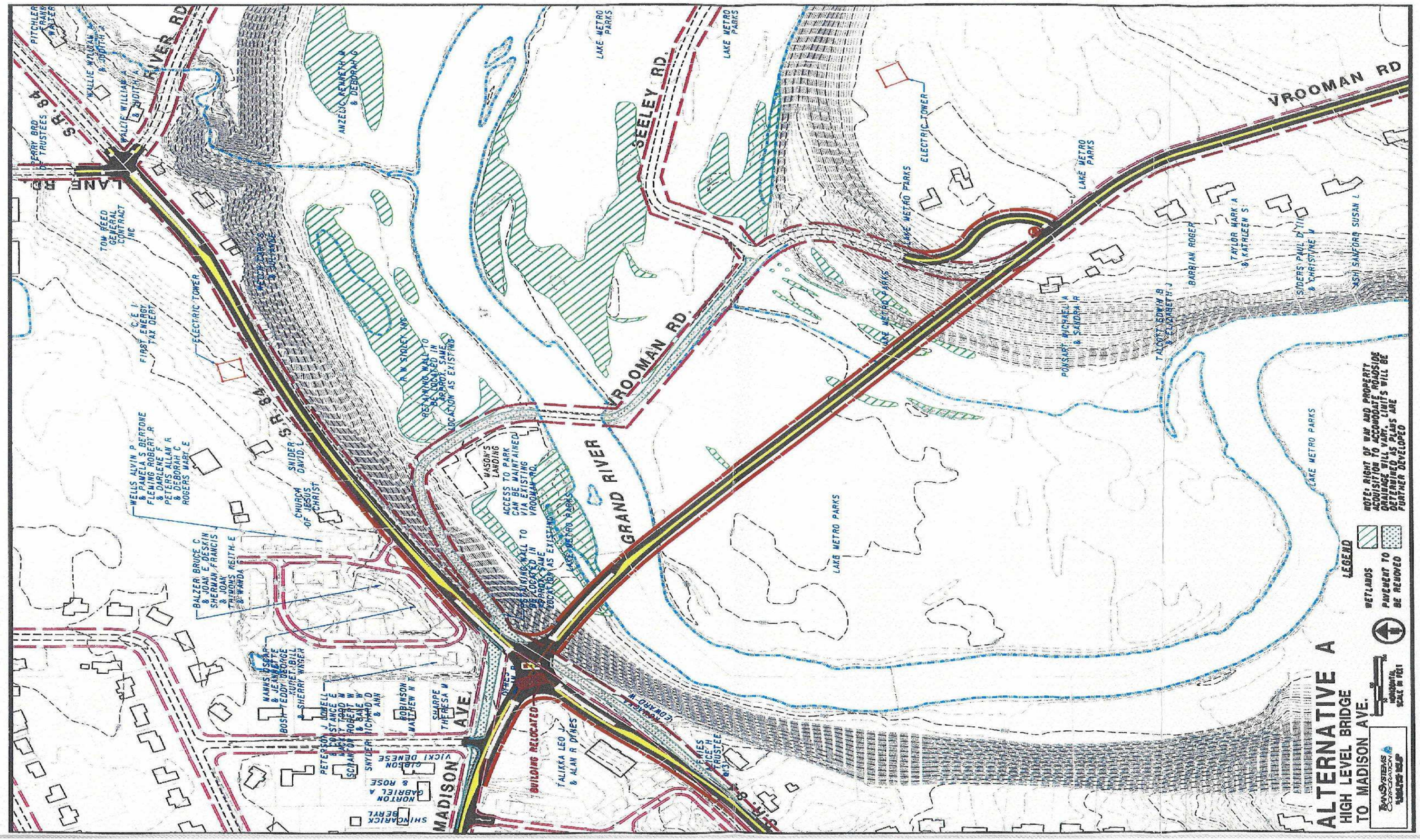


FIGURE 9: ALTERNATIVE B

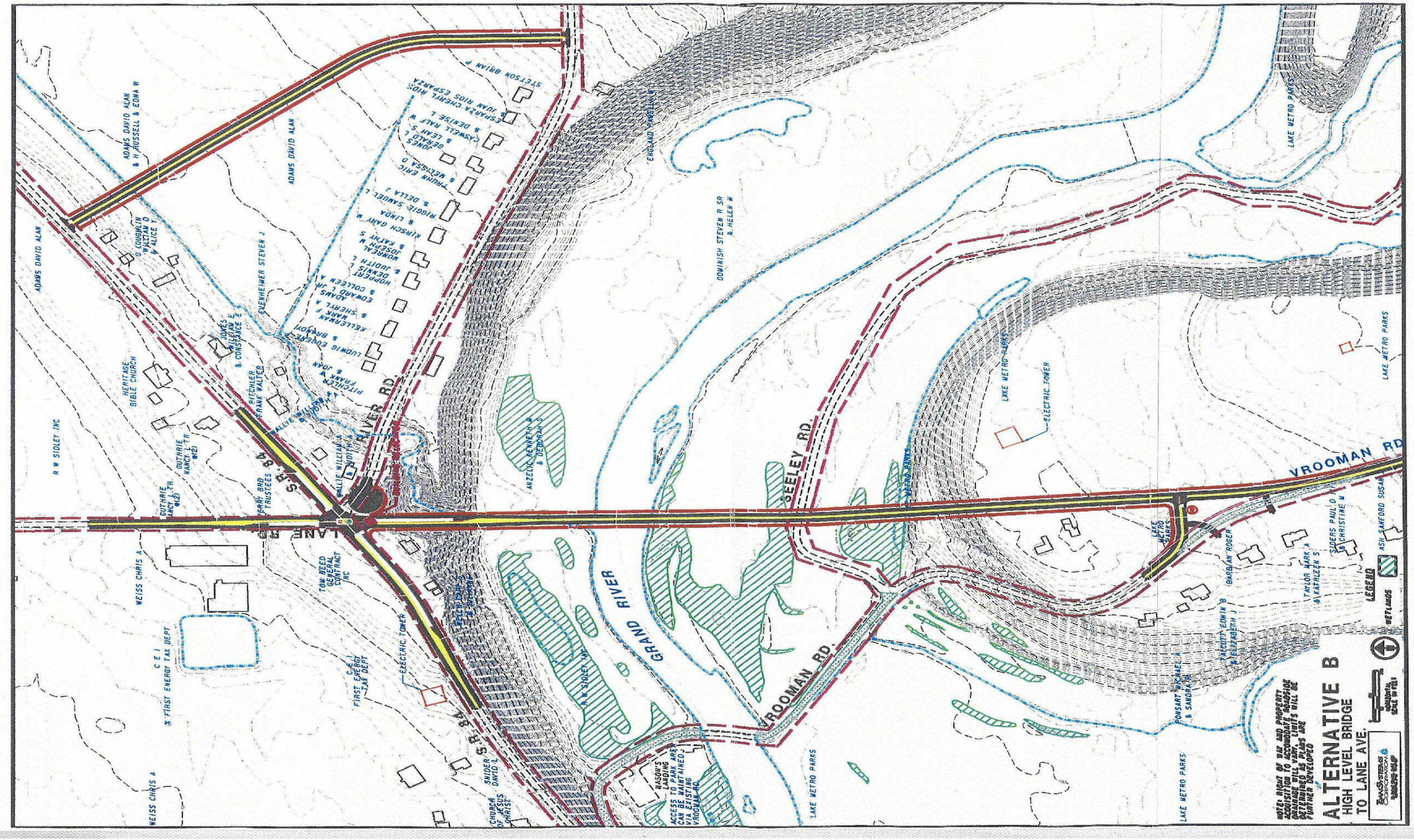
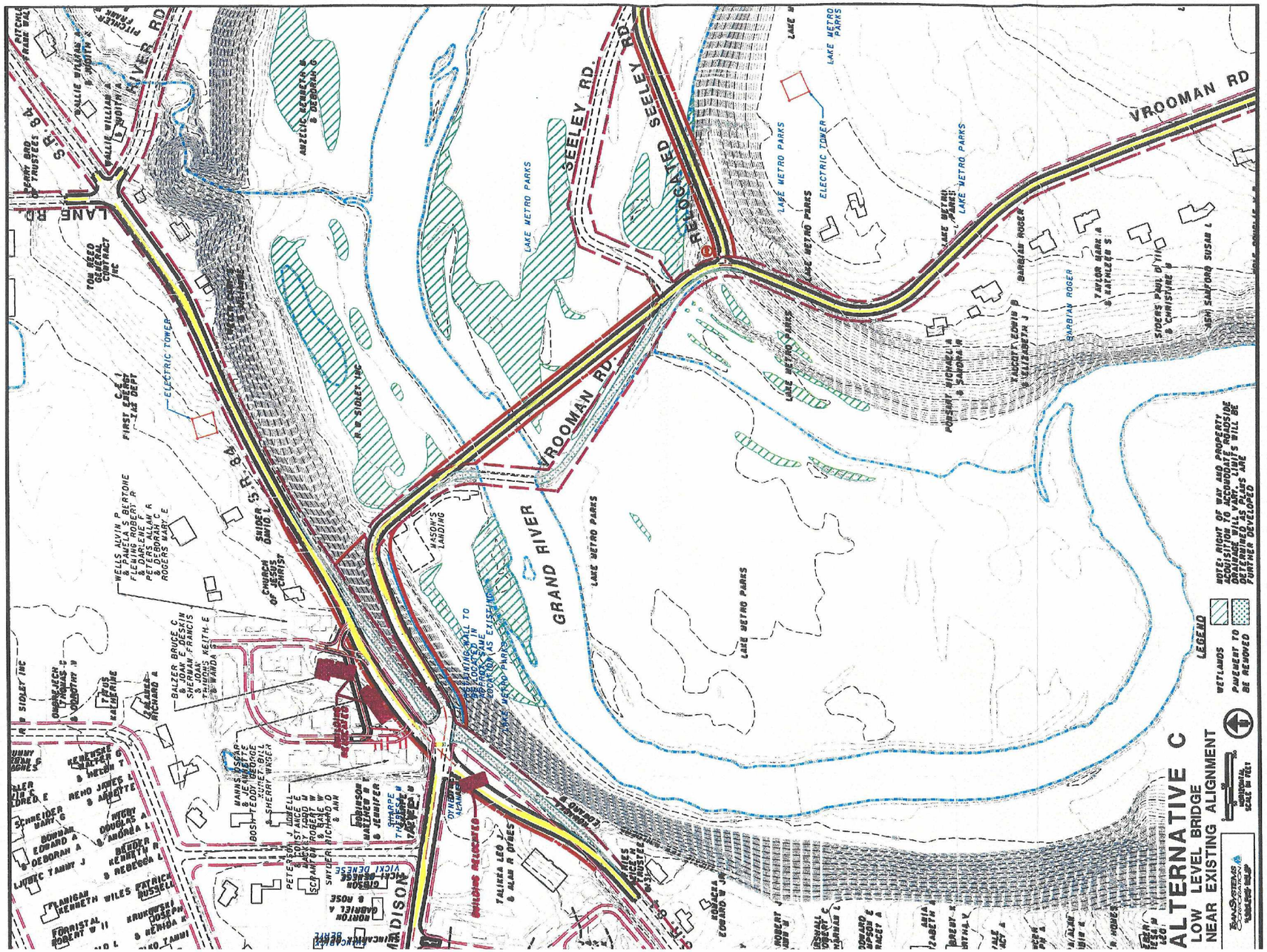


FIGURE 10: ALTERNATIVE C



3.2 EVALUATION OF ALTERNATIVES

The Project Team evaluated Feasible Alternatives A, B, C and D relative to the Purpose and Need and to identify possible impacts to resources. The results of this evaluation are described below. Key elements are summarized in **Table 12**.

RETAINING WALL CONDITION

Regardless of which alternative becomes the Preferred Alternative for the proposed bridge replacement project, the existing retaining wall will need to be removed or reconstructed. This will depend upon details resolved during the Section 4(f) coordination with Lake Metroparks regarding the disposition of Vrooman Road north of the bridge.

The new elevated bridge alternatives would have a bridge structure constructed at an elevation, from ridgeline to ridgeline, meeting current design standards, eliminating the steep grades, poor site distances, and poor geometrics at the bridge and SR 84 intersection. An elevated structure would eliminate the need for a steep roadway along the SR 84 hillside, thereby eliminating the need for a retaining wall to support Vrooman Road and SR 84. The hillside along SR 84 could then be stabilized to prevent any landslides and slipping of SR 84.

If roadway or pedestrian access of some sort is required to be maintained from SR 84, the wall would need to remain in its existing location so that it can support not only SR 84, but also the access to the park.

It may be possible that the existing wall could be removed and the slope re-graded while accomplishing the same goals. However, additional geotechnical analyses and evaluations will be required to make a determination on the appropriate treatment. There will also need to be agreement on who will accept future maintenance responsibility for the reconstructed wall or slope, Lake County, Lake Metroparks, ODOT or some combination.

One difficulty regarding removing and regrading is that it would kill all of the trees on the slopes. A 2:1 can be built in the space (if geotechnical data supports that as the stable slope rate) before reaching the edge of the wetlands, but none of the trees would survive having their bases buried with that amount of dirt, even if they survived the construction process. Therefore, this issue becomes part of the further coordination with Lake Metroparks as well.

Due to these difficulties, it is most likely that a new wall will be constructed in approximately the same location as the existing - either in front of it or behind. Preliminary recommendations suggest the use of a similar wall to existing (solider pile with tie backs) but encapsulating the steel in a concrete barrier surface so that the steel would not be exposed to elements. If the adjacent portion of Vrooman Road stayed open for park traffic only and was not salted in the winter, the retaining wall would have a long life span. The project cost estimates utilize this assumption. More analysis with the affected parties (county, state, and park) will occur before we the details will be well understood on exactly what to construct, where, and who will maintain it.

TRAFFIC VOLUMES & LEVELS OF SERVICE

Alternative A

Alternative A would minimize the changes to exiting traffic patterns; however, there is a potential for increased truck traffic traveling northbound on Vrooman Road, turning right onto eastbound State Route 84, and then turning left onto northbound Lane Road.

To obtain an acceptable level of service in the design year, this alternative needs the following intersection configurations:

- At Vrooman/Madison & State Route 84 intersection, exclusive westbound left turn lane on State Route 84 and exclusive northbound left turn lane on Vrooman
- At Lane/River & State Route 84 intersection, exclusive eastbound left turn lane on State Route 84

Table 6 indicates the Opening Year and Design Year capacities for a signalized Vrooman Road/Madison Avenue & SR 84 intersection:

TABLE 6: VROOMAN ROAD/MADISON AVENUE & SR 84 INTERSECTION

Time Period	EB SR 84		WB SR 84		NB Vrooman Rd		SB Madison Ave		Intersection Total	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
2010 AM Peak	11.5	B	11.8	B	10.6	B	11.8	B	11.5	B
2010 PM Peak	13.2	B	12.6	B	10.0	B	12.8	B	12.0	B
2030 AM Peak	13.7	B	16.4	B	10.5	B	16.0	B	14.4	B
2030 PM Peak	21.7	C	20.1	C	8.0	A	23.0	C	17.3	B

With Alternative A, the intersection of Lane Road/River Road and State Route 84 will be affected by the addition of eastbound, left-turning traffic on State Route 84 that originated from Vrooman Road. It is currently a two-way stop-controlled (TWSC) intersection on Lane Road and River Road.

Table 7 lists the Opening Year and Design Year capacity for the stop-controlled intersection:

TABLE 7: LANE ROAD/RIVER ROAD AND SR 84 INTERSECTION WITH TWSC

Time Period	EB SR 84 left		WB SR 84		NB River Rd		SB Lane Rd	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
2010 AM Peak	8.5	A	7.5	A	22.3	C	11.9	B
2010 PM Peak	7.9	A	8.0	A	19.3	C	14.0	B
2030 AM Peak	9.2	A	7.7	A	147.4	F	15.7	C
2030 PM Peak	8.2	A	8.6	A	50.1	F	25.6	D

Since the northbound River Road movement would fail during the design year, the intersection will not function properly with TWSC by that time period. **Table 8** shows the intersection and approach delays and Levels of Service for this intersection under signalized control during the design year:

TABLE 8: LANE ROAD/RIVER ROAD AND SR 84 INTERSECTION WITH SIGNALIZED CONTROL

Time Period	EB SR 84		WB SR 84		NB River Rd		SB Lane Rd		Intersection Total	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
2030 AM Peak	10.7	B	12.8	B	13.7	B	12.4	B	12.3	B
2030 PM Peak	14.9	B	9.3	A	12.2	B	14.2	B	13.6	B

A traffic signal at the Madison Avenue/Vrooman Road and State Route 84 intersection is warranted for the Opening Year. At the Lane Avenue and State Route 84 intersection, a signal does not meet Peak Hour volume warranted for the Opening Year. Data to complete this analysis is currently unavailable). The intersection appears to function sufficiently with the two-way stop control, although a signal can be warranted for the Design Year based upon Peak Hour Volumes. Both signalized intersection analyses used a 60-second cycle length and should be coordinated.

Alternative B

Alternative B would require the relocation of Vrooman Road to the Lane Road & State Route 84 intersection and the relocation of River Road slightly to the east of its current intersection with State Route 84. This option eliminates the "jog" between Vrooman Road and Lane Road on State Route 84. It would minimize the amount of northbound, right-turning traffic at the new intersection, but would increase the northbound, left-turning traffic for the drivers who wish to go northwest onto Madison Ave. It significantly changes the traffic patterns on this section of State Route 84 by requiring turning movements at Madison Avenue and River Road from vehicles that would have been through movements at their original intersections.

To obtain acceptable levels of service at this intersection in the design year, all approaches require an exclusive left-turn lane.

Table 9 indicates the Opening Year and Design Year capacities for a signalized Vrooman Road/Lane Road & State Route 84 intersection:

TABLE 9: VROOMAN ROAD/LANE ROAD & SR 84 INTERSECTION

Time Period	EB SR 84		WB SR 84		NB Vrooman Rd		SB Lane Rd		Intersection Total	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
2010 AM Peak	11.9	B	12.0	B	11.8	B	11.9	B	11.8	B
2010 PM Peak	13.7	B	9.3	A	13.4	B	11.8	B	12.7	B
2030 AM Peak	13.4	B	15.8	B	15.5	B	11.7	B	14.7	B
2030 PM Peak	21.6	C	11.4	B	22.2	C	14.5	B	19.3	B

A traffic signal at Lane/Vrooman Road and State Route 84 appears to be warranted for the Opening Year based upon a preliminary calculation of the Peak Hour Warrant requirements, as well as a signal remaining at SR 84 and Madison.

Alternative C

Alternative C is the most similar to the existing conditions. It does not eliminate the steep grade on the Vrooman Road approach or the severe skew angle of Vrooman Road at the intersection with State Route 84. This analysis is affected by some limitations with the Highway Capacity Software. Primarily, the maximum grade that the software can analyze is 10% while the actual grade on Vrooman Road is roughly 15%. Secondarily, the software does not directly account for the skew angle of Vrooman Road at the intersection. The signal phasing is modified to include split phases for Vrooman Road and Madison Avenue, but the skew angle's impact to turning movements at the intersection isn't addressed.

To obtain acceptable levels of service at this intersection in the design year, all approaches require an exclusive left-turn lane.

Table 10 indicates the Opening Year and Design Year capacities for a signalized Vrooman Road/Madison Avenue & State Route 84 intersection.

TABLE 10: VROOMAN ROAD/MADISON AVENUE & SR 84 INTERSECTION

Time Period	EB SR 84		WB SR 84		NB Vrooman Rd		SB Madison Ave		Intersection Total	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
2010 AM Peak	17.8	B	20.2	C	20.2	C	19.1	B	19.5	B
2010 PM Peak	19.6	B	19.9	B	19.7	B	19.9	B	19.8	B
2030 AM Peak	16.1	B	34.3	C	34.6	C	33.1	C	30.4	C
2030 PM Peak	20.5	C	33.6	C	34.7	C	32.8	C	31.1	C

The delays are elevated for this alternative because the signal must operate with 3 phases instead of the 2-phase operation used for the other alternatives. The 3 phases are required to allow Vrooman Road to move independently of Madison Avenue, since the skew angle would interfere with those approaches moving simultaneously.

These delays and Levels of Service do not reflect the longer turning times needed for the northbound right turn and the westbound left turn due to the skew angle. In addition, the full impact of the steep grade on Vrooman Road is not reflected in the analysis. Because of these two issues, the delays and LOS shown in the preceding table is probably a best-case scenario and should be considered optimistic.

Additionally, the HCS analysis was run for a signalized intersection at Lane and River Road using a 3-phase cycle instead of 2-phase for both of the Madison Avenue alternatives. The added phase was considered due to the lack of symmetry at the intersection. A 60-second cycle length is appropriate, and the signal is required for capacity reasons in the Design Year, not the Opening Year. **Table 11** shows the AM and PM Design Year capacities:

TABLE 11: SR 84 & LANE ROAD/RIVER ROAD

Time Period	EB SR 84		WB SR 84		NB River Rd		SB Lane Ave		Intersection Total	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
2030 AM Peak	19.1	B	22.2	C	22.9	C	22.2	C	21.4	C
2030 PM Peak	25.6	C	12.3	B	24.3	C	25.3	C	23.1	C

As with the High Level Bridge to Madison Avenue, a signal at this intersection would not be warranted until the Design Year.

PROPERTY IMPACTS

Alternative A could require purchase of the commercial property located at the intersection of State Route 84 and Madison. The property owned by Sidley adjacent to the park property may be landlocked by this option. In addition, approximately 3 acres of right-of-way may need to be acquired from the park.

Alternative B could result in one residence being relocated due to placement of the connection to the intersection with Lane and State Route 84. Approximately 3 acres of right-of-way may need to be acquired from the park. River Road would be reconfigured with a cul-de-sac at the intersection of SR 84 and Lane Road. River Road may need to be realigned, requiring the acquisition of approximately 2.5 acres of right-of-way from private ownership. The Sidley Property may also be landlocked as a result.

Alternative C could result in the relocation of the residents of six condominium units in the Canterbury Condominium community just north of State Route 84 at Madison. This may be due to the improvements that could be required for the intersection as a part of this alternative. In addition, right-of-way for the new bridge and realignment of Seeley Road may need to be acquired from the park.

Alternatives D and the No Build option would not require any permanent property acquisitions.

PARK PROPERTY IMPACTS (SECTION 4(F))

The proposed project will impact three properties afforded protection under Section 4(f) of the U.S. DOT Act as parks, recreation areas, or wildlife/waterfowl refuges. (Historic properties are discussed on page 45.) These properties are: the Grand River, an Ohio State Wild and Scenic River ("Wild" designation through project area); the Lake Metroparks' Indian Point Park; and the Lake Metroparks' Mason's Landings Park. These resources are described below:

Grand River
The Grand River was designated Ohio's second Wild and Scenic River in 1974. This 712-square-mile watershed covers 455,680 acres and supports an array of fish, birds, mammals, reptiles, amphibians, and numerous rare plant species.

Lake Metroparks' Indian Point Park, Leroy Township
Lake Metroparks Indian Point Park encompasses 261 acres and includes a picnic area with grills, restrooms, hiking trails and fishing areas.

Lake Metroparks' Mason's Landing Park, Perry, Ohio
Mason's Landing Park encompasses 133 acres and includes a picnic area with grills, restrooms, and fishing areas.

Since Vrooman Road traverses through the park property, crossing the Grand River, there are no alternatives that meet Purpose and Need that can avoid all impacts to these resources. The

potential impacts and challenges for each option related to parks and recreation areas are summarized below. Issues related to the Grand River are included beginning on page 47 in the Ecological Resources section of this document.

Alternative A and B have similar impacts to the parks. Both require approximately 3 acres of right-of-way acquisition necessary for the new bridge. They would also result in noise issues within the valley due to the overhead bridge. Mitigation would be necessary for both alternatives to address access to Mason's Landing Park, replace affected parking, and maintain emergency vehicle access. Several options have been discussed for addressing these issues, including vacating portions of existing Vrooman Road to the parks, relocating parking areas, and replacing the existing bridge with a pedestrian bridge that can handle emergency vehicles.

Coordination with the parks has been ongoing throughout the project from the beginning of the Planning Study. If one of these options is carried forward, it would be developed in more detail during subsequent phases of the Project Development Process to minimize impacts. Then, coordination with Lake Metroparks would continue to finalize the necessary mitigation and obtain concurrence.

Alternative C requires approximately 1 acre of permanent right-of way acquisition necessary for the new bridge and realigned road. It would also have noise affects through the valley. Access to Mason's Landing Park would be unaffected. There would be substantial loss of vegetation as Vrooman Road is reconstructed up the hillside.

Alternative D and the No Build Alternative would not require any parkland and would not affect access to Mason's Landing Park.

Due to location within the Metroparks property and the designation of the Grand River as a wild river in this section, the aesthetics of bridge are a concern. Some simple applications may be done in a cost-effective manner to achieve an aesthetically pleasing bridge across the Grand River Valley. Simple concrete mixtures and paint can be used to blend the bridge into the surroundings. Additional coordination on this issue will continue during subsequent phases of project development.

PEDESTRIAN ACCOMMODATIONS

The minimum recommended shoulder width on the bridge is 8' per ODOT's Location and Design Manual design criteria. The preferred shoulder width is 10'. Design judgment allows shoulder width to be reduced to 3' for bridges over 100' long. Improved conditions for pedestrian and bicycle traffic could be provided by utilizing recommended minimum or preferred shoulder widths for Alternatives A and B.

Alternatives C, D and the No Build option will not change existing substandard geometrics that are currently unsafe for pedestrians and bicyclists.

Pedestrian access to and from the park properties will need to be maintained for any alternative and will be considered during Section 4(f) coordination.

CULTURAL RESOURCES

The proposed undertaking involves the replacement of the Vrooman Road Bridge (SFN 4337107) a two-span, steel, through truss bridge that has been determined to be not eligible for inclusion on the National Register of Historic Places (NRHP).

Two other history/architecture sites have been previously recorded within or immediately adjacent to the project study area and have not been evaluated according to the NRHP criteria. A site visit identified an additional 11 properties within or immediately adjacent to the project study area that are older than 50 years. Therefore, there are several properties that will require evaluation during subsequent phases of project development. Alternative A may affect one of these properties. Alternative B may affect four. Additional investigation will be required if either of these options progresses forward in the project development process to establish eligibility of these properties and determine effects.

The Lake Metroparks' Indian Point Park in Leroy Township is listed on the NRHP by the National Park Service. Indian Point Fort (33LA2) contains a prehistoric village represented by one of the earliest earthen architectural works in this part of Ohio. Two parallel mounds of their earthworks can be seen on the 100-ft ridge situated between Paine Creek and the Grand River. Limited archaeological investigations indicate the Whittlesey Culture inhabited the site. The Whittlesey were an early people who lived in northeast Ohio from 900 A.D. to 1650 A.D. in stockade villages on high bluffs overlooking rivers and lakes. The Indian Point Fort is located immediately adjacent to the project area and is not expected to be affected by the proposed project.

While numerous archaeological sites have been previously recorded on the surrounding landforms, at least two sensitive prehistoric sites are located within the north central portion of the project study area. Limited testing at the Vrooman Road Site (33LA158), situated on a bluff overlooking the floodplain, recovered thousands of artifacts, house patterns, human burials and other cultural features. The Vrooman Road Site has been determined eligible for the NRHP. The Wyman Cemetery Site (33LA165) is located on the Grand River floodplain and was recorded in 1929 as a 'burial ground.' No other information is known about the site.

Since there are known archaeological issues along the ridge above the Grand River, it is anticipated that this will be the largest challenge for any option in further project development. Alternatives A, B and C would all require work in the vicinity of known sites and impact areas that have not yet been studied. **Figure 11** on the following page illustrates the areas of known sites previously surveyed and the areas not yet tested. It is assumed that each of these alternatives has the potential for impacts to archaeological sites eligible for listing on the National Register of Historic Places.

Therefore, if one of these build options were carried forward, additional study will be required to confirm the extent and character of archaeological sites within the impacted area, to identify those that will require preservation in place, and to work with ODOT, the Ohio Historic Preservation

Office and the design team to develop a plan and construction method that would avoid impacts to those areas. Other areas that do not require preservation in place may be proposed for data recovery.

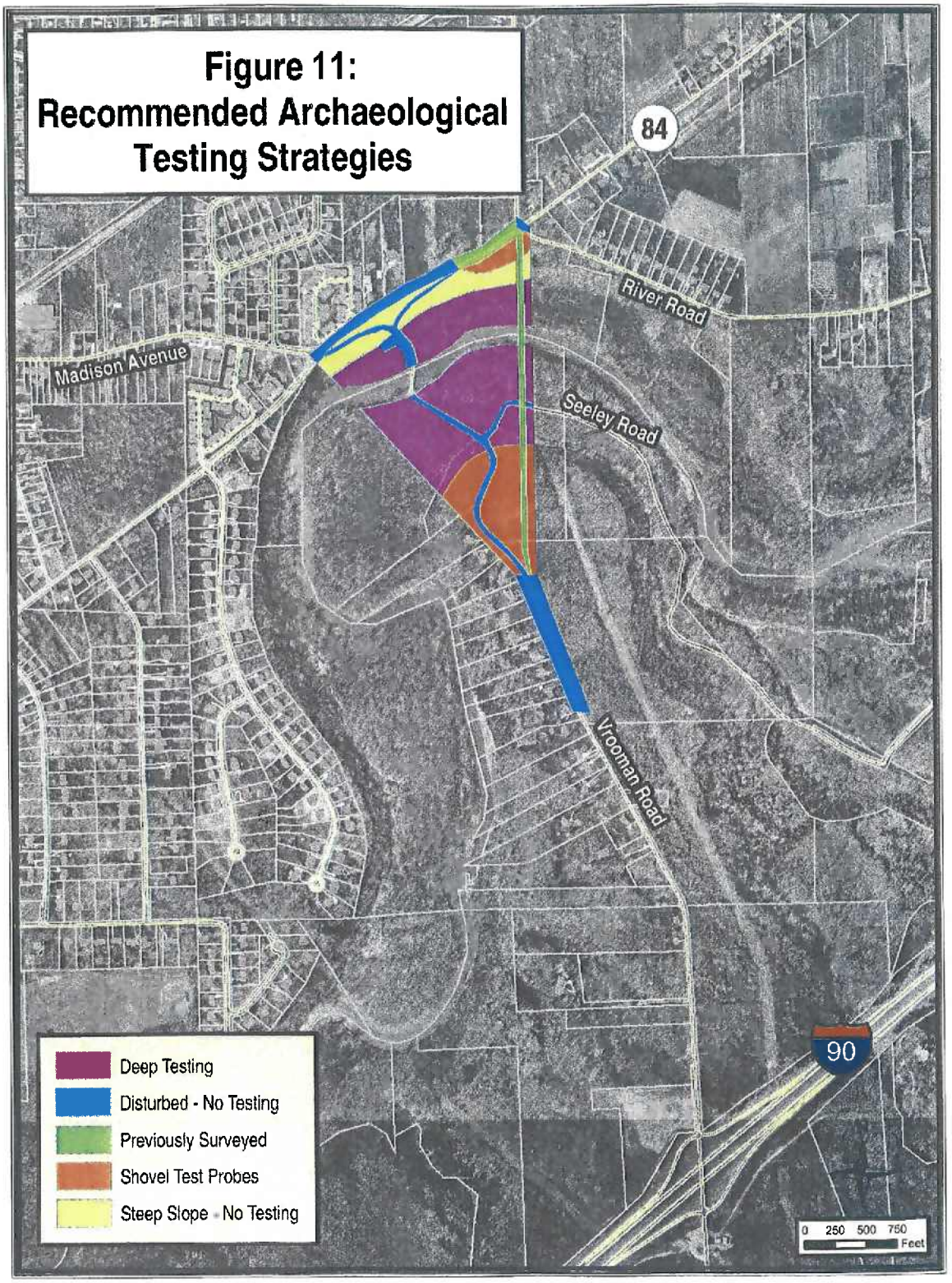


Figure 11:
Recommended Archaeological
Testing Strategies
84
River Road
Madison Avenue
Seeley Road
Vrooman Road
90
Deep Testing
Disturbed - No Testing
Previously Surveyed
Shovel Test Probes
Steep Slope - No Testing
0 250 500 750
Feet

ESA SCREENING

Field reconnaissance and review of regulatory database and mapping information were undertaken in accordance with the Ohio Department of Transportation Environmental Site Assessment Guidelines (September 1999) to identify all suspect parcels within the project study area. Based on the information collected during this ESA Screening, a Phase I Environmental Site Assessment was recommended for the following sites:

- The Northeast Auto Service facility located at 2606 Madison Avenue on the northwest portion of the study area currently conducts automotive repair. A Gulf service station listed as having a LUST incident once operated at this location.

- The former Lane Auto Sales and Wickliffe Truss Manufacturing facility located at 5188 through 5194 Lane Road on the northeast portion of the study area once housed an industrial manufacturing operation and later an auto sales service. Waste materials in the form of petroleum or hazardous waste could have been generated as a result of one or both operations. This facility was a LUST site; however, this incident has been disproved.

- The former service station located at 5848 Vrooman Road on the southwest portion of the study area has been demolished and graded. It is not known if the USTs were removed. Waste materials in the form of petroleum or hazardous waste could have been generated as a result of the service station operation. This facility was not listed on any regulatory database.

All three of these sites would be impacted by Alternatives A and C. The last two would be impacted by Alternative B. Phase I Environmental Site Assessments will be performed during subsequent project development on the affected properties. Alternative D and the No Build would have no impacts.

ECOLOGICAL SURVEY

Field investigations of the study area were conducted on June 17, October 19, November 3 and 10, 2004 and February 15, 2005. The aquatic, terrestrial, and wetland habitats, as well as endangered species were examined according to the Ohio Department of Transportation (ODOT), *Ecological Manual, 2005.*

Two streams comprising approximately 2,326 linear feet, the Grand River, and an unnamed tributary to the Grand River were identified within the limits of the study area. This segment of the Grand River is designated as a state resource water (SRW) and seasonal salmonid habitat (SSH), based on the 1978 water quality standards (Ohio EPA, 2003). Based on the results of a biological field assessment performed by the Ohio Environmental Protection Agency this segment of the Grand River is also designated as an exceptional warm water habitat (EWH), agricultural water supply (AWS), industrial water supply (IWS), and a primary contact recreation stream (PCR) (Ohio EPA, 2003).

The two streams were broken up into six segments (Stream 1, Segments A, B, and C; and Stream 2, Segments A, B, and C) in an effort to document the habitat of the two streams within the proposed study area of the three alternatives. The three stream segments of Stream 1 (Grand River) (Segments A, B, and C) had drainage areas greater than one square mile and had pools greater than 40 centimeters deep and were, therefore, evaluated using the qualitative habitat evaluation index (QHEI). The QHEI scores indicate that stream segments A, B, and C (Grand River) have a provisional aquatic life use designation of exceptional warm water habitat (EWH) based on the QHEI score. Ohio EPA Water Quality Standards reveal that the segments of Grand River within the study area are listed as having an EWH use designation (confirmed with data), and are listed as state resource water (SRW) and seasonal salmonid habitat (SSH). All three segments (Segments A, B, and C) of Stream 2, an unnamed tributary to the Grand River, were considered to be primary headwater habitat (PHWH) and were evaluated using the primary headwater habitat evaluation form (HHEI). The HHEI and the headwater macro invertebrate field evaluation index (HMFEI) revealed that Segments A and B are classified as provisional Class I PHWH streams. Stream 2 (Segment C) is classified as a provisional modified Class II PHWH stream. Stream 2 (Segment C) is highly modified as it intercepts runoff directly from adjoining agricultural fields. Due to the time of year (February) an HMFEI was not conducted however, it will likely score low (provisional Class I PHWH stream) if the biological sampling is completed.

No permanent impacts to the Grand River are anticipated from the construction of the proposed bridge, as footings are not to be located within the boundaries of the river for any of the alternatives. Temporary impacts may occur from the construction of the proposed bridge as a result of construction staging and equipment. The project will require coordination with ODNR as a Wild and Scenic River. Alternative B also has the potential to impact the unnamed tributary of the Grand River, which will be determined during subsequent phases of project development.

Wetlands

The National Wetland Inventory map (NWI) for the Painesville quadrangle was referenced and revealed three potential wetland systems within the study area boundaries. These mapped wetland systems did coincide with wetlands actually found on the ground during the field reconnaissance. The Grand River and the two NWI wetlands were listed as the following types (number of each type follows in parenthesis):

- PFO1Y (2) Palustrine forested, broad leaved deciduous, seasonally semi-permanent flooded.
- R2OWZ (1) Riverine, lower perennial, open water/unknown bottom, intermittently exposed/permanent (Grand River).

During the field reconnaissance, a total of fourteen wetlands comprising approximately 4.22 acres were identified within the study area. The wetlands are comprised of the PEM, PSS, and PFO wetland habitat types. Three wetlands are considered provisional Category 1 wetlands. One wetland (L) is considered a Category 1 or 2 gray zone wetland. Two wetlands are considered provisional Category 2 wetlands. Four wetlands are considered provisional modified Category 2 wetlands. Three wetlands are considered provisional Category 2 or 3 gray zone wetlands. One

wetland is considered a provisional Category 3 wetland. All fourteen wetlands are considered to be adjacent wetlands, meaning they are non-isolated.

Ponds and jurisdictional ditches were not found within the study area. *The Soil Survey of Lake County, Ohio* (1979) shows three soil associations and eleven mapped soil units as occurring in the study area. Only one soil unit within the study area is listed as hydric and only one soil unit within the study area is listed as non-hydric with hydric inclusions (Soil Conservation Service, 1998).

Preliminary calculation indicated that Alternative A would impact 0.13 acres of wetland, compared to 0.36 acres on Alternative B, and 0.09 acres on Alternative C. Alternative D and the No Build were expected to have no impacts. Alternatives A and B, depending on the pier placement and construction methodology for these alternatives, may be able to avoid all wetland impacts. Alternative C is expected to have unavoidable wetland impacts due to fill in the valley.

Endangered Species – Plant Species

A special forest plant community of Hemlock-Hardwood exists within the one mile radius around our study area along with three potentially threatened plant species, American chestnut (*Castanea dentata*), turk's-cap lily (*Lilium superbum*), and Butternut (*Juglans cinerea*). There are three breeding animal concentrations (mollusk beds) located outside of the study area. The one muscle bed located upstream of the study area has two species of concern, round pigtoe (*Pleurobema sintoxia*), wavy-rayed lampmussel (*Lampsilis fasciola*). One threatened species, the black sandshell (*Ligumia recta*) has a general location within the study area. The ODNR Division of Natural Areas and Preserves, Ohio Natural Heritage Database, list of Rare Plant Species for Lake County was reviewed for potential occurrences of endangered, threatened, potentially threatened plant species, or plant species of special concern within the study area (ODNR, 2001). Fifty-eight plant species were identified as endangered, threatened, or potentially threatened in Lake County. These species were noted for possible sightings during field investigations. The Natural Resource Management Plan prepared by Lake Metroparks for Indian Point and Mason's Landing list two plant species as potentially threatened, documented within the study area, sweet-scented Indian plantain (*Cacalia suaveolens*) and turk's-cap lily (*Lilium superbum*). A critical area designated as mole salamander habitat protection zone falls within the study area (Hildebrant, 1995).

Field investigations did not reveal the presence of any state listed endangered, threatened, potentially threatened, or other rare plant species as occurring within the study area. Sweet-scented Indian plantain (*Cacalia suaveolens*) was found throughout the study area; however, this plant is not listed on the latest list of Rare Native Ohio Plants (according to DNAP 2004-2005 Status List). Also, Michigan Lily (*Lilium michiganense*), which is similar to turk's-cap lily (*Lilium superbum*) was identified within the study area and has no status listing according to DNAP (2004-2005). The three potentially threatened plant species, American chestnut (*Castanea dentata*), turk's-cap lily (*Lilium superbum*), and Butternut (*Juglans cinerea*) were not identified within the study area during our investigation, therefore impacts are not anticipated.

Endangered Species – Animal Species

The U.S. Fish and Wildlife Service names several federally-listed threatened, endangered, proposed, and candidate species for Lake County (USFWS, 2005). Those species include the endangered Indiana bat (*Myotis sodalis*), the threatened bald eagle (*Haliaeetus leucocephalus*), the endangered piping plover (*Charadrius melodus*) and critical habitat designated for the piping plover.

No live state or federally-listed endangered, threatened, species of concern, and special interest were identified within the study area.

The Division of Natural Areas and Preserves has no records of any Indiana bat capture locations or hibernacula within a five-mile radius of the study area. This radius contains approximately 16,656 acres of land, of which 7,384.48 acres are forest habitat. Each of the alternatives would impact this habitat within this radius as follows:

- Alternative A would impact 13.6 acres of forested habitat resulting in a 0.18% reduction in overall forested habitat.
- Alternative B would impact 19.7 acres of forested habitat resulting in a 0.26% reduction in overall forested habitat.
- Alternative C would impact 18.3 acres of forested habitat resulting in a 0.25% reduction in overall forested habitat.

Over 99.7% of the forested habitat within the radius would still be available to the Indiana bat.

The federally threatened bald eagle, (*Haliaeetus leucocephalus*) would not be impacted by this project due to the preferred habitat of the bald eagle is mature forests near large open water bodies; this type of habitat does not occur within or adjacent to the study area. The endangered piping plover (*Charadrius melodus*) and critical habitat designated for the piping plover (beaches along shorelines of the Great Lakes) would not be impacted by this project due to the absence of preferred habitat. No impacts to mollusk beds or species of concern, round pigtoe (*Pleurobema sintoxia*), wavy-rayed lampmussel (*Lampsilis fasciola*) or the threatened black sandshell (*Ligumia recta*) which has a general location within the study area will be anticipated as bridge footings are not to be located within the boundaries of the Grand River.

CONSTRUCTION ISSUES

Each option would have different issues associated with its construction. Alternatives A and C would have the longest construction durations on SR 84. Alternative A would also require closure of Vrooman Road for longer than Alternative B, with Alternative C having the longest duration of closure to Vrooman Road.

SUMMARY

The results of the evaluation of Feasible Alternatives are presented in **Table 12**.

Only Alternatives A and B would meet all elements of the purpose and need, with Alternative B providing a more direct route for emergency evacuation. Each would have similar impacts on park property and similar bridge lengths. Alternative B has the potential for impacts to one stream. Alternative A may require one, commercial relocation. Alternative B may require one, residential relocation. Alternative A would affect more parcels and have a longer construction impact on SR 84 and Vrooman Road. Alternative B would affect more properties that will require evaluation for historic eligibility. Both alternatives would require substantial coordination with regard to archaeological resources.

Alternative C would meet many of the elements of the Purpose and Need, but would fail to correct substandard geometrics, which affects the route's operational efficiency, safety, and suitability for emergency services and evacuation. Alternative C would have a shorter bridge length and less permanent right-of-way impact on the park property, but require the relocation of one commercial property and one condominium building with six units and require the longest closure of SR 84 and Vrooman Road during construction. It would have a greater potential for archaeological concerns due to the great extent of work on SR 84 and in the valley.

Alternative D would be expected to have minimal impacts, but meets only two elements of the Purpose and Need. Bridge and retaining wall conditions would be corrected, but existing operational, flooding, safety, and emergency service/evacuation issues would not be addressed.

Alternative E (No Build) would address no elements of the Purpose and Need, resulting in the eventual retaining wall failure or closure of Vrooman Road due to bridge condition.

TABLE 12: FEASIBLE ALTERNATIVES COMPARISON MATRIX

Vrooman Road Study
Lake County, Ohio

TRANSYSTEMS CORPORATION

Vrooman Road Preliminary Project Impacts

	ISSUE/CONCERN	A High-level to Madison	B High-level to Lane	C Low-level Close to Existing	D Replace Existing	E No Build
DESIGN ISSUES	**BRIDGE LENGTH (feet)**	1,800	1,800	1,000	200	N/A
	ADDRESSES GEOMETRIC DEFICIENCIES	YES	YES	NO	NO	NO
	ADDRESSES FLOODING	YES	YES	YES	NO	NO
	ADDRESSES BRIDGE CONDITION	YES	YES	YES	YES	NO
	ADDRESSES/AVOIDS WALL CONDITION	YES	YES	YES	YES	NO
PROPERTY IMPACTS	**POTENTIAL RELOCATIONS**					
	SINGLE FAMILY	0	1	0	0	0
	MULTI FAMILY	0	0	1	0	0
	BUSINESS	1	0	1	0	0
	PROPERTY IMPACTS (parcels)	16	7	9	0	0
ENVIRONMENTAL IMPACTS	**CULTURAL RESOURCES**					
	HISTORY/ARCHITECTURE (properties to be evaluated)	1	4	0	0	0
	ARCHAEOLOGY	Will require evaluation/avoidance			None	None
	ECOLOGICAL RESOURCES					
	WETLANDS (acres)	0.13	0.36	0.09	0	0
	STREAMS (in addition to crossing of Grand River)	0	1	0	0	0
	Park/Section 4(f) - acres perm r/w (preliminary)	3.03	3.02	0.93	0	0
	Additional Impacts	Modified access to Masons Landing; relocation of canoe launch and parking	Modified access to Masons Landing; relocation of canoe launch and parking	Minimal facility impacts; steep grade remains; may be difficult to construct	Minimal impacts; road still floods	Eventual bridge closure; road still floods

3.3 Stakeholder Committee Meeting #4/Public Involvement Meeting

Stakeholder Committee Meeting #4 was held on June 9, 2004 to review the results of alternatives comparison prior to finalizing the work for presentation to the public. Mapping was provided and the Project Team reviewed the impacts of the alternatives and potential mitigation scenarios to obtain input on the development of the alternatives and the benefits and consequences of each option.

A Public Involvement Meeting was held on July 7, 2004 at the Leroy Community Center located at 13028 Leroy Center Road in Leroy, Ohio. The meeting was set up in an open house format, being open to the public from 4:00 PM through 7:00 PM. Representatives from the Lake County Engineer's Office, along with others from ODOT and TranSystems were in attendance to answer questions about the alternatives developed. The purpose of this open house meeting was to present the alternatives for the Vrooman Road Project, to answer questions, and to solicit comments on the proposed alternatives to be considered when choosing a preferred alternative.

The Project Team utilized the alternatives and base map of environmental constraints to develop exhibits for the public meeting. Displays of the alternatives along with typical sections for each alternative were put along the perimeter of the room so that people could peruse them at their leisure. In addition, the matrix comparing the alternatives was provided. Environmental, right-of-way, and comment tables were also set up so that anyone with specific questions, or those wanting to submit their comments could do so anytime during the meeting.

At the meeting comment sheets were handed out to the attendees asking for their input on the developed alternatives and which one each person felt best fit the needs of the project as well as the community. Voice comments were also available to those that might need assistance. Comments were gathered at the meeting and a comment period of two and a half weeks was given so that people could send them in either through the mail or via e-mail. The comment period ended on July 23, 2004.

Sixty-nine people signed the sign-in sheet at the July 7, 2004 public involvement meeting held for the Vrooman Road Study Project. Of those, sixty-six of those were members of the public.

During the comment period, 58 comment forms were received. These comments were summarized and considered during the discussion of recommendations with the stakeholder committee. Per ODOT's request, formal responses to each comment were prepared and mailed in December 2005. A public comment summary matrix, copies of each comment form and the corresponding response letter, are included in **Appendix A**.

<u>Alternative A</u>
Four out of the seven people that chose Alternative A also put Alternative B as a choice, because they felt that either one would solve all of the problems and would be more long-term solutions. Another person chose Alternative A along with both Alternatives C and D, because he felt that any of these options would meet the needs of the project. Another person that chose Alternative A did so because it did not require relocations, did not need to cross the stream, thereby saving money, and did not impacts archaeological resources as Alternative B might. Yet another also chose

Alternatives B, D, and E because he did not want any option that included taking any of the condos on River Road. Other comments in favor of Alternative A did so to would eliminate a five-point intersection and avoid the power lines.

Alternative B

Of the nineteen people that chose Alternative B, four of them also chose Alternative A with the thought that both met the needs of the project. Another person chose Alternative B along with Alternative C as the preferred. Another also chose Alternatives A, D, and E because he did not want any option that included taking any of the condos on River Road. The other thirteen people selected Alternative B for the following cited reasons:

- The alignment provided a 'straight shot'
- Madison Avenue was already a congested intersection
- It provided more direct route to the Perry Nuclear Power Plant
- It takes traffic away from Canterbury Crossing Condominiums
- Fewer impacts to people

Alternative C

Thirty people chose Alternative C as a preferred route. Of these, sixteen also chose other routes as preferred (one also chose Alternative A and D; two also chose Alternatives D and E; and twelve also chose Alternative D as preferred alternatives). Most of the people that chose Alternative C chose it because it still fixed some of the main problems the current roadway and bridge have, but maintains the quiet rural area they have today and would not increase truck traffic. Other comments were that it would cost less and that it would not have a large impact on the Metroparks or the environment.

Alternative D

Twenty-three people chose Alternative D. Of those, sixteen also chose other routes as preferred. (One chose Alternatives A and C; two also chose Alternatives C and E; one also chose Alternatives A, B, and E; and twelve also chose Alternative C). Some of the comments in favor of Alternative D were that it would maintain the integrity of the area by keeping the road the same as it is today, not allow a large amount of truck traffic, and not hurt property values. One person suggested raising the road south of the bridge, saying that would alleviate the flooding problems. Another person did not feel the road needed to be changed for the Perry Nuclear Power Plant if it was not going to be around much longer.

Alternative E

Three people chose Alternative E as a preferred alternative. Of the three, two also chose Alternatives C and D. The third person also chose Alternatives A, B, and D because he did not want any alternative that would take any of the condos. Reasons cited for selecting Alternative E were that high truck traffic volumes were not desired in the area, and maintaining the Metroparks as they are along with property value concerns.

3.4 Stakeholder Committee Meeting #5

Following the Public Involvement Meeting, and after the comment period had ended, a Stakeholder Committee Meeting was held on July 28, 2004 to discuss recommendations and go over comments received from citizens following the public involvement open house that was held on July 7, 2004. The Project Team presented each of the alternatives again and explained which of the needs each would fulfill, the anticipated impacts, and the comments from the public.

The group discussed the positives and negatives of each option. However, a decision was tabled because the Stakeholder Committee determined that more knowledge about noise and visual impacts should be evaluated before making a decision.

3.5 Update of Alternatives

Following Stakeholder Committee Meeting #5, the Project Team put together renderings of how the bridge might look through the valley for the one low-level and two high-level bridge options. In addition, some preliminary noise analyses (planning level only) were completed for each alternative. The conceptual designs were refined, cost estimates were updated, and impacts were revisited.

An updated comparison matrix was assembled for Alternatives A, B, and C and is included on the following page as **Table 13**. The renderings are presented in **Figures 12, 13 and 14**. The results of the noise analyses are presented in **Tables 14, 15, 16 and 17**.

Summary of Alternatives and Costs

	Alternative A	Alternative B	Alternative C
Alignment	High Level Bridge to Madison Ave.	High Level Bridge to Lane Ave.	Low Level Bridge to Madison Ave.
Project Length	12,300'	11,300'	12,700'
Bridge Length	1,800'	1,900'	1,500'
Right of Way*			
Number of Property Owners	8	4	6
Residential Relocations	0	1	6
Business Relcocations	1	0	1
Total Right of Way Acquisition	4.6 acres	6.9 acres	4.4 acres
Maintenance of Traffic	Extensive MOT on SR 84	Limited MOT on SR 84	Vrooman Road Detour and Extensive MOT on SR 84
Archaeology	Requires more relocation of SR 84, which must be designed to avoid known and potential resources	Intersection must be designed to avoid known resources	Requires more relocation of SR 84, which must be designed to avoid known and potential resources
Ecological Resources	~ Loss of habitat due to cutting of trees within new Right of Way and for construction access	~ Potential Stream Impact ~ Loss of habitat due to cutting of trees withing new Right of Way and for construction access	~ Potential Wetland Impact ~ Loss of habitat due to cutting of trees withing new Right of Way and for construction access
Park Issues	~ Property Purchase ~ Loss of Vegetation ~ Relocation of Parking ~ Construction of Pedestrian Crossing for Access to Mason's Landing	~ Property Purchase ~ Loss of Vegetation ~ Relocation of Parking ~ Construction of Pedestrian Crossing for Access to Mason's Landing	~ Increased noise within Park ~ Property Purchase ~ Loss of Vegetation ~ Long Realignment of Seeley Road ~ No access to Park from Vrooman Rd
Hazardous Materials (Phase I's Required)	3	2	3
Noise Impact (From Bridge)	Highest Potential Increase	Lowest Increase	Potential Increase
Traffic/Safety Benefits	~ Flat Grades ~ Eliminates Flooding	~ Flat Grades ~ Limited Turn Movements ~ Eliminates Flooding ~ Cul-de-sac on River Rd-local residential traffic only	~ Eliminates Flooding
Traffic/Safety Drawbacks	~ 90 Degree Bends ~ Increased traffic by condos		~ Potential for poor operations of Madison signal due to grade and tight turn for trucks ~ 90 Degree Bends ~ Increased traffic by condos
Construction Cost**	$16,180,400	$16,703,930	$12,761,000

* Condominium property impacts equal one owner, relocations represent households affected.
** R/W Cost not included

Table 13: Updated Summary of Alternatives and Costs

FIGURE 12: RENDERING OF ALTERNATIVE A

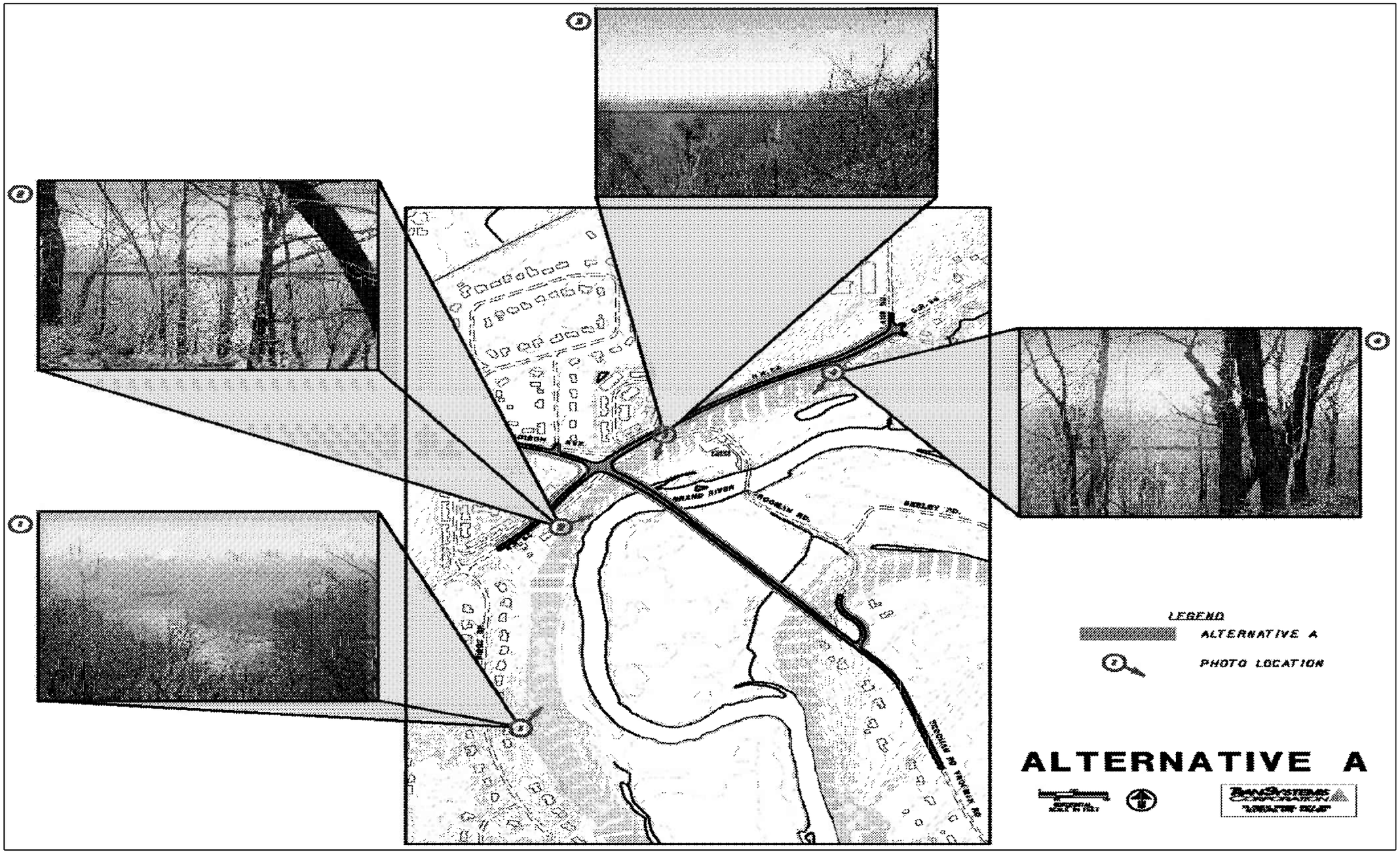


FIGURE 13: RENDERING OF ALTERNATIVE B

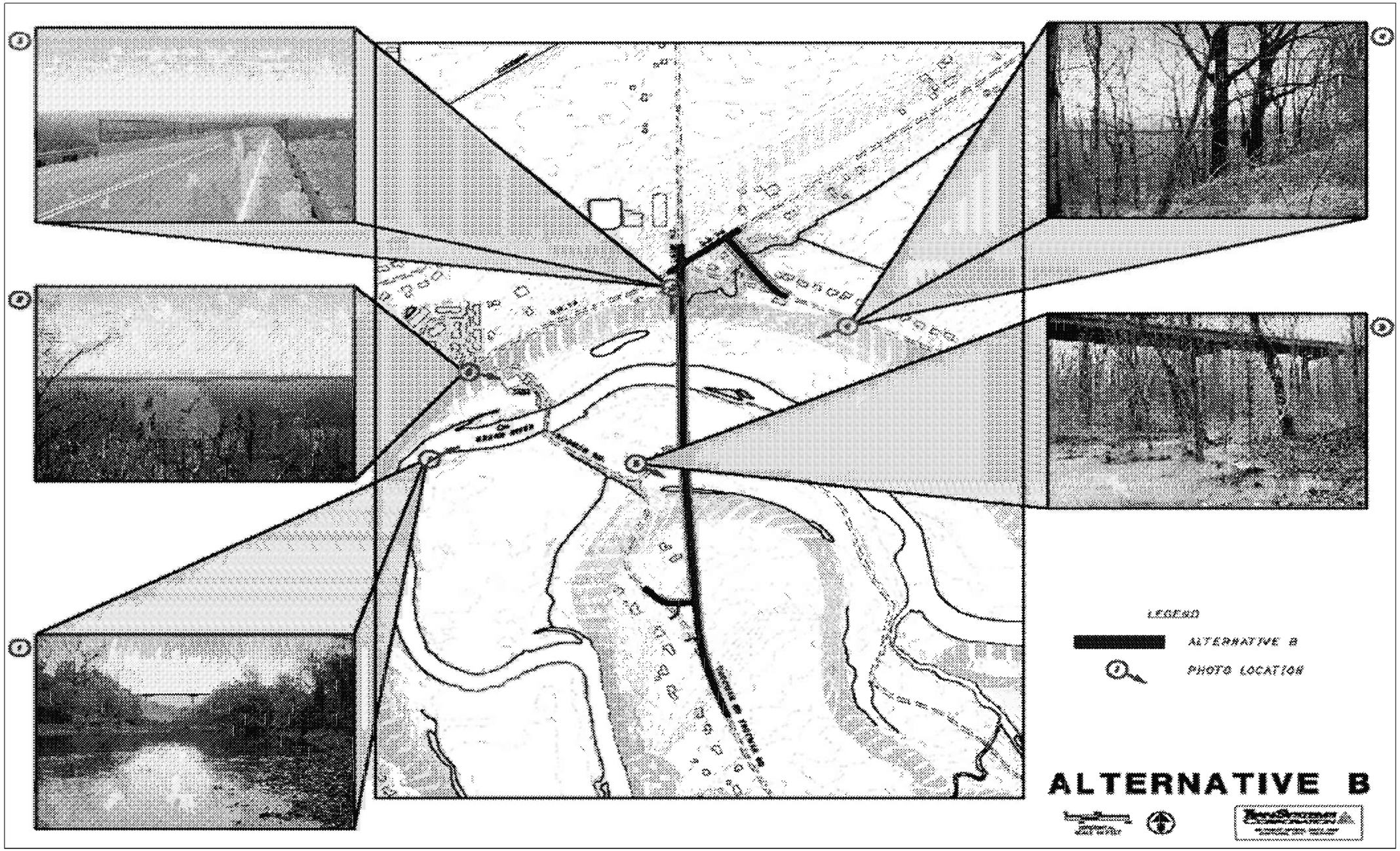


FIGURE 14: RENDERING OF ALTERNATIVE C

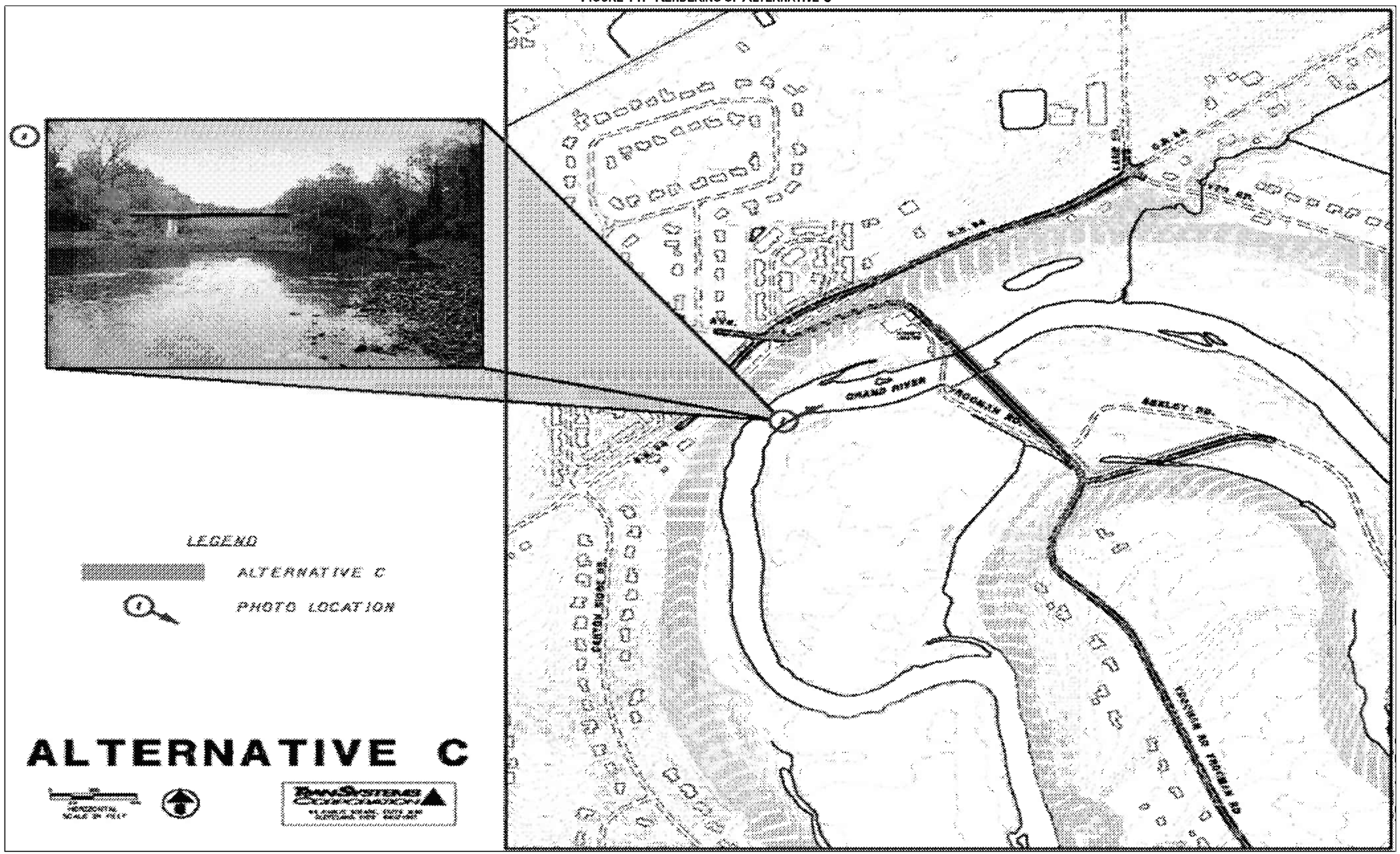


TABLE 14: NOISE IMPACTS MATRIX 1

Vrooman Road Study
Lake County, Ohio
TRANSYSTEMS CORPORATION

Noise Impacts Matrix

Alternatives	Issue/Concern							
	Roadway Capacity	Vehicle Mix	Roadway Grade	Roadway Geometry	Pavement Type	Roadway Signalization		
No Build	No Change	No Change	High Grade	Non-Linear	No Change	No Change		
Replace Bridge In Current Location	No Change	No Change	High Grade	Non-Linear	No Change	No Change		
Alternative A	Set to Design Year	minimal Increase in Heavy Truck	Low Grade	Linear	Deck with Low Noise	No Change		
Alternative B	Set to Design Year	minimal Increase in Heavy Truck	Low Grade	Linear	Deck with Low Noise	No Change		
Alternative C	Set to Design Year	No Change	High Grade	Non-Linear	No Change	No Change		
Alternative D								

TABLE 15: NOISE IMPACTS MATRIX 2A

		ALTERNATIVES									
		No Build		Replace Bridge in Current Location		Alternative A		Alternative B		Alternative C	
		Design	Elevated vs Low Bridge Noise Impact	Design	Elevated vs Low Bridge Noise Impact	Design	Elevated vs Low Bridge Noise Impact	Design	Elevated vs Low Bridge Noise Impact	Design	Elevated vs Low Bridge Noise Impact
Issue/Concern	Grade[1]	No Change*	Greater Noise Impact	High Grade*	Greater Noise Impact	Low Grade	Lesser Noise Impact	Low Grade	Lesser Noise Impact	High Grade*	Greater Noise Impact
	Road Geometry[2]	No Change*	Greater Noise Impact	Non-linear*	Greater Noise Impact	Linear	Lesser Noise Impact	Linear	Lesser Noise Impact	Non-linear*	Greater Noise Impact
	Vehicle Mix[3]	No Change*	Lesser Noise Impact	Vehicle type limits*	Lesser Noise Impact	All vehicle types	Greater Noise Impact	All vehicle types	Greater Noise Impact	All vehicle types	Lesser Noise Impact
	Pavement type[4]	No Change*	Greater Noise Impact	Deck replacement	Lesser Noise Impact	Deck replacement	Lesser Noise Impact	Deck replacement	Lesser Noise Impact	Deck replacement	Lesser Noise Impact
	Signalization[5]	No Change	Greater Noise Impact	No Change	Greater Noise Impact	No Change	Lesser Noise Impact	No Change	Lesser Noise Impact	No Change	Greater Noise Impact
	Roadway Elevation[6]	No Change*	Lesser Noise Impact	Low*	Lesser Noise Impact	High	Greater Noise Impact	High	Greater Noise Impact	Low*	Lesser Noise Impact
	Bridge Joints[7]	No Change	Greater Noise Impact	Steel/rubber joint	Lesser Noise Impact	Steel/rubber joints	Lesser Noise Impact	Steel/rubber joints	Lesser Noise Impact	Steel/rubber joint	Lesser Noise Impact

* Not within Current Design Standards
1 High grade ranges from 0 to 8% grade. Low grade ranges from 0 to 2% grade.
2 Non-linear curves range from 0 to 30 degrees.
3 No heavy trucks.
4 Deck replacement will likely be concrete.
5 Signalization should remain the same
6 High elevation should be approximately XXX. Low elevation should be approximately XXX.
7 Likey steel/rubber joints would be used with bridge replacement.

TABLE 16: NOISE IMPACTS MATRIX 2B

Noise Issue/Concern	ALTERNATIVES																			
	No Build				Replace Bridge in Current Location				Alternative A				Alternative B^				Alternative C			
	Design	Bridge Noise Impact	I/C Factor	Noise Factor	Design	Bridge Noise Impact	I/C Factor	Noise Factor	Design	Bridge Noise Impact	I/C Factor	Noise Factor	Design	Bridge Noise Impact	I/C Factor	Noise Factor	Design	Bridge Noise Impact	I/C Factor	Noise Factor
Grade[8]	No Change*	Increase[2]	8	2	High Grade*	Increase[2]	8	2	Low Grade	Decrease[1]	8	1	Low Grade	Decrease[1]	8	1	High Grade*	Increase[2]	8	2
Road Geometry[7]	No Change*	Increase[2]	7	2	Non-linear*	Increase[2]	7	2	Linear	Decrease[1]	7	1	Linear	Decrease[1]	7	1	Non-linear*	Increase[2]	7	2
Vehicle Mix[6]	No Change*	Decrease[1]	6	1	Vehicle type limits*	Decrease[1]	6	1	All vehicle types	Increase[2]	6	2	All vehicle types	Increase[2]	6	2	All vehicle types	Decrease[1]	6	1
Pavement type[5]	No Change*	Increase[2]	5	2	Deck replacement	Decrease	5	1	Deck replacement	Decrease[1]	5	1	Deck replacement	Decrease[1]	5	1	Deck replacement	Decrease[1]	5	1
Signalization[4]	No Change	Increase[2]	4	2	No Change	Increase[2]	4	2	No Change	Decrease[1]	4	1	No Change	Decrease[1]	4	1	No Change	Increase[2]	4	2
Roadway Moves[3]	No Change	Increase[2]	3	2	No Change	Increase[2]	3	2	No Change	Increase[2]	3	2	Signal Removed	Decrease[1]	3	1	No Change	Increase[2]	3	2
Roadway Elevation[2]	No Change*	Decrease[1]	2	1	Low*	Decrease	2	1	High	Increase[2]	2	2	High	Increase[2]	2	2	Low*	Decrease[1]	2	1
Bridge Joints[1]	No Change	Increase[2]	1	2	Steel/rubber joint	Decrease	1	1	Steel/rubber joints	Decrease[1]	1	1	Steel/rubber joints	Decrease[1]	1	1	Steel/rubber joint	Decrease[1]	1	1
Alternative Rank^				65				59				48				45				59

^ Alternative with the lowest Rank is likely the Alternative with the least amount of overall noise impact.

Noise Issue/Concern Rank

* Not within Current Design Standards
8 High grade ranges from 0 to 8% grade. Low grade ranges from 0 to 2% grade.
7 Non-linear curves range from 0 to 30 degrees.
6 No heavy trucks.
5 Deck replacement will likely be concrete.
4 Intersection signalization
3 Number of required roadway moves from Vrooman Rd to Lane Rd.
2 High elevation should be approximately XXX. Low elevation should be approximately XXX.
1 Likey steel/rubber joints would be used with bridge replacement.

Noise Factor

1 Decrease in overall noise
2 Increase in overall noise

TABLE 17: NOISE IMPACTS MATRIX 2C

Noise Issue/Concern	ALTERNATIVES																			
	No Build*#				Replace Bridge in Current Location*#				Alternative A				Alternative B				Alternative C			
	Design	Bridge Noise Impact	I/C Factor	Noise Factor	Design	Bridge Noise Impact	I/C Factor	Noise Factor	Design	Bridge Noise Impact	I/C Factor	Noise Factor	Design	Bridge Noise Impact	I/C Factor	Noise Factor	Design	Bridge Noise Impact	I/C Factor	Noise Factor
Roadway Elevation[8]	No Change	No Change	8	0	Low	No Change	8	0	High	Increase	8	5	High	Increase	8	5	Low	No Change	8	0
Vehicle Mix[7]	No Change	No Change	7	0	Vehicle type limits	No Change	7	0	All vehicle types	Increase	7	5	All vehicle types	Increase	7	5	All vehicle types	Increase	7	5
Roadway Moves[6]	No Change	No Change	6	0	No Change	No Change	6	0	No Change	No Change	6	0	Signal Removed	Decrease	6	-5	No Change	No Change	6	0
Signalization[5]	No Change	No Change	5	0	No Change	No Change	5	0	No Change	No Change	5	0	No Change	No Change	5	0	No Change	No Change	5	0
Grade[4]	No Change	No Change	4	0	High Grade	No Change	4	0	Low Grade	Decrease	4	-5	Low Grade	Decrease	4	-5	High Grade	No Change	4	0
Road Geometry[3]	No Change	No Change	3	0	Non-linear	No Change	3	0	Linear	Decrease	3	-5	Linear	Decrease	3	-5	Non-linear	No Change	3	0
Bridge Joints[2]	No Change	No Change	2	0	Steel/rubber joint	Decrease	2	-5	Steel/rubber joints	Decrease	2	-5	Steel/rubber joints	Decrease	2	-5	Steel/rubber joint	Decrease	2	-5
Pavement type[1]	No Change	No Change	1	0	Deck replacement	Decrease	1	-5	Deck replacement	Decrease	1	-5	Deck replacement	Decrease	1	-5	Deck replacement	Decrease	1	-5
Total Noise as Compared to No Change				0				-15				25				-5				20
Alternative Rank^	No Change				Low Potential Noise Impact				High Potential Noise Impact				Low Potential Noise Impact				Potential Noise Impact			

^ Alternative with the lowest Rank is likely the Alternative with the least amount of overall noise impact.

Noise Issue/Concern Rank

* Not within Current Design Standards
\# Assumes no heavy trucks.
8 High elevation should be approximately 745. Low elevation should be approximately 640.
7 No heavy trucks.
6 Number of required roadway moves from Vrooman Rd to Lane Rd.
5 Intersection signalization
4 High grade ranges from 0 to 15% grade. Low grade ranges from 0 to 3% grade.
3 Non-linear curves range from 0 to 55 degrees.
2 Likely steel/rubber joints would be used with bridge replacement.
1 Deck replacement will likely be concrete.

Noise Factor

-5 Decrease in total noise
0 No change in total noise
5 Increase in total noise

3.6 IDENTIFICATION OF PREFERRED CONCEPT/STAKEHOLDER COMMITTEE MEETING #6

A sixth Stakeholder Committee Meeting was held on February 16, 2005 to identify a Preferred Alternative for the project. A presentation was given by the Project Team illustrating the steps taken by the Stakeholder Committee members to develop a Purpose and Need for the project through the development of feasible alternatives. The Project Team reviewed the pros and cons for each alternative and summarized how each met the Purpose and Need. In addition, the results of further investigation into visual and noise issues were presented. Displays of how each alternative would look from various areas in the park and neighboring communities for each option were shown, along with preliminary noise estimates for each alternative.

Following presentation of this previously requested information, the Stakeholder Committee chose Alternative B, the high-level bridge to Lane Road, as the Preferred Alternative for further development. Only Alternatives A and B meet the Purpose and Need. Alternative B offers similar park and environmental impacts as Alternative A, while providing a more direct route for emergency evacuation and minimizing impacts along SR 84.

Therefore, Alternative B was proposed by the Stakeholder Committee to be carried forward for further development during the Project Development Process.

4.0 NEXT STEPS

The project was initially classified under ODOT's Major Process, Steps 1-4. Based upon a September 21, 2005, coordination meeting with ODOT's District 12 and Office of Environmental Services, this project will now proceed under the Minor Project PDP. Step 4 of the Major Process achieves equivalent milestones of Step 2 of Minor Process. Therefore, the project will next enter Step 3 of the Minor Process.

While the Stakeholder Committee recommended Preferred Alternative to be carried forward in the Project Development Process (PDP) is Alternative B, ODOT determined that Step 3 will also need to continue to consider the "High-Level Bridge to Madison" alternative for comparison. During Step 3, specific alignment alternatives will be developed that achieve the intent of the Alternative B - High-Level Bridge to Lane Road and Alternative A - High-Level Bridge to Madison. Per ODOT, the Step 3 Preliminary Engineering Study will need to consider both Alternatives A and B for comparison.

Step 3 Preliminary design will also include alternative studies for the realignment of River Road. At this time, it is the intent to consult the local community on alternatives to be considered for River Road during the design process, rather than waiting to the formal public comment period.

Step 3 Environmental field studies will include Phase I history/architecture, identification of sensitive noise receptors, collection of socio-economic data, and conceptual RAP survey. In addition, the developed limits of the cemetery at SR 84 and Lane Road will need to be established to be used as a constraint in development of alternatives.

Due to the sensitive nature of the area, archaeological investigations and coordination will be advanced to occur during Step 3 (rather than Step 4). Working closely with the archaeological team, the design team will need to develop a plan and method for construction that avoid impacts to cultural resources that warrant preservation in place or resolve appropriate mitigation for those impacts.

By the end of Step 3 of the Minor Project Development Process, it will be known whether any avoidance options exist for critical cultural resources, and a decision can be made whether to continue with development of this concept. A public meeting would be held (Concurrence Point #2) and public comments solicited on the various design options under consideration.

Once the options are evaluated and public comments are addressed, the most promising will be advanced. During this step, preliminary construction limits will be developed. The ecological survey report will be completed to include impact calculations and coordination will be initiated with ODNR, OEPA, USFWS and ACOE. Noise analyses will be conducted and mitigation measures, if any, will be identified. If any properties warranted additional consideration and could not be avoided, Phase II history/architecture surveys would be conducted. If any farmlands are affected by the realignment of River Road, farmland studies would be done at this time. Lastly, Section 4(f) evaluations would be written, with formal concurrence sought from Lake Metroparks, Lake County, ODOT and FHWA regarding park impacts and proposed mitigation.

Lastly, Step 4 will involve preliminary Section 4(f) evaluations and development of design strategies to minimize harm and potential mitigation scenarios. Important to all the critical issues – park, ecological, and archaeological -- will be a constructability review and development of proposed construction strategy.

At the end of Step 4, the environmental document would be prepared, and Section 4(f) evaluation, Section 106 approval, and Stage 1 design plans completed.

Concurrent with the Project Development Process, the project team and Lake County will be developing a proposed plan for implementation of the project and seeking additional funding, perhaps related to homeland security issues, in order to complete the project. The ultimate timeline for design, right-of-way acquisition, and construction will be heavily dependent on the availability of funds.

The project team and Lake County recognize that there are still substantial hurdles to overcome in the development of the project. The park-related Section 4(f) impacts, river involvement, habitat impacts, and noise issues are similar on both of the alternatives that meet the Purpose and Need. Further analysis and consideration of avoidance, minimization and mitigation will occur during subsequent steps. Coordination with Lake Metroparks, ODNR and USFWS will continue to resolve these details. The primary remaining challenges are historic and archaeological, which are not quantified and resolved during the planning phase. Both issues will require more investigations and coordination under Section 106 and Section 4(f) to determine how these challenges will be overcome.

Appendix A

PUBLIC INVOLVEMENT

- STAKEHOLDER LIST
- STAKEHOLDER MEETING MATERIALS
- STAKEHOLDER SIGN-IN SHEETS
- PUBLIC MEETING INVITATION
- PUBLIC MEETING SIGN-IN SHEETS
- PUBLIC MEETING MATERIALS
- PUBLIC MEETING SUMMARY
- SUMMARY MATRIX, COMMENT FORMS AND RESPONSE LETTERS
- NEWS ARTICLES

Vrooman Road Study
Lake County, Ohio

TRANSYSTEMS CORPORATION

Stakeholder	Title	Organization
Cheral White		Emergency Management Agency
Larry Greene	Director	Emergency Management Agency
Mike Armstrong		FHWA
Chad Knisley	Group Contact	Grand River Partners
Alan L. Exley	Chief Design Engineer	Lake County
Dan Tasman	Planning Commission	Lake County
Daniel P. Troy	County Commissioner	Lake County
Darrell C. Webster	Director/Planning Commission	Lake County
James R. Gills	Lake County Engineer	Lake County
Raymond E. Sines	County Commissioner	Lake County
Robert E. Aufuldish	President/County Commissioner	Lake County
William E. Crosier	Chief Deputy	Lake County
David Gilmer	Executive Director	Lake County Development Council Inc.
Chuck Kenzig	Landscape Architect	Lake Metro-parks
Dave Noble	Executive Director	Lake Metro-parks
Chuck Klco	Trustee	Leroy Township
Richard VanPelt Sr.	Trustee	Leroy Township
Ron Eckner		NOACA
Jim Burr	President	Nursery Growers
Steve Roloson	NE Scenic Rivers Coordinator Division of Natural Areas and Preserves	ODNR
Mark Carpenter	Environmental Coordinator	ODOT
Ray De la Motte	President	Painesville Chamber of Commerce
Lee R. Bodnar	Administrator	Painesville Township
Doris Moss	President	Painesville TWP Local Schools Board of Education
	Supervisor	Painesville TWP Local Schools Department of Transportation
Walter Siegel	Administrator & Zoning Inspector	Perry Township
Beth Debevc	President	Perry-Madison Chamber of Commerce
Dan Donaldson	District Administrator	Soil & Water Conservation District
Ann M. DiDonato	Area Manager Northern Region	The Illuminating Company
Bob Parker		Baker & Associates
Chuck Ashcroft	Executive Director	Grand River Partnership
Don Crellin	Assistant Chairman	Leroy Township Zoning Board
Gerald Jenkins Jr.	Administrator	Madison Township
Linda Bruhenne	Chairwoman	Leroy Township
Martin Gareau	Economic Development Coordinator	City of Mentor
Nancy Currie	Madison-Perry	Chamber of Commerce
Raymond Jurkowski	General Manager	LAKETRAN
Rita McMahon	City Manager	City of Painesville

Vrooman Road Study
Lake County, Ohio

TRANSYSTEMS CORPORATION

Stakeholder Committee Meeting
January 21, 2004
4:00 – 5:30 p.m.

AGENDA

- Introductions
- Purpose of the Study
- The Study Process
- Role of the Stakeholder Committee
- Meeting Dates, Times, & Location
- Input to Public Involvement Plan
- Input to Problem Statement

Vrooman Road Study
Lake County, Ohio

TRANSYSTEMS CORPORATION

Vrooman Road Study

Background

Vrooman Road (County Road 227) provides access to Perry and Leroy Townships, as well as southeastern Painesville from I-90. North of I-90 and adjacent to the Indian Points and Mason's Landing Parks, Vrooman Road spans the Grand River. TranSystems Corporation has been hired by Lake County, Ohio, to provide consulting services for the Preliminary Development Phase of Vrooman Road in Leroy and Perry Townships. The PDP study will involve the analysis of Vrooman Road's alignment and condition adjacent to and including the Grand River Bridge.

The analysis will look at three major issues with Vrooman Road.

- Vrooman Road's grade south of the intersection with SR 84 is too steep, causing erosion and slippage issues;
- The Grand River Bridge is in a state of disrepair and creates safety issues;
- Vrooman Road south of the Grand River Bridge involves some serious curves and angles that create safety issues.

The goal of the study will provide for improved safety and maintenance of Vrooman Road, as well as allowing for a north-south corridor in between Interstate 90 and State Route 2.

Problem Statement

The Vrooman Road study should alleviate the problems currently existing with the road and bridge today. The following issues were identified and are summarized below as a "Problem Statement" for the project.

The Vrooman Road Study will:

- ***Provide acceptable traffic operation for future traffic volumes;***
- ***Correct identified accident problems;***
- ***Eliminate flooding of a new bridge spanning across Grand River;***
- ***Reduce dangerous current steep grade near Vrooman's intersection with State Route 84;***
- ***Accommodate transit needs; improve safety for truck travel;***
- ***Provide safe and good access to the Nuclear Power Plant in Perry Township; providing unrestricted weight limits;***
- ***Eliminate or avoid current geotechnical problems near Vrooman's intersection with State Route 84.***

Vrooman Road Study
Lake County, Ohio

TRANSYSTEMS CORPORATION

Preliminary Public Involvement Plan

Introduction

The Vrooman Road Bridge crosses over the Grand River in Leroy Township, Ohio, 0.2 miles south of State Route 84. There are several safety concerns due to issues with the current bridge. First, the road frequently floods causing roadway conditions dangerous to drivers. Next, the grade approaching SR 84 to the north of the bridge does not meet current standards, also possibly causing roadway conditions dangerous to drivers. There have been many accidents on the bridge over the last several years. There is also a weight limit on the current bridge, which restricts traffic access from IR-90 to Perry Power Plant, which is approximately 5 miles northeast of the bridge.

Lake County has retained TranSystems Corporation to complete a study of the area around the Vrooman Road bridge. The study area will include the intersections of Vrooman Road and SR 84 and River Road and SR 84. The purpose of this study is to analyze the area and identify structural and geometric deficiencies which may be contributing to safety and access problems in the area, including the possible need to replace the bridge and retaining wall. As a result of such analysis, options for countermeasures to address these deficiencies in order to increase safety and IR-90 access will be given. Both positive and negative impacts of these options need to be identified and discussed. The process of this study must involve various project stakeholders- the affected residents, business owners and community leaders, as well as the political entities and funding agencies, which must ultimately implement the countermeasures. Therefore, the Public Involvement Program, detailed in this Public Involvement Plan, is a critical component to the success of this study.

Purpose

Public involvement during a transportation planning study serves two basic purposes – to distribute information and to solicit input. It is important that the components of the Public Involvement Plan address both objectives. The Public Involvement Program for the Vrooman Road Study will:

- Educate the public and decision-makers about the study process and their role within it
- Solicit input on the problems that the study should be designed to solve
- Provide information on the needs identified during the technical analysis
- Solicit input on the alternatives that should be considered
- Provide information on the potential impacts and benefits of each alternative
- Solicit input on the recommended solution
- Provide information on the chosen solution and rationale used in decision-making

In order to achieve these goals, the Project Team proposes to use several methods described in detail below.

Methods

Stakeholder Committee. The primary forum for public input for this project will be the use of a Stakeholder Committee. A group of stakeholders, representing diverse viewpoints on the priorities for the area, will be assembled to provide input throughout the study. The Stakeholder Committee will be involved in each phase of the study to provide feedback in each area listed above.

The project team will assemble a group of representatives from the Lake County Engineer's Office, Lake Metroparks, the Ohio Department of Natural Resources, the

Federal Highway Administration, NOACA, the Lake County Sheriff's Office, Perry, Madison, Painesville and Leroy Townships, Laketran, various public officials and area businesses. Other interested parties may be added to the committee, if necessary, to ensure that all viewpoints have been represented. Members of the public that do not hold a seat on the committee will be welcome to attend committee meetings, but they must hold all comments until the end of the working session.

Five Stakeholder Committee Meetings are anticipated. These are tentatively scheduled for 1/21/04, 2/11/04, 3/31/04, 6/9/04 and 7/28/04. The meetings will be held at the Leroy Community Chapel, 12920 Painesville-Warren Road, Painesville, Ohio 44077. Times and dates will be finalized with the Stakeholder Committee at the first meeting. Each meeting's agenda will be as follows:

Meeting #1: Introduction to process, input to public involvement plan, and input to problem statement (objectives of the study)

Meeting #2: Review of project's "Purpose & Need" and input to alternatives to be considered

Meeting #3: Coordination on project impacts by alternative (focus on park issues, archaeological resources, or ecological resources, as appropriate to each option)

Meeting #4: Review of Alternatives and preparation for Public Involvement Meeting, which is tentatively planned for June 30, 2004

Meeting #5: Discussion of recommendations

Public Meeting. One general public meeting will be held once alternatives have been developed and compared, but prior to any decision on a preferred alternative. The public meeting, tentatively scheduled for June 30, 2004, will be held at a public location near the study area. Property owners along the corridor will be notified by direct mail of the public meeting date, time and location. A press release will be issued to assist the media in providing notice to other members of the public. The particulars of these activities will be coordinated with the Lake County Engineer's Office.

The meeting will be held as an open house from 4-8 p.m. During this period, members of the public may view exhibits and ask questions of the project team. A 30-minute presentation will be made at two points during the open house, tentatively planned for 4:30 p.m. and 6:30 p.m.

Written comments will be accepted at the meeting and for two weeks after the meeting date. The project team will compile all comments received and provide this information for consideration during the discussion of recommendations with the Stakeholder Committee.

Project Updates. Between Stakeholder Committee Meetings, the County Engineer and other Committee members will be informed of the progress of study tasks. The methods to be used for transmitting these progress reports may include e-mail, letter, fax or personal briefing. The preferred method of communication for each stakeholder will be recorded and employed.

Modifications to the Plan

A Public Involvement Plan is never final until the project is complete. The approaches being used for this project will be examined during the progress of the work and adjusted as necessary. The Stakeholder Committee will be consulted regarding appropriate measures to be used for community outreach as well as information

Vrooman Road Study
Lake County, Ohio

TRANSYSTEMS CORPORATION

Stakeholder	Title	Organization
Larry Greene	Director	Emergency Management Agency
Mike Armstrong		FHWA
James R. Gills	Lake County Engineer	Lake County
Alan L. Exley	Chief Design Engineer	Lake County
Robert E. Aufuldish	President/County Commissioner	Lake County
Raymond E. Sines	County Commissioner	Lake County
Daniel P. Troy	County Commissioner	Lake County
Darrell C. Webster	Director/Planning Commission	Lake County
William E. Crosier	Chief Deputy	Lake County
Dave Noble	Executive Director	Lake Metro-parks
Chuck Kenzig	Landscape Architect	Lake Metro-parks
Chuck Klco	Administrator	LeRoy Township
Ron Eckner		NOACA
Jim Burr	President	Nursery Growers
Steve Roloson	NE Scenic Rivers Coordinator Division of Natural Areas and Preserves	ODNR
Mark Carpenter	Environmental Coordinator	ODOT
Ray De la Motte	President	Painesville Chamber of Commerce
Lee R. Bodnar	Administrator	Painesville Township
Walter Siegel	Administrator & Zoning Inspector	Perry Township
Beth Debevc	President	Perry-Madison Chamber of Commerce
Dan Donaldson	District Administrator	Soil & Water Conservation District
Ann M. DiDonato	Area Manager Northern Region	The Illuminating Company

Vrooman Road Study
Lake County, Ohio

Stakeholder Committee Meeting
February 11, 2004
4:00 – 5:30 p.m.

AGENDA

- Introductions
- Discussion of Purpose & Need
  - Primary Needs
  - Secondary Needs
- Input to Alternatives to Be Considered

Vrooman Road Study
Lake County, Ohio

TRANSYSTEMS CORPORATION

Alternatives

During the February 11, 2004 stakeholders meeting for the Vrooman Road study many conceptual ideas were brainstormed to meet the needs of the project. These ideas are listed below.

- No Build
- Replace bridge at its same current location and elevation
- Realign Vrooman Road, raising it to the minimal allowed elevation for 100 year flood eliminating sub-standard curves/alleviate problems with retaining wall
- Realign Vrooman Road to connect with Lane Road
- Vacate road altogether from State Route 84 to Seeley
- Vacate road, vacate interchange at Vrooman Road and make a new interchange elsewhere
- High level bridge straight across to Lane Road
- Improve Vrooman from State Route 84 to I-90 eliminating sub-standard items
- Reroute Vrooman east, not necessarily to Lane Road
- Consider ODOT "Alternative 5" from comprehensive plan
- Modify river to address flooding

Vrooman Road Study
Lake County, Ohio

TRANSYSTEMS CORPORATION

Vrooman Road Study

Purpose and Need

This project's "purpose and need" document will establish the needs that the project is intended to address. It will also provide information to help in the evaluation of alternatives – those that do not meet the primary needs of the project may be eliminated from further consideration as part of the study.

Based upon input from the Stakeholder Committee, the project team has identified the following primary needs:

1. Improve connection from SR 84 to I-90 to provide access route to power plant that can accommodate all standard vehicle sizes (Homeland Security)
2. Eliminate safety and community impacts associated with closure of Vrooman Road due to flooding
3. Eliminate existing geometric deficiencies (steep grade, substandard curves)
4. Reduce accidents
5. Reduce maintenance problems associated with slope adjacent to Vrooman Road at SR 84
6. Provide acceptable traffic operation for future traffic volumes
7. Accommodate transit needs/school transportation

Other project goals stated by Stakeholder Committee:

- Provide an aesthetically pleasing bridge to complement the scenic Grand River;
- Minimize short and long term impacts on the Grand River;
- Accommodate pedestrians and bicyclists (Note: Local funds from license plate and gas tax cannot be used for this purpose.)
- Accommodate future plans for utilities along Vrooman Road

Alternatives will not be discarded based upon failure to meet other project goals, but these factors will be used in the evaluation of alternatives. The evaluation will also include impacts on residences and communities, consistency with local development goals, cemeteries, park property, historic and archaeological resources, streams, floodplain, and project cost.

Vrooman Road Study
Lake County, Ohio

TRANSYSTEMS CORPORATION

Stakeholder	Title	Organization
Cheral White		Emergency Management Agency
Larry Greene	Director	Emergency Management Agency
Mike Armstrong		FHWA
Chad Knisley	Group Contact	Grand River Partners
Alan L. Exley	Chief Design Engineer	Lake County
Dan Tasman	Planning Commission	Lake County
Daniel P. Troy	County Commissioner	Lake County
Darrell C. Webster	Director/Planning Commission	Lake County
James R. Gills	Lake County Engineer	Lake County
Raymond E. Sines	County Commissioner	Lake County
Robert E. Aufuldish	President/County Commissioner	Lake County
William E. Crosier	Chief Deputy	Lake County
David Gilmer	Executive Director	Lake County Development Council Inc.
Chuck Kenzig	Landscape Architect	Lake Metro-parks
Dave Noble	Executive Director	Lake Metro-parks
Chuck Klco	Administrator	LeRoy Township
Richard VanPelt Sr.	Trustee Chairman	LeRoy Township
Ron Eckner		NOACA
Jim Burr	President	Nursery Growers
Steve Roloson	NE Scenic Rivers Coordinator Division of Natural Areas and Preserves	ODNR
Mark Carpenter	Environmental Coordinator	ODOT
Ray De la Motte	President	Painesville Chamber of Commerce
Lee R. Bodnar	Administrator	Painesville Township
Doris Moss	President	Painesville TWP Local Schools Board of Education
	Supervisor	Painesville TWP Local Schools Department of Transportation
Walter Siegel	Administrator & Zoning Inspector	Perry Township
Beth Debevc	President	Perry-Madison Chamber of Commerce
Dan Donaldson	District Administrator	Soil & Water Conservation District
Ann M. DiDonato	Area Manager Northern Region	The Illuminating Company

Vrooman Road Study
Lake County, Ohio

TRANSYSTEMS CORPORATION

Stakeholder Meeting Minutes
July 28, 2004

Introduction: Went around room and introduced selves in case there were new people in attendance.

People from various organizations, public officials, and some residents were in attendance.

Goals: To discuss recommendations and go over comments received from citizens following the public involvement open house that was held on July 7, 2004.

Alternatives: The alternatives presented at the meeting were again shown to the Stakeholder group and explained which of the needs each would fulfill.

- **Alternative A:** This option provides access to Madison Avenue via high-level bridge. It improves all aspects of the purpose and need including: bridge condition, retaining wall, flooding, conveying all traffic safely, (geometric issues) improving access for large vehicles (school buses), and Homeland Security.
- **Alternative B:** This option provides access to Lane Road via high-level bridge. It improves all aspects of the purpose and need including: bridge condition, retaining wall, flooding, conveying all traffic safely (geometric issues), improving access for large vehicles (school buses), and Homeland Security. Some problems with this option include: possible 5-point intersection, or moving of River Road to avoid one, may impact more unaffected areas, and engineering problems with needing another bridge over the waterfall.
- **Alternative C:** This alternative provides access to Madison via slightly elevated low-level bridge through the valley. The needs this alternative fixes are flooding, by elevating bridge just above the 100-year floodplain, and the retention wall problems, and bridge condition.
- **Alternative D:** This option replaces the bridge in the current location. This option is cheaper than the rest. It alleviates the bridge condition problem along with the retaining wall issues.
- **Alternative E:** Is the "No Build" which would take no action, resulting in the bridge and roadway being closed after such time that the bridge becomes impassable.

Vrooman Road Study
Lake County, Ohio

TRANSYSTEMS CORPORATION

Public Involvement Meeting: The public involvement meeting was held on June 9, 2004 at the LeRoy Fire Department from 4:00-7:00 PM. The meeting was an open house with detailed exhibits, which included each of the alternatives and a typical section. Information given to the public included handouts with text explaining the options along with potential consequences and what parts of the project's needs each alleviate as well as a matrix showing costs for each option and a comment sheet.

> ***Comments from Meeting:*** *Many people chose more than one option as a preferred. So the comments have been broken down to show the differences.*
>
> - 22 people chose a high-level bridge option (A or B)
> - 36 people chose a low-level bridge option (C, D, or E)
> - Of the 22 that chose a high-level option, 22 chose B, and 7 also chose A.
> - Of the 36 people that chose a low-level option, 30 chose C, 21 chose D and 3 chose E. Two people that chose E also chose C and D.

Issues/Concerns: Issues and concerns brought up by members of the stakeholder group include the following:

- Cost of the minimum would be 4 million dollars for alternative D; Homeland Security monies may be able to help out.
- Affecting parks more than the condo community north of SR 84.
- Would take more parkland for C and might impact wild and scenic status.
- (Citizen) Intersection fixed now swings wider with removal of the telephone pole.
- Bridge aesthetics are important.
- Noise level, pollution and traffic would all be increased.
- Need more time to evaluate noise analysis and photo renderings, need more information to base a decision on. (Noise, visual, park, traffic, and zoning).
- What it would look like from Indian Point.
- Yearly maintenance costs.
- Added traffic traversing SR 84.
- Waterfall impacts.
- Sheriff concerned about grade and curves as far as safety goes.

Other: The business of deciding on a preferred alternative has been tabled due to the unanimous feeling that there was too low of an attendance at the meeting and that more information would be needed before coming to a final decision. At the meeting the group allowed for a spokesperson for the community around River Road to speak at the meeting. Mrs. Judy Hoppert attended the meeting and voiced the concerns of a group in her neighborhood. These included the following:

- Got feedback from the area and have been passing around a petition to keep a high-level bridge from being built.
- Do not want a high-level bridge due to noise and aesthetics.
- However do not want an option that would affect the condos as Alternative C does.
- Do not want I-90 to be reshaped that would affect homes and businesses, want the road to be maintained as a country road.

Next Meeting: The next meeting, (meeting #5), will be determined at such time the project team can acquire more in-depth information and create renderings for the group to see. At this time given a larger attendance of the committee shows a preferred alternative will then be chosen.

Vrooman Road Study
Lake County, Ohio

TRANSYSTEMS CORPORATION

Stakeholder Meeting Minutes
February 16, 2005

Introduction: Went around room and introduced selves in case there were new people in attendance.

People from various organizations, public officials, and some residents were in attendance.

Goals: To discuss recommendations and strive for choosing a preferred alternative.

Alternatives: The alternatives presented at the meeting were again shown to the Stakeholder group and explained which of the needs each would fulfill.

- **Alternative A:** This option provides access to Madison Avenue via high-level bridge. It improves all aspects of the purpose and need including: bridge condition, retaining wall, flooding, conveying all traffic safely, (geometric issues) improving access for large vehicles (school buses), and Homeland Security.
- **Alternative B:** This option provides access to Lane Road via high-level bridge. It improves all aspects of the purpose and need including: bridge condition, retaining wall, flooding, conveying all traffic safely (geometric issues), improving access for large vehicles (school buses), and Homeland Security. Some problems with this option include: possible 5-point intersection, or moving of River Road to avoid one, may impact more unaffected areas, and engineering problems with needing another bridge over the waterfall. (Some reconfiguring had been done with this alternative to address concerns presented by the public at the previous meeting.) Reconfiguring included closing off River Road from SR 84, making it a cul-de-sac and potentially rerouting another road to SR 84 from it.
- **Alternative C:** This alternative provides access to Madison via slightly elevated low-level bridge through the valley. The needs this alternative fixes are flooding, by elevating bridge just above the 100-year floodplain, and the retention wall problems, and bridge condition.
- **Alternative E:** Is the "No Build" which would take no action, resulting in the bridge and roadway being closed after such time that the bridge becomes impassable.

Presentation: A presentation was given during the meeting illustrating the steps taken by the stakeholder meeting up until this point. It displayed the process of developing a purpose and need for the project through the development of feasible alternatives. The presentation also went through the pros and cons for each alternative and how each met the purpose and need.

Other studies: At the previous meeting the stakeholders felt they needed further investigation into noise and visual issues the different alternatives posed on the park and the surrounding community. Displays of how each alternative would look from various areas in the park and neighboring communities for each option were shown, along with preliminary noise estimates for each alternative.

Comments/Issues/Concerns: Issues and concerns brought up by members of the stakeholder group include the following:

- The representatives from the sheriff's department and EMA both agreed that Alternative B was the safest alternative and would be better as an evacuation route for the Perry Power Plant.
- Representatives from Perry Township felt that residents in affected communities should have another meeting to see the alternatives and comment.
- Representative from Perry Township felt that more in-depth investigations of the alternatives should be done before choosing a preferred.
- Representatives from Leroy Township felt that Alternative B best accomplished the purpose and need.
- Representatives that had been on previous groups for the past project questioned the differences of the project from then and now and the possibility of receiving funding for it. (IN response Alan Exley and Jim Gills representing the Lake County Engineer's Office noted the many differences between past projects and the one today.
- Noise level, pollution and traffic would all be increased.
- Need more time to evaluate noise analysis and photo renderings, need more information to base a decision on. (Noise, visual, park, traffic, and zoning).
- What it would look like from Indian Point.
- Yearly maintenance costs.
- Added traffic traversing SR 84.
- Waterfall impacts.
- Sheriff concerned about grade and curves as they correlate with safety along the corridor.

Vrooman Road Study
Lake County, Ohio

TRANSYSTEMS CORPORATION

Stakeholder Meeting **February 11, 2004** **Attendance**

Name	Organization	Phone
Jim Armaline	NOACA	216-241-2414 x 323
RON ECKNER	NOACA	216-241-2414 x 300
SAM GRIFFITH	GAZETTE NEWS	440 428 5727
Linda Burkhenne	Leroy Trustee	254-4315
TED DAVIS	PAINESVILLE TWP. SCHOOLS	(440) 375-5521
LEE BODNAR	Painesville Township	352-1443
ALAN EXLEY	LAKE COUNTY ENGINEER	350-2770
Bob Parker	Baker	216-776 6614
Chuck Kehzig	Lake Metroparks.	440-639-9874
LARRY GREENE	LAKE COUNTY EMA	440-350-5455
CHUCK KLCO	LCnoy Twp	440·254-4003
WILLIAM CROSIER	LAKE COUNTY SHERIFF'S OFFICE	440-350-5517
RON CRELLIN	LeRoy Twp Zoning	440-254-4566
Steve Robison	ODNR Scenic Rivers	330-527-4184
DAN TACMAN	LAKE COUNTY PLNG	440 350 2740
NANCY CURRIE	Madison Perry area Chamber of Commerce	440-428-2189
Kirt Greene	LEROY DISPATCH	440 352-4436
Harrell C. Wetzler	Lake Co. Planning	440-350-2740

Vrooman Road Study
Lake County, Ohio

TRANSYSTEMS CORPORATION

Stakeholder Meeting **February 11, 2004** **Attendance**

Name	Organization	Phone
Rich Van Pelt	Leroy Twp	254-4387
DENNIS L. KEENEY	LEROY TWP.	298-1341
Ann Di Donato	CEI	350-7716
BETH DEBEVC	Madison / Perry Chamber	428-3760
TED GALUSHIK	LCE	350-2770

Vrooman Road Study
Lake County, Ohio

TRANSYSTEMS CORPORATION

Stakeholder Meeting **March 31, 2004** **Attendance**

Name	Organization	Phone
TED DAVIS	PAINESVILLE TWP. SCHOOLS	
Lt. Lonnie Sparkman	Lake Co Sheriff's Office	
LARRY GREENE	LAKE CO. EMERG. MAN.	350-5455
PAT GEORGE	LEROY DISPATCH	
Nancy Currie	Mad-Perry Chamber of Commerce	428-2189
Mark Allan Carpenter	ODOT - DISTRICT 12	(216) 584-2089
[illegible]	LEROY TWP	440-254-438[illegible]
John Sorge	ODOT D-12	(216) 581-2080
Don Crellin	LeRoy Zoning	440 254-4566
DAN TASMAN	LAKE COUNTY PLANNING	440 350-2740
ALAN EXLEY	LAKE COUNTY ENGINEER	440-350-2770
Chuck Katzig	Lake Metroparks	639-7275
MICHAEL B. ARMSTRONG	FHWA	(614)280-6855
David Gilmer	L C Dev. Council	350-2974
Darrell C. Webster	L.C. Planning	350-2740
Jim Armaline	NOACA	216-241-2414 x323
Chris. Owen	Baker & Assoc.	216-776-6630
DENNIS KEENOY	LEROY ZONING	440 298-1341

Vrooman Road Study
Lake County, Ohio

TRANSYSTEMS CORPORATION

Stakeholder Meeting **March 31, 2004** **Attendance**

Name	Organization	Phone
Linda Burhorne	Jersey Twp Trustee	254-4315
Wally Sigel	Perry Township	259-5140
Jim Gills	Lk Co. Eng	350-2770
Ann DiDonato	CEI	350-7716
Ted Gallschir	Lake Co. Engr. Office	350-2770
Steve Kolesar	ODNR - Scenic Rivers	330-527-4184
Norman Mynatt		440 254 4038

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Vrooman Road Study

Stakeholder Meeting Attendance List
June 9, 2004

TRANSYSTEMS CORPORATION

Name	Address	Organization
Tom Sorge	5500 Transportation Blvd.	ODOT - D-12
Steve Robason	11027 Hopkins Rd. Garrettsville, OH 44231	ODNR Scenic Rivers
LARRY GREENE	LAKE COUNTY EMA	—
Linda Burnham	7256 Crellin Rd Leroy	Leroy Twp Trustee
ALAN EXLEY	550 BLACKBROOK Rd.	LAKE COUNTY ENGINEER
Lt. Lonnie Sparkman	104 E. ERIE Lake County Sheriffs Office	L.C.S.O
DON CRELLIN	7780 Lester Dr. LeRoy Township, ohio 44077	LeRoy Zoning
DAN DONALDSON	LAKE SWCD 125 E. ERIE. ST PV OH 44077	LAKE SWCD
Sam Gills		Lk Co. Eng.
Wally Siegel	P.O. 65 Perry	Perry Twp
Gary Pane	city of Painesville	city of Painesville
Janet Kenzig	Lake Metroparks	
Chuck Kogeo	14510 Vrooman Rd	Leroy Twp
Donald D. Komm	City of Painesville	same
Jim Armalino	1299 Superior, Cleveland	NOACA
Maher Holozadah	Ditto	NOACA
DENNIS KEENOY	14429 LEROY CENTER 44077 LEROY TWP.	LEROY TWP.
Chris Owen	Baker & Associates	

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Vrooman Road Study

Stakeholder Meeting Attendance List
July 28, 2004

Name	Address	Organization
Jim Armalino	1299 Superior, Cleveland	NOACA
Douglas Feathers	3026 River Rd Perry	
Jim Pitchler	2840 S. Ridge Perry	Resident
[illegible]	2840 S. RIDGE PERRY	HOME OWNER
Judy Hoppert	2955 River Rd Perry	Resident
[illegible]	CEDAR HILLS 5911 VROOMAN, LERRY	ABUTS RESIDENT
Chris [illegible]		Baker + Assoc.
Ami Di Donato	7757 Auburn Rd. Concord	CEI
Rich Van Pelt	6522 INDIAN POINT, PAINESVILLE	LEROY TWP TRUSTEE
[illegible]	11211 Spear Rd. Concord Twp.	Lake Metroparks
DARRELL C. WEBSTER	Lake Co. Planning Commission 125 E. ERIE ST. PAINESVILLE	LCPC
Larry Adney	2045 Hubbard Rd. Madison OH 44057	Madison Twp
Richard A. Markosky	2582 JENNINGS RD CERA	LEROY TWP
CHUCK KLCO	14510 VALENTINE Rd LERO 44086	LEROY TWP
DAN TASMAN	LCPC 125 E ERIE ST / PAINESVILLE	LCPC
ALAN EXLEY	550 BLACKBERRY Rd. PVL	LAKE CO. DJ CONSERV
Don Ramm	7 Richmond street / Painesville	City of Painesville
NANCY CURRIE	6421 Indian Point	MADISON-PERRY AREA CHAMBER

TRANSYSTEMS CORPORATION

June 23, 2004

Dear Resident/ Property-Business Owner/ Interested Citizen:

Subject: Vrooman Road Study

The Lake County Engineer's Office has recently contracted with TranSystems Corporation to perform an analysis of the Vrooman Road corridor from I-90 to SR 84 to evaluate any roadway deficiencies, and explore alternatives for replacing the Vrooman Road Bridge over the Grand River.

We would like to invite you to join us for an Open House Public Involvement Meeting.

Date:	***Wednesday, July 7, 2004***
Time:	***4:00 p.m. to 7:00 p.m.***
Location:	***LeRoy Community Center***
Address:	***13028 LeRoy Center Road***

The meeting will follow an open house format. You may visit at any time to review the exhibits and ask questions. No formal presentation will be given.

The purpose of the meeting is to display to the community the current alternatives under consideration and to solicit comments from the public. Representatives from the Lake County Engineer's Office, the Ohio Department of Transportation and TranSystems Corporation will be available to discuss the proposed project and answer questions. You will have the opportunity at this meeting to provide comments on the project.

Should you have any questions or concerns, please feel free to contact the project team at (614) 336-8480 or via e-mail at scswartz@transystems.com

Respectfully,

Susan C. Swartz

Susan C. Swartz
Project Manager

5747 Perimeter Drive, Ste. 240, Dublin, Ohio 43017 • (614) 336-8480 • (614) 336-8540

Vrooman Road Study

Public Meeting Attendance List
July 7, 2004

TRANSYSTEMS CORPORATION

Name	Address	Organization, if any
Carolyn Morrison	5409 Pebble Creek, P'ville, 44077	—
Lee Bodman	Painesville Township	
CHUCK CVITKOVICH	55 ERIEVIEW PLAZA CLEVELAND, OH 44114	HNTB
DARRELL C. WEBSTER	LAKE CO PLANNING COMM. 125 E. ERIE ST. PAINESVILLE	
LEO J. TALIKKA	8603 RIVERSIDE DR PLLE, O. 44077	SELF
Richard L. Dom	"	"
David Gilman	Box 330 P'ville 44077	F.C. Development Council
MARK ALAN CARPENTER	5500 TRANSPORTATION BLVD.	ODOT
RICH VAN PELT	6522 INDIAN POINT	LURAY TWP
RICHARD A. MERKOSKY	7582 JENNINGS DR	LEROY TWP
Lauren Freeman	Lake County Biz Journal-Wilby	
ALAN EXLEY	550 BLACKBROOK Rd PAINESVILLE, OH	LAKE COUNTY ENGIN
Jerald H. Mathews	5512 Vrooman Road Leroy OH	Home Owner
Jim Armaline	1299 Superior, Cleveland, OH	NOACA
Richard Denner	5902 Woodhill St, P'ville, Oh	Home Owner
Tom + Gerry Reed	6089 Dewey Rd Madison	
PAUL SIDERS	5430 VROOMAN R.D.	
Adam Anzelc	2780 S. Ridge Perry	—
Debra Anzelc	" " "	Home Owner
Patricia Borek	5582 Vrooman Rd Perk	

Vrooman Road Study

Public Meeting Attendance List
July 7, 2004

TRANSYSTEMS CORPORATION

Name	Address	Organization, if any
Burt Bork	5582 Vrooman Rd	
Chris Ann		Baker & Assoc
Nancy & Greg Currie	6421 Indian Point, LeRoy	Madison-Perry Area Chamber of Commerce
Todd Mackey	5302 Queen Ann Way	
Michael Ponsart	5360 VROOMAN RD	
SANDY PONSART	5360 VROOMAN RD	
Andy Assel	5399 Pebble Creek Ln Painesville	
Alan R Dignes	150 Paradise Rd Painesville	
John Smith	4007 MAIN ST PERRY	
Don Crellin	7780 Lester Dr. LeRoy 44077	LeRoy Zoning
Dennis L. Keeney	14429 LeRoy Center, 44086	Zoning
Steve Robison	11027 Hopkins Rd Geauga Hills, OH 44286	ODNR Scenic Rivers
Bruce & Betty Talcott	5390 Vrooman Rd. Painesville OH 44077	
LARRY GREENE	LAKE G. EMA	EMA
Robert Guthrie	2857 S. Ridge Rd Perry 44081	
Judy Hoppert	2955 River Rd Perry	
DENNIS HOPPERT	2955 RIVER RD. PERRY	
BILL WILSON	5700 VROOMAN PVILLE	
Mary C Rogers	5208 Queen Ann Way Painesville	
[illegible]	6250 US RT 6 Rome	

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Vrooman Road Study

Public Meeting Attendance List
July 7, 2004

TranSystems Corporation

Name	Address	Organization, if any
Susan Denman	5902 Woodhill Pville O	—
Lois Ann Houston	5876 Woodhill St. Pawnville	
Tom Houston	5876 Woodhill St. Pawnville	
Joe + Kathy Moureal	2965 River RD Perry OH 44081	
Brian Stefson	3035 River Rd. Perry OH 44081	
Cindee Wild	3035 River Rd Perry 44081	
Harry McCune	6900 Madison Rd Thompson 44086	Sedley Precast
Jean Kujala	5566 Vrooman Rd	
Martin Kujala	5566 Vrooman Rd	
Chris Weiss	7320 Leroy Thompson Rd.	
Lu Dunlap	436 Cosmont Cove. Pville	
Gary + Linda Kirsch	2975 River Rd. Perry	
[illegible]	Leroy Fay TRUST	
Larry Albert	5705 CANYON RIDGE DR PAINESVILLE 44077	
Chris Siders	5430 Vrooman Rd.	
Russell Tuttle	2821 River Rd.	
Shelby Brumbaugh	6449 VROOMAN Rd	
Jerry Brumbaugh	6449 VROOMAN Rd	

Page ____ of ____

Vrooman Road Study

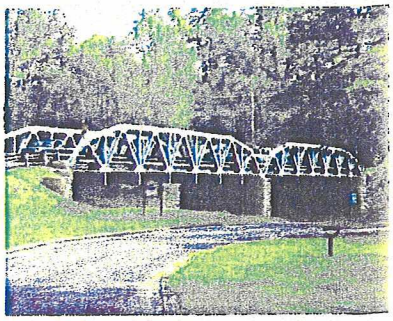
Public Meeting Attendance List
July 7, 2004

TRANSYSTEMS CORPORATION

Name	Address	Organization, if any
Pam England	3026 River Rd	
Doug Feathers	Perry, OH 44081	
Tom Condon	6260 Conley Rd	
Dan Waltermire	5580 Canyon Ridge Dr. Perry Twp 44077	
JOAN Pitchler	2840 S. Ridge, OH	
Jaime Pitchler	2840 South Ridge Rd	
Frank W Pitchler	2840 SOUTH RIDGE RD	
Gregory Sanford	5444 Vrooman Rd	
Susan Ash-Sanford	5444 Vrooman Rd	
Pam Wells	5220 Queen Ann Way	
AL WELLS	" " "	

Vrooman Road Study
Lake County, Ohio

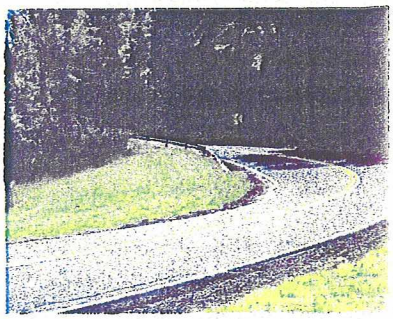
TRANSYSTEMS CORPORATION



Purpose of the Meeting

The purpose of this open house meeting is to present the alternatives for the Vrooman Road Project, to answer questions, and to solicit comments on the proposed alternatives to be considered when choosing a preferred alternative.

Background



The Vrooman Road Study Corridor includes the section of Vrooman Road from I-90 north to SR 84. The Grand River is a scenic river located in a steep-sided, narrow valley just south of SR 84. Vrooman Road crosses the Grand River on an existing bridge at the bottom of the valley.

The purpose of the Study is:

- Perform an in-depth analysis of the corridor to evaluate any roadway deficiencies, and
- Explore alternatives for the structurally deficient Vrooman Road Bridge.

Purpose of the Project

The Purpose for the Vrooman Road Study Project is to alleviate the deficiencies along the roadway from I-90 north to SR 84. These problems include flooding, sub-standard curves and steep grades, retaining wall failure, and structural deficiencies of the existing bridge. The current roadway is the chosen evacuation route for the Perry Nuclear Power Plant. In order for the roadway to be sufficient for this purpose Vrooman Road must be improved to meet standards. The goal of the study is to provide for improved safety and maintenance of Vrooman Road, as well as allowing for a north-south corridor in between Interstate 90 and State Route 84.

Alternatives

From I-90 to just south of the bridge, Vrooman Road will remain two lanes, but will be improved to provide standard curves, lane widths and shoulders. Improvement to this portion of the roadway is not anticipated to impact any homes and property impacts are expected to be minimal. The amount of right-of-way to be purchased, if any, will be determined during design when the locations of the ditches have been established.

Four alternatives for the bridge replacement have been developed as a result of this study, along with a No Build option; below are some short descriptions of each option.

Alternative A – High Level Bridge to Madison Avenue
Alternative A involves replacing the existing bridge with a high-level bridge, spanning the Grand River Valley, tying into Madison Avenue. It would include alleviating all deficiencies at the current intersection. This option will also maintain access to Seeley Road.

Alternative B – High Level Bridge to Lane Avenue
Alternative B involves replacing the existing bridge with a high-level bridge, spanning the Grand River Valley, tying into Lane Road at State Route 84. This alternative will also maintain access to Seeley Road.

There are two options for the intersection with Lane Road at State Route 84:

- The first option creates a five-point intersection with the new Vrooman Road tying into Lane Road at State Route 84. River Road would connect to the southeast corner of the intersection
- The second option realigns River Road and State Route 84 east of the intersection with Lane Road and Vrooman Road.

Alternative C – Low-Level Bridge
Replace current structure with a longer bridge in the Grand River Valley just above the 100-year flood elevation, with the road following its current location everywhere else. This alternative would include improvements to the retaining wall on the north end of the valley.

Alternative D
Replace the existing structure with an improved bridge in the same location as the existing bridge and repair the retaining wall along SR 84.

Alternative E
The No Build alternative would involve routine maintenance, leaving the road in its current condition. The bridge would eventually be closed as its condition deteriorates.

Next Steps
The Study Team will collect and summarize the comments that are received. The comparison of alternatives will be finalized based upon public comments, the environmental studies, and preliminary cost estimates. Once this information is available, the Study Team will work with Lake County to recommend a preferred alternative. Once the option is chosen, Lake County will be seeking funding for the project. The timeline for design, right-of-way purchase, and construction will not be finalized until the project funding is identified.

Comments will be accepted at the meeting, by mail, fax, or e-mail until July 23, 2004:

TranSystems Corporation
Vrooman Road Study Team
5747 Perimeter Drive, Suite 240
Dublin, OH 43017

E-mail: scswartz@transystems.com
Fax: (614) 336-8540

Vrooman Road Study
Lake County, Ohio

TranSystems Corporation

Vrooman Road
Preliminary Project Impacts

	ISSUE/CONCERN	A High-level to Madison	B High-level to Lane	C Low-level Close to Existing	D Replace Existing	E No Build
DESIGN ISSUES	**BRIDGE LENGTH (feet)**	1,800	1,800	1,000	200	N/A
	ADDRESSES GEOMETRIC DEFICIENCIES	YES	YES	NO	NO	NO
	ADDRESSES FLOODING	YES	YES	YES	NO	NO
	ADDRESSES BRIDGE CONDITION	YES	YES	YES	YES	NO
	ADDRESSES/AVOIDS WALL CONDITION	YES	YES	YES	YES	NO
PROPERTY IMPACTS	**POTENTIAL RELOCATIONS**					
	SINGLE FAMILY	0	1	0	0	0
	MULTI FAMILY	0	0	1	0	0
	BUSINESS	1	0	1	0	0
	PROPERTY IMPACTS (parcels)	16	7	9	0	0
ENVIRONMENTAL IMPACTS	**CULTURAL RESOURCES**					
	HISTORY/ARCHITECTURE (properties to be evaluated)	1	4	0	0	0
	ARCHAEOLOGY	Will require evaluation/avoidance			None	None
	ECOLOGICAL RESOURCES					
	WETLANDS (acres)	0.13	0.36	0.09	0	0
	STREAMS (in addition to crossing of Grand River)	0	1	0	0	0
	Park/Section 4(f) - acres perm r/w (preliminary)	3.03	3.02	0.93	0	0
	Additional Impacts	Modified access to Masons Landing; relocation of canoe launch and parking	Modified access to Masons Landing; relocation of canoe launch and parking	Minimal facility impacts; steep grade remains; may be difficult to construct	Minimal impacts; road still floods	Eventual bridge closure; road still floods

Vrooman Road Study

Public Meeting Comment Form
July 7, 2004

TranSystems Corporation

Name: _____

Address: _____

Representing: _____

Which alternative do you prefer and why?

_____

Other Comments:

_____

Comments will be accepted at the meeting, by mail, or e-mail until July 23, 2004:

TranSystems Corporation
5747 Perimeter Drive, Suite 240
Dublin, Ohio 43017

E-mail: VroomanRoad@transystems.com
Fax: (614) 336-8540

To return without envelope: fold in thirds, tape or staple, and affix postage.

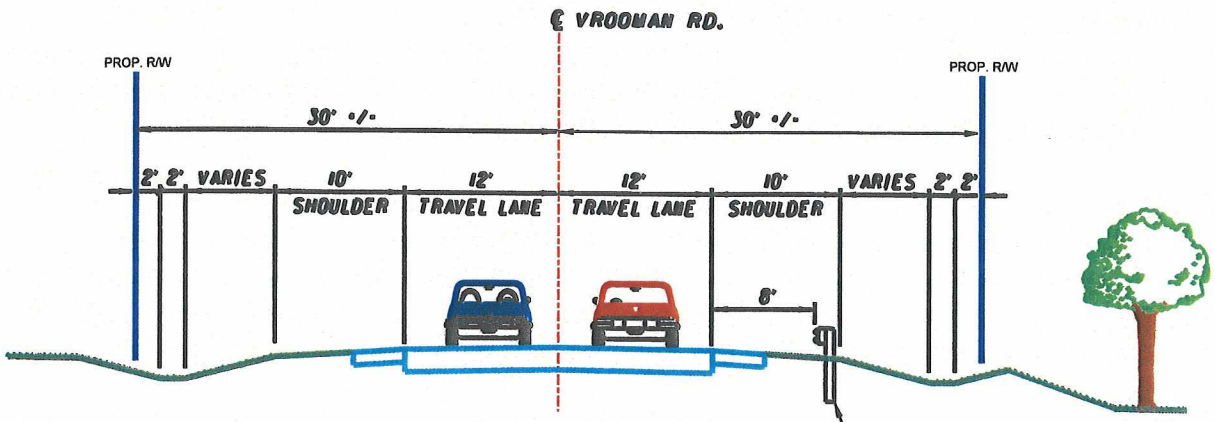
Of the nineteen people that chose B four of them also chose A with the thought that both met the needs of the project. One also chose C, which was preferred. Another also chose A, D, and E because he did not want any option that included taking any of the condos on River Road. The other thirteen chose B for various reasons including the idea that it was a straight shot, Madison Avenue was already a really congested intersection, a more direct route to the Perry Nuclear Power Plant, takes traffic away from Canterbury Crossing Condominiums, and fewer impacts to people.

Thirty people chose C as a preferred route of these; sixteen also chose other routes as preferred. (Of the six, one also chose D and A, two also chose D and E, and twelve also chose D as preferred alternatives.) Most of the people that chose Alternative C chose it because it still fixed some of the main problems the current roadway and bridge have, but also maintains the quiet rural area they have today and would not increase truck traffic. Other comments were that it would cost less and that it would not have a large impact on the Metro-parks or the environment.

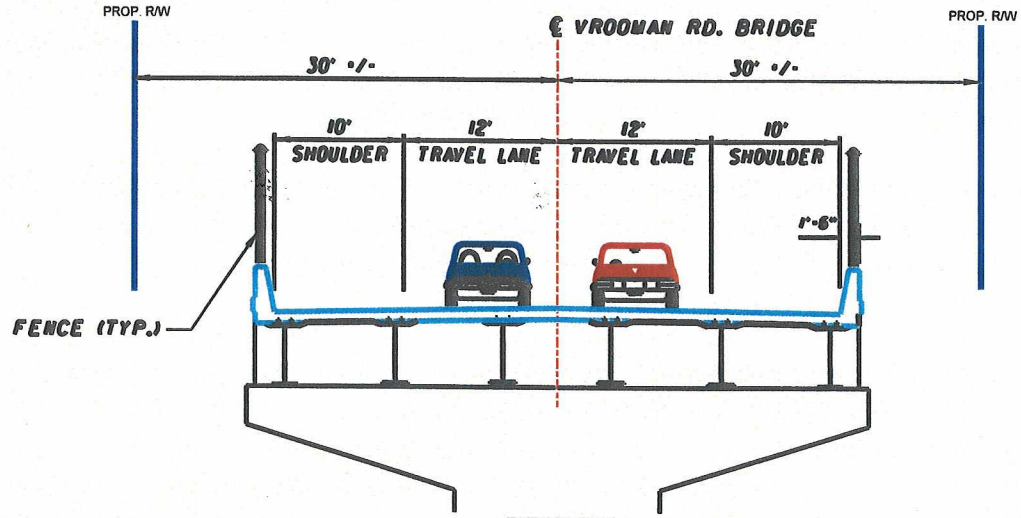
Twenty-four people chose Alternative D. Of those, seventeen also chose other routes as preferred. (Of those seventeen, two chose C and A, two also chose C and E, one also chose E, and twelve also chose C.) Some of the comments in favor of D were that it would maintain the integrity of the area by keeping the road the same as it is today, not allowing a large amount of truck traffic, and not hurting property values. One person suggested raising the road south of the bridge saying that would alleviate the flooding problems. Another didn't feel the road needed to be changed for the Perry Nuclear Power Plant if it wasn't going to be around much longer.

Three people chose Alternative E as a preferred alternative; two also chose Alternatives C and D. The other one also chose A, B, and D because he did not want any alternative that would take any of the condos. Reasons for E were that high truck traffic volumes were not desired in the area, and maintaining the Metro-parks as they are along with property value concerns were cited.

Vrooman Road Bridge Project
Public Comments
84
Lane Road
River Road
Madison Road
Vrooman Road
90
Comments
A only
B only
C only
D only
E only
0 200 400 600
Feet



VROOMAN ROAD
TYPICAL SECTION
NOT TO SCALE



BRIDGE
TYPCIAL SECTION
NOT TO SCALE

Vrooman Road Study
Lake County, Ohio

TRANSYSTEMS CORPORATION

Public Involvement Summary

Sixty-nine people signed the sign-in sheet at the July 7, 2004 public involvement meeting held for the Vrooman Road Study Project. Of those, sixty-six of those were members of the public. The meeting was an open house style meeting held at the Leroy Township Fire Station located at 13028 Leroy Center Road.

The room was set up with two sets of alternatives were on either side of the room with a comment area and environmental table set up in the middle. The sign-in table was at the entrance where handouts and comment forms were given out to people as they came in. The meeting lasted from 4:00 PM until 7:00 PM. Comments were accepted at the meeting and for a period extending until July 23, 2004.

The study team also attended the Canterbury Crossing Condominiums Unit Owners Association meeting on July 28, 2004 at their regular time at the Public Library after learning some of the residents had not received a notification for the public meeting. As a part of regular business the study team explained the project, answered any questions regarding it, as well as showing the displays from the public meeting and passing out handouts, also from the public meeting. The comment period was extended for the residents there.

The project team received 58 returned comment sheets as a result of the July 7, 2004 Public Involvement Open House. Some people that responded had more than one alternative that they liked as the preferred. The breakdown of preferred alternatives is explained below:

Four out of the seven people that chose A, also put B as a choice, because they felt that either one would solve all the needs for the project, as well as being more long-term options. One person chose A along with both C and D, because he felt that any of these options would meet the needs of the project. The other person that chose Alternative A did so because it did not require relocations, did not need to cross the stream, thereby saving money and also that it did not have any impacts on the archaeology as Alternative B might. Yet another also chose B, D, and E because he did not want any option that included taking any of the condos on River Road. Other comments in favor of Alternative A were that it would eliminate a five-point intersection and avoid the power lines.

TRANSYSTEMS CORPORATION

Mr. Gary M. Kirsch
2975 River Road
Perry, OH 44081

TranSystems Corporation
5747 Perimeter Drive Suite 240
Dublin, Ohio 43017

July 20, 2004

Dear Mr. Kirsch:

Per your request at the July 7th public meeting for the Vrooman Road Study Project, I have enclosed prints of the exhibits that were on display at the meeting. The comment period ends for the general public on July 23, however, since you are just receiving this information we will accept your comments up until July 28th.

I hope this helps. If you have any more questions you may contact the study group at (614) 336-8480, via e-mail at VroomanRoad@transystems.com or by fax at (614) 336-8540. Thank you for your interest in this project.

Sincerely,

Annette N. Marquez, EI

TRANSYSTEMS CORPORATION

Ms. Judy Hoppert
2955 River Road
Perry, OH 44081

TranSystems Corporation
5747 Perimeter Drive Suite 240
Dublin, Ohio 43017

July 20, 2004

Dear Ms. Hoppert:

Per your request at the July 7th public meeting for the Vrooman Road Study Project, I have enclosed a copy of the environmental reports that were on display at the meeting. The comment period ends for the general public on July 23, however, since you are just receiving this information we will accept your comments up until July 28th.

I hope this helps. If you have any more questions you may contact the study group at (614) 336-8480, via e-mail at VroomanRoad@transystems.com or by fax at (614) 336-8540. Thank you for your interest in this project.

Sincerely,

Annette N. Marquez, EI

TRANSYSTEMS CORPORATION

July 22, 2004

Mr. Leo J. Talikka, Esq.
2603 Riverside Drive, Suite 100
Painesville, OH 44077

Re: Vrooman Road Project

Dear Mr. Talikka:

Per your request in your comment form regarding the July 7th public meeting for the Vrooman Road Study Project, I have enclosed prints of the exhibits that were on display at the meeting.

I hope this helps. If you have any more questions you may contact the study group at (614) 336-8480, via e-mail at VroomanRoad@transystems.com or by fax at (614) 336-8540. Thank you for your interest in this project.

Sincerely,

Annette N. Marquez, EI

5747 Perimeter Drive, Ste. 240, Dublin, Ohio 43017 • (614) 336-8480 • (614) 336-8540

TRANSYSTEMS CORPORATION

Ms. Pam England
3026 River Road
Perry, OH 44081

TranSystems Corporation
5747 Perimeter Drive Suite 240
Dublin, Ohio 43017

July 20, 2004

Dear Ms. England:

Per your request at the July 7th public meeting for the Vrooman Road Study Project, I have enclosed a copy of the environmental reports that were on display at the meeting. The comment period ends for the general public on July 23, however, since you are just receiving this information we will accept your comments up until July 28th.

I hope this helps. If you have any more questions you may contact the study group at (614) 336-8480, via e-mail at VroomanRoad@transystems.com or by fax at (614) 336-8540. Thank you for your interest in this project.

Sincerely,

Annette N. Marquez, EI

TRANSYSTEMS CORPORATION

Mr. and Mrs. Lowell Peterson
5298 Queen Ann Way
Painesville, OH 44077

TranSystems Corporation
5747 Perimeter Drive Suite 240
Dublin, Ohio 43017

July 21, 2004

Dear Mr. & Mrs. Peterson:

Per your request regarding the July 7th public meeting for the Vrooman Road Study Project, I have enclosed the following:

- Copies of the exhibits shown at the meeting (5 sheets),
- The handouts that were distributed at the meeting (3 sheets).

The comment period ends for the general public on July 23, however, since you are just receiving this information we will accept your comments up until July 28th.

I hope this helps. If you have any more questions you may contact the study group at (614) 336-8480, via e-mail at VroomanRoad@transystems.com or by fax at (614) 336-8540. Thank you for your interest in this project.

Sincerely,

Annette N. Marquez, EI

TRANSYSTEMS CORPORATION

Mr. Chuck Ashcroft
Grand River Partners, Inc.
C/O Lake Erie College
391 W. Washington Street
Painesville, OH 44077

TranSystems Corporation
5747 Perimeter Drive Suite 240
Dublin, Ohio 43017

July 21, 2004

Dear Mr. Ashcroft:

Per your request regarding the July 7th public meeting for the Vrooman Road Study Project, I have enclosed the following:

- Copies of the exhibits shown at the meeting (5 sheets),
- The handouts that were distributed at the meeting (3 sheets).

The comment period ends for the general public on July 23, however, since you are just receiving this information we will accept your comments up until July 28th.

I hope this helps. If you have any more questions you may contact the study group at (614) 336-8480, via e-mail at VroomanRoad@transystems.com or by fax at (614) 336-8540. Thank you for your interest in this project.

Sincerely,

Annette N. Marquez, EI

TRANSYSTEMS CORPORATION

Name
Address
City, State Zip

TranSystems Corporation
5747 Perimeter Drive Suite 240
Dublin, Ohio 43017

July 22, 2004

Dear Name:

Thank you for your interest in the Vrooman Road Study Project. Your request to attend the next Stakeholder meeting has been noted and accepted. The process for this project allows the general public to attend the stakeholder meetings, listen to what is discussed amongst the group, and if the issues they feel need to be mentioned have not already been discussed, at the end of the meeting; one representative per group may speak on behalf of the whole group. I understand there are three people that will be at the meeting for the group you are representing. All three of you may still attend the meeting, but you will need to coordinate your comments amongst yourselves so that one person can express the feelings of the whole. A few minutes will be given to you if the stakeholder group chooses at the end of the meeting, and the group has not already covered the information you offer. We thank you for your cooperation in this matter.

The next stakeholder meeting is scheduled for July 28, 2004 at 4:00 PM located at the Leroy Community Chapel, 12920 Painesville-Warren Road, Painesville, OH 44077.

If you have any more questions you may contact the study group at (614) 336-8480, via e-mail at VroomanRoad@transystems.com or by fax at (614) 336-8540. Thank you once again for your interest in this project.

Sincerely,

Susan C. Swartz, PE, AICP
Project Manager

TRANSYSTEMS CORPORATION

February 2, 2005

Name
Address
City, State Zip

RE: Vrooman Road Study

Dear Name:

You have requested to be notified of Stakeholder Group meetings for the Vrooman Road Study. Therefore, we'd like to inform you that a meeting has been scheduled.

The next stakeholder meeting is scheduled for February 16, 2005 at 4:30 PM located at the Leroy Community Center, 13028 Leroy Center Road.

This will be a working session for the stakeholder committee. The public is permitted to attend and observe the proceedings.

There will not be a public comment or presentation period at this event. If you have additional information that you would like the group to consider but that was not already presented at the previous meeting, please send to me so that I may include this information in the data given to the stakeholder group.

If you have any more questions you may contact me at (614) 336-8480, via e-mail at VroomanRoad@transystems.com or by fax at (614) 336-8540. Thank you once again for your continued interest in this project.

Sincerely,

Susan C. Swartz

Susan C. Swartz, PE, AICP
Project Manager

5747 Perimeter Drive, Ste. 240, Dublin, Ohio 43017 • (614) 336-8480 • (614) 336-8540

TRANSYSTEMS CORPORATION

December 8, 2005

Mr. Larry Albert
5705 Canyon Ridge Drive
Painesville, OH 44077

RE: Vrooman Road Study comments

Dear Mr. Albert:

Thank you for your comments regarding the Vrooman Road Project following the public involvement meeting held on July 7, 2004. All comments received as a result of the meeting were reviewed and considered during the development of the Planning Study. In review of our Planning Study Report, the Ohio Department of Transportation has suggested that we formally acknowledge receipt of each comment.

We appreciate you taking the time to bring issues you feel are important to our attention. In your comments you mentioned that a comfortable shoulder capable of accommodating bicyclists would be preferable. While designated bike lanes will not be included, paved 10-foot shoulders on either side are currently planned for either of the two high-level alternatives, which could be used for cycling and pedestrian traffic.

If you have any more questions regarding this project, you may contact Alan Exley at the Lake County Engineer's office at (440) 350-2770. Thank you for your interest in this project.

Sincerely,

Susan C. Swartz

Susan C. Swartz, PE, AICP
Project Manager

5747 Perimeter Drive, Ste. 240, Dublin, Ohio 43017 • (614) 336-8480 • (614) 336-8540

Vrooman Road Study

Public Meeting Comment Form
July 7, 2004

TRANSYSTEMS CORPORATION

Name: LARRY R. ALBERT

Address: 5705 CANYON RIDGE DRIVE

Representing: SELF

Which alternative do you prefer and why?

option B - High level to Lane

In my ~~opinion~~ opinion, tying the bridge into Lane is the obvious selection. This creates a direct north-south route to I-90 for all of Perry and the east side of Painesville. It then eliminates ~~to~~ I-90 traffic from Lane making a ~~left~~ right on 84 & another left on Vrooman.
The high level bridge is consistent with bridges over the Grand River on SR534 & SR528 in Geneva & Madison.

Other Comments:

I'm an avid bicyclist. Please make the bridge & road wide enough for a comfortable shoulder.

Comments will be accepted at the meeting, by mail, or e-mail until July 23, 2004:

TranSystems Corporation
5747 Perimeter Drive, Suite 240
Dublin, Ohio 43017

E-mail: VroomanRoad@transystems.com
Fax: (614) 336-8540

To return without envelope: fold in thirds, tape or staple, and affix postage.

TRANSYSTEMS CORPORATION

December 8, 2005

Mr. & Mrs. Ash-Sanford
5444 Vrooman Road
Painesville, OH 44077

RE: Vrooman Road Study comments

Dear Mr. and Mrs. Ash-Sanford:

Thank you for your comments regarding the Vrooman Road Project following the public involvement meeting held on July 7, 2004. All comments received as a result of the meeting were reviewed and considered during the development of the Planning Study. In review of our Planning Study Report, the Ohio Department of Transportation has suggested that we formally acknowledge receipt of each comment.

We appreciate you taking the time to bring issues you feel are important to our attention. In your comments you were concerned about the hills and curves along Vrooman Road affecting your ability to see out of your driveway, which you feel would be worse if truck traffic increases as a result of the project. The proposed improvements would bring Vrooman Road up to current standards to eliminate these sight distance problems.

Additional public meetings are typically included in each stage of project development. No additional meetings are scheduled at this time. Your address will be included on the mailing list provided to the County for future meetings.

If you have any more questions regarding this project, you may contact Alan Exley at the Lake County Engineer's office at (440) 350-2770. Thank you for your interest in this project.

Sincerely,

Susan C. Swartz

Susan C. Swartz, PE, AICP
Project Manager

5747 Perimeter Drive, Ste. 240, Dublin, Ohio 43017 • (614) 336-8480 • (614) 336-8540

CO-Annette Marquez

From: Sue Ash-Sanford [we_ashsanfor@lgca.org]
Sent: Friday, July 23, 2004 12:15 PM
To: CO-VRoomanRoad
Subject: Vrooman Road Study

Susan and Gregory Ash-Sanford
5444 Vrooman Road

The alternative we prefer is to raise the bridge in the current placement. We have a great concern about the amount of traffic and the addition of trucks on Vrooman Road. At the July road meeting our questions about the current hills and curves on Vrooman Road were answered differently according to the person we questioned. Currently, we have great difficulty getting in and out of our driveway due to the hill. Traffic can not be seen. If we allow trucks on Vrooman we feel someone could get hurt entering and exiting drives.
With the extension of Lane Road, if Vrooman went directly over to Lane we feel the truck traffic would be dangerous. This is a great concern. We would like another meeting to discuss concerns in a more formal way so everyone hears the same answers. In talking to neighbors we didn't all get the same answers to questions.

TRANSYSTEMS CORPORATION

December 8, 2005

Mr. Andy Assel
5399 Pebble Creek Ln.
Painesville, OH 44077

RE: Vrooman Road Study comments

Dear Mr. Assel:

Thank you for your comments regarding the Vrooman Road Project following the public involvement meeting held on July 7, 2004. All comments received as a result of the meeting were reviewed and considered during the development of the Planning Study. In review of our Planning Study Report, the Ohio Department of Transportation has suggested that we formally acknowledge receipt of each comment.

We appreciate you taking the time to express your opinions on the alternatives under consideration.

If you have any more questions regarding this project, you may contact Alan Exley at the Lake County Engineer's office at (440) 350-2770. Thank you for your interest in this project.

Sincerely,

Susan C. Swartz

Susan C. Swartz, PE, AICP
Project Manager

5747 Perimeter Drive, Ste. 240, Dublin, Ohio 43017 • (614) 336-8480 • (614) 336-8540

Vrooman Road Study

Public Meeting Comment Form
July 7, 2004

TRANSYSTEMS CORPORATION

Name: Andy Assel

Address: 5399 Pebble Creek Ln Painesville, OH 44077

Representing:

Which alternative do you prefer and why?

Either A or B. Not sure of impact on traffic, but I believe A or B are the right way to adress the problem issues ie flooding, retaining wall failure, steep grades

Other Comments:

Comments will be accepted at the meeting, by mail, or e-mail until July 23, 2004:

TranSystems Corporation
5747 Perimeter Drive, Suite 240
Dublin, Ohio 43017

E-mail: VroomanRoad@transystems.com
Fax: (614) 336-8540

To return without envelope: fold in thirds, tape or staple, and affix postage.

TRANSYSTEMS CORPORATION

December 8, 2005

Ms. Ellen Ball
5270 Queen Ann Way
Painesville, OH 44077

RE: Vrooman Road Study comments

Dear Ms. Ball:

Thank you for your comments regarding the Vrooman Road Project following the public involvement meeting held on July 7, 2004. All comments received as a result of the meeting were reviewed and considered during the development of the Planning Study. In review of our Planning Study Report, the Ohio Department of Transportation has suggested that we formally acknowledge receipt of each comment.

We appreciate you taking the time to express your opinions on the alternatives under consideration.

If you have any more questions regarding this project, you may contact Alan Exley at the Lake County Engineer's office at (440) 350-2770. Thank you for your interest in this project.

Sincerely,

Susan C. Swartz, PE, AICP
Project Manager

5747 Perimeter Drive, Ste. 240, Dublin, Ohio 43017 • (614) 336-8480 • (614) 336-8540

Vrooman Road Study

Public Meeting Comment Form
July 7, 2004

TRANSYSTEMS CORPORATION

Name: ELLEN G. BALL

Address: 5270 QUEEN ANN WAY

Representing:

Which alternative do you prefer and why?

I WOULD PREFER ISSUE CONCERN B - HIGH-LEVEL TO LANE RD.
SINCE LANE RD GOES DIRECTLY TO RT. 20 I FEEL THIS WOULD BENEFIT MORE PEOPLE. COMING UP THE VROOMAN RD HILL AT RT. 84 IS DANGEROUS WHEN YOU HAVE TO WAIT FOR THE LIGHT TO CHANGE.

Other Comments:

Comments will be accepted at the meeting, by mail, or e-mail until July 23, 2004:

TranSystems Corporation
5747 Perimeter Drive, Suite 240
Dublin, Ohio 43017

E-mail: VroomanRoad@transystems.c
Fax: (614) 336-8540

To return without envelope: fold in thirds, tape or staple, and affix postage.

TRANSYSTEMS CORPORATION

December 8, 2005

Mr. Bruce Balzer & Ms. Joan Deskin
5209 Queen Ann Way
Painesville, OH 44077

RE: Vrooman Road Study comments

Dear Mr. Balzer & Ms. Deskin:

Thank you for your comments regarding the Vrooman Road Project following the public involvement meeting held on July 7, 2004. We appreciate you taking the time to bring issues you feel are important to our attention. All comments received as a result of the meeting were reviewed and considered during the development of the Planning Study. In review of our Planning Study Report, the Ohio Department of Transportation has suggested that we formally acknowledge receipt of each comment.

If you have any more questions regarding this project, you may contact Alan Exley at the Lake County Engineer's office at (440) 350-2770. Thank you for your interest in this project.

Sincerely,

Susan C. Swartz

Susan C. Swartz, PE, AICP
Project Manager

5747 Perimeter Drive, Ste. 240, Dublin, Ohio 43017 • (614) 336-8480 • (614) 336-8540

FAXED 8/5/04

Vrooman Road Study

Public Meeting Comment Form
July 7, 2004

TranSystems Corporation Inc.

Name: Bruce Balzer + Joan Deskin

Address: 5209 Queen Ann Way

Representing: All informed Condo owners affected by A, B or C alternatives vote NO!

Which alternative do you prefer and why?

Only D or E would be acceptable to any well informed resident of Canterbury Crossing (42 units) or Pebble Creek (64 units). Our homes were selected for location, i.e. non-highway life style!! Further more, we have been informed by appraisers + realtors that alternatives A, B or C would reduce all of our values (because we are both condos in the same neighborhood) by up to 50%!! The Lake County Engineer will have 106 families crusading against his re-election if he goes thru with A, B or C.

Other Comments: As important, why would the government want to provide terrorists with a direct shot? A semi truck leaving I-90 would be able to attack the Perry Plant within minutes if you permit A B or C. There would be no opportunity for intervention. Semi-trucks and other trucks have more than enough access via 528 + 44 exits and also Route 2. As far as evacuation routes for the excuse - well that is ridiculous.

Comments will be accepted at the meeting, by mail, or e-mail until July 23, 2004:

TranSystems Corporation
5747 Perimeter Drive, Suite 240
Dublin, Ohio 43017

E-mail: VroomanRoad@transystems.com
Fax: (614) 336-8540

STOP the trucks from getting there by keeping access routes and local law enforcement will have

To return without envelope: fold in thirds, tape or staple, and affix postage.

Plant + Airport / Airport / Process

in

military suspicious activity

man power

time

in

TRANSYSTEMS CORPORATION

December 8, 2005

Mr. Burt and Ms. Patricia Bork
5582 Vrooman Road
Painesville, OH 44077

RE: Vrooman Road Study comments

Dear Mr. and Ms. Bork:

Thank you for your comments regarding the Vrooman Road Project following the public involvement meeting held on July 7, 2004. We appreciate you taking the time to bring issues you feel are important to our attention. All comments received as a result of the meeting were reviewed and considered during the development of the Planning Study. In review of our Planning Study Report, the Ohio Department of Transportation has suggested that we formally acknowledge receipt of each comment.

In your comment, you suggested raising Vrooman Road near Seeley Road to alleviate flooding and replacing the bridge itself. While this would alleviate the physical deterioration of the structure and reduce occurrences of flooding, it would not meet all of the project goals since the steep grade and sharp curve approaching SR 84 would not be corrected. One of the main needs for this project has been to accommodate emergency vehicles of all sizes and provide an evacuation route for the Perry Nuclear Power Plant that can accommodate all standard vehicle sizes. At this time, we have not been given any information indicating a plan to close the power plant.

If you have any more questions regarding this project, you may contact Alan Exley at the Lake County Engineer's office at (440) 350-2770. Thank you for your interest in this project.

Sincerely,

Susan C. Swartz

Susan C. Swartz, PE, AICP
Project Manager

5747 Perimeter Drive, Ste. 240, Dublin, Ohio 43017 • (614) 336-8480 • (614) 336-8540

Vrooman Road Study

Public Meeting Comment Form
July 7, 2004

TranSystems Corporation

Name: Burt Bork

Address: 5582 Vrooman Rd, Painesville, Oh 44077

Representing:

Which alternative do you prefer and why?

D As a resident of Vrooman Rd I am concerned about the increased traffic, noise, litter, pollution and decreased property values that a high level bridge will bring to our beautiful country road.

The statement that replacing the existing bridge will not address flooding is absurd. Flooding at the existing bridge could be addressed by simply raising the level of the road on the south side of the bridge to the level of the bridge. This could be done without even replacing the bridge!

Other Comments:

Obviously you are going to proceed with whatever plan you decide on regardless of the feelings of the residents.

I mentioned at the meeting that all the streets involved are primarily residential streets and the exit at 90 should remain a non truck route. Seems reasonable to me, yet I was scoffed at for mentioning such an alternative.

Comments will be accepted at the meeting, by mail, or e-mail until July 23, 2004:

TranSystems Corporation
5747 Perimeter Drive, Suite 240
Dublin, Ohio 43017

E-mail: VroomanRoad@transystems.com
Fax: (614) 336-8540

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Vrooman Road Study

Public Meeting Comment Form
July 7, 2004

TRANSYSTEMS CORPORATION

Name: PATRICIA BORIK

Address: 5582 VROOMAN RD

Representing:

Which alternative do you prefer and why?

Initially we were told this road project was to be the "chosen evacuation route" for the Perry Power Plant. "Now we are told semi trucks would have better turning room on the new intersections. If this is for evacuation why are the residents now to have to listen to truck traffic daily? If A or B are chosen the road should still limit thru traffic to "no trucks" as the signs are currently.

Also, how much longer is the plant to be in operation? If this is to take until 2009 will the plant be soon closing?

Other Comments:

What about maintaining a rural atmosphere as the majority of the residents voted in the recent survey?

I am in favor of "D" and raise the road slightly by Seeley to eliminate the flooding — this elevation could be done now if someone provides the funds.

Comments will be accepted at the meeting, by mail, or e-mail until July 23, 2004:

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Dublin, Ohio 43017

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Fax: (614) 336-8540

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TRANSYSTEMS CORPORATION

December 8, 2005

Mr. Ted Bosh
5317 Queen Ann Way
Painesville, OH 44077

RE: Vrooman Road Study comments

Dear Mr. Bosh:

Thank you for your comments regarding the Vrooman Road Project following the public involvement meeting held on July 7, 2004. We appreciate you taking the time to express your opinions on the alternatives under consideration. All comments received as a result of the meeting were reviewed and considered during the development of the Planning Study. In review of our Planning Study Report, the Ohio Department of Transportation has suggested that we formally acknowledge receipt of each comment.

If you have any more questions regarding this project, you may contact Alan Exley at the Lake County Engineer's office at (440) 350-2770. Thank you for your interest in this project.

Sincerely,

Susan C. Swartz

Susan C. Swartz, PE, AICP
Project Manager

5747 Perimeter Drive, Ste. 240, Dublin, Ohio 43017 • (614) 336-8480 • (614) 336-8540

CO-Annette Marquez

From: TeddyBosh@aol.com
Sent: Monday, July 19, 2004 10:26 AM
To: CO-VRoomanRoad
Subject: Vrooman Road Project

The best alternative for the area is C, D or E.

Ted Bosh
5317 Queen Ann Way
Painesville Ohio

TRANSYSTEMS CORPORATION

December 8, 2005

Mr. & Mrs. Crummy
2539 Circle Dr.
Painesville, OH 44077

RE: Vrooman Road Study comments

Dear Mr. & Mrs. Crummy:

Thank you for your comments regarding the Vrooman Road Project following the public involvement meeting held on July 7, 2004. We appreciate you taking the time to express your opinions on the alternatives under consideration. All comments received as a result of the meeting were reviewed and considered during the development of the Planning Study. In review of our Planning Study Report, the Ohio Department of Transportation has suggested that we formally acknowledge receipt of each comment.

If you have any more questions regarding this project, you may contact Alan Exley at the Lake County Engineer's office at (440) 350-2770. Thank you for your interest in this project.

Sincerely,

Susan C. Swartz

Susan C. Swartz, PE, AICP
Project Manager

5747 Perimeter Drive, Ste. 240, Dublin, Ohio 43017 • (614) 336-8480 • (614) 336-8540

Vrooman Road Study

Public Meeting Comment Form
July 7, 2004

TRANSYSTEMS CORPORATION

Name: NORAN T AGNES CRUMMY

Address: 2539 CIRCLE DR Perl Ohio 44077

Representing:

Which alternative do you prefer and why?

Plan C

Other Comments:

Comments will be accepted at the meeting, by mail, or e-mail until July 23, 2004:

TranSystems Corporation
5747 Perimeter Drive, Suite 240
Dublin, Ohio 43017

E-mail: VroomanRoad@transystems.com
Fax: (614) 336-8540

To return without envelope: fold in thirds, tape or staple, and affix postage.

TRANSYSTEMS CORPORATION

December 8, 2005

Mr. & Mrs. Dawson
5475 Canyon Ridge Dr.
Painesville, OH 44077

RE: Vrooman Road Study comments

Dear Mr. & Mrs. Dawson

Thank you for your comments regarding the Vrooman Road Project following the public involvement meeting held on July 7, 2004. We appreciate you taking the time to express your opinions on the alternatives under consideration. All comments received as a result of the meeting were reviewed and considered during the development of the Planning Study. In review of our Planning Study Report, the Ohio Department of Transportation has suggested that we formally acknowledge receipt of each comment.

The Lake County Engineer's Office and the study team will continue to coordinate with environmental agencies as a part of this project to meet state and federal requirements for maintaining the integrity of the Grand River Valley.

If you have any more questions regarding this project, you may contact Alan Exley at the Lake County Engineer's office at (440) 350-2770. Thank you for your interest in this project.

Sincerely,

Susan C. Swartz

Susan C. Swartz, PE, AICP
Project Manager

5747 Perimeter Drive, Ste. 240, Dublin, Ohio 43017 • (614) 336-8480 • (614) 336-8540

CO-Annette Marquez

From: ROBERT DAWSON [DAWSOR01@ODJFS.STATE.OH.US]
Sent: Monday, July 19, 2004 8:13 AM
To: CO-VRoomanRoad
Subject: Vrooman Road Comments

Dar Sirs....Sorry we were unable to attend your public meeting on July 7, 2004, discussing future planning for Vrooman Road and the Vrooman Road bridge. we are life-long residents of Perry Township and my wife and I have a keen interest in this project since we reside on Canyon Ridge Drive and our property backs up to the Grand River valley. The river, park and bridge can be viewed from our back yard.

We believe the best approach to this needed improvement would be the 1,000 foot low-level bridge. A bridge of this type would allow Vrooman to be improved and would allow for full access to I-90 (above the flood elevation) but would continue to keep heavy truck traffic from entering predominately residential neighborhoods. The low level approach would not destroy the beauty of the river valley and the park and should not devaluate existing property values in and around the project.

If we can answer any additional questions reply to this email or contact us by telephone at 440-357-4440. Thank you.

Robert J. & Dawn M. Dawson
5475 Canyon Ridge Drive
Perry Township, Ohio

TRANSYSTEMS CORPORATION

December 8, 2005

Mr. & Mrs. Denver
5902 Woodhill St.
Painesville, OH 44077

RE: Vrooman Road Study comments

Dear Mr. & Mrs. Denver

Thank you for your comments regarding the Vrooman Road Project following the public involvement meeting held on July 7, 2004. We appreciate you taking the time to express your opinions on the alternatives under consideration. All comments received as a result of the meeting were reviewed and considered during the development of the Planning Study. In review of our Planning Study Report, the Ohio Department of Transportation has suggested that we formally acknowledge receipt of each comment.

If you have any more questions regarding this project, you may contact Alan Exley at the Lake County Engineer's office at (440) 350-2770. Thank you for your interest in this project.

Sincerely,

Susan C. Swartz

Susan C. Swartz, PE, AICP
Project Manager

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Vrooman Road Study

Public Meeting Comment Form
July 7, 2004

TRANSYSTEMS CORPORATION

Name: Richard Denner & Barbara Denner

Address: 5902 Woodhill A. Painesville, Oh

Representing:

Which alternative do you prefer and why?

We prefer Alternative B - it's straighter line would require less property acquisition and more traffic from Rt #2 down Tam Rd intersection. Also less property involvement

Other Comments:

Comments will be accepted at the meeting, by mail, or e-mail until July 23, 2004:

TranSystems Corporation
5747 Perimeter Drive, Suite 240
Dublin, Ohio 43017

E-mail: VroomanRoad@transystems.com
Fax: (614) 336-8540

To return without envelope: fold in thirds, tape or staple, and affix postage.

TRANSYSTEMS CORPORATION

December 8, 2005

Mr. Alan Dynes
150 Paradise Rd.
Painesville, OH 44077

RE: Vrooman Road Study comments

Dear Mr. Dynes

Thank you for your comments regarding the Vrooman Road Project following the public involvement meeting held on July 7, 2004. We appreciate you taking the time to bring issues you feel are important to our attention. All comments received as a result of the meeting were reviewed and considered during the development of the Planning Study. In review of our Planning Study Report, the Ohio Department of Transportation has suggested that we formally acknowledge receipt of each comment.

As the project moves forward, the county will be in contact with residents whose property may be required as a part of this project.

If you have any more questions regarding this project, you may contact Alan Exley at the Lake County Engineer's office at (440) 350-2770. Thank you for your interest in this project.

Sincerely,

Susan C. Swartz

Susan C. Swartz, PE, AICP
Project Manager

5747 Perimeter Drive, Ste. 240, Dublin, Ohio 43017 • (614) 336-8480 • (614) 336-8540

Vrooman Road Study

Public Meeting Comment Form
July 7, 2004

TranSystems Corporation

Name: Alan R Dynes

Address: 150 Paradise Rd Painesville Ohio 44077

Representing: owner 2606 Riverside Dr & Part owner 2603 Riverside

Which alternative do you prefer and why?

B –

I am not opposed to losing 2606 – but I would not want frontage taken from 2603 office complex – and both A & C would do that unless you took all of 2603 – along with 2606

Also price, would have to be right – money talks

All have 5yr leases just renewed

Other Comments:

Comments will be accepted at the meeting, by mail, or e-mail until July 23, 2004:

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TRANSYSTEMS CORPORATION

December 8, 2005

Ms. Pam England
3026 River Rd.
Perry, OH 44081

RE: Vrooman Road Study

Dear Ms. England:

Thank you for your comments regarding the Vrooman Road Project following the public involvement meeting held on July 7, 2004. We appreciate you taking the time to bring issues you feel are important to our attention. All comments received as a result of the meeting were reviewed and considered during the development of the Planning Study. In review of our Planning Study Report, the Ohio Department of Transportation has suggested that we formally acknowledge receipt of each comment.

This project includes maintaining Vrooman Road's two-lanes of traffic. You also voiced your concern about what a high-level bridge may look like in the valley, when designing the bridge, aesthetic applications may be taken into consideration to help the bridge blend in better with the environment. Noise analyses will be performed as the project progresses.

As a part of this process, the Lake County Engineer's office along with the Study Team have been in contact with the Metroparks as well as environmental interest groups, Army Corps of Engineers, Grand River Partners, and ODNR to consider the integrity of the Grand River Valley and are dedicated to meeting all state and federal requirements.

If you have any more questions regarding this project, you may contact Alan Exley at the Lake County Engineer's office at (440) 350-2770. Thank you for your interest in this project.

Sincerely,

Susan C. Swartz

Susan C. Swartz, PE, AICP
Project Manager

5747 Perimeter Drive, Ste. 240, Dublin, Ohio 43017 • (614) 336-8480 • (614) 336-8540

Vrooman Road Study

Public Meeting Comment Form
July 7, 2004

TranSystems Corporation

Name: Pam England

Address: 3026 River Road - Perry Ohio 44081

Representing:

Which alternative do you prefer and why? D

I LIVE ON the River edge/Valley Edge I live here because I choose nature, wildlife, A thriving ecosystem. I choose not to live with noise, traffic exaust fumes A structure with 4 Lanes of concrete is Not the Best choice for Any living thing, plant or animal.
I choose to keep my property And area A beautiful area with value.
I choose Not to live in An Area Like Heisley or Pt# Lels in Mentor

We do not want ANY Bridge that has such AN environmental, visual, sound effect on our community in such a negetive way.

Other Comments:

I would like to live on River Rd for many years with harmony-
I CAN hear the train on A high level bridge from Bent street - think of the sound impact with A high level Bridge crossing at either Madison or Vrooman-
It would be like leaving your TV on Loud Vol. day and night.

Comments will be accepted at the meeting, by mail, or e-mail until July 23, 2004:

TranSystems Corporation
5747 Perimeter Drive, Suite 240
Dublin, Ohio 43017

E-mail: VroomanRoad@transystems.com
Fax: (614) 336-8540

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TRANSYSTEMS CORPORATION

December 8, 2005

Mr. Douglas Feathers
3026 River Rd.
Perry, OH 44081

RE: Vrooman Road Study comments

Dear Mr. Feathers:

Thank you for your comments regarding the Vrooman Road Project following the public involvement meeting held on July 7, 2004. We appreciate you taking the time to bring issues you feel are important to our attention. All comments received as a result of the meeting were reviewed and considered during the development of the Planning Study. In review of our Planning Study Report, the Ohio Department of Transportation has suggested that we formally acknowledge receipt of each comment.

Preliminary noise analyses were considered during the study process, but detailed noise analyses are expected as the project progresses. As a part of this process, the Lake County Engineer's office along with the Study Team have been in contact with the Metroparks as well as environmental interest groups, Army Corps of Engineers, Grand River Partners, and ODNR to consider the integrity of the Grand River Valley and are dedicated to meet all state and federal requirements as a part of this project.

If you have any more questions regarding this project, you may contact Alan Exley at the Lake County Engineer's office at (440) 350-2770. Thank you for your interest in this project.

Sincerely,

Susan C. Swartz

Susan C. Swartz, PE, AICP
Project Manager

5747 Perimeter Drive, Ste. 240, Dublin, Ohio 43017 • (614) 336-8480 • (614) 336-8540

Vrooman Road Study

Public Meeting Comment Form
July 7, 2004

TRANSYSTEMS CORPORATION

Name: DOUGLAS FEATHERS

Address: 3026 River Rd.

Representing:

Which alternative do you prefer and why?

Either C or D

Why?

Our Community does not want the increase in
Traffic
noise
Pollution and its effect upon
The Grand River and the wildlife and us!
I - We Do not want or will Accept A High
Level Bridge!

Other Comments:

Comments will be accepted at the meeting, by mail, or e-mail until July 23, 2004:

TranSystems Corporation
5747 Perimeter Drive, Suite 240
Dublin, Ohio 43017

E-mail: VroomanRoad@transystems.com
Fax: (614) 336-8540

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TRANSYSTEMS CORPORATION

December 8, 2005

Ms. Vicki Gibson
2565 Madison Ave.
Perry, OH 44081

RE: Vrooman Road Study comments

Dear Ms. Gibson:

Thank you for your comments regarding the Vrooman Road Project following the public involvement meeting held on July 7, 2004. We appreciate you taking the time to bring issues you feel are important to our attention. All comments received as a result of the meeting were reviewed and considered during the development of the Planning Study. In review of our Planning Study Report, the Ohio Department of Transportation has suggested that we formally acknowledge receipt of each comment.

In your comments you voiced your concern about what a high-level bridge may look like in the valley. When designing the bridge, aesthetic applications may be taken into consideration to help the bridge blend in better with the environment. You also voiced your concern of increased noise. Additional noise analyses are expected to be conducted as the project progresses. Another comment was concerning the beauty of the valley area. As a part of this process, the Lake County Engineer's office along with the Study Team have been in contact with the Metroparks as well as environmental interest groups, Army Corps of Engineers, Grand River Partners, and ODNR to consider the integrity of the Grand River Valley and are dedicated to meeting state and federal requirements as a part of this project.

If you have any more questions regarding this project, you may contact Alan Exley at the Lake County Engineer's office at (440) 350-2770. Thank you for your interest in this project.

Sincerely,

Susan C. Swartz

Susan C. Swartz, PE, AICP
Project Manager

5747 Perimeter Drive, Ste. 240, Dublin, Ohio 43017 • (614) 336-8480 • (614) 336-8540

Vrooman Road Study

Public Meeting Comment Form
July 7, 2004

TRANSYSTEMS CORPORATION

Name: Vicki D. Gibson

Address: 2545 Madison Ave, Painesville Oh 44077

Representing: Local property owners, concerned citizens

Which alternative do you prefer and why?

I prefer C and/or D alternative. The problem needing to be addressed is flooding and bridge maintanence. We don't need any more large truck traffic. I bought my property for the rural setting and the area is growing in leaps + bounds. The park + river that the bridge spans is pretty and we don't need a huge expansion bridge that will take away from the charm of the area, nor do we need any more noise and pollution from increased traffic.

Other Comments:

Comments will be accepted at the meeting, by mail, or e-mail until July 23, 2004:

TranSystems Corporation
5747 Perimeter Drive, Suite 240
Dublin, Ohio 43017

E-mail: VroomanRoad@transystems.com
Fax: (614) 336-8540

To return without envelope: fold in thirds, tape or staple, and affix postage.

TRANSYSTEMS CORPORATION

December 8, 2005

Mr. David Gilmer
6737 Painesville Ravenna Rd
Painesville, OH 44077

RE: Vrooman Road Study comments

Dear Mr. Gilmer:

Thank you for your comments regarding the Vrooman Road Project following the public involvement meeting held on July 7, 2004. We appreciate you taking the time to express your opinions on the alternatives under consideration. All comments received as a result of the meeting were reviewed and considered during the development of the Planning Study. In review of our Planning Study Report, the Ohio Department of Transportation has suggested that we formally acknowledge receipt of each comment.

If you have any more questions regarding this project, you may contact Alan Exley at the Lake County Engineer's office at (440) 350-2770. Thank you for your interest in this project.

Sincerely,

Susan C. Swartz, PE, AICP
Project Manager

5747 Perimeter Drive, Ste. 240, Dublin, Ohio 43017 • (614) 336-8480 • (614) 336-8540

Vrooman Road Study

Public Meeting Comment Form
July 7, 2004

TRANSYSTEMS CORPORATION

Name: David Gilman

Address: PO Box ~~[illegible]~~ 330

Representing: SOOf.

Which alternative do you prefer and why?

Alternative B is the only commercially viable alternative for the future of eastern Lake County.

Other Comments:

Comments will be accepted at the meeting, by mail, or e-mail until July 23, 2004:

TranSystems Corporation
5747 Perimeter Drive, Suite 240
Dublin, Ohio 43017

E-mail: VroomanRoad@transystems.com
Fax: (614) 336-8540

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TRANSYSTEMS CORPORATION

December 8, 2005

Ms. Dorothy Griff
5288 Queen Ann Way
Perry TWP., OH 44077

RE: Vrooman Road Study comments

Dear Ms. Griff:

Thank you for your comments regarding the Vrooman Road Project following the public involvement meeting held on July 7, 2004. We appreciate you taking the time to express your opinions on the alternatives under consideration. All comments received as a result of the meeting were reviewed and considered during the development of the Planning Study. In review of our Planning Study Report, the Ohio Department of Transportation has suggested that we formally acknowledge receipt of each comment.

If you have any more questions regarding this project, you may contact Alan Exley at the Lake County Engineer's office at (440) 350-2770. Thank you for your interest in this project.

Sincerely,

Susan C. Swartz

Susan C. Swartz, PE, AICP
Project Manager

5747 Perimeter Drive, Ste. 240, Dublin, Ohio 43017 • (614) 336-8480 • (614) 336-8540

Vrooman Road Study

Public Meeting Comment Form
July 7, 2004

TRANSYSTEMS CORPORATION

Name: Dorothy A. Griff
Address: 5288 Queen Ann Way
Representing: Perry Twp., OH 44077

Which alternative do you prefer and why?

I am opposed to Plan C
Please just repair the bridge

Other Comments:

Comments will be accepted at the meeting, by mail, or e-mail until July 23, 2004:

TranSystems Corporation
5747 Perimeter Drive, Suite 240
Dublin, Ohio 43017

E-mail: VroomanRoad@transystems.com
Fax: (614) 336-8540

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TRANSYSTEMS CORPORATION

December 8, 2005

Mr. & Mrs. Guthrie
2857 South Ridge Rd.
Perry TWP., OH 44081

RE: Vrooman Road Study comments

Dear Mr. & Mrs. Guthrie:

Thank you for your comments regarding the Vrooman Road Project following the public involvement meeting held on July 7, 2004. We appreciate you taking the time to bring issues you feel are important to our attention. All comments received as a result of the meeting were reviewed and considered during the development of the Planning Study. In review of our Planning Study Report, the Ohio Department of Transportation has suggested that we formally acknowledge receipt of each comment.

In your comments you voiced your concern of increased noise. We expect that detailed noise analyses will be completed as the project progresses.

If you have any more questions regarding this project, you may contact Alan Exley at the Lake County Engineer's office at (440) 350-2770. Thank you for your interest in this project.

Sincerely,

Susan C. Swartz

Susan C. Swartz, PE, AICP
Project Manager

5747 Perimeter Drive, Ste. 240, Dublin, Ohio 43017 • (614) 336-8480 • (614) 336-8540

Vrooman Road Study

Public Meeting Comment Form
July 7, 2004

TranSystems Corporation Inc.

Name: Robert & Nancy Guthrie 440-259-4051
Address: 2857 South Ridge Rd. Perry Twp. OH 44081
Representing: Nancy Guthrie Trustee.

Which alternative do you prefer and why?

We would prefer alternative C or D. A bridge high enough to prevent flooding would be sufficient. We do not want a high level bridge for the following reasons:

1) We do not want the noise or traffic a high level bridge would bring.
2) We do not want area homeowners to have their property taken or infringed upon
3) We do not want the rural setting of the area disrupted.

CC: Perry Township Trustees
James Gills
County Commissioners

Other Comments:

Has anyone considered how hard it would be to make a left hand turn off of River road if it were to be relocated?

We need a light at Lane & River, but not a high level bridge

Comments will be accepted at the meeting, by mail, or e-mail until July 23, 2004:

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5747 Perimeter Drive, Suite 240
Dublin, Ohio 43017

E-mail: VroomanRoad@transystems.com
Fax: (614) 336-8540

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TRANSYSTEMS CORPORATION

December 8, 2005

Mr. and Mrs. Hoppert
2955 River Rd.
Perry TWP., OH 44081

RE: Vrooman Road Study comments

Dear Mr. and Mrs. Hoppert:

Thank you for your comments regarding the Vrooman Road Project following the public involvement meeting held on July 7, 2004. We appreciate you taking the time to bring issues you feel are important to our attention. All comments received as a result of the meeting were reviewed and considered during the development of the Planning Study. In review of our Planning Study Report, the Ohio Department of Transportation has suggested that we formally acknowledge receipt of each comment.

This project includes maintaining Vrooman Road's two-lanes of traffic. Alleviating problems at the Vrooman Road/SR 84 intersection will bring the intersection up to standards allowing safer use by improving sight distance and improving turning radii.

In your comments you also voiced your concern about additional noise. Preliminary noise analyses were performed within the study area, but detailed analyses are anticipated as the project progresses. As a part of this process, the Lake County Engineer's office along with the Study Team have been in contact with the Metroparks as well as environmental interest groups, Army Corps of Engineers, Grand River Partners, and ODNR to consider the integrity of the Grand River Valley and are dedicated to meeting state and federal requirements as a part of this project.

If you have any more questions regarding this project, you may contact Alan Exley at the Lake County Engineer's office at (440) 350-2770. Thank you for your interest in this project.

Sincerely,

Susan C. Swartz

Susan C. Swartz, PE, AICP
Project Manager

5747 Perimeter Drive, Ste. 240, Dublin, Ohio 43017 • (614) 336-8480 • (614) 336-8540

CO-Annette Marquez

From: Dennis Hoppert [dahopp@yahoo.com]
Sent: Friday, July 23, 2004 12:31 PM
To: CO-VRoomanRoad
Cc: dahopp@yahoo.com
Subject: proposed bridge

Dear Transystems,
This email is in response to your request for feedback regarding the Vrooman road bridge over the Grand River. I was at your meeting in Leroy Twp. and spoke with many of you regarding this project. I have lived on River Road in Perry for approximately the last ten years. I am well aware of the deterioration of this bridge as well as the retaining wall along side of the hill. I travel this route at a minimum of twice each day. While I agree that something needs to be done to correct the current situation, I only agree with two of your four proposed alternatives. The first two, A and B which incorporate a high level bridge spanning the valley I do not agree with at all. I find them to be total over kill as an alternative. Reasons to this are many. This area does not need nor desire a roadway of such magnitude. The effects on the surrounding areas would be devastating. I moved to this area to escape the congestion and noise of cities such as Mentor. The additional semi truck traffic this would allow to pour into this area would increase the noise and air pollution to an unacceptable level. This would not only affect the people of this area, but the wild life as well. The natural habitat of these wet lands would be ruined. Indian Point would become an overlook to a bridge. I could go on and on.

The alternative of C which is a low level bridge I find would be acceptable, but only in it could be designed without a massive restructuring of the intersection with Route 84. Again, we do not need access for semi truck traffic freely through this area, as they already have acceptable alternatives if they really need them.

The alternative of D which is to replace the bridge basically where it sits, but raise it above the 100 year flood plane, I find most adequate to correct this problem. This corrects the local problem as it exists, and hurts no one. Why spend 10 million dollars whether it be federal, state or local monies that we don't have to. These extra funds could better be used on any of these three levels for more pertinent matters than a big fancy bridge.

Sincerely,

Dennis L. Hoppert
2955 River Road
Perry Twp., Ohio 44081-9697

(440) 259-2287

CO-Annette Marquez

From: Hoppert [Hoppert@Sel.k12.oh.us]
Sent: Monday, July 19, 2004 11:40 PM
To: CO-VRoomanRoad
Subject: Vrooman Road Study

Name: Judy Hoppert
Address: 2955 River Road, Perry, Ohio 44081
Representing: Myself, as well as concerned citizens in the general area.

Which alternative do you prefer and why?
Living on River Road for the past ten years, I am fully aware of the need to address the problems of the bridge going over the Grand River on Vrooman road. Its deterioration makes it increasingly unsafe especially when one considers the continued flood waters which weaken it. This bridge services not only the community, but is used by my family on a daily basis; still, it is for myself and my community which leads me to put the environment of the area before that of the bridge. My husband and I both travel 50 - 60 miles a day to work in order to live in a green, peaceful and quiet environment.
Those who live in the city come to Perry because it is the first exit off of I-90 which can take them to a rural setting. Placing a high level bridge over the Grand River Valley would change everything in this area. One would stand on Indian point and see, as well as hear traffic going over this bridge. Anyone living in the general area would not be able to escape its presence because it would be on the same level as all of the surrounding roads. One must also consider the effects the added traffic noise would have on the adjacent park land which is filled with organisms of varied species. Alternative D would be my first choice for the area with Alternative C my second choice only if it does not disrupt the properties on SR 84. If we maintain this area in its presence state or do the bare minimal to keep it operational, we will be ensuring not only Perry's peaceful setting but also our children's chances of living in a green future.

Other Comments:
On Monday, July 12, the Pitchler's and I met with Mr. Alan Exley. We requested to be at the next Stakeholder meeting which is scheduled at the end of this month. He stated that he might be able to arrange for representatives of the residence surrounding the area to have a few minutes at this meeting and that I should include with this letter whom would be the person(s) attending. That night an informal meeting was held. The group attending chose Doug Feathers, Joan Pitchler and myself as the representatives for the area. Please let me know if this is possible and inform me of the time, date, and location of this meeting. When this project is completed, it is the residence of this area, and our

children,
who will be living with the results, all we ask is to be heard.

TRANSYSTEMS CORPORATION

December 8, 2005

Mr. Tom Houston
Ms. Lois Houston
5876 Woodhill St.
Painesville, OH 44077

RE: Vrooman Road Study comments

Dear Mr. and Ms. Houston:

Thank you for your comments regarding the Vrooman Road Project following the public involvement meeting held on July 7, 2004. We appreciate you taking the time to express your opinions on the alternatives under consideration. All comments received as a result of the meeting were reviewed and considered during the development of the Planning Study. In review of our Planning Study Report, the Ohio Department of Transportation has suggested that we formally acknowledge receipt of each comment.

If you have any more questions regarding this project, you may contact Alan Exley at the Lake County Engineer's office at (440) 350-2770. Thank you for your interest in this project.

Sincerely,

Susan C. Swartz

Susan C. Swartz, PE, AICP
Project Manager

5747 Perimeter Drive, Ste. 240, Dublin, Ohio 43017 • (614) 336-8480 • (614) 336-8540

Vrooman Road Study

Public Meeting Comment Form
July 7, 2004

TRANSYSTEMS CORPORATION

Name: Lois Ann Houston

Address: 5876 Woodhill St. Painesville

Representing:

Which alternative do you prefer and why?

Alternative B. This would preserve more of the Metro Parks areas. Coming out at Lane Rd. would be better than Madison Ave. as this area is already very congested. This would also eliminate the flooding near the present bridge, closing the road periodically.

Other Comments:

Comments will be accepted at the meeting, by mail, or e-mail until July 23, 2004:

TranSystems Corporation
5747 Perimeter Drive, Suite 240
Dublin, Ohio 43017

E-mail: VroomanRoad@transystems.com
Fax: (614) 336-8540

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Vrooman Road Study

Public Meeting Comment Form
July 7, 2004

TRANSYSTEMS CORPORATION

Name: Tom Houston

Address: 5076 Woodhill

Representing:

Which alternative do you prefer and why?

B #1 There is already enough traffic at Madison Ave!
#2 This allows a more direct traffic flow into the Perry area and 'new' plant
#3 And it would have less impact on the Lake Metro park land!

Other Comments:

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TRANSYSTEMS CORPORATION

December 8, 2005

Mr. Leonard Jagoda Sr.
3239 River Rd.
Perry, OH 44081

RE: Vrooman Road Study comments

Dear Mr. Jagoda:

Thank you for your comments regarding the Vrooman Road Project following the public involvement meeting held on July 7, 2004. We appreciate you taking the time to express your opinions on the alternatives under consideration. All comments received as a result of the meeting were reviewed and considered during the development of the Planning Study. In review of our Planning Study Report, the Ohio Department of Transportation has suggested that we formally acknowledge receipt of each comment.

If you have any more questions regarding this project, you may contact Alan Exley at the Lake County Engineer's office at (440) 350-2770. Thank you for your interest in this project.

Sincerely,

Susan C. Swartz

Susan C. Swartz, PE, AICP
Project Manager

5747 Perimeter Drive, Ste. 240, Dublin, Ohio 43017 • (614) 336-8480 • (614) 336-8540

Vrooman Road Study

Public Meeting Comment Form
July 7, 2004

TranSystems Corporation

Name: LEONARD J. JAGODA SR

Address: 3239 RIVER ROAD - PERRY - OH - 44081

Representing: Neighbors

Which alternative do you prefer and why?

ALTERNATIVE "C" LOW LEVEL BRIDGE

LESS COST EFFECTIVE - WOULD ADD MORE TO THE AESTHETICS OF OUR OHIO NATIONAL SCENIC RIVER - (THE GRAND RIVER) ALSO THE ROAD - TO SEELEY ROAD WOULD STILL ALLOW RECREATONAL USE OF THE PARK AND RIVER. THE OLD ROAD WILL ALLOW USE OF MASON'S LANDING. RECREATION AREA. ALSO - LESS TIME LOST SINCE CONSTRUCTIO WOULD NOT TAKE TOO LONG TO COMPLETE.

Other Comments:

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TRANSYSTEMS CORPORATION

December 8, 2005

Mr. Dennis Keeney
14429 Leroy Center Rd.
Thompson, OH 44086

RE: Vrooman Road Study comments

Dear Mr. Keeney:

Thank you for your comments regarding the Vrooman Road Project following the public involvement meeting held on July 7, 2004. We appreciate you taking the time to bring issues you feel are important to our attention. All comments received as a result of the meeting were reviewed and considered during the development of the Planning Study. In review of our Planning Study Report, the Ohio Department of Transportation has suggested that we formally acknowledge receipt of each comment.

In your comments, you expressed concerns about high winds, maintenance, ice and high speeds on a high-level bridge. It is true that winds and ice can be a concern on any bridge of any length or height, with these issues being more important for a long or high bridge. Maintenance and inspection are also more challenging on a high bridge. However, such issues are routinely and effectively managed on numerous bridges of substantial length and/or height throughout Ohio and are therefore not likely to eliminate the consideration of an alternative that best meets the needs of the project.

If you have any more questions regarding this project, you may contact Alan Exley at the Lake County Engineer's office at (440) 350-2770. Thank you for your interest in this project.

Sincerely,

Susan C. Swartz

Susan C. Swartz, PE, AICP
Project Manager

5747 Perimeter Drive, Ste. 240, Dublin, Ohio 43017 • (614) 336-8480 • (614) 336-8540

Vrooman Road Study

Public Meeting Comment Form
July 7, 2004

TranSystems Corporation

Name: DENNIS L. KEENEY

Address: 14429 LEROY CENTER RD. THOMPSON, OHIO 44086

Representing: LEROY ZONING

Which alternative do you prefer and why?

ALTERNATIVE "C" BUT WITH ALTERNATIVE "A" CONNECTION AT MADISON AVE. I BELIEVE THAT FOR THE SAME MONEY AS THE HIGH-LEVEL ALTERNATIVES THAT A PASSAGE THROUGH THE GRAND RIVER VALLEY AT THAT LOCATION COULD EMPHASIZE ONE OF LAKE COUNTY'S ASSETS. THIS ROUTE IS THE ENTRY TO LEROY TWP. AND PERRY TWP. AND THE MAJORITY OF PROPERTY IS LAKE METROPARKS. ECONOMIC BENEFITS OF TOURISM ARE WELL KNOWN AND IF THIS PROJECT IS GIVEN CAREFUL CONSIDERATION, IT TOO COULD ADD RECREATIONAL BENEFITS. GEOMETRIC DEFICIENCIES COULD BE OVERCOME WITH A SPEED REDUCTION THROUGH THE VALLEY AS THE CASE IS NOW. TRUCK TRAFFIC COULD BE

Other Comments:

ACCOMODATED BUT THIS DOES NOT NEED TO BE A PREFERRED TRUCK ROUTE. NEGATIVES TO THE HIGH-LEVEL ALTERNATIVES ARE HIGH WINTER WINDS, HIGHER SPEED ACCIDENTS, HIGHER MAINTENANCE COSTS AND HIGHER NOISE LEVELS THROUGH THE VALLEY, A STATE WILD AND SCENIC RIVER. HOW WILL ELECTRIC, ETC. BE ACCOMODATED? BURY IT OR HANG IN CONDUIT? THERE REALLY SEEMS TO BE AN OPPORTUNITY HERE TO DO SOMETHING UNIQUE IN OUR AREA, WITHIN BUDGET AND LONG LASTING, IF APPROACHED WITH CARE. THE RESIDENTS OF LEROY TWP, PERRY TWP. AND LAKE COUNTY AS A WHOLE WOULD BENEFIT FAR BETTER IN THE LONG RUN WITHOUT A HIGH-LEVEL ALTERNATIVE.

Comments will be accepted at the meeting, by mail, or e-mail until July 23, 2004:

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TRANSYSTEMS CORPORATION

December 8, 2005

Mr. Mark Kellerman
Ms. Sheryl Kellerman
2935 River Rd.
Perry, OH 44081

RE: Vrooman Road Study comments

Dear Mr. and Ms. Kellerman:

Thank you for your comments regarding the Vrooman Road Project following the public involvement meeting held on July 7, 2004. We appreciate you taking the time to bring issues you feel are important to our attention. All comments received as a result of the meeting were reviewed and considered during the development of the Planning Study. In review of our Planning Study Report, the Ohio Department of Transportation has suggested that we formally acknowledge receipt of each comment.

As a part of this process, the Lake County Engineer's office along with the Study Team have been in contact with the Metroparks as well as environmental interest groups, Army Corps of Engineers, Grand River Partners, and ODNR to consider the integrity of the Grand River Valley and are dedicated to meeting all state and federal requirements as a part of this project.

Regarding construction delays and detours, currently the only alternative under consideration that would not be expected to cause any lengthy detours is Alternative B (high-level bridge to Lane), which would only be expected to require closures during the reconstruction of the intersection.

You are correct that the cost was underestimated. The bridge cost shown at the public meeting did not take in to account the wide shoulders on the bridge structure. This information has since been updated and will be corrected in the planning study report.

If you have any more questions regarding this project, you may contact Alan Exley at the Lake County Engineer's office at (440) 350-2770. Thank you for your interest in this project.

Sincerely,

Susan C. Swartz

5747 Perimeter Drive, Ste. 240, Dublin, Ohio 43017 • (614) 336-8480 • (614) 336-8540

Vrooman Road Study

Public Meeting Comment Form
July 7, 2004

TRANSYSTEMS CORPORATION

Name: MARK F. KELLERMAN

Address: 2935 RIVER RD. PERRY OH. 44081

Representing: PROPERTY OWNER, TAXPAYER, CONCERNED CITIZEN

Which alternative do you prefer and why?

I BELIEVE ONLY ALT. C OR D SHOULD BE CONSIDERED. I'VE LIVED IN LAKE CO. FOR 50 YRS. + HAVE ENJOYED THE NATURAL SCENIC BEAUTY OF GRAND RIVER MOST OF MY LIFE. I DONT WANT TO SEE MY RIVER IMPACTED THE WAY HIGH LEVEL BRIDGE CONSTRUCTION WILL CAUSE. BEING A PROPERTY OWNER ON RIVER RD. I FEEL MY PROPERTY VALUES WILL SUFFER ALSO.
WHILE ALT. D WOULD HAVE NO IMPACT + LITTLE EXPENSE, ALT. C WOULD HAVE LOW IMPACT + ALLEVIATE THE FLOODING PROBLEM.

Other Comments:

THE PROJECTED COST OF A HIGH LEVEL BRIDGE IS GROSSLY UNDERESTIMATED. ESPECIALLY CONSIDERING THE UPGRADES THAT WILL BECOME NECESSARY AFTER IT'S COMPLETION.

Comments will be accepted at the meeting, by mail, or e-mail until July 23, 2004:

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Vrooman Road Study

Public Meeting Comment Form
July 7, 2004

TranSystems Corporation

Name: Sheryl Kellerman

Address: 2935 River Rd Perry OH 44081

Representing: Concerned Citizen, Property Owner & Taxpayer.

Which alternative do you prefer and why?

Alternative C would definatly be the 1st Choice. It has the least impact and expense while eliminating the problem.

Construction of a high level bridge over the Valley (A or B) would have a disasterous effect on the area for years! The Grand River & the surrounding area has a natural balance that will be adversely effected by the construction of a high level bridge & the added pollution to the area.

It is a county road & should be maintained as one for the residents of the community/county. A bridge above flood level would preserve the area & provide adequate access to Rt. 90.

Alternate D would be a 2nd Choice. - Low impact.

Other Comments:

If Alt. A or B are implimented, along w/ the exorbitant cost of construction there would be major on going maintenance issues - The Rt 90/Vrooman road overpass would also have to be upgraded to handle the increased traffic. Property values will be diminished. The delays & detours that will be caused by the construction will be greater than an inconvenience caused by the flooding of the area.

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TRANSYSTEMS CORPORATION

December 8, 2005

Mr. & Mrs. Kless
3151 River Rd.
Perry, OH 44081

RE: Vrooman Road Study comments

Dear Mr. & Mrs. Kless:

Thank you for your comments regarding the Vrooman Road Project following the public involvement meeting held on July 7, 2004. We appreciate you taking the time to express your opinions on the alternatives under consideration. All comments received as a result of the meeting were reviewed and considered during the development of the Planning Study. In review of our Planning Study Report, the Ohio Department of Transportation has suggested that we formally acknowledge receipt of each comment.

If you have any more questions regarding this project, you may contact Alan Exley at the Lake County Engineer's office at (440) 350-2770. Thank you for your interest in this project.

Sincerely,

Susan C. Swartz

Susan C. Swartz, PE, AICP
Project Manager

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Vrooman Road Study

Public Meeting Comment Form
July 7, 2004

TRANSYSTEMS CORPORATION

Name: Jack R. Linda S. Kless

Address: 3151 River Rd. Perry

Representing:

Which alternative do you prefer and why?

C - ~~[illegible]~~ - less impact on the River and Surrounding areas

Option D - might not solve the problem in question

Option A - I like this, because it seems to protect the river, valley etc. from as few changes as possible - and because it seems logical & a straight forward solution. Need to know more about this option.

Other Comments:

Comments will be accepted at the meeting, by mail, or e-mail until July 23, 2004:

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TRANSYSTEMS CORPORATION

December 8, 2005

Ms. Joyce Kmetz
5310 Naylor St.
Painesville, OH 44077

RE: Vrooman Road Study comments

Dear Ms. Kmetz:

Thank you for your comments regarding the Vrooman Road Project following the public involvement meeting held on July 7, 2004. We appreciate you taking the time to express your opinions on the alternatives under consideration. All comments received as a result of the meeting were reviewed and considered during the development of the Planning Study. In review of our Planning Study Report, the Ohio Department of Transportation has suggested that we formally acknowledge receipt of each comment.

If you have any more questions regarding this project, you may contact Alan Exley at the Lake County Engineer's office at (440) 350-2770. Thank you for your interest in this project.

Sincerely,

Susan C. Swartz

Susan C. Swartz, PE, AICP
Project Manager

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Vrooman Road Study

Public Meeting Comment Form
July 7, 2004

TRANSYSTEMS CORPORATION

Name: Joyce E. Kmetz

Address: 5310 Naylor St.

Representing: Myself

Which alternative do you prefer and why?

I prefer alternative C. I realize that there is a need for something bigger & better & that the road frequently floods. However, there is enough highway also between Routes 2 and 90 that I do not see the need for a high-level bridge that would bring an excess of traffic, as well as an excess of large trucks.

Other Comments:

I have lived in the area for 43 years and have seen a build up of homes and business. It doesn't seem like it would be good for the community if it go as far as the first 2 alternatives go.

Comments will be accepted at the meeting, by mail, or e-mail until July 23, 2004:

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TRANSYSTEMS CORPORATION

December 8, 2005

Ms. Carol Kochever
2506 Circle Dr.
Painesville, OH 44077

RE: Vrooman Road Study comments

Dear Ms. Kochever:

Thank you for your comments regarding the Vrooman Road Project following the public involvement meeting held on July 7, 2004. We appreciate you taking the time to bring issues you feel are important to our attention. All comments received as a result of the meeting were reviewed and considered during the development of the Planning Study. In review of our Planning Study Report, the Ohio Department of Transportation has suggested that we formally acknowledge receipt of each comment.

In your comments, you stated that you would like the area preserved as it is. We would like to assure you that on-going meetings and discussions between Lake Metroparks and Lake County to mitigate park access and functions are expected. It is the intent of the project to maintain access and recreation areas in the Grand River Valley. While replacing the bridge itself would alleviate the physical deterioration of the structure, the roadway would still be susceptible to flooding and would not eliminate the steep grade and sharp curve approaching SR 84. One important goal of the project is to provide passage for emergency vehicles and allow for an appropriate evacuation route of the area.

If you have any more questions regarding this project, you may contact Alan Exley at the Lake County Engineer's office at (440) 350-2770. Thank you for your interest in this project.

Sincerely,

Susan C. Swartz

Susan C. Swartz, PE, AICP
Project Manager

5747 Perimeter Drive, Ste. 240, Dublin, Ohio 43017 • (614) 336-8480 • (614) 336-8540

Vrooman Road Study

Public Meeting Comment Form
July 7, 2004

TranSystems Corporation

Name: Carol Kochever

Address: 2506 Circle Drive Painesville

Representing:

Which alternative do you prefer and why?

Alternatives C or D would be what we would like to see. We have very little problem or inconvenience with the way it is right now. If it is flooded, I have a pretty good idea before I approach Vrooman Road, so I simply allow extra time to go down Route 84. We like to picnic down at Mason's landing & would like to see the area preserved the way it is. I also thing a High level Bridge would create a whole new problem. More traffic through the area would mean longer delays on Madison Avenue, Route 84 and Lane Road. I feel very strong on just improving the existing bridge. We have lived here for 20 years and my husband grew-up here.

Other Comments:

The flooding is minimal and improving the existing bridge would solve the problem, preserve the area around the bridge and save a heck of a lot of funding that I'm sure is needed in a more serious problem area. A High level Bridge is not for this area - this is not a big city or high traffic area. This is my opinion and I feel very strongly about it. Thank you for caring. Carol Kocheven

Comments will be accepted at the meeting, by mail, or e-mail until July 23, 2004:

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TRANSYSTEMS CORPORATION

December 8, 2005

Mr. & Mrs. Krukowski
2509 Circle Dr.
Painesville, OH 44077

RE: Vrooman Road Study comments

Dear Mr. & Mrs. Krukowski:

Thank you for your comments regarding the Vrooman Road Project following the public involvement meeting held on July 7, 2004. We appreciate you taking the time to express your opinions on the alternatives under consideration. All comments received as a result of the meeting were reviewed and considered during the development of the Planning Study. In review of our Planning Study Report, the Ohio Department of Transportation has suggested that we formally acknowledge receipt of each comment.

As a part of this process, the Lake County Engineer's office along with the Study Team have been in contact with the Metroparks as well as environmental interest groups, Army Corps of Engineers, Grand River Partners, and ODNR to consider the integrity of the Grand River Valley and are dedicated to meeting all state and federal requirements as a part of this project. While replacing the bridge itself would alleviate the physical deterioration of the structure, the road would still be susceptible to flooding and would not eliminate the steep grade and sharp curves. One goal of the project is to provide an appropriate evacuation route for the area and allow passage for emergency vehicles of all sizes. All comments are taken into consideration throughout the study process and included in the study report.

If you have any more questions regarding this project, you may contact Alan Exley at the Lake County Engineer's office at (440) 350-2770. Thank you for your interest in this project.

Sincerely,

Susan C. Swartz

Susan C. Swartz, PE, AICP
Project Manager

5747 Perimeter Drive, Ste. 240, Dublin, Ohio 43017 • (614) 336-8480 • (614) 336-8540

CO-Annette Marquez

From: Joseph & Nerida Krukowski [jnjk@sbcglobal.net]
Sent: Thursday, July 22, 2004 12:25 AM
To: CO-VRoomanRoad
Subject: public meeting comment

Hi,
I am e-mailing you our comments concerning the Vrooman Road discussion. I will also be mailing a form with the same remarks.

As residents, taxpayers, parents and concerned citizens, our choice of options concerning Vrooman Road would be option C--Low level Bridge. There are so many good points for this option that we see all other options as frivolous , destructive and intrusive. Option C allows for our neighborhood and the natural beauty and assets of the area to be maintained. Option C safeguards our children at play, our vehicular integrity and our tax dollars. We see option C being an enhancement to the valley if designed with consideration to the flow of traffic and nature. Part of the beauty of this option would be that it would still limit the size of the vehicles using the pass.

However , given the demographics and economic factors, we know you will bulldoze ahead without consideration of our views. But we felt you should know how we felt.

Sincerely, Joseph and Nerida Krukowski. Residents of Circle Drive.

God answers "knee mail"!
In Christ, Nerida (for Joe) Krukowski

Vrooman Road Study

Public Meeting Comment Form
July 7, 2004

TRANSYSTEMS CORPORATION

Name: JOSEPH & NERIDA KRUKOWSKI

Address: 2509 Circle Dr

Representing:

Which alternative do you prefer and why?

As residents, taxpayers, parents & concerned citizens --- our choice of options concerning Vrooman Rd would be Option C - Low level Bridge. There are so many good points for this option that we see all other options as frivolous & destructive. Option C allows for our neighborhood & the natural beauty of the river to be maintained. Option C safe-gaurds our children at play, our vehicular safety & our tax dollars.

Other Comments:

However, given the demographics & economic factors, we know you will bulldoze ahead without consideration of our views. But we felt you should know how we felt.

Comments will be accepted at the meeting, by mail, or e-mail until July 23, 2004:

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TRANSYSTEMS CORPORATION

December 8, 2005

Mr. William Kuret
5313 Queen Ann Way
Painesville, OH 44077

RE: Vrooman Road Study comments

Dear Mr. Kuret:

Thank you for your comments regarding the Vrooman Road Project following the public involvement meeting held on July 7, 2004. All comments received as a result of the meeting were reviewed and considered during the development of the Planning Study. In review of our Planning Study Report, the Ohio Department of Transportation has suggested that we formally acknowledge receipt of each comment.

We appreciate you taking the time to express your opinions on the alternatives under consideration. We will make sure your name is on the mailing list provided to the county.

If you have any more questions regarding this project, you may contact Alan Exley at the Lake County Engineer's office at (440) 350-2770. Thank you for your interest in this project.

Sincerely,

Susan C. Swartz

Susan C. Swartz, PE, AICP
Project Manager

5747 Perimeter Drive, Ste. 240, Dublin, Ohio 43017 • (614) 336-8480 • (614) 336-8540

Vrooman Road Study

Public Meeting Comment Form
July 7, 2004

TranSystems Corporation

Name: William Kuret

Address: 5313 Queen Ann Way

Representing:

Which alternative do you prefer and why?

B - Traffic will be Away from my Residence

Other Comments:

I was Surprised that I DID NOT Receive Anything informing me of the Meeting. Especially Since Option C has A possibility of forcing me to move!

Comments will be accepted at the meeting, by mail, or e-mail until July 23, 2004:

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Dublin, Ohio 43017

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TRANSYSTEMS CORPORATION

December 8, 2005

Mr. Stephen LaBonne
2509 Circle Dr.
Painesville, OH 44077

RE: Vrooman Road Study comments

Dear Mr. LaBonne:

Thank you for your comments regarding the Vrooman Road Project following the public involvement meeting held on July 7, 2004. We appreciate you taking the time to bring issues you feel are important to our attention. All comments received as a result of the meeting were reviewed and considered during the development of the Planning Study. In review of our Planning Study Report, the Ohio Department of Transportation has suggested that we formally acknowledge receipt of each comment.

In your comments you were concerned about access to Vrooman Road. The intent is to maintain access, although some connections will need to be reconstructed. Alternative B (the high-level bridge to Lane) would not be expected to alter the access to Canterbury Crossing, as would be necessary in Alternatives A and C. The details will be resolved during the design phase once an alternative is chosen for advancement.

If you have any more questions regarding this project, you may contact Alan Exley at the Lake County Engineer's office at (440) 350-2770. Thank you for your interest in this project.

Sincerely,

Susan C. Swartz

Susan C. Swartz, PE, AICP
Project Manager

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Vrooman Road Study

Public Meeting Comment Form
July 7, 2004

TRANSYSTEMS CORPORATION

Name: Stephen Lafiosca

Address: 5444 Queen Ann Way

Representing:

Which alternative do you prefer and why?

C (low level close to existing) solves the general important problems - maintenance & flooding - with less cost and disruption of existing traffic patterns compared to A or B

D (replace existing) also deserves serious consideration as the simplest & cheapest way to keep the bridge open.

Other Comments:

I am angered by the high-level-to-close (B) option - I am a Canterbury crossing resident and it appears this option would severely compromise my access to Vrooman Rd.

+ between Madison and Lane on 84

Comments will be accepted at the meeting, by mail, or e-mail until July 23, 2004:

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TRANSYSTEMS CORPORATION

December 8, 2005

Ms. Joyce Lintern
2509 Circle Dr.
Painesville, OH 44077

RE: Vrooman Road Study comments

Dear Ms. Lintern:

Thank you for your comments regarding the Vrooman Road Project following the public involvement meeting held on July 7, 2004. We appreciate you taking the time to express your opinions on the alternatives under consideration. All comments received as a result of the meeting were reviewed and considered during the development of the Planning Study. In review of our Planning Study Report, the Ohio Department of Transportation has suggested that we formally acknowledge receipt of each comment.

If you have any more questions regarding this project, you may contact Alan Exley at the Lake County Engineer's office at (440) 350-2770. Thank you for your interest in this project.

Sincerely,

Susan C. Swartz

Susan C. Swartz, PE, AICP
Project Manager

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Vrooman Road Study

Public Meeting Comment Form

July 7, 2004

TRANSYSTEMS CORPORATION

Name: JOYCE WINTERN

Address: 5215 QUEEN ANN WAY PAINESVILLE (Perry Township)

Representing: Self

Which alternative do you prefer and why?

Alternative A.
I just prefer the tie in to be at Madison Ave.

alternative B - would be OK.

OK C D & E alternatives appear to be more like band-aid surgery.

Other Comments:

Joyce Wintern

Comments will be accepted at the meeting, by mail, or e-mail until July 23, 2004:

E-mail: VroomanRoad@transystems.com
Fax: (614) 336-8540

TranSystems Corporation
5747 Perimeter Drive, Suite 240
Dublin, Ohio 43017

To return with ... and affix postage.

TRANSYSTEMS CORPORATION

December 8, 2005

Mr. Todd Mackey
2509 Circle Dr.
Painesville, OH 44077

RE: Vrooman Road Study comments

Dear Mr. Mackey:

Thank you for your comments regarding the Vrooman Road Project following the public involvement meeting held on July 7, 2004. We appreciate you taking the time to express your opinions on the alternatives under consideration. All comments received as a result of the meeting were reviewed and considered during the development of the Planning Study. In review of our Planning Study Report, the Ohio Department of Transportation has suggested that we formally acknowledge receipt of each comment.

If you have any more questions regarding this project, you may contact Alan Exley at the Lake County Engineer's office at (440) 350-2770. Thank you for your interest in this project.

Sincerely,

Susan C. Swartz

Susan C. Swartz, PE, AICP
Project Manager

5747 Perimeter Drive, Ste. 240, Dublin, Ohio 43017 • (614) 336-8480 • (614) 336-8540

Vrooman Road Study

Public Meeting Comment Form
July 7, 2004

TRANSYSTEMS CORPORATION

Name: Todd Mackey

Address: 5302 Queen Ann Way

Representing:

Which alternative do you prefer and why?

I prefer alternative "B". It is a more straight road and this will help to aleviate the traffic congestion during the afternoon hours at the current intersection at Madison Ave. An intersection at Lane road will help.

Other Comments:

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TRANSYSTEMS CORPORATION

December 8, 2005

Mr. & Mrs. Manns
5321 Queen Ann Way
Painesville, OH 44077

RE: Vrooman Road Study comments

Dear Mr. & Mrs. Manns:

Thank you for your comments regarding the Vrooman Road Project following the public involvement meeting held on July 7, 2004. We appreciate you taking the time to bring issues you feel are important to our attention. All comments received as a result of the meeting were reviewed and considered during the development of the Planning Study. In review of our Planning Study Report, the Ohio Department of Transportation has suggested that we formally acknowledge receipt of each comment.

The project is included in the Northeast Ohio Areawide Coordinating Agency's (NOACA) plan for 2009. However, the ultimate date of construction will be dependent upon the timeline for environmental, design, and right-of-way purchase activities, in addition to the availability of funding. Alternative C, the option that would have the possibility of impacting your condo, is not currently being recommended for advancement.

If you have any more questions regarding this project, you may contact Alan Exley at the Lake County Engineer's office at (440) 350-2770. Thank you for your interest in this project.

Sincerely,

Susan C. Swartz

Susan C. Swartz, PE, AICP
Project Manager

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CO-Annette Marquez

From: OscarandGigi@aol.com
Sent: Monday, July 19, 2004 10:49 PM
To: CO-VRoomanRoad
Subject: [SPAM] Vrooman Road Bridge Plans

To Whom it may concern,

Any plan that is going to tear down our condo, is not my option for the bridge plans. We just bought this 5 years ago, and would hate to see it torn down for the high level bridge plan to Madison Avenue. Our option would be either of the plans to Lane Road, but hate to see anyone lose their home for this plan. We would be very interested in hearing when these plans might take effect. (Projected year). We had planned to retire here. Still plan to retire here. We do not want to move again. We waited years to buy our dream condo, and we have done that. Please take into consideration tearing down brand new condos.....Thank you so much. Oscar and Jeannette Manns, 5321 Queen Ann Way, Painesville, Ohio 44077 (Canterbury Crossing Condo)

TRANSYSTEMS CORPORATION

December 8, 2005

Mr. Jerald Mathews
5512 Vrooman Rd.
Painesville, OH 44077

RE: Vrooman Road Study comments

Dear Mr. Mathews:

Thank you for your comments regarding the Vrooman Road Project following the public involvement meeting held on July 7, 2004. We appreciate you taking the time to express your opinions on the alternatives under consideration. All comments received as a result of the meeting were reviewed and considered during the development of the Planning Study. In review of our Planning Study Report, the Ohio Department of Transportation has suggested that we formally acknowledge receipt of each comment.

If you have any more questions regarding this project, you may contact Alan Exley at the Lake County Engineer's office at (440) 350-2770. Thank you for your interest in this project.

Sincerely,

Susan C. Swartz

Susan C. Swartz, PE, AICP
Project Manager

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Vrooman Road Study

Public Meeting Comment Form
July 7, 2004

TranSystems Corporation

Name: Jerald H. Mathews

Address: 5512 Vrooman Road, Leroy OH

Representing: Self

Which alternative do you prefer and why?

B - least impact to home owners
- addresses flooding problems
- better traffic flow

Other Comments:

not A - traffic problem at Madison + 84
- a lot of east bound traffic on 84 comes from Madison

not C - No solution to flooding and traffic

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TRANSYSTEMS CORPORATION

December 8, 2005

Mr. Calvin Miller
2543 Circle Dr.
Painesville, OH 44077

RE: Vrooman Road Study comments

Dear Mr. Miller:

Thank you for your comments regarding the Vrooman Road Project following the public involvement meeting held on July 7, 2004. We appreciate you taking the time to express your opinions on the alternatives under consideration. All comments received as a result of the meeting were reviewed and considered during the development of the Planning Study. In review of our Planning Study Report, the Ohio Department of Transportation has suggested that we formally acknowledge receipt of each comment.

If you have any more questions regarding this project, you may contact Alan Exley at the Lake County Engineer's office at (440) 350-2770. Thank you for your interest in this project.

Sincerely,

Susan C. Swartz, PE, AICP
Project Manager

5747 Perimeter Drive, Ste. 240, Dublin, Ohio 43017 • (614) 336-8480 • (614) 336-8540

Vrooman Road Study

Public Meeting Comment Form
July 7, 2004

TranSystems Corporation

Name: Calvin C. Miller

Address: 2543 Circle Dr. Painesville, Ohio 44077

Representing:

Which alternative do you prefer and why?

I preffer "C" - this will eleminate flooding and not increase traffic flow on Madison avenue, at times now we have to wait for two light changes at Vrooman Rd and route 84 to get out on to Madison avenue and another wait for a light to change to get onto ~~Rd~~ Vrooman Rd or Rt 84 - this would not harm Masons landing where a lot of people use. Our Emergency vehicles have a hard tim getting in and out of our allotment and the two condo complexes.

Other Comments:

My biggest concern is to eliminating the flood of Vrooman Rd.

A and B would create a real mess as far as I can see it

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TRANSYSTEMS CORPORATION

December 8, 2005

Mr. & Mrs. Monreal
2965 River Rd.
Perry, OH 44081

RE: Vrooman Road Study comments

Dear Mr. & Mrs. Monreal:

Thank you for your comments regarding the Vrooman Road Project following the public involvement meeting held on July 7, 2004. We appreciate you taking the time to bring issues you feel are important to our attention. All comments received as a result of the meeting were reviewed and considered during the development of the Planning Study. In review of our Planning Study Report, the Ohio Department of Transportation has suggested that we formally acknowledge receipt of each comment.

In your comments you stated that you were concerned about the river and eco-system. As a part of this process, the Lake County Engineer's office along with the Study Team have been in contact with the Metroparks as well as environmental interest groups, Army Corps of Engineers, Grand River Partners, and ODNR to consider the integrity of the Grand River Valley and are dedicated to meeting all state and federal requirements as a part of this project. Preliminary noise analyses were performed within the study area, but detailed analyses are anticipated for later phases of project development.

You also voiced your concern about what a high-level bridge may look like in the valley. When designing the bridge, aesthetic applications may be taken into consideration to help the bridge blend in better with the environment.

If you have any more questions regarding this project, you may contact Alan Exley at the Lake County Engineer's office at (440) 350-2770. Thank you for your interest in this project.

Sincerely,

Susan C. Swartz

Susan C. Swartz, PE, AICP
Project Manager

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Vrooman Road Study

Public Meeting Comment Form
July 7, 2004

TRANSYSTEMS CORPORATION

Name: JOE + KATHY MONREAL

Address: 2965 RIVER RD PERRY OHIO 44081

Representing:

Which alternative do you prefer and why?

WE WOULD ONLY CONSIDER ALTERNATIVE C or D. WE FEEL THAT EITHER OF THESE WOULD CAUSE THE LEAST AMOUNT OF HAVOC ON OUR RIVER AND SURROUNDING ECOSTEM. I MYSELF AND KATHY ENJOY THE ENVIRONMENT THAT WE HAVE AROUND US NOW. WE WOULD NEVER WANT TO LOOK OUT OUR FRONT WINDOW TO SEE A HIGH LEVEL BRIDGE, AND NOISE AND TRUCK TRAFFIC THAT WOULD COME WITH IT. WE WILL FIGHT THIS BY ANY MEANS POSSIBLE.

Other Comments:

WE WILL CONTACT ALL PUBLIC OFFICIALS THAT WOULD BE IN FAVOR OF THE HIGH LEVEL BRIDGE, TO EXPRESS OUR OPPOSITION TO IT.

Comments will be accepted at the meeting, by mail, or e-mail until July 23, 2004:

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Vrooman Road Study

Public Meeting Comment Form
July 7, 2004

TranSystems Corporation

Name: Joe Monreal

Address: 2965 River Rd Perry OH 44081

Representing:

Which alternative do you prefer and why?

I do not prefer any of the alternatives. I live on River Road, the sixth house up. I think that the project would cause major disrupting of lives. The time factor for completing this project would cause much added time for our routes to and from work and just every day living. I worry that our property value would decrease. I also am opposed to all the truck traffic that this project would bring to the area. I also oppose the environment disruption that the project would cause.

Other Comments:

Comments will be accepted at the meeting, by mail, or e-mail until July 23, 2004:

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TRANSYSTEMS CORPORATION

December 8, 2005

Ms. Carolyn Morrison
5409 Pebble Creek Ln.
Painesville, OH 44077

RE: Vrooman Road Study comments

Dear Ms. Morrison:

Thank you for your comments regarding the Vrooman Road Project following the public involvement meeting held on July 7, 2004. We appreciate you taking the time to express your opinions on the alternatives under consideration. All comments received as a result of the meeting were reviewed and considered during the development of the Planning Study. In review of our Planning Study Report, the Ohio Department of Transportation has suggested that we formally acknowledge receipt of each comment.

In your comments you were concerned about impacts to the cemetery on Lane Road. During the design process, we anticipate that necessary measures will be taken to avoid or minimize any impacts to the cemetery.

If you have any more questions regarding this project, you may contact Alan Exley at the Lake County Engineer's office at (440) 350-2770. Thank you for your interest in this project.

Sincerely,

Susan C. Swartz

Susan C. Swartz, PE, AICP
Project Manager

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Vrooman Road Study

Public Meeting Comment Form
July 7, 2004

TRANSYSTEMS CORPORATION

Name: Carolyn Morrison

Address: 5409 Pebble Creek Ln.

Representing: self

Which alternative do you prefer and why?

Alternatives A or B - Do not believe the D, E, or C alternatives will be long term solutions to existing problems or concerns.

Prefer Alternative B because it would ~~appear~~ to impact the fewest # of people — ~~[illegible]~~ However, what impact would the bridge placement have on the Lane Rd. cemetery?

I thought the map of the intersection @ Madison Ave. (A) showed having to relocate 1 whole building at Canterbury Crossing which means at least 3 or 4 family units. That's not an issue/concern maybe it was the C plan.

Other Comments:

Appreciate opportunity to see proposed ideas & present preference prior to your selection of preferred alternative.

Maybe have meeting for residents of the N. side of the river (in Perry/P. Township) for next presentation!

Thanks —

Would have been nice to have had info. at Perry Library for 2 days or so other people could see it!

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TRANSYSTEMS CORPORATION

December 8, 2005

Mr. & Mrs. Neroda
5284 Queen Ann Way
Painesville, OH 44077

RE: Vrooman Road Study comments

Dear Mr.& Mrs. Neroda:

Thank you for your comments regarding the Vrooman Road Project following the public involvement meeting held on July 7, 2004. We appreciate you taking the time to express your opinions on the alternatives under consideration. All comments received as a result of the meeting were reviewed and considered during the development of the Planning Study. In review of our Planning Study Report, the Ohio Department of Transportation has suggested that we formally acknowledge receipt of each comment.

If you have any more questions regarding this project, you may contact Alan Exley at the Lake County Engineer's office at (440) 350-2770. Thank you for your interest in this project.

Sincerely,

Susan C. Swartz

Susan C. Swartz, PE, AICP
Project Manager

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Vrooman Road Study

Public Meeting Comment Form
July 7, 2004

TRANSYSTEMS CORPORATION

Name: Michael & Ruth Nerada

Address: 5284 Queen Ann Way, Canterbury Crossing Condo

Representing:

Which alternative do you prefer and why?

We prefer alternative D.

Other Comments:

We do not want alternative C

Comments will be accepted at the meeting, by mail, or e-mail until July 23, 2004:

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7 Perimeter Drive, Suite 240
Dublin, Ohio 43017

E-mail: VroomanRoad@transystems.com
Fax: (614) 336-8540

TRANSYSTEMS CORPORATION

December 8, 2005

Ms. Cynthia Nines
2562 Circle Dr.
Painesville, OH 44077

RE: Vrooman Road Study comments

Dear Ms. Nines:

Thank you for your comments regarding the Vrooman Road Project following the public involvement meeting held on July 7, 2004. We appreciate you taking the time to bring issues you feel are important to our attention. All comments received as a result of the meeting were reviewed and considered during the development of the Planning Study. In review of our Planning Study Report, the Ohio Department of Transportation has suggested that we formally acknowledge receipt of each comment.

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If you have any more questions regarding this project, you may contact Alan Exley at the Lake County Engineer's office at (440) 350-2770. Thank you for your interest in this project.

Sincerely,

Susan C. Swartz

Susan C. Swartz, PE, AICP
Project Manager

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Vrooman Road Study

Public Meeting Comment Form
July 7, 2004

TranSystems Corporation

Name: Cynthia Niney

Address: 2562 Circle Dr. PAINESVILLE OH 44077

Representing:

Which alternative do you prefer and why?

Alternative C -

Its Such a beautiful area, it would be a shame to Ruin it with Construction of a larger bridge plus all the wild life that would be affected. I moved out here to get away from all the traffic of the City.

We do not want this area to be another Mentor !!

No orange Barrels in this Area. Improve the Area without destroying Nature.

Other Comments:

Comments will be accepted at the meeting, by mail, or e-mail until July 23, 2004:

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TRANSYSTEMS CORPORATION

December 8, 2005

Mr. Thomas Ondrejech
2530 Circle Dr.
Painesville, OH 44077

RE: Vrooman Road Study comments

Dear Mr. Ondrejech:

Thank you for your comments regarding the Vrooman Road Project following the public involvement meeting held on July 7, 2004. We appreciate you taking the time to express your opinions on the alternatives under consideration. All comments received as a result of the meeting were reviewed and considered during the development of the Planning Study. In review of our Planning Study Report, the Ohio Department of Transportation has suggested that we formally acknowledge receipt of each comment.

If you have any more questions regarding this project, you may contact Alan Exley at the Lake County Engineer's office at (440) 350-2770. Thank you for your interest in this project.

Sincerely,

Susan C. Swartz

Susan C. Swartz, PE, AICP
Project Manager

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Vrooman Road Study

Public Meeting Comment Form
July 7, 2004

TRANSYSTEMS CORPORATION

Name: THOMAS ONDREJTECH

Address: 2530 CIRCLE DR. PAINESVILLE (PERRY TWP.)

Representing: SELF

Which alternative do you prefer and why?

ALT. "B" AND MOVE RIVER RD TO THE EAST. THIS WILL GIVE TRAFFIC A CLEAR EXIT -

Other Comments:

MAKE NEW ROAD PERRALEL TO VROOMAN. TO THE EAST.
THIS WAS TO BE DONE 40 YRS AGO. WHEN THEY BUILT THE INTERCHANGE

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TRANSYSTEMS CORPORATION

December 8, 2005

Ms. Mary E. Rogers
5208 Queen Ann Way
Painesville, OH 44077

RE: Vrooman Road Study comments

Dear Ms. Rogers:

Thank you for your comments regarding the Vrooman Road Project following the public involvement meeting held on July 7, 2004. We appreciate you taking the time to express your opinions on the alternatives under consideration. All comments received as a result of the meeting were reviewed and considered during the development of the Planning Study. In review of our Planning Study Report, the Ohio Department of Transportation has suggested that we formally acknowledge receipt of each comment.

If you have any more questions regarding this project, you may contact Alan Exley at the Lake County Engineer's office at (440) 350-2770. Thank you for your interest in this project.

Sincerely,

Susan C. Swartz

Susan C. Swartz, PE, AICP
Project Manager

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Vrooman Road Study

Public Meeting Comment Form
July 7, 2004

TRANSYSTEMS CORPORATION

Name: Mary C Rogers

Address: 5208 Queen Ann Way

Representing: myself

Which alternative do you prefer and why?

alternative B- traffic will be diverted from our condos

Other Comments:

alternative C will ruin our property values in Canterbury Crossing - will you buy us out?

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TRANSYSTEMS CORPORATION

December 8, 2005

Mr. Cliff Shandle
5773 Canyon Ridge Dr
Painesville, OH 44077

RE: Vrooman Road Study comments

Dear Mr. Shandle:

Thank you for your comments regarding the Vrooman Road Project following the public involvement meeting held on July 7, 2004. We appreciate you taking the time to express your opinions on the alternatives under consideration. All comments received as a result of the meeting were reviewed and considered during the development of the Planning Study. In review of our Planning Study Report, the Ohio Department of Transportation has suggested that we formally acknowledge receipt of each comment.

Thorough archaeology studies are anticipated as part of this project. Some studies have already been completed and areas of concern are being considered. Coordination will be conducted with the Ohio Department of Transportation Office of Environmental Services as well as the Ohio Historic Preservation Office to determine what measures need to be taken to address cultural resources.

If you have any more questions regarding this project, you may contact Alan Exley at the Lake County Engineer's office at (440) 350-2770. Thank you for your interest in this project.

Sincerely,

Susan C. Swartz

Susan C. Swartz, PE, AICP
Project Manager

5747 Perimeter Drive, Ste. 240, Dublin, Ohio 43017 • (614) 336-8480 • (614) 336-8540

CO-Annette Marquez

From: cliff & shirley [scshandle@ncweb.com]
Sent: Monday, July 19, 2004 3:05 PM
To: CO-VRoomanRoad
Subject: Vrooman Road Study Comment Form

In response to question "Which alternative do you prefer and why?" on comment form re. above subject,
I believe that alternative B would be the best option because in my view it would be more direct to the Nuke plant, less disturbing to residents, & a more direct path, perhaps saving cost.
I also thought that the archaeology study had already been done

.
Cliff Shandle

TRANSYSTEMS CORPORATION

December 8, 2005

Mr. Chris Siders
Mr. Paul Siders
5430 Vrooman Rd.
Painesville, OH 44077

RE: Vrooman Road Study comments

Dear Mr. Siders:

Thank you for your comments regarding the Vrooman Road Project following the public involvement meeting held on July 7, 2004. We appreciate you taking the time to bring issues you feel are important to our attention. All comments received as a result of the meeting were reviewed and considered during the development of the Planning Study. In review of our Planning Study Report, the Ohio Department of Transportation has suggested that we formally acknowledge receipt of each comment.

Part of the purpose and need for this project is safety, which includes providing a proper evacuation route for the Perry Nuclear Power Plant that can accommodate all standard sized vehicles. The current roadway has steep slopes and sharp turns that, among other things, do not allow proper sight distance for oncoming obstacles.

All comments and concerns are noted and will be included in the study report. It is true that whatever option is selected will not meet the wishes of everyone that submitted a comment.

If you have any more questions regarding this project, you may contact Alan Exley at the Lake County Engineer's office at (440) 350-2770. Thank you for your interest in this project.

Sincerely,

Susan C. Swartz

Susan C. Swartz, PE, AICP
Project Manager

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Vrooman Road Study

Public Meeting Comment Form
July 7, 2004

TRANSYSTEMS CORPORATION

Name: Chris Siders

Address: 5430 Vrooman Rd., Leroy Twp.

Representing:

Which alternative do you prefer and why?

Choice #1 - Alt C - fixes the bridge + resolves flood problem on Seeley Rd without screwing anything else up. (yes, I realize that trucks will still have a problem + won't be able to negotiate the steep hill + curves. That's actually a good thing to me personally. I do not want semis barrelling down my road at 50 mph which is exactly what will happen with the high level scenarios.)

Choice #2 - Alt. D (see above.)

Choice #3 - Alt A - I'm not naive + don't honestly belive the govt. will make this decision based on the input of a few dozen citizens - get real! So, because I know that the engineering co. will push for one of the high level bridges, then A is clearly the best high-level bridge alternative (because it doesn't screw up Madison Ave + Rte 84 as much as Alt B which is real cluster

Other Comments:

I suppose it's nice that the govt. process includes asking for our input, although I'm cynical about how much weight it truly carries in the scheme of things. But I'm trying to be optimistic so thank you for this opportunity. However - we certainly were not given any length of time to have any citizen (resident) meetings amongst ourselves after the meeting, did we?! Only 2 weeks - not enough time to mobilize anyone to action. Almost like it was planned that way... how about that. Also, Transystems was able to ballpark a cost estimate for Alt. C + we were told how expensive it is (#4MM I think?) but when asked to ballpark Alt. A or B for comparison, I was told that you have [illegible]

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Vrooman Road Study

Public Meeting Comment Form
July 7, 2004

TranSystems Corporation

Name: PAUL SIDERS

Address: 5430 VROOMAN RD.

Representing:

Which alternative do you prefer and why?

"C" IS MY CHOICE. THIS WILL IMPROVE CROSSING THE RIVER AT "HIGH WATER" TIMES. BUT, WILL SOME WHAT HELP TO CONTROL TRAFFIC SPEED. AS IT IS NOW, TRAFFIC EXCEEDS POSTED SPEEDS OF 45 MPH AND 25 MPH. CONSTANT TRAFFIC AND EXCESS SPEEDING MAKES FOR DIFFICULT ENTERING AND EXITING DRIVE-WAYS. IF THIS PROBLEM EXISTS NOW, IT WILL ONLY GET WORSE IF AND WHEN VROOMAN RD. GETS IMPROVEMENTS. DON'T INSULT MY INTELLIGENCE AND TELL ME THIS WON'T BE A PROBLEM. EVEN NOW TRUCKS WITH TRAILERS (SEMI'S) USE VROOMAN.

Other Comments:

YOUR PEOPLE NEED TO GET TOGETHER BEFORE MEETING WITH THE RESIDENTS. YOUR INFORMATION WASN'T CONSISTANT WITH YOUR REPS. ONE WOULD ANSWER QUESTIONS ONE WAY AND THEN WHEN ASKED LATER THE SAME QUESTION IT WOULD BE DIFFERENT. OR QUESTIONS WERE ASKED AND REP. WOULD HAVE TO ASK ONE OR TWO OF THIER PEERS. THE ANSWER MIND YOU, THESE WERE NOT HARD QUESTIONS OR OUT OF THE ORDINARY. ALL THIS DID WAS CAUSE US TO QUESTION ANY INFORMATION GIVEN. MIND YOU, ALL THOSE ATTENDING DID USE PHONES TO COMMUNICATE INFORMATION GIVEN OUT AT DIFFERENT TIMES OF THE OPEN HOUSE

Comments will be accepted at the meeting, by mail, or e-mail until July 23, 2004:

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TRANSYSTEMS CORPORATION

December 8, 2005

Mr. Leo Talikka, Esq.
2603 Riverside Dr., Suite 100
Painesville, OH 44077

RE: Vrooman Road Study comments

Dear Mr. Talikka:

Thank you for your comments regarding the Vrooman Road Project following the public involvement meeting held on July 7, 2004. We appreciate you taking the time to express your opinions on the alternatives under consideration. All comments received as a result of the meeting were reviewed and considered during the development of the Planning Study. In review of our Planning Study Report, the Ohio Department of Transportation has suggested that we formally acknowledge receipt of each comment.

If you have any more questions regarding this project, you may contact Alan Exley at the Lake County Engineer's office at (440) 350-2770. Thank you for your interest in this project.

Sincerely,

Susan C. Swartz

Susan C. Swartz, PE, AICP
Project Manager

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Vrooman Road Study

Public Meeting Comment Form
July 7, 2004

TRANSYSTEMS CORPORATION

Name: Leo J. Talikka, Esq.

Address: 2603 Riverside Drive - Suite 100, Painesville, Ohio 44077

Representing: Self -

Which alternative do you prefer and why?

I prefer that Vrooman Road be kept in the same location as it is presently and that the bridge be replaced. Therefore, I choose Alternative C- Low-Level Bridge. However, my second choice would be Alternative B- High Level Bridge to Lane Avenue.

Other Comments:

It is hereby requested that you forward a copy of the proposed sites that you had at the meeting at Leroy Hall along with any photographs.

Thank you for your anticipated cooperation.

Comments will be accepted at the meeting, by mail, or e-mail until July 23, 2004:

TranSystems Corporation
5747 Perimeter Drive, Suite 240
Dublin, Ohio 43017

E-mail: VroomanRoad@transystems.com
Fax: (614) 336-8540

To return without envelope: fold in thirds, tape or staple, and affix postage.

TRANSYSTEMS CORPORATION

December 8, 2005

Mr. & Mrs. Tuttle
2821 River Rd.
Perry, OH 44081

RE: Vrooman Road Study comments

Dear Mr. & Mrs. Tuttle:

Thank you for your comments regarding the Vrooman Road Project following the public involvement meeting held on July 7, 2004. We appreciate you taking the time to bring issues you feel are important to our attention. All comments received as a result of the meeting were reviewed and considered during the development of the Planning Study. In review of our Planning Study Report, the Ohio Department of Transportation has suggested that we formally acknowledge receipt of each comment.

In your comments you stated the Alternative C would not impede on residential properties, however, Alternative C includes taking out four units at the Canterbury Crossing condos to accommodate the improvements that would be needed for the intersection at Vrooman Rd. and SR 84.

The exact configuration of the reconnection of River Road will be resolved if the Lane Road option is selected for further work. Several different ideas are being discussed for providing this connection. Based upon discussions with the County, we anticipate that landowners whose property would be affected will be contacted for further discussion on these matters when the study resumes.

If you have any more questions regarding this project, you may contact Alan Exley at the Lake County Engineer's office at (440) 350-2770. Thank you for your interest in this project.

Sincerely,

Susan C. Swartz

Susan C. Swartz, PE, AICP
Project Manager

5747 Perimeter Drive, Ste. 240, Dublin, Ohio 43017 • (614) 336-8480 • (614) 336-8540

CO-Annette Marquez

From: russt [russt@ncweb.com]
Sent: Friday, July 23, 2004 8:01 AM
To: CO-VRoomanRoad
Subject: [SPAM] VROOMAN ROAD STUDY

VROOMAN ROAD STUDY
TO WHOM IT MAY CONCERN:

THE ALTERNATIVE DESIGN THAT I THINK IS THE MOST APPROPRIATE IS ALTERNATIVE C. THIS ALTERNATIVE IS THE MOST COST AFFECTIVE IN MY OPINION. IT RAISES THE ROAD ABOVE THE FLOOD PLANE, WHICH WOULD ALLEVIATE ANYMORE FLOODING PROBLEMS. IT CREATES A NEW BRIDGE THAT WOULD ALLOW TRAFFIC TO FLOW BETTER. MOST OF ALL IT DOES NOT IMPEDE ON ANYONE'S RESIDENTIAL PROPERTY AND LIFESTYLE.

MY WIFE AND I BOUGHT THIS HOUSE ABOUT 1 MONTH AGO ONLY TO BE DEVASTATED BY NEWS THAT ONE OF THE POSSIBLE BRIDGE DESIGNS WAS GOING TO CONNECT WITH LANE RD. AND REROUTE RIVER RD. TO TRAVEL THROUGH MY PROPERTY BEHIND MY BARN. WE PURCHASED THIS PROPERTY BECAUSE OF THE PARK LIKE FEATURES AND THE AMOUNT OF ACREAGE. THIS WOULD TOTALLY DESTROY OUR PROPERTY. WE HAVE TWO YOUNG CHILDREN THAT WE WANTED TO GROW UP WITH THIS PROPERTY AND NOT TO GIVE PORTIONS OF IT TO A ROADWAY THAT IS NOT NEEDED. WE DID NOT KNOW THAT WE WERE PAYING $209, 000 FOR PROPERTY THAT WOULD BE STUCK IN THE MIDDLE OF TWO BUSY ROADWAYS WITH A HIGH RISE BRIDGE. WE WOULD ALSO LOSE A LOT OF PROPERTY VALUE AND PROBABLY NOT EVEN BE ABLE TO SELL THE PROPERTY FOR ANYTHING CLOSE TO WHAT WE PAID FOR IT. A HIGH RISE BRIDGE IS ONLY GOING TO BRING MORE NOISE, TRAFFIC AND SEMI TRAFFIC TO A RURAL SETTING THAT HARDLY EXISTS ANYWHERE IN LAKE COUNTY NOW. THERE ARE ALREADY SEVERAL STATE ROUTES IN THE AREA THAT SEMI TRAFFIC CAN USE. ! I SEE NO NEED FOR A HIGH RISE BRIDGE WHEN YOU CAN CREATE A BRIDGE IN THE SAME LOCATION BRINGING EVERYTHING ABOVE THE FLOOD PLANE. PEOPLE THAT BUY HOUSES IN THIS AREA BUY THEM FOR THE RURAL SETTING NOT TO SEE MORE TRAFFIC AND INDUSTRY TO CREATE A MENTOR.

SINCERELY,

RUSSELL & DONEILLE TUTTLE
2821 RIVER RD.
PERRY, OH 44081
(440) 259-3541

TRANSYSTEMS CORPORATION

December 8, 2005

Mr. Frank, Ms. Joan, and Ms. Jane Pitchler
2840 South Ridge Rd.
Perry, OH 44081

RE: Vrooman Road Study comments

Dear Mr. and Ms. Pitchler:

Thank you for your comments regarding the Vrooman Road Project following the public involvement meeting held on July 7, 2004. We appreciate you taking the time to bring issues you feel are important to our attention. All comments received as a result of the meeting were reviewed and considered during the development of the Planning Study. In review of our Planning Study Report, the Ohio Department of Transportation has suggested that we formally acknowledge receipt of each comment.

As a part of this process, the Lake County Engineer's office along with the Study Team have been in contact with the Metroparks as well as environmental interest groups, Army Corps of Engineers, Grand River Partners, and ODNR to consider the integrity of the Grand River Valley and are dedicated meeting state and federal requirements as a part of the project.

Part of the purpose and need for this project is safety, the current roadway has steep slopes and sharp turns that, among other things, do not allow proper sight distance for oncoming obstacles. The improvements at the SR 84 and Vrooman Road intersection are to eliminate the skew of the intersection, improving sight distance as a safety factor. The five-point intersection at Lane Road, River Road and SR 84 is being evaluated and solutions to this intersection are being investigated.

Another major purpose for this project has been providing an evacuation route for the Perry Nuclear Power Plant that can accommodate all standard vehicle sizes.

Thorough historical and archaeological studies will be done as a part of this project to consider any areas that are considered historic or archaeological points of interest.

As of right now, it is not possible to evaluate how any of the alternatives may affect the value of your property.

5747 Perimeter Drive, Ste. 240, Dublin, Ohio 43017 • (614) 336-8480 • (614) 336-8540

TRANSYSTEMS CORPORATION

If you have any more questions regarding this project, you may contact Alan Exley at the Lake County Engineer's office at (440) 350-2770. Thank you for your interest in this project.

Sincerely,

Susan C. Swartz, PE, AICP
Project Manager

5747 Perimeter Drive, Ste. 240, Dublin, Ohio 43017 • (614) 336-8480 • (614) 336-8540

Vrooman Road Study

Public Meeting Comment Form
July 7, 2004

TRANSYSTEMS CORPORATION

Name: FRANK W PITCHLER

Address: 2840 SOUTH RIDGE RD. PERRY, OH 44081

Representing: HOME OWNER, PROPERTY OWNER

Which alternative do you prefer and why?

I PREFER PLAN C AND/OR D

PLAN D HAS NO CHANGE TO THE PARK OR ANYONE'S HOME OR PROPERTY. IF WE HAVE TO PICK ANOTHER PLAN, C WOULD BE THE ONE I COULD LIVE WITH. IT WOULD SOLVE THE FLOODING ISSUE.

PLAN A OR B, I WOULD TRY TO STOP. IT WOULD RUIN THE PARK SETTING; STEAL PEOPLE'S PROPERTY AND HOMES, NOT TO MENTION PROPERTY DEPRECIATION. THE HISTORICAL FLARE. THE NOISE AND OTHER RESULTS OF A HIGH LEVEL BRIDGE WOULD BE DRASTI

THINK THIS PART OF PERRY IS ONE OF THE MOST SCENIC SETTING N LAKE COUNTY. THE HISTORICAL HOMES, THE HISTORY AND TRACES OF THE PAST INDIAN CULTURE, THE WATER FALL, THE GRAND RIVER, TRIBUTARI AND BACKYARD STREAMS, WILDLIFE, HILLS AND VALLEYS MAKE A WONDERFUL PICTURE. IT WOULD BE ASHAMED TO DESTROY SUCH A PLACE. PROGRESS CAN BE REROUTED DOWN RTE. 44, RTE 2 AND RTE. 20 RTE 528.

Other Comments:

I MOVED HERE 15 YEARS AGO TO ESCAPE THE RAT RACE OF MENTOR AND CONCORD. I DESIGNED AND BUILT MY OWN HOUSE. MY WIFE, OUR FAMILY, AND I DID EVERYTHING FROM CLEARING THE PROPERTY, LAYIN THE FOUNDATION, FRAMING AND EVERTHING ELSE TO CREATE A WONDERFUL HOME FOR MY FAMILY AND I TO LIVE. I KNOW HOW THE PIONEERS MUST HAVE FELT. MANY FOND MEMORIES HAVE BEEN MADE. WHAT YOU PROPOSE IN PLAN B AND A WOULD DESTOY WHAT I HAVE WORKED SO HARD FOR.

Comments will be accepted at the meeting, by mail, or e-mail until July 23, 2004:

TranSystems Corporation
5747 Perimeter Drive, Suite 240
Dublin, Ohio 43017

E-mail: VroomanRoad@transystems.com
Fax: (614) 336-8540

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Vrooman Road Study

Public Meeting Comment Form
July 7, 2004

TranSystems Corporation

Name: Jayne Pitchler

Address: 2840 South Ridge Rd.

Representing: Taxpayer, Voter, Perry Resident

Which alternative do you prefer and why?

I strongly prefer that a combination of alternative plans C and D be used. This combination would allow for the altering of the bridge and the raising of the road to prevent flooding but nothing more than that. The intersection with Route 84, Mentor Ave., and Vrooman Rd. would stay the same and therefore not affect the business on the corner of Rt. 84 and Mentor Ave. or the condo on the edge of Rt. 84. (As seen in Plan C alone). This combination/alteration of plans C and D would eliminate the hassle of deciding whose property, home, and/or business is more valuable than another's. Any other "improvements" would not be for our benefit.

Other Comments:

On a more personal note, people who have lived in Perry Twp. have grown accustomed to Vrooman Rd. and it's many "deficiencies", as they are called. In matter of fact, many of us would rather "accept" these deficiencies than accept something much worse, such as the taking of our property, home, privacy and environment as it is. It is a fact, after talking to many of my neighbors, that many others besides myself would be satisfied if the decision were to use plan D, leaving Vrooman Rd. as it is, or using a combination of Plans C and D. Choose wisely and keep in mind those who will be most affected by this decision. These are our homes, our property, our privacy, and our environment that you are affecting! (comments continued on next page)

Comments will be accepted at the meeting, by mail, or e-mail until July 23, 2004:

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Jayne Pitchler

Other Comments (Continued...):

As an afterthought, many have used the Perry Nuclear Power Plant as an excuse for building a new bridge. Let us not forget that the Perry Nuclear Power Plant's lifespan is coming to a rapid end. By the time this project is completed, it would be a pitiful excuse for constructing alternatives A and B. Besides, anyone who decides to take up residence in Perry takes the risk of the Nuclear Power Plant melting down. If this were the case, most people would never escape in time, even if they did try to. For us who have lived in Perry before the construction of the Nuclear Power Plant, it is a fate that we too have accepted and would rather live in the peaceful environment that we originally moved here to, than to ruin that for a false sense of security. The only other reason for such a major construction would be to allow semi trucks through for the industrialization of Perry and it's surrounding areas. Many people moved to Perry before the school systems were even improved, including myself, and it was because of the land and it's beautiful surroundings that many people decided to settle here. If we wanted to be caught up in the mad rush of traffic and the problems that come with inner city life, all of us would move to a city like Mentor or similar to it. We don't want that though! Constructing a massive bridge, as seen in alternative plans A and B, would not only allow for increased traffic flow, both car and semi, but it would also ruin the environment for both the Metro Parks, and personal home and land owners in the area. These alternatives would decrease the value of many lovely homes in the area and devastate the natural environment that surrounds this scenic area.

Vrooman Road Study

Public Meeting Comment Form
July 7, 2004

TRANSYSTEMS CORPORATION

Name: JOAN M. Pitchler

Address: 2840 South Ridge Rd., Perry, OH 44081

Representing: Home and Property Owner

Which alternative do you prefer and why?

I prefer plan C and/or D. I would like the low level bridge for the main reason it would keep this area pretty much the way it is. The major flooding concern would be corrected. The Metro Park would keep it's same appeal, nature and the historical setting for ALL OF THE SURROUNDING AREA would have minimal impact, and property value for the local home owners would not be affected.

Plan B is completely OUT for the main reasons listed above. There are historical landmarks that become an issue, not to mention the chaotic scenario's of a 5pt. Intersection or 3 Intersections so close together. This added Intersection would destroy the natural setting of beauty and wildli in my backyard. Let us not forget about nature and the enviromental impact to my land!

Other Comments:

We moved to Perry over 15 years ago. We built our own home. This was before any new schools were built and urban sprawl was in Mentor and Concord. We would have moved farther out but I already have an hour's drive to work and my husband a 30-minute drive. We wanted the country atmosphere and the Metro Park setting. Over this time, we have seen Perry build much faster than we had hoped and when the option came, we acquired a little more property around us to insure maximum distance from our neighbors. My husband and I both grew up in areas that drastically changed in time- Willoughwick and Boardman, OH. Just traveling around the area, we have seen what Heisley Rd and Lost Nations have become! It makes us sick! People have moved here because of the wonderful setting, please DO NOT take this from us.

Comments will be accepted at the meeting, by mail, or e-mail until July 23, 2004:

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Dublin, Ohio 43017

E-mail: VroomanRoad@transystems.com
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TRANSYSTEMS CORPORATION

December 8, 2005

Mr. & Mrs. Ungers
3210 River Rd.
Perry, OH 44081

RE: Vrooman Road Study comments

Dear Mr. & Mrs. Ungers:

Thank you for your comments regarding the Vrooman Road Project following the public involvement meeting held on July 7, 2004. We appreciate you taking the time to express your opinions on the alternatives under consideration. All comments received as a result of the meeting were reviewed and considered during the development of the Planning Study. In review of our Planning Study Report, the Ohio Department of Transportation has suggested that we formally acknowledge receipt of each comment.

You expressed concerns regarding noise issues. Preliminary noise analyses were performed within the study area for comparison of the early options, but detailed analyses are anticipated for future phases of project development as design choices are developed.

If you have any more questions regarding this project, you may contact Alan Exley at the Lake County Engineer's office at (440) 350-2770. Thank you for your interest in this project.

Sincerely,

Susan C. Swartz

Susan C. Swartz, PE, AICP
Project Manager

5747 Perimeter Drive, Ste. 240, Dublin, Ohio 43017 • (614) 336-8480 • (614) 336-8540

Vrooman Road Study

Public Meeting Comment Form
July 7, 2004

TRANSYSTEMS CORPORATION

Name: R. JOSEPH + LILIAN UNGERS

Address: 3210 RIVER RD – PERRY, O 44081

Representing: STONEGATE FARM

Which alternative do you prefer and why?

C- LOW LEVEL BRIDGE

OUR FARM IS NORTH OF THE GRAND RIVER FROM INDIAN POINT. WE HAVE ENJOYED THE PEACE AND QUIET ~~OF OUR~~ OF OUR PROPERTY SINCE 1957. WE WOULD HATE TO HAVE TO HEAR THE TRAFFIC THAT WOULD BE CREATED WITH A HIGH LEVEL MAIN ARTERY, SIMILAR TO MENTORS THREE NORTH SOUTH ARTERYS - LETS KEEP SOME PLACE IN THIS COUNTY A RURAL AREA.

Other Comments:

Comments will be accepted at the meeting, by mail, or e-mail until July 23, 2004:

TranSystems Corporation
5747 Perimeter Drive, Suite 240
Dublin, Ohio 43017

E-mail: VroomanRoad@transystems.co
Fax: (614) 336-8540

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TRANSYSTEMS CORPORATION

December 8, 2005

Mr. Dan Waltermire
5580 Canyon Ridge Rd.
Painesville, OH 44077

RE: Vrooman Road Study comments

Dear Mr. Waltermire:

Thank you for your comments regarding the Vrooman Road Project following the public involvement meeting held on July 7, 2004. We appreciate you taking the time to express your opinions on the alternatives under consideration. All comments received as a result of the meeting were reviewed and considered during the development of the Planning Study. In review of our Planning Study Report, the Ohio Department of Transportation has suggested that we formally acknowledge receipt of each comment.

If you have any more questions regarding this project, you may contact Alan Exley at the Lake County Engineer's office at (440) 350-2770. Thank you for your interest in this project.

Sincerely,

Susan C. Swartz

Susan C. Swartz, PE, AICP
Project Manager

5747 Perimeter Drive, Ste. 240, Dublin, Ohio 43017 • (614) 336-8480 • (614) 336-8540

CO-Annette N. Marquez

From: lcdwaltermire@juno.com
Sent: Wednesday, July 07, 2004 7:21 PM
To: CO-VRoomanRoad
Cc: Dan.Waltermire@ps.ge.com
Subject: Vrooman Road Study Comments

Name: Dan Waltermire
Address: 5580 Canyon Ridge Drive, Painesville (Perry Twp), OH 44077
Representing: None (but member of Canyon Ridge Homeowners Assoc - ~70 owners of land near Vrooman)

Which alternatives preferred and why?
I prefer Alternative A and B much more than Option C, D, and E. Option A is my favorite and let me explain my rankings. Option A and B would eliminate the dangers of going and up and down the steep hills (versus Options C-E) which can be treacherous in the winter especially freezing rain. It also would allow any large emergency vehicles (large fire vehicles or anything needed to get from/to the Perry Nuclear Plant). Option A seems to be better in that the existing power lines would be avoided and a potential five-way intersection would be avoided. In my opinion more people go west on 84 or straight on Madison Ave then go right towards Lane Rd/River Rd or 84 East. But still there's not a lot of differences between A or B. Option C is better than D or E for the long-term but should only be considered in my opinion if the funding for A or B can not be obtained. Option D would be tough because I imagine at least 6-8 months the bridge would be closed whereas Options A-C would allow minimal to no disruption to those that save a lot of time using Vrooman Road versus other alternatives. I travel round-trip daily on Vrooman Road to Summit County and my spouse uses it probably round-trip every other day. Getting this bridge fixed should be a big concern for most of the local area residents of eastern Painesville Twp and Southern Perry Twp. I also know other people in North Perry that use Vrooman Road on good weather days because State Route 20 is dangerous until it turns into S.R 2.

Other Comments: Thank you to Lake Country and TransSystems for sending a letter and hosting an Open House to understand the options, ask questions, and be able to provide our feedback.

Here's a current peeve of mine. Lake County or ODOT should have a sign or flashing lights/radio warning drivers on I-90 that Vrooman Road is closed (due to flooding or if in winter). It normally doesn't make on the radio traffic stations (like WTAM- AM 1100). The sign or lights should be in the East bound lanes on I-90 before S.R. 44 in order for people to exit on 44 and come across Rt. 84 or some other way. To a lesser frequency people should have a warning before the Madison exit in the westbound for the same reason. However if a new bridge project is coming in the next few years than it's probably not worth it.

Any questions please call me at 440-350-1919

TRANSYSTEMS CORPORATION

December 8, 2005

Mr. Alvin Wells
5220 Queen Ann Way
Painesville, OH 44077

RE: Vrooman Road Study comments

Dear Mr. Wells:

Thank you for your comments regarding the Vrooman Road Project following the public involvement meeting held on July 7, 2004. We appreciate you taking the time to bring issues you feel are important to our attention. All comments received as a result of the meeting were reviewed and considered during the development of the Planning Study. In review of our Planning Study Report, the Ohio Department of Transportation has suggested that we formally acknowledge receipt of each comment.

While replacing the bridge would alleviate the physical deterioration of the structure, the roadway would still be within the 100-year floodplain, leaving it susceptible to flooding needing continued maintenance on the county's part. Alternative C raises the bridge just above the 100-year floodplain, but would require completely reconstructing Vrooman Road up the bank on the north side. It would also require reconstruction of the intersection at SR 84 and Vrooman Road and much of SR 84 between Madison Avenue and Lane Road.

As a part of this process, the Lake County Engineer's office along with the Study Team have been in contact with the Metroparks as well as environmental interest groups, Army Corps of Engineers, Grand River Partners, and ODNR to insure the integrity and beauty of the Grand River Valley and are dedicated to taking all environmental precautions as a part of this project. Preliminary noise analyses were performed within the study area, with detailed analyses planned for later phases of project development.

If you have any more questions regarding this project, you may contact Alan Exley at the Lake County Engineer's office at (440) 350-2770. Thank you for your interest in this project.

Sincerely,

Susan C. Swartz

Susan C. Swartz, PE, AICP

5747 Perimeter Drive, Ste. 240, Dublin, Ohio 43017 • (614) 336-8480 • (614) 336-8540

CO-Annette Marquez

From: apw2002 [apw2002@ameritech.net]
Sent: Saturday, July 17, 2004 3:26 PM
To: CO-VRoomanRoad
Subject: Vrooman Road Project

Hello,
My name is Alvin P. Wells. I do not believe that options A, B, or C will benefit this area. If anything it will detract from the semi-quiet nature we currently enjoy. Redesigning the interchange at Route 84 and Madison avenue will probably result in much more traffic on a daily basis. There is already ample traffic in this area. We do not need a high span, high speed bridge to make travel easier. In my opinion, option D along with raising the road bed above flood level would make the most sense and could be accomplished with the least amount of expense and inconvenience to all concerned. In lieu of this, Option 'D' alone, would be preferred.

Thank you.

Alvin P. Wells
5220 Queen Ann Way
440-357-5533

TRANSYSTEMS CORPORATION

December 8, 2005

Ms. Cindee Wied
3055 River Rd.
Perry, OH 44081

RE: Vrooman Road Study comments

Dear Ms. Wied:

Thank you for your comments regarding the Vrooman Road Project following the public involvement meeting held on July 7, 2004. We appreciate you taking the time to express your opinions on the alternatives under consideration. All comments received as a result of the meeting were reviewed and considered during the development of the Planning Study. In review of our Planning Study Report, the Ohio Department of Transportation has suggested that we formally acknowledge receipt of each comment.

If you have any more questions regarding this project, you may contact Alan Exley at the Lake County Engineer's office at (440) 350-2770. Thank you for your interest in this project.

Sincerely,

Susan C. Swartz

Susan C. Swartz, PE, AICP
Project Manager

5747 Perimeter Drive, Ste. 240, Dublin, Ohio 43017 • (614) 336-8480 • (614) 336-8540

Vrooman Road Study

Public Meeting Comment Form
July 7, 2004

TRANSYSTEMS CORPORATION

Name: Cindee Wied

Address: 3035 River Rd.

Representing:

Which alternative do you prefer and why?

Alternative (A)

- No need to relocate homes.
- No need to cross stream - causing additional cost to construct bridge/supports
- No impact to archaeology site near Lane Rd

Other Comments:

Comments will be accepted at the meeting, by mail, or e-mail until July 23, 2004:

TranSystems Corporation
5747 Perimeter Drive, Suite 240
Dublin, Ohio 43017

E-mail: VroomanRoad@transystems.com
Fax: (614) 336-8540

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TRANSYSTEMS CORPORATION

December 8, 2005

Paul Belanger, Ph.D., President
Grand River Partners, Inc.
c/o Lake Erie College
891 W. Washington Street
Painesville, OH 44077

RE: Vrooman Road Study comments

Dear Dr. Belanger:

Thank you for your comments regarding the Vrooman Road Project following the public involvement meeting held on July 7, 2004. We appreciate you taking the time to bring issues you feel are important to our attention. All comments received as a result of the meeting were reviewed and considered during the development of the Planning Study. In review of our Planning Study Report, the Ohio Department of Transportation has suggested that we formally acknowledge receipt of each comment.

As a part of this process, the Lake County Engineer's office along with the Study Team have been in contact with the Metroparks as well as environmental interest groups, Army Corps of Engineers, the Grand River Partners, and ODNR to consider the integrity of the Grand River Valley and are dedicated to meeting all state and federal requirements as a part of this project.

We understand your concern for the Grand River Valley. However, it is not clear that Alternative C is the best choice for this purpose. Your comments and our responses are summarized below.

Discourage Urban Sprawl and Promote Rural Character. Your comments maintain that Alternative C would be less likely to promote urban sprawl compared to Alternatives A and B. It may be true that providing a substandard roadway will discourage development in the surrounding townships. Growth management is the responsibility of the local jurisdiction. The County does not make a practice of discouraging growth through providing substandard roadways, due to the safety issues involved and the quality of life for the motorists already using that facility.

Grand River and its wildlife and floodplain. Your comments suggest that Alternative C would be least detrimental to the Grand River. Our preliminary studies indicate that the

opposite is true. Alternative C would replace the Vrooman Road bridge just above the 100-year floodplain and would require reconstruction of Vrooman Road up the bank on the north side of the river, denuding the hillside. This option would also require the most earthmoving within the valley itself. Alternatives A and B would span the valley, resulting in physical impacts at the locations of piers and temporary impacts for construction.

Wetlands and Tributaries. The impacts on wetlands cannot be specifically determined until the preliminary bridge designs are available. However, it is possible that Alternatives A or B could have minimal wetland impacts if the pier spacing allows avoidance. Alternative C would not allow this flexibility. It is correct that Alternative B is projected to affect a tributary that is not affected by Alternative C.

Mason's Landing Park. It is true that Alternative C is projected to allow Mason's Landing to remain in its current location. However, Alternatives A or B would include provisions to maintain access or to relocate the facilities. Canoeists and other recreational users would be able to continue use of the river under any scenario.

Noise. Your comments indicate that Alternative C would provide the least noise pollution. Preliminary evaluations indicate that this is not true for the river and valley itself. The noise from vehicles climbing the steep grade of Vrooman Road north of the river is anticipated to be more detrimental than the additional noise from a bridge being at a higher level.

Scenic Character and Views. The beauty of the Grand River valley is important. However, Alternative C, which would result in a bridge mid-way up the valley and require reconstruction of Vrooman Road up the hillside was not shown in renderings to be more aesthetically pleasing than a higher level bridge spanning the valley. In fact, a higher level bridge would be expected to be less obtrusive to river users, blocking less of the view along the valley than a lower level bridge.

Impacts to Park Property. It is possible that Alternative C would require less permanent right-of-way from the parks; however, this option would not meet all the identified needs of the project.

Safety and Traffic Flow. While Alternative C would alleviate the physical deterioration of the structure, the road would still contain steep grades and sharp curves. While it would be better than the No Build condition, it would not eliminate all the identified problems that would be addressed by Alternatives A and B. Alternative C would not meet the project's Purpose and Need by failing to eliminate steep grades. One goal of the project is to provide an appropriate evacuation route for the area and allow passage for emergency vehicles of all sizes. It is important to note that Alternative C fails to meet many of the objectives of the project while resulting in property impacts to several residences along SR 84.

TRANSYSTEMS CORPORATION

Remove Existing Bridge and Reduce Streamside Erosion. Any of the proposed build options, Alternatives A, B or C, would achieve this objective.

If you have any more questions regarding this project, you may contact Alan Exley at the Lake County Engineer's office at (440) 350-2770. Thank you for your interest in this project.

Sincerely,

Susan C. Swartz, PE, AICP
Project Manager

5747 Perimeter Drive, Ste. 240, Dublin, Ohio 43017 • (614) 336-8480 • (614) 336-8540

Grand River Partners, Inc.

A Non Profit Organization Working To Protect The Grand River

ames P. Storer
HAIRMAN

Dr. Paul Belanger
RESIDENT

homas Fellenstein
ICE PRESIDENT

rthur S. Holden, Jr.
ICE PRESIDENT

homas Swank
REASURER

homas A. Quintrell
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I. F. Biggar III
RUSTEE

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I. W. Strong, Jr.
RUSTEE

harles J. Ashcroft
XECUTIVE
IRECTOR

ictoria Domonkos
ATERSHED
OORDINATOR

ose Frederico
DMINISTRATIVE
SSISTANT

had Knisely
AND PROTECTION
OORDINATOR

o Lake Erie College
1 W Washington St
inesville OH 44077

one: 440.375.7310
x: 440.375.7314
andriver@ncweb.com

August 20, 2004

Susan C. Swartz, PE, AICP
Manager, Transportation & Environmental Planning
TRANSYTEMS CORPORATION
5747 Perimeter Dr., Suite 240
Dublin, OH. 43017

Ref. Vrooman Road Study

Dear Susan:

Thank you for allowing Grand River Partners, Inc. to present written comment on the Vrooman Road Study.

Grand River Partners, Inc. is a non-profit organization working "to preserve the water quality, open space, natural, recreational, agricultural and scenic resources of the Grand River Watershed in Ashtabula, Geauga, Lake, Portage and Trumbull Counties by uniting residents, landowners, businesses communities, public agencies and private organizations in the respect, stewardship and permanent protection of the Grand River."

On Tuesday August 17, 2004 the Board of Trustees for Grand River Partners, Inc. met to discuss the Vrooman Road Bridge Replacement Project and made the decision to recommend **Alternative "C"** for the following reasons:

- Alternative "C" will be less likely to promote urban sprawl. Both Alternatives "A" and "B" will negatively impact the landuse and rural character of Lake County,
- Alternative "C" will be the least detrimental to wildlife, the Grand River, its floodplain, and its surrounding habitat
- Alternative "C" will have the least impact upon the surrounding wetlands,
- Alternative "C" will not impact any tributaries,
- Alternative "C" will allow Mason's Landing Park to remain in its existing location, and continue to provide an access for canoeist and other recreational users that enjoy the State designated Wild Grand River,
- Alternative "C" will provide the least amount of noise pollution,
- Alternative "C" will maintain the Grand River valley's scenic character,

- Alternative "C" will continue to provide residents the opportunity to view the beauty of the Grand River corridor,
- Alternative "C" will impact the least amount of Lake Metroparks property,
- Alternative "C" will increase safety and travel conditions by reducing or eliminating the frequency of roadway flooding,
- Alternative "C" will improve the road grade and will create less hazardous roadway conditions,
- Alternative "C" will realign the bridge which will eliminate dangerous curves, improve traffic flow, and improve traffic safety,
- Alternative "C" will remove the existing bridge bulkheads from the channel of the Grand River reducing streamside erosion,
- Alternative "C" will still provide citizens the opportunity to travel through the Grand River valley and enjoy its beauty which will promote the rural character of the surrounding area yet provide a safe passage for travelers,

Grand River Partners, Inc. believes that of all the alternatives, **Alternative "C"** addresses all of the safety concerns outlined in the Vrooman Road Study while having the least amount of impact on the State designated Wild Grand River.

Sincerely,

Paul Belanger

Paul Belanger, Ph.D.
President

TRANSYSTEMS CORPORATION

December 8, 2005

Steve Roloson
Northeast Ohio Regional Scenic River Manager
Ohio Department of Natural Resources
Division of Natural Areas and Preserves
11027 Hopkins Road
Garrettsville, OH 44231

RE: Vrooman Road Study comments

Dear Mr. Roloson:

Thank you for your comments regarding the Vrooman Road Project following the public involvement meeting held on July 7, 2004. We appreciate you taking the time to bring issues you feel are important to our attention. All comments received as a result of the meeting were reviewed and considered during the development of the Planning Study. In review of our Planning Study Report, the Ohio Department of Transportation has suggested that we formally acknowledge receipt of each comment.

As a part of this process, the Lake County Engineer's office along with the Study Team have been in contact with the Metroparks as well as environmental interest groups, Army Corps of Engineers, the Grand River Partners, and ODNR to consider the integrity of the Grand River Valley and are dedicated to meeting all state and federal requirements as a part of this project.

We understand the concerns of the Grand Wild & Scenic River Advisory Council. However, it is not clear that Alternative C is the best choice for the valley. Your comments and our responses are summarized below.

Needs that are Met. It is true that Alternative C will resolve the flooding problem, replace the deficient structure, and improve the intersection with SR 84. However, this option does not meet the need to eliminate the steep grade on the north side of the river. One of the primary purposes of the project is to provide an adequate evacuation route for the area and to accommodate emergency vehicles of all sizes.

Wetlands and Tributaries. The impacts on wetlands cannot be specifically determined until the preliminary bridge designs are available. The current impact comparison assumed the worst case if no avoidance is possible. However, it is possible that

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Alternatives A or B could have minimal wetland impacts if the pier spacing allows avoidance. Alternative C would not allow this flexibility. It is correct that Alternative B is projected to affect a tributary that is not affected by Alternative C.

Grand River Corridor and Wildlife. Your comments suggest that Alternative C would be least detrimental to the Grand River corridor. Our preliminary studies indicate that the opposite is true. Alternative C would replace the Vrooman Road bridge just above the 100-year floodplain and would require reconstruction of Vrooman Road up the bank on the north side of the river, denuding the hillside. This option would also require the most earthmoving within the valley itself. Alternatives A and B would span the valley, resulting in physical impacts at the locations of piers and temporary impacts for construction. There is no evidence to suggest that the impacts for siltation or erosion would be worse for Alternatives A and B than for Alternative C. A clear span of the Grand River is anticipated in any alternative.

Historic/Cultural Issues. Alternative C does not have a lower likelihood of cultural issues, based upon preliminary information. The reconstruction required along SR 84 in the area of known sites is not less extensive than for Alternatives A or B.

Mason's Landing Park. It is true that Alternative C is projected to allow Mason's Landing to remain in its current location. However, Alternatives A or B would include provisions to maintain access or to relocate the facilities. Canoeists and other recreational users would be able to continue use of the river under any scenario.

Scenic Character and Views. The beauty of the Grand River valley is important. It is correct that drivers on Vrooman Road would have less of a view down to the valley in Alternatives A or B compared to Alternative C. However, considering users of the river valley itself, Alternative C may not be preferable. Renderings were prepared following the public meeting that show Alternative C, which would result in a bridge mid-way up the valley, would not necessarily be more aesthetically pleasing than a higher level bridge spanning the valley. In fact, a higher level bridge would be expected to be less obtrusive to river users, blocking less of the view along the valley than a lower level bridge. Aesthetics can be considered during the development of the design for any alternative.

If you have any more questions regarding this project, you may contact Alan Exley at the Lake County Engineer's office at (440) 350-2770. Thank you for your interest in this project.

Sincerely,

Susan C. Swartz

Susan C. Swartz, PE, AICP
Project Manager

CO-Annette Marquez

From: Steve Roloson [sroloson@apk.net]
Sent: Saturday, July 24, 2004 2:04 PM
To: CO-VRoomanRoad
Cc: Bob Gable; CO-Susan Swartz
Subject: Comments on Vrooman Road Alternatives from Grand River Advisory Council

Hi Susan,

Thank you for forwarding the aerial photographs showing the three alternatives that have been developed for the proposed replacement of the existing Vrooman Road bridge.

At the quarterly meeting of the Grand River Wild and Scenic River Advisory Council held on July 12, 2004 a substantial amount of time was spent reviewing the provided documentation and discussing the pros and cons of each alternative. The alternatives were also reviewed and thoroughly discussed in an on-site meeting held on July 20, 2004 with Mr. Bob Gable, ODNR Scenic River Program Administrator.

As the result of these two meetings and over 20 years of personal experience related to the Grand River bridge crossing of Vrooman Road the following conclusions have been reached:

Alignment "C" was recommended by the Grand Wild & Scenic River Advisory Council as the preferred alternative. The ODNR, Division of Natural Areas & Preserves, Scenic Rivers Program agrees with the Council's recommendation and will promote the selection of Alternative "C" as the final route for the Vrooman Road bridge replacement. Some of the reasons for this decision are listed below:

- Alternative "C" solves the flooding issue of Vrooman Road
- Alternative "C" improves accessibility for occasional truck traffic, yet will not promote substantial increases in truck traffic. This will avoid increases in noise levels that would otherwise adversely impact the residents on Vrooman Road and the recreational visitors to Mason's Landing park.
- Alternative "C" will solve the alignment problem of the existing Vrooman Road Bridge
- Alternative "C" will solve the approach and width deficiencies of the existing Vrooman Road Bridge
- Alternative "C" will provide adequate turning radius onto east bound SR 84 from Vrooman Road
- Alternative "C" will impact the least amount of wetlands of the 3 proposals.
- Alternative "C" will impact the less than 1 acre of Lake Metroparks property compared to over 3 acres for the other 2 alternatives.
- Alternative "C" does not impact any tributaries to the Grand River as compared to Alternative "B" which will adversely impact a perennial tributary and a scenic waterfall.
- Alternative "C" is located closest of the alternatives to the existing intrusion of the present Vrooman Road Bridge, thereby minimizing impacts. The other 2 alternatives will substantially alter natural areas within the corridor of Grand River which was designed as an Ohio Wild River by ODNR in 1974. This river corridor is one of only two rivers in Ohio to ever achieve this Wild River designation which is the highest possible level. To be consistent with this designation, the Grand River is given the highest level of protection.
- Alternative "C" would be the shortest and lowest of 3 alignments which would reduce needed construction time and lessen the potential for impacts to occur such as erosion and siltation that impact water quality and harm wildlife.
- Alternative "C" is the least expensive design and does not have issues with historical structures or cultural resources like the other alignments. This should further reduce the time and expense involved to complete the project.
- Alternative "C" allows Mason's Landing Park to remain in the existing location.
- Alternative "C" will offer travelers on Vrooman Road a much better view of the beautiful Grand River valley than would the other alternatives. The scenic character of the Grand River and it's importance to tourism

and the local economy should not be overlooked.

- All alternatives would be required to clear span the channel of the Grand River.
- When the bridge is designed, esthetics should be incorporated into the structure in order to promote, rather than detract from, the wild and scenic character of the Grand River valley.
- Although neither of the remaining alternatives were determined to be acceptable, of these, Alternative "A" was much preferred over Alternative "B". Construction of Alternative "B" would adversely impact a perennial tributary to the Grand River resulting in substantial erosion and instability of the creek channel.
- One council member did prefer Alternative "B" and then "A", over Alternative "C" because he considered them preferable for future economic development. All others preferred Alternative "C".

Please let me know if you have any questions or need additional information. My contact information is listed below.

Respectfully,

Steve Roloson
Northeast Ohio Regional Scenic River Manager
Ohio Department of Natural Resources
Division of Natural Areas & Preserves
11027 Hopkins Road
Garrettsville, OH 44231
(330) 527-4184 Office
(330) 527-9504 Fax
sroloson@apk.net

Other Comments:

Alternative C Low Level Bridge

Less costly - don't have to purchase all the land

Anonymous

Comments will be accepted at the meeting, by mail, or e-mail until July 23, 2004:

TranSystems Corporation
5747 Perimeter Drive, Suite 240
Dublin, Ohio 43017

E-mail: VroomanRoad@transystems.com
Fax: (614) 336-8540

To return without envelope: fold in thirds, tape or staple, and affix postage.

Vrooman Road Study

Anonymous

Public Meeting Comment Form
July 7, 2004

TRANSYSTEMS CORPORATION

Name:

Address:

Representing: LeRoy resident

Which alternative do you prefer and why?

I prefer Alternative B - second option
① straight shot - best travel conditions year around
② low property impact
③ addresses flooding, bridge and retaining wall

Other Comments:

still maintains access to park
Cost - best bang for buck
Quickest route south away from NuKE plant

Comments will be accepted at the meeting, by mail, or e-mail until July 23, 2004:

TranSystems Corporation
5747 Perimeter Drive, Suite 240
Dublin, Ohio 43017

E-mail: VroomanRoad@transystems.com
Fax: (614) 336-8540

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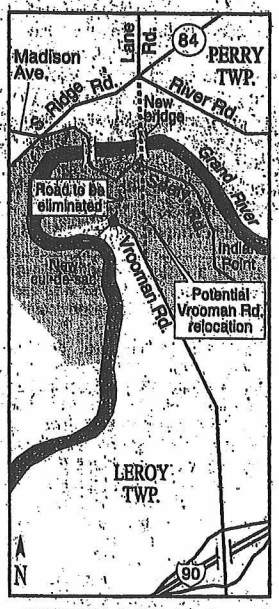
September 1, 2003

Vroomin' down new Vrooman?

■ Frequent flooding of Grand River compromises road's usefulness as evacuation route

John Arthur Hutchison
Staff Writer



An estimated $10 million to $12 million project to construct a new Vrooman Road and bridge over the Grand River Valley in Perry and Leroy townships has moved off the back burner.

The potential project would essentially connect Route 84 with Interstate 90.

Because of the Sept. 11 attacks and greater homeland security concerns, the project, which once died in 1996, has been revived at the urging of the federal government, Lake County Engineer James R. Gills said.

One reason the project stalled seven years ago was the discovery of American Indian burial grounds off Route 84.

Studies for the project were completed years ago, but must be updated, Gills said.

A new consultant will work to design the least amount of disturbance to the burial grounds, he said.

A portion of Vrooman Road would be eliminated south of the Grand River and a cul-de-sac installed.

Lake Metroparks wants to keep the current section of Vrooman Road open to the bridge over the Grand River, from South Ridge Road, to provide access to the 133-acre Mason's Landing Park in Perry Township.

In order to do that, the Metroparks would probably have to assume responsibility of maintaining the bridge, Gills said.

If the project goes forward, construction could begin by 2008 to 2009 at the latest, Gills said.

Vrooman Road is considered an access and evacuation route to and from the Perry Nuclear Power Plant in North Perry Village, Gills said.

"With 9/11, the project jumped up back on the table because of the Perry Nuclear Power Plant," he said.

"There is no direct access to the Perry plant."

Flooding of the Grand River has prompted frequent closings of Vrooman Road in the past.

"At least three times a year, we have to close it," Gills said. "Vrooman Road is an evacuation route, but if it's flooded, we can't use it."

Currently, the Vrooman Road bridge has a posted load limit of 24 tons.

Because the bridge won't hold a heavy vehicle, federal and state officials say that is a security problem, he said.

State and federal funds would pay $7 million toward the project and are included on the Northeast Ohio Areawide Coordinating Agency's project list for eligible funding.

Gills has asked U.S. Rep. Steven C. LaTourette for additional assistance to secure funding.

LaTourette, R-Madison Village, said he applied for the funds as part of the federal transportation bill for the fiscal year starting Oct. 1, but it is too early to tell if the funding will be approved.

Public Involvement Matrix
July 7, 2004 Public Meeting

Comment	Number of Responses	Action
Expressed Opinion on Alternative. No additional comments	24	Letter sent to individual acknowledging opinion of alternatives.
Requested copies of exhibits and handouts from 07/07/04 Public Meeting	4	Sent to requesting individual
Requested copies of environmental reports shown at the 07/07/04 Public Meeting	2	Sent to requesting individual
Request to next Stakeholders Meeting	2	Sent notification of and invitation to next Stakeholders Meeting, including meeting protocol
I am a bicyclist. Please make the bridge and road wide enough for a comfortable shoulder	1	Letter sent to individual acknowledging comments and noting that while designated bike lanes will not be included in the design, 10-foot shoulders on either side are currently planned for the two high-level alternatives.
Concern over amount of traffic on current road. Due to sight distances from hills and curves, have difficulty getting in and out of our driveway. If increase in truck traffic would lead to someone getting hurt, and is very dangerous.	1	Letter sent to individual acknowledging comments. The proposed improvements would bring Vrooman Road up to current standards to eliminate sight distance problems
Would like another meeting to discuss concerns in a more formal way to get the same answer.	1	Letter sent to individual acknowledging comments, and informing the recipient that while no public meeting has been scheduled, contact information has been included on the project mailing list
Direct to Perry Nuclear Plant is ridiculous, will only make it easier for terrorist to attack the plant. Plenty of truck access to the area vie 528, 44, and 2. Evacuation Route excuse is ridiculous. Keep truck to present routes for trucks.	1	Letter sent to individual acknowledging comments
Raise Vrooman Road to the current bridge level to alleviate the flooding problems and replacing the bridge itself.	2	Letter sent to individual acknowledging comments. This would not meet all project goals of the project as the steep grade and sharp curves would still exist. One of the main needs for this project has been to accommodate emergency vehicles of all siazes and provide an evacuation route for the Perry Nuclear Power Plant that can accommodate all standard size vehicles.
Concerned about the increased traffic, noise, litter, pollution and decreased property value from a high level bridge.	2	Letter sent to individual acknowledging comments.

Public Involvement Matrix
July 7, 2004 Public Meeting

Comment	Number of Responses	Action
All streets involved are residential streets. Exit at 90 should remain a non-truck route.	2	Letter sent to individual acknowledging comments.
A low level bridge above the flood elevation would allow Vrooman to be improved and full access to I-90, while keeping heavy truck traffic from entering predominately residential neighborhoods.	1	Letter sent to individual acknowledging comments.
Low level approach would not destroy the beauty of the rive valley and the park, and should not devalue existing property values in and around the project.	1	Letter sent to individual acknowledging comments and noting that coordination with environmental agencies will continue as part of this project..
I live on the river and valley edge because of nature, wildlife and thriving ecosystem, not with noise, traffic and exhaust fumes. We do not want any bridge that has environmental, visual and sound effect on our community is such a negative way. Noise impacts from a high level bridge would be like having you TV on loud day and night	2	Letter sent to individual acknowledging comments and noted that esthetic applications may be taken into consideration to help the bridge blend in better with the environment; noise analysis will be performed as the project progresses; the project team has coordinated with Metorparks and environmental interest groups, ACOE, Grand River Partners, and ODNR have to consider integrity of the Grand River Valley and are dedicated to meeting all state and federal requirements.
Problems that need addressed are flooding and bridge maintenance. We don't need anymore large truck traffic. I bought my property for the rural setting. The park and river that the bridge spans are pretty and don't need a huge expansion bridge that will take away from the charm of the area, nor do we need more noise and pollution from increased traffic.	1	Letter sent to individual acknowledging comments and noted concerns about aesthetics of the bridge; additional noise analysis are expected as project progresses; and the project team has coordinated with Metorparks and environmental interest groups, ACOE, Grand River Partners, and ODNR have to consider integrity of the Grand River Valley and are dedicated to meeting all state and federal requirements.
We don't want a high level bridge because we don't want the noise or traffic that it will bring; don't want area homeowner to have their property taken or infringed upon; don't want the rural setting of the area disrupted. Has anyone considered how hard it would be to make a left turn off of River Rd. if it were relocated. We need a light at Lane Rd. not a high level bridge.	1	Letter sent to individual acknowledging comments and noted concerns about increased noise and that further noise analysis would be completed.

Public Involvement Matrix
July 7, 2004 Public Meeting

Comment	Number of Responses	Action
Alternatives A and B which incorporate a high level crossing are overkill. The area does not need or desire a roadway of such magnitude and would have a devastating effect on the surrounding area. The additional semi-truck traffic would increase the noise and air pollution to and unacceptable level to where it would effect both the people and wildlife of this area. The natural habitat of these wetlands would be ruined and Indian Point would become an overlook to a bridge.	2	Letter sent to individual acknowledging comments and noted concerns about increased noise; the project team has coordinated with Metorparks and environmental interest groups, ACOE, Grand River Partners, and ODNR have to consider integrity of the Grand River Valley and are dedicated to meeting all state and federal requirements; and intersection improvements will bring the intersection up to standards.
Alt B would preserve more parkland and be better intersection than Madison Ave. which is more congested. Would also eliminate the periodic closing of the bridge due to flooding	2	Letter sent to individual acknowledging comments.
Alt C would be less cost effective and add more aesthetics of our Ohio Scenic River. Seeley Road would allow recreational use of the park and river and the old road would allow use of Mason's Landing.	1	Letter sent to individual acknowledging comments.

Public Involvement Matrix
July 7, 2004 Public Meeting

Comment	Number of Responses	Action
Alt. C with Alt. A connection. I believe that for the same money as the high-level alternatives that a passage through the Grand River Valley at the location would emphasize one of Lake County's assets. With this area being Metorparks, economic benefits of tourism are well known and if this project is given careful consideration, it too could add recreation benefits. Geometric deficiencies could be overcome with a speed reduction in the valley. Truck traffic could be accommodated but does not need to be a preferred truck routed. Negatives to the high level alt. are high winds, higher speed accidents, high maintenance costs, and higher noise levels through the valley, a state wild and scenic river. How will the electric (high tension overhead lines) be accommodated. There really seems to be an opportunity here to do something unique in our area, within budget, and long lasting, if approached with care.	1	Letter sent to individual acknowledging comments and noted concerns about high winds, maintenance, ice and high speeds on a high-level bridge. While these issues are a concern and a challenge, these issue are routinely and effectively managed on numerous bridges on substantial length and/or height throughout Ohio, and are therefore not likely to eliminate the consideration of an alternative that best meets the needs of the project.
I don't' want to see the river impacted the way high level bridge construction will cause. Being a property owner on River Road, I feel that my property values will suffer. The projected cost of a high level bridge is grossly underestimated especially considering the upgrades that will become necessary after its completion. High level bridge would have a disastrous effect on the area and natural environment for years. Construction delays and detours would be greater than the inconvenience of flooding detours	2	Letter sent to individual acknowledging comments and noted concerns about environment and that the project team has coordinated with Metorparks and environmental interest groups, ACOE, Grand River Partners, and ODNR have to consider integrity of the Grand River Valley and are dedicated to meeting all state and federal requirements; that the cost was under estimated as the bridge shown did not have wide shoulders on the bridge structure; and that Alt. B would be the only alternative that would not cause lengthy closures.

Public Involvement Matrix
July 7, 2004 Public Meeting

Comment	Number of Responses	Action
I do not believe that either high level bridge option is appropriate as it will have a high impact on the area ecosystem; increase large truck traffic; increase general traffic; and access to interstate exists by way of Route 44 and 528. I believe that low level bridge options is appropriate as it has less impact to ecosystem; no increase truck traffic; alleviates road closing due to flooding; and easier and safer to cross Grand River.	1	Letter sent to individual acknowledging comments.
We have very little problem or inconvenience with the way it is right now. If it is flooded, I have a pretty good idea before I approach, so I simply allow extra time to go down 84. We like to picnic a Mason's Landing and would like to see the area preserved the way it is. A high level bridge would create a new problem of more traffic through the area with longer delays on 84, Madison, and Lane. The flooding is minimal and improving the existing would solve the problem and save a lot of money that could be used on serious problems elsewhere.	1	Letter sent to individual acknowledging comments and noted concerns about environment and that the project team has ongoing meetings and discussions with the Lake Metorparks and Lake County to mitigate park access and functions. It is the intent to maintain access and recreation areas in the Grand River Valley. While replacing the bridge itself would alleviate the physical deterioration of the structure, the roadway would still be susceptible to flooding and would not eliminate the steep grade and sharp curve approaching. One important goal of the project is to provide emergency vehicle access and an appropriate evacuation route.
As residents, taxpayers, parents, and concerned citizens, our choice is the low level bridge. We see so many good points for this option that we see all other options as frivolous, destructive, and intrusive. Option C allows for our neighborhood and the natural beauty and assets of the area to be maintained; safeguards our children at play, our vehicular integrity, and our tax dollars; will be an enhancement to the valley if designed with consideration to the flow of traffic and nature – option would limit the size of the vehicles using the pass.	2	Letter sent to individual acknowledging comments and noted concerns about environment and that the project team has coordinated with Metorparks and environmental interest groups, ACOE, Grand River Partners, and ODNR have to consider integrity of the Grand River Valley and are dedicated to meeting all state and federal requirements; replacing the bridge itself would alleviate the physical deterioration of the structure, the roadway would still be susceptible to flooding and would not eliminate the steep grade and sharp curve approaching. One important goal of the project is to provide emergency vehicle access and an appropriate evacuation route.

Public Involvement Matrix
July 7, 2004 Public Meeting

Comment	Number of Responses	Action
Any plan that is going to tear down our condo is not my option for the bridge. We would hate to see it torn down for the high level to Madison Ave. We would be interested in when these plans might take effect. We would like to retire here.	2	Letter sent to individual acknowledging comments and noted that the project is on NOACA 's plan for 2009. Ultimate date of construction will be dependent on environmental, design, and ROW. Alt. C, the option for impacting your condo is not currently being recommended for advancement.
C or D would cause the least amount of havoc on our river and surrounding ecosystem. We would never want to look out our front window and see a high level bridge and noise and truck traffic that would come with it. We worry that our property values would decrease.	2	Letter sent to individual acknowledging comments and noted concerns about environment and that the project team has coordinated with Metorparks and environmental interest groups, ACOE, Grand River Partners, and ODNR have to consider integrity of the Grand River Valley and are dedicated to meeting all state and federal requirements; preliminary noise analysis was performed within the study area, but detailed noise analysis is anticipated for later phases of the project; and when designing the bridge, aesthetic application may be taken into consideration.
D, E, and C would not be long term solutions to existing problems or concerns. What impact would the bridge placement have on the Lane Ave Cemetery.	1	Letter sent to individual acknowledging comments and noted concerns about the cemetery and that during the final design process, necessary measures will be taken to avoid or minimized any impacts to the cemetery.
It is such a beautiful are, it would be a shame to ruin it with construction of a larger bridge plus all the wildlife that would be affected. I moved here to get away from all the traffic of the City.	1	Letter sent to individual acknowledging comments and noted concerns about environment and that the project team has coordinated with Metorparks and environmental interest groups, ACOE, Grand River Partners, and ODNR have to consider integrity of the Grand River Valley and are dedicated to meeting all state and federal requirements

Public Involvement Matrix
July 7, 2004 Public Meeting

Comment	Number of Responses	Action
Alt. B would be the best option as it would be more direct to the Nuke plant, less disturbing to the residents and a more direct path, perhaps saving costs. I also thought that the archaeology study had already been done	1	Letter sent to individual acknowledging comments and noted concerns about archaeology and that the archaeology studies are anticipated for this project. While some studies have already been completed and areas of concern considered. Coordination will be conducted with ODOT and Ohio State Historic Preservation Office
Alt. C will fix the problem while not screwing anything else up. I realized that truck will still have a problem and won't be able to negotiated the steep hill and curves. That is actually a good thing as I don't want semis barreling down my road at 50 mph. Limiting truck traffic on Vrooman Rd. along with traffic speeds is a good think as it is difficult to get out of our driveways under existing conditions.	2	Letter sent to individual acknowledging comments and noted concerns about traffic levels and speed. Part of the purpose and need for this project is safety, which includes an evacuation route for the Perry Nuclear Power Plant that can accommodate all standard size vehicles. The current roadway has steep slopes and sharp turns that do not allow proper sight distances for oncoming obstacles.
Alt. C is the most appropriate as it the most cost effective, raises the road above the flood plain, and creates a new bridge that would allow traffic to flow better, and most of all does not impede on anyone's residential property and lifestyle. The alternative that connects to Lane Road would travel through my property and behind my barn. This would totally destroy our property, our property value, not be able to sell it. People buy houses in this area for the rural setting not to see more traffic and industry to create a Mentor	2	Letter sent to individual acknowledging comments and noted concerns about residential impacts. Alt. C would include impacts to four residential units. The exact configuration to River Rd. will be resolved if the Lane Road alternative is selected for further study. Several ideas are being discussed providing this connection. We anticipate landowners that property may be affected will be contacted for further discussion on these matter during the next phase of the project.

Public Involvement Matrix
July 7, 2004 Public Meeting

Comment	Number of Responses	Action
Plan D and C has no change to the park or anyone's home. Plan A or B would ruin the park setting, steal people's property and homes, not to mention property depreciation. The noise and other results of a high level bridge would be drastic- think this part of Perry is one of the most scenic settings in Lake County. The historical names, the history and traces of the past Indian culture, the water fall, the Grand River, tributaries and backyard streams, wildlife, hills and valleys make a wonderful picture, It would be a shame to destroy such a place. Progress can be rerouted down Routes 44, 2, 20, and 528. People have lived in Perry Twp. and have grown accustomed to the Vrooman Rd. and its many deficiencies. In matte of fact, may of us would rather accept these deficiencies than accept something much worse, such as the taking of property, home, privacy and environment as it is. Perry Nuclear Power Plant is an excuse for building a new bridge – the power plant lifespan is coming to a rapid end.	3	Letter sent to individual acknowledging comments and noted concerns about environment and that the project team has coordinated with Metorparks and environmental interest groups, ACOE, Grand River Partners, and ODNR to consider integrity of the Grand River Valley and are dedicated to meeting all state and federal requirements; the current roadway has steep slopes and sharp turns that do not allow proper sight distances for oncoming obstacles; improvements at the SR 84/Vrooman Road and Lane/River Road/SR 84 intersection are to eliminate the skew and improve sight distances; part of the purpose of this project is to provide an evacuation route; historical and archaeological studies will be done and considered as part of this project; and right now it is not possible to evaluate how any of the alternatives will affect the value of your property.
Our farm is north of the Grand River from Indian Point. We have enjoyed the peace and quiet of our property since 1957. We would hate to hear traffic that would be created with a high level main artery. Let's keep some place in this county rural	1	Letter sent to individual acknowledging comments and noted concerns about noise, and that preliminary noise analyses were performed within the study area for comparison of early options. Detailed analyses are anticipated for future phases of project development.

Public Involvement Matrix
July 7, 2004 Public Meeting

Comment	Number of Responses	Action
I do not believe that options A, B, or C will benefit this area. It will detract from the semi-quiet nature we currently enjoy. Redesigning the intersection of SR 84 and Madison will probably result in much more traffic on a daily basis. We don't need a high span, high speed bridge to make travel easier. D along with raising the road bed above flood level would make the most sense and could be accomplished with the least amount of expense and inconvenience to all concerned	1	Letter sent to individual acknowledging comments and noted concerns about the environment and impacts. The project team has coordinated with Metorparks and environmental interest groups, ACOE, Grand River Partners, and ODNR to insure the integrity and beauty of of the Grand River Valley and are dedicated to taking all environmental precautions as part of this project.. While replacing the bridge would alleviated physical deterioration of the structure, the roadway would still be within the 100-year floodplain, leaving it susceptible to flooding and needing continued maintenance on the county's part. Alt. C raises the bridge just above the 100-year floodplain, but would require completely reconstructing Vrooman Road up the bank on the north side, the Vrooman/SR 84 intersection, and much of SR 84 between Madison Ave. and Lane Rd.
Prefer Alt. C because: • less likely to promote urban sprawl – A and B will negatively impact the land use and rural character of Lake County, • least detrimental to wildlife, the Grand River, its floodplain and it surrounding habitat, • least impact upon the surrounding wetlands, • will not impact tributaries, • will allow Mason's Landing Park to remain in its existing location, and continue to provide an access for canoeist and other recreational users that enjoy the state designated Wild Grand River, • will provide the least amount of noise pollution, • will maintain the Grand River Valley's scenic character, • will continue to provide residents the opportunity to view the beauty of the Grand River corridor,	1	Letter sent to individual acknowledging comments and noted concerns about environment and that the project team has coordinated with Metorparks and environmental interest groups, ACOE, Grand River Partners, and ODNR to consider integrity of the Grand River Valley and are dedicated to meeting all state and federal requirements. Specifically addressed items included: *Discourage Urban Sprawl & Promote Rural Character*: It may be true that providing a substandard roadway will discourage development in the surrounding townships. Growth management is the responsibility of the local jurisdiction. The County does not make it a practice of discouraging growth through providing substandard roadways, due to the safety issues involved and the quality of life for the motorist already using that facility.

Public Involvement Matrix
July 7, 2004 Public Meeting

Comment	Number of Responses	Action
• will impact the least amount of Lake Metroparks property, • will increase safety and travel conditions by reducing or elimination the frequency of roadway flooding, • will improve the road grade and will create less hazardous roadway conditions, • will realign the bridge which will eliminate dangerous curves, improve traffic flow, and improve traffic safety, • will remove the existing bridge bulkheads from the channel of the Grand River reducing streamside erosion, and • will still provide citizens the opportunity to travel through the Grand River Valley and enjoy its beauty which will promote the rural character of the surrounding area yet provide a safe passage for travelers.		*Grand River and Its Wildlife and Floodplain*: While your comment indicate that Alt. C would be less detrimental to the Grand River, our preliminary studies indicate that the opposite is true. Alt. C would replace the bridge just above the 100-year flood plain and would require reconstruction of Vrooman Road up the bank on the north side of the river, denuding the hillside, which would require the most earthmoving within the valley itself. Alts. A & B would span the valley resulting in physical impacts at the locations of piers and temporary impacts for construction. *Wetlands & Tributaries*: The impact on wetlands cannot be specifically determined until the preliminary bridge designs are available. However, it is possible that Alts. A & B could have minimal wetland impacts if the pier spacing allows avoidance. Alt. C would not allow this flexibility. It is correct that Alt. B may affect a tributary that is not affected by C. *Mason's Landing Park*: Alt. C is projected to allow Mason's Landing to remain in its current location. Alts. A & B would include provisions to maintain access or to relocate the facilities. Canoeists and other recreational users would be able to continue use of the river under any scenario. *Noise*: While your comments indicate that Alt. C would provide the least noise pollution, preliminary evaluations indicate that this is not true for the rive and valley itself. The noise form vehicles climbing the steep grade of Vrooman Road north of the river is anticipated to be more detrimental that the additional noise from a bridge being at a higher level.

Public Involvement Matrix
July 7, 2004 Public Meeting

Comment	Number of Responses	Action
		Scenic Character & Views: The beauty of the Grand River is important. Alt. C would result in a bridge mid-way up the valley and require reconstruction of Vrooman Rd. up the hillside. A higher level bridge would be expected to be less obtrusive to river users, blocking less of the view along the valley than a lower level bridge. *Impacts to Park Properties*: It is possible that Alt. C would require less permanent right-of-way from the parks; however, this option would not meet all the identified needs of the project. *Safety & Traffic Flow*: While Alt. C would alleviate the physical deterioration of the structure, the road would still contain steep grades and sharp curves. Alt. C would not meet the project's Purpose and Need by failing to eliminate steep grades. One goal is to provide an appropriate evacuation route for the area and allow passage for emergency vehicles of all sizes. Alt. C fails to meet many of the objectives of the project while resulting in property impacts to several residences along SR 84. *Remove Existing Bridge & Reduce Streamside Erosion*: Alts. A, B, and C would achieve this objective.
Prefers Alt. C because: • solves the flooding problem, • improve accessibility for occasional truck traffic, yet will not promote substantial increases in truck traffic. This will avoid increases in noise levels that would otherwise adversely impact the residents on Vrooman Road and the recreational visitors to Mason's Landing Park, • solves the alignment problem of the existing Vrooman Road Bridge, • solves the approach and width	1	Letter sent to individual acknowledging comments and noted concerns about environment and that the project team has coordinated with Metorparks and environmental interest groups, ACOE, Grand River Partners, and ODNR to consider integrity of the Grand River Valley and are dedicated to meeting all state and federal requirements. Specifically addressed items included: *Needs That are Met*: Alt. C will resolve the flooding problem, replace the deficient

Public Involvement Matrix
July 7, 2004 Public Meeting

Comment	Number of Responses	Action
deficiencies of the existing Vrooman Road Bridge • provides adequate turning radius onto east bound SR 84 from Vrooman Road, • impacts less than 1 acre of Lake Metroparks property, compared to over 3 acres for the other 2 alts., • does not impact any tributaries to the Grand Rives as compared to Alt. B which will adversely impact a perennial tributary and a scenic waterfall, • is located closest of the alternatives to the existing intrusion of the present Vrooman road Bridge, thereby minimizing impacts. The other 2 alts. will substantially alter natural areas within the corridor of the Grand River which was designed (spic) as an Ohio Wild River by ODNR in 1974. This rivers corridor is one of only tow rives in Ohio to ever achieve this Wild River designation which is the highest level of protection, • shortest and lowest of 3 alignments which would reduce needed construction time and lessen the potential for impacts to occur such as erosion and siltation that impact water quality and harm wildlife, • is the least expensive design and does not have issues with historical structures or cultural resource like the other alignments. This should further reduce the time and expense involved to complete the project, • allows Mason's Landing to remain in the existing location, • will offer travelers on Vrooman Rd. a much better view of the beautiful Grand River Valley that would the other alternatives. The scenic character of the Grand River and its importance to tourism and the local economy should not be overlooked,		structure, and improve the intersection with SR 84. This option does no meet the need to eliminate the steep grade on the north side of the river. One of the primary purposes of the project is to provide an adequate evacuation route for the area and to accommodate emergency vehicles of all sizes. *Wetlands & Tributaries*: The impact on wetlands cannot be specifically determined until the preliminary bridge designs are available. However, it is possible that Alts. A & B could have minimal wetland impacts if the pier spacing allows avoidance. Alt. C would not allow this flexibility. It is correct that Alt. B may affect a tributary that is not affected by C. *Grand River Corridor & Wildlife*: While your comment indicate that Alt. C would be less detrimental to the Grand River, our preliminary studies indicate that the opposite is true. Alt. C would replace the bridge just above the 100-year flood plain and would require reconstruction of Vrooman Road up the bank on the north side of the river, denuding the hillside, which would require the most earthmoving within the valley itself. Alts. A & B would span the valley resulting in physical impacts at the locations of piers and temporary impacts for construction. *Historical/cultural Issues*: Alt. C does not have a lower likelihood of cultural issues, based upon preliminary information. The reconstruction required along SR 84 in the area of known sites is not less extensive than for Alts. A & B. *Mason's Landing Park*: Alt. C is projected to allow Mason's Landing to remain in its current location. Alts. A & B would include provisions to maintain access or to relocate

Public Involvement Matrix
July 7, 2004 Public Meeting

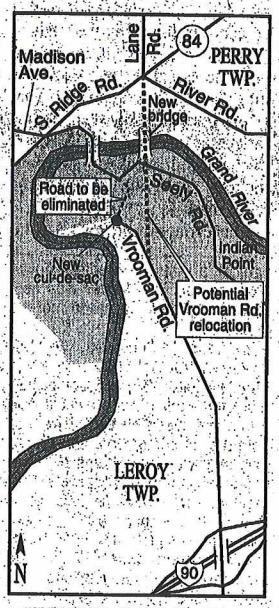
Comment	Number of Responses	Action
• all alternatives would be required to clear span the channel of the Grand River, • when the bridge is designed, aesthetics should be incorporated into the structure in order to promote, rather than detract from, the wild and scenic character of the Grand River Valley, • although neither of the remaining alternatives were determined to be acceptable, of these, Alt. A was much preferred over Alt. B. Construction of Alt. B would adversely impact a perennial tributary to the Grand River resulting in substantial erosion and instability of the creek channel.		provisions to maintain access or to relocate the facilities. Canoeists and other recreational users would be able to continue use of the river under any scenario. *Scenic Character and Views*: The beauty of the Grand River is important. While drviers on Vrooman Rd. would have less of a view down to the valley in Alts. A & B compared to Alt. C., users of the river valley itself may prefer Alt. C. Alt. C would result in a bridge mid-way up the valley and require reconstruction of Vrooman Rd. up the hillside. A higher level bridge would be expected to be less obtrusive to river users, blocking less of the view along the valley than a lower level bridge.

September 1, 2003

Vroomin' down new Vrooman?

■ Frequent flooding of Grand River compromises road's usefulness as evacuation route

John Arthur Hutchison
Staff Writer



An estimated $10 million to $12 million project to construct a new Vrooman Road and bridge over the Grand River Valley in Perry and Leroy townships has moved off the back burner.

The potential project would essentially connect Route 84 with Interstate 90.

Because of the Sept. 11 attacks and greater homeland security concerns, the project, which once died in 1996, has been revived at the urging of the federal government, Lake County Engineer James R. Gills said.

One reason the project stalled seven years ago was the discovery of American Indian burial grounds off Route 84.

Studies for the project were completed years ago, but must be updated, Gills said.

A new consultant will work to design the least amount of disturbance to the burial grounds, he said.

A portion of Vrooman Road would be eliminated south of the Grand River and a cul-de-sac installed.

Lake Metroparks wants to keep the current section of Vrooman Road open to the bridge over the Grand River, from South Ridge Road, to provide access to the 133-acre Mason's Landing Park in Perry Township.

In order to do that, the Metroparks would probably have to assume responsibility of maintaining the bridge, Gills said.

If the project goes forward, construction could begin by 2008 to 2009 at the latest, Gills said.

Vrooman Road is considered an access and evacuation route to and from the Perry Nuclear Power Plant in North Perry Village, Gills said.

"With 9/11, the project jumped up back on the table because of the Perry Nuclear Power Plant," he said.

"There is no direct access to the Perry plant."

Flooding of the Grand River has prompted frequent closings of Vrooman Road in the past.

"At least three times a year, we have to close it," Gills said. "Vrooman Road is an evacuation route, but if it's flooded, we can't use it."

Currently, the Vrooman Road bridge has a posted load limit of 24 tons.

Because the bridge won't hold a heavy vehicle, federal and state officials say that is a security problem, he said.

State and federal funds would pay $7 million toward the project and are included on the Northeast Ohio Areawide Coordinating Agency's project list for eligible funding.

Gills has asked U.S. Rep. Steven C. LaTourette for additional assistance to secure funding.

LaTourette, R-Madison Village, said he applied for the funds as part of the federal transportation bill for the fiscal year starting Oct. 1, but it is too early to tell if the funding will be approved.

Bridge funding concerns commissioner

John Arthur Hutchison
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The four months Vrooman Road and the bridge over the Grand River were closed due to the July floods prompted Lake County Commissioner Raymond E. Sines to revisit his concerns about a proposal to build a high-level Vrooman Road bridge.

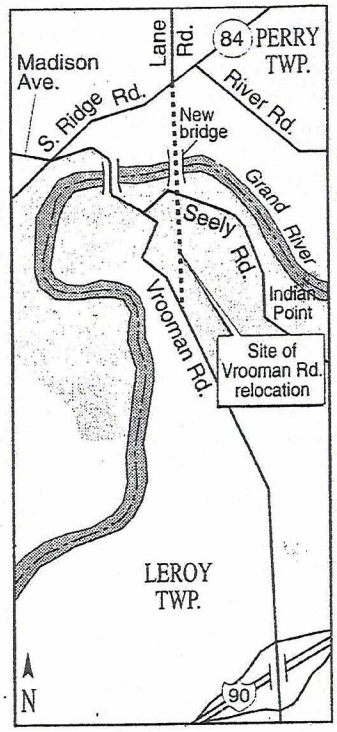
The commissioner is worried that funding needed for the estimated $22.47 million project in Perry and Leroy townships might not be available when it's scheduled to begin in 2009.

Sines is reluctant to continue further support until he is confident that funding for a high-level bridge will be there, and he doesn't want the county to borrow money in the future to complete the project.

"I want to see where we're at on this project and see where (Gills) is on his budget," Sines said. "I want to question the engineer on spending and what he's going to do over the next five years, and give us an idea of what to expect."

So far, nearly $8 million in federal funding has been secured for the project through the Northeast Ohio Areawide Coordinating Agency, plus $2.36 million from the County Engineers Association of Ohio, Lake County Engineer James R. Gills said.

The engineer said starting this year, he also will set aside $1 million per year in his capital improvement fund toward the local share of the project.



There are promises and requests for the additional money needed for the project, but a significant amount still actually needs to be secured, Sines said.

Gills is confident that the funding will be procured in the near future.

When potential federal and state dollars are secured, the money needed for the county's 20 percent local share — currently estimated at about $4.5 million — makes the high-level bridge the best option, rather than building a replacement low-level bridge, Gills said.

The estimated cost of the bridge is up about 30 percent from the previous estimate a few years ago because the Ohio Department of Transportation requested that county engineers increase all project estimates by that percentage for state fiscal year 2006, Gills said.

Although the project is expensive, the engineer feels it is a high priority for the county.

In addition to improving traffic flow in eastern Lake County, Gills said a high-level bridge would eliminate frequent weather-related closures of Vrooman Road and would improve the area as a mass-evacuation route in case of an accident at the Perry Nuclear Power Plant in North Perry Village.

Gills estimates a replacement low-level bridge would also cost about $4.5 million, but it would not eliminate road closures or improve mass evacuations like a high-level bridge would.

Building a high-level bridge does have support from NOACA, the five-county metropolitan planning organization that serves Lake, Geauga, Cuyahoga, Medina and Lorain counties, NOACA spokeswoman Cheryl Onesky said.

The project also is on the agency's long-range transportation plan, she said.

Onesky said the project is eligible for up to 80 percent federal funding, but it's not a certainty the agency would be able to provide that much.

"NOACA is committed to having the project being done," Onesky said. "But we did suggest to the engineer some different funding be investigated because we're only allocated so much every year. We're going to try to make this project happen, and over time, the sources may come up."

U.S. Rep. Steven C. LaTourette, R-Concord Township, supports a high-level bridge and intends to work to secure as much federal funding as possible.

LaTourette awaits a request amount from Gills for the funding after all preliminary studies and analysis are completed.

As of now, Gills anticipates asking the congressman for at least $5.1 million, possibly more.

LaTourette, who sits on the House Transportation Committee and is a ranking minority committee member, then plans to include what is necessary in the next federal highway and transit bill.

"I've committed to him that I would get the federal funds necessary," he said. "I believe this bridge is important, it's an important evacuation route for the Perry Nuclear Power Plant. You could have a real crisis in case of an emergency."

LaTourette is optimistic he can obtain money for the bridge in the next highway and transit bill because he secured about $150 million for the congressional district in the last bill.

If federal funding options don't come through for a high-level bridge, a low-interest, 10-year loan program through the State Infrastructure Bank is also a viable option, several officials said.

Sines believes it would be more feasible to simply replace the current bridge with a low-level bridge.

"We need to do something about the bridge," the commissioner said. "The new overhead bridge is going to fall to the wayside; we'll never see it in my lifetime. We don't need another Ross Road."

Gills said that won't be the case.

"We have a verbal commitment from Congressman LaTourette and from NOACA about the financing," the engineer said, adding if for whatever reason those options don't pan out, the low-interest loan program is available.

January 12, 2007

LaTourette to help lead Coast Guard committee

John Arthur Hutchison
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For the 110th session of Congress, U.S. Rep. Steve LaTourette will serve as the top-ranking Republican on the House Transportation and Infrastructure Committee's Coast Guard and Maritime Transportation Subcommittee.

U.S. Rep. John L. Mica, R-Fla., the Transportation and Infrastructure Committee's ranking Republican, announced the selection in a news release.

The Coast Guard and Maritime Transportation Subcommittee has jurisdiction over the activities of the Coast Guard, including its duties, organization, functions and personnel.

The subcommittee also has jurisdiction over the regulation of ocean shipping and the Federal Maritime Commission, the Jones Act, and the merchant marine, except in matters relative to national security, according to the release.

LaTourette served the previous two years as chairman of the Railroads Subcommittee, and was chairman of the Economic Development, Public Buildings and Emergency Management Subcommittee in the 107th and 108th Congresses.

"This is the third subcommittee where I have been chosen to be the lead Republican," LaTourette said. "It stands to further increase my transportation experience to better enhance transportation efficiency in Northeast Ohio, be it with highways, rails, the preservation of parklands or on the Great Lakes."

With this new assignment, LaTourette said he will be directly involved in strengthening the nation's borders and increasing port security.

Security is especially critical along Ohio's Lake Erie coastline because there are two nuclear power plants, including the Perry Nuclear Power Plant in North Perry Village, he said.

"This is a vital time for Coast Guard activities on the Great Lakes, and I'll have a direct say in important matters like making sure we have state-of-the-art ice cutters for the harsh winters, and adequate search and rescue for our large recreational boating community and the vital Great Lakes shipping industry," LaTourette said.

Mica said LaTourette is an excellent choice to serve as ranking Republican on the subcommittee.

"Congressman LaTourette brings a significant amount of transportation experience to the table, and I am confident that he will apply this knowledge to finding effective solutions to the issues before the subcommittee," Mica said.

News-Herald.com

01/18/2007

Bridge must be built

If county officials needed a bridge to cross the Grand River in eastern Lake County, there are several ideal spots.
But county, state and federal officials believe any bridge must double as an efficient transportation route to move traffic in case of a problem at the Perry Nuclear Power Plant.
One thing is crystal clear: The current Vrooman Road bridge doesn't suffice.
County Commissioner Ray Sines has triggered a dispute with County Engineer Jim Gills about the bridge's hefty $22.47 million price tag.
The county would be responsible for $4.5 million,
or 20 percent of the project's cost, slated to start in 2009.
The county has some financial commitments for the proposed high-level bridge at Vrooman Road, but much more will be needed.
Of equal importance: This safety issue for thousands of Lake County residents cannot descend into verbal sparring between two county officials.
Work together and get the money for the bridge.

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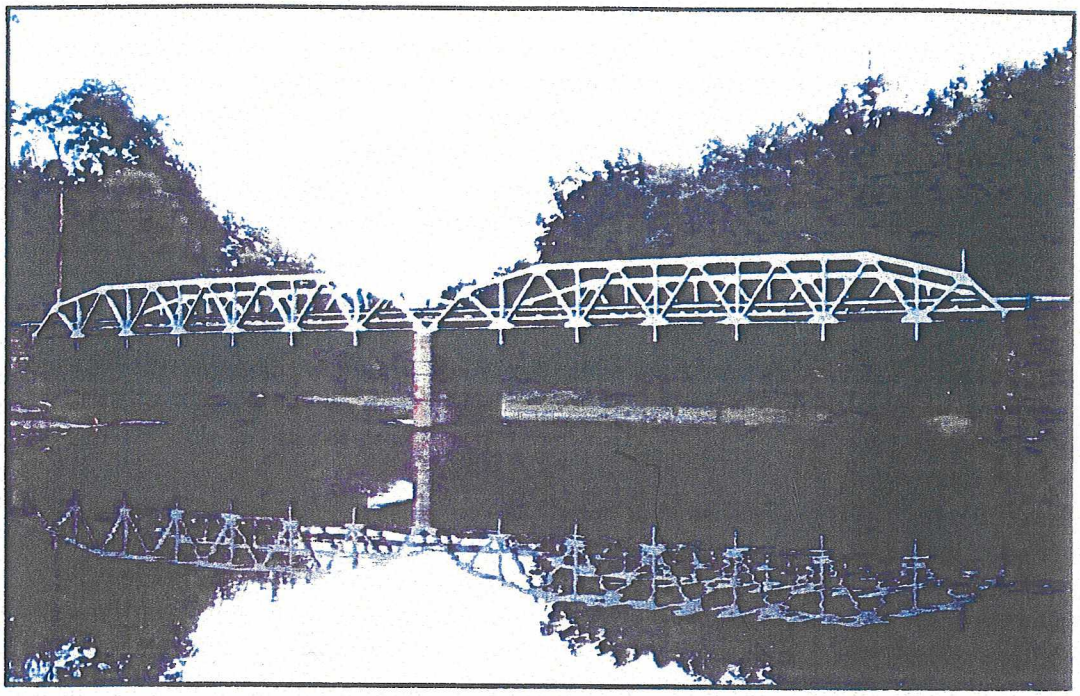
APPENDIX B

BRIDGE INSPECTION REPORTS

2002 HNTB INSPECTION REPORT
2006 RICHLAND ENGINEERING EMERGENCY INSPECTION REPORT
2006 LAKE ERIE DIVING UNDERWATER INSPECTION REPORT
2006 BR-86 FORM

2002 Physical Condition Report



Vrooman Road Bridge over the Grand River

SFN 4337107
Leroy Township
Lake County, Ohio

Prepared for:

Lake County Engineers Office
550 Blackbrook Road
Painesville, Ohio 44077

December, 2002

Prepared By:

HNTB Ohio, Inc.
55 Erieview Plaza
Cleveland, Ohio 44114
(216) 522-1140

HNTB

Introduction

The Vrooman Road Bridge (SFN 4337107) crosses the Grand River on the border between Perry Township and Leroy Township, 0.2 miles south of South Ridge Road (State Route 84). It is two-span steel Warren polygonal pony truss structure built in 1951. Each span is approximately 88'-4" center-to-center of truss bearings, with an overall structure length of 179'-4$^1/_2$". The trusses are spaced 23'-0" center-to-center. A galvanized steel guardrail is attached to the interior of the truss verticals. The bridge is posted with a 24-ton load limit. Photos 1 and 2 show the Elevation and End Views respectively.

In the1980s, the structure underwent a major rehabilitation. The timber deck and steel stringers were removed and replaced with a longitudinal timber floor system. The current deck consists of a 10" deep timber deck comprised of 4" wide planks with a 3" thick asphalt wearing surface.

The bridge deck is supported by floor beams as well as transverse timber bearings at the pier and abutments. Each span has six-W27x94 intermediate floor beams connected to extensions of the truss verticals. Between floor beams are timber spreader beams that maintain load distribution among the deck planks (See Photo 3). A framing plan with member identification is shown in Figure 1. The floor beams are spaced at 12'–7$^1/_4$" center to center, and are attached to truss vertical extensions with 14-dardelet bolts at each end. A dardelet bolt is a rivet-bolt fastener more appropriately classified as an "interference body" bolt. They are bearing connectors with upset ridges on the shanks that deform during installation to insure full bearing. Their button heads allow for cold driving during erection (See Photo 5).

The superstructure bears on top of stone abutments retained from the previous crossing. Each abutment has a concrete abutment cap that the floor sets on. The pier is constructed of reinforced concrete and supports the fixed bearing of the truss and the timber bearing for the deck. The South Abutment was reinforced with sheet piling in the 1980s. Three of the four wingwalls also have been retained from the previous construction. The southeast wingwall is a sheet pile retaining wall.

As defined by the National Highway Institute, the lower chord and diagonal segments in tension are classified as fracture critical members. Though the floorbeams are spaced less than 14 feet, they are considered as being fracture critical because the floor system above does not consist of continuous span stringers.

William Vermes, P.E. and Noemy Roman E.I.T. performed an in-depth inspection of the bridge on January 27th and 29th, and February 11th. Tri-State Steel Construction, Inc. installed temporary inspection platforms for inspection of the lower chord, floor beams and deck underside under Span 1. Additionally, ladders were used for inspection access under both Spans 1 and 2. A copy of the BR-86 is included in Appendix A. Lake Erie Diving, Inc. performed an underwater inspection of the South Abutment and Center Pier.

The underwater inspection report is attached as Appendix B. Following the inspection, a load rating analysis of superstructure elements was performed.

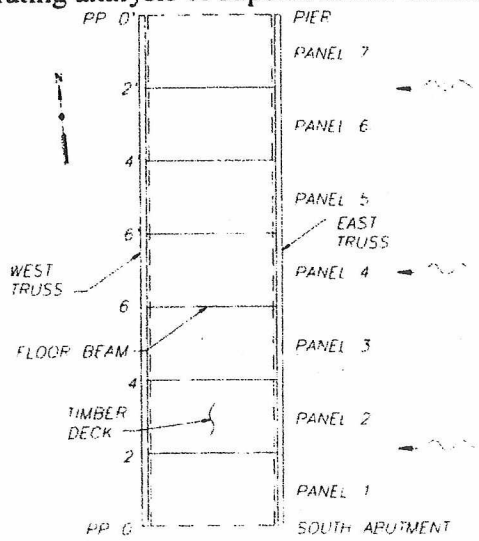


Figure 1 – Span 1 Framing Plan & Member Identification (Span 2 similar)

Physical Condition

Floor

The floor is in good condition as the deck timbers have been incised with wood preservative that is still effective. Generally the underside of the timber deck has random infiltration during wet weather with salt deposits present (Photo 3). However, salt does not have any detrimental effects toward wood deterioration. Additionally the west and east fascia timbers are saturated due to over-deck runoff and standing snow along the lane edges above.

Wearing Surface and Rail

The asphalt wearing system is in fair condition with longitudinal and transverse cracks. The guardrail is also in fair condition.

Floor Beams

The floor beams are generally in fair condition. Typically flake rust is present to the top and bottom flanges resulting in a nominal $^{1}/_{32}$" loss to both flanges at midspan. The floor beam webs exhibit no significant loss, except at the west end of Floor Beam 6, Span 2. Here, between the top flange and the top of the floor beam connection (lug) angle, the web end has complete section loss $^{1}/_{2}$" deep due to paint failure and water runoff caused by the dirt that accumulates on top of the top flange end.

On this structure, four floor beams were erected with splices connecting shorter floor beam segments. These splices occur on Floor Beams 2 and 2′ in Span 1 and 4 and 6′in Span 2. Two-20″ long, full height welded plates make the web splice while the flanges are butt welded together. Three splices occur 3′-10″ from one end while the other occurs 6′-1″ from the floor beam end. These four welded floor beam splices are in good condition with no cracks or excessive corrosion observed. However, the craftsmanship of these flange welds does appear to be rather poor (Photo 4).

Floor Beam Connections

The floor beam connections are in poor condition as approximately 35% of the rivet-bolt fasteners have extensive corrosion to the nut. Based on observations at locations with varying paint conditions, some of this nut deterioration was present before the repainting of the bridge, and no additional section loss to the nuts is present. Most of these nuts have active corrosion and in select instances, the section loss has progressed onto the threaded bolt shank and potentially into the bearing connection itself. At the west connection of Floor Beam 4′, one bolt essentially missing its fastening nut was backed out with a hammer with relative ease (Photo 5). (This bolt was replaced with a $^{3}/_{4}$″ stainless steel bolt.) Also, the east connection of Floor Beam 4, Span 1, has one missing bolt. This open hole is painted, thus the bolt likely was never installed. Table 1 summarizes the quantity of dardelet nuts with significant section loss.

At several locations, the base metal adjacent to the bolt holes of the truss vertical, now exposed due to missing nut corrosion, has signs of misfabricated and unrepaired holes (Photo 6). These mispunched holes result in a slotted opening and reduce the friction area that holds the bearing dardelet bolt in place. Also, these slotted holes provide access for accelerated corrosion to the base metal and the bolt shank.

Floor Beam	Nuts with Significant Section Loss	
	East Connection	West Connection
Span 1		
2	7	4
4	1	5
6	0	0
6′	0	1
4′	1	2
2′	7	7
Span 2		
2	4	3
4	9	0
6	7	5
6′	12	7
4′	7	12
2′	8	8
Total	63	54

Table 1 – Floor Beam Connection Fasteners with Significant Section Loss

(Note: Each connection has 14-bolts)

On the vertical extensions, the interior flange between the truss gusset plate and floor beam lug angles often have section loss both arrested and active (Photo 7). This deterioration is caused by debris accumulations on top of the floor beam top flange. Maximum section loss is approximately 50% and 15% of the flange and total sections respectively.

Trusses

The lower chord, upper chord, verticals and diagonals are generally in fair condition with sporadic areas of deterioration. No significant findings were observed to any of the welded truss connections. Many diagonal and verticals have scraped paint and gouges to flange edges due to contact with wide vehicles. The following comments detail specific comments to truss members:

1. Span 1, East L_0L_2: The east flange has a 3″ wide section with $^3/_{16}$″ average thickness, or approximately 15% total section loss.
2. Span 1, West L_0L_2: At L_0, the last 3″ of the channel web is generally missing due to corrosion.

3. Span 2, West L_0L_2: The west edge of the channel is bent upward. The east flange remains straight. Additionally, two 1-$^1/_2$" long transverse tack welds are on top of the channel web.
4. Span 2, West L_2U_2: Vertical had been hit by a vehicle and has been straightened. Patch applied to web at lower chord level.
5. Span 2, East $L_0'L_2'$: Paint failure has resulted in 25% loss to the west flange of the channel section.

Bearings

The truss bearings are in poor condition. In Span 1, both gusset plates at West L_0 (Photo 10) and the west gusset plate at East L_0 have extensive corrosion below the lower chord connection and above the bearing channel. The east gusset plate at East L_0' in Span 2 also has significant corrosion. Though no deformation was observed, buckling failure similar to that occurred at the Fay Road Bridge (North) structure may eventually happen.

The bearings for the timber deck are in fair condition. No decay was noted to any of the three timber seats.

Lower Lateral Bracing

The lateral bracing is in poor condition. The braces between Floor Beams 6 & 6′ in Span 1, and Floor Beams 4′ & 6′ in Span 2 are loose. In the four panels adjacent to the abutments and pier, the bracing has been removed to facilitate the installation of the timber deck and its sleeper bearing.

Paint

The present paint is generally in fair condition. However, there are significant areas of paint failure to the lower chord and scrapes to the truss vertical and diagonals.

Abutments, Abutment Seats and Backwalls

The stone abutments are in fair condition with random areas of sandstone disintegration and water seepage. At the North Abutment, the original mortar in the joints has disintegrated leaving gaps between stones. In some areas, this mortar was replaced with a cement paste. The South Abutment has been reinforced with sheet piling place in front and the mortar joints were repointed. No findings were identified to the South Abutment.

Pier and Pier Seat

The pier is in fair condition. As noted in the underwater inspection report by Lake Erie Diving, a three foot-long by six inch-high hole is present through the base of the pier approximately at the one-foot datum level. The honeycombed appearance suggests that this hole has been present since the original construction. Above the 2′ water datum mark on the downstream face, the pier has no delamination or cracks, but it does have several honeycomb surface voids that also were likely part of the original construction.

The pier seat is in fair condition. On both sides of the pier, horizontal cracks 10″ from the top result in slight delamination (Photo 11).

Wingwalls

The wingwalls are in fair condition. Though the wale to the Southeast Wingwall is filled with soil, it is sloped which allows water to drain. Thus, little section loss was noted to the web of the wale.

Channel and Scour

The channel is fair condition with the primary flow of the Grand River occurring below Span 1. As discussed in the Lake Erie Diving underwater inspection report, no scour was noted to either the South Abutment or Pier 1.

Operating Load Rating Analysis

A load rating analyses was performed for the superstructure elements of the Vrooman Road Bridge over the Grand River. The load factor method was used to rate the superstructure elements based on operating rating level. Load ratings based on the operating rating level generally describe the maximum permissible live load to which the structure may be subjected. These ratings are also based on the following manuals:

1. The 1994 Second Edition of the "Manual for Condition Evaluation of Bridges" (including the 1995 through 2001 Interim Revisions),
2. The 1996 Sixteenth Edition of the "Standard Specifications For Highway Bridges" including the 1997 through 2000 Interim Revisions, as published by AASHTO and
3. The ODOT "Bridge Design Manual", April 2000

Rating parameters

1. Superstructure elements were rated for HS 20 loading and four Ohio legal loads (2F1, 3F1, 4F1 and 5C1) as per ODOT Bridge Design Manual Section 902.2, Table 9-1 (See Appendix C). The transverse wheel spacing is 6'-0" for all specified vehicles.
2. The existing roadway is stripped for two traffic lanes. However, since the roadway is less than 24 feet (measured from face to face of guardrail beams), the live load distribution to roadway longitudinal members was based on a bridge design for one traffic lane, as per AASHTO Table 3.23.1. This is due to the approach roadway alignment, narrowness of roadway at structures and light truck traffic volume of local roads.
3. For rating of floor beams and truss members involving the specified truck loading, each vehicle was placed transversely one at a time within the roadway. The vehicle was then shifted to produce maximum stress in the member under consideration.
4. Superstructure member sections were based on existing plans, structure data forms and field measurements. Significant inspection findings were also incorporated in the rating analysis.

Analysis Results

The rating analysis identified either the lower chord or timber deck as the controlling member. Please note that the controlling lower chord members occur to both east and west trusses as well as Spans 1 and 2. The rating factors are shown in Table 2.

Controlling Member	Operating Load Rating Factor (RF)				
	HS20	2F1	3F1	4F1	5C1
L_2L_4 & $L_2'L_4'$	HS23.0	*	*	1.45	1.25
Timber Deck	*	1.50	1.45	*	*

* Does not control rating

Table 2 – Load Rating Factors

Note: For the timber deck, the assumed parameters, based on S.L.D., were used:
Species is Southern pine, Grade No. 1; F_b = 1,300 psi; F_v = 90 psi

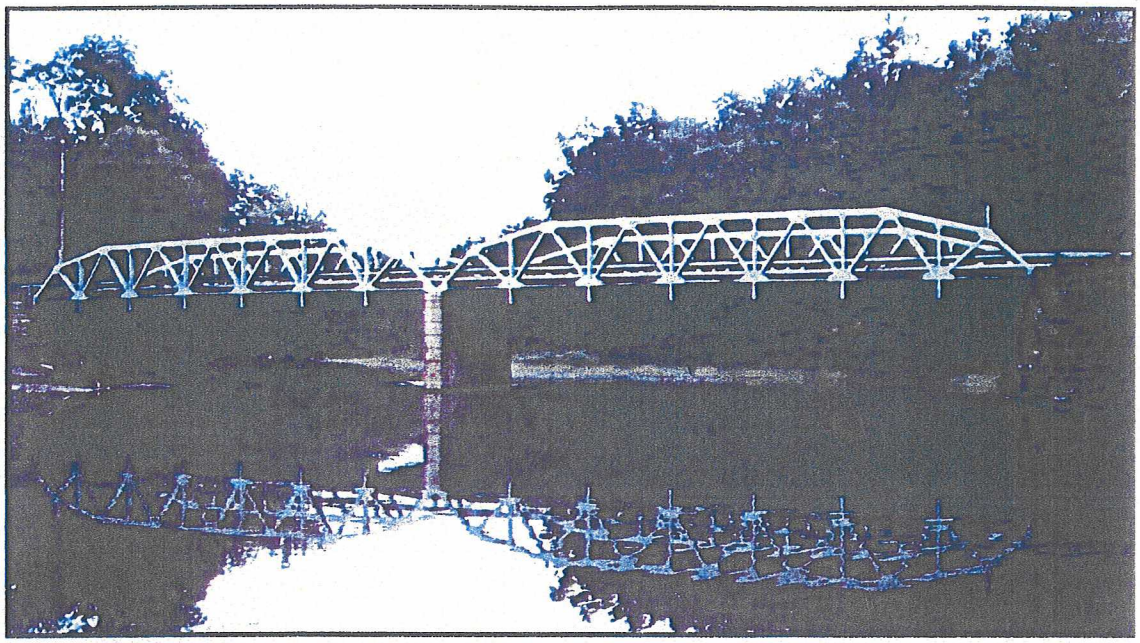


Photo 1 – West Elevation

Photo 2 – North End View

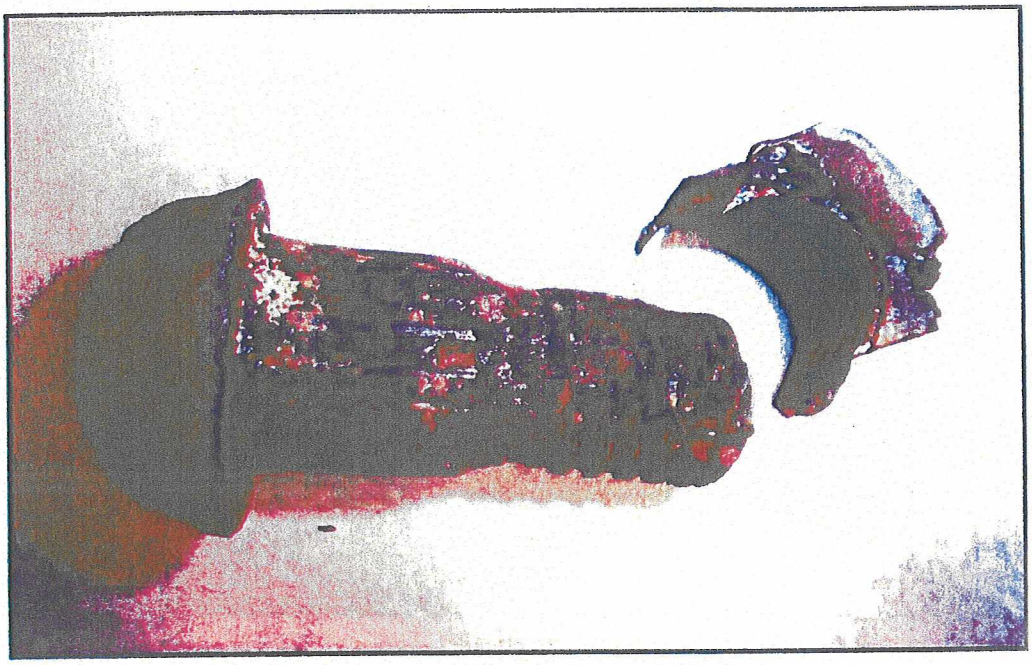


Photo 5 – Corrosion to Shank of Removed Dardelet Bolt
(Note Upset Ridges at Left and Remnants of Nut)

Photo 6 –Deficient Dardelet Nut with Misfabricated Bolt Hole Exposed
(Highlighted by Arrow)

Photo 7 – 1 $^1/_2$" Deep Loss to Vertical Flange from Debris on Top of Floor Beam, Span 2, East L_4' (Note Missing Nut to Dardelet Bolt)

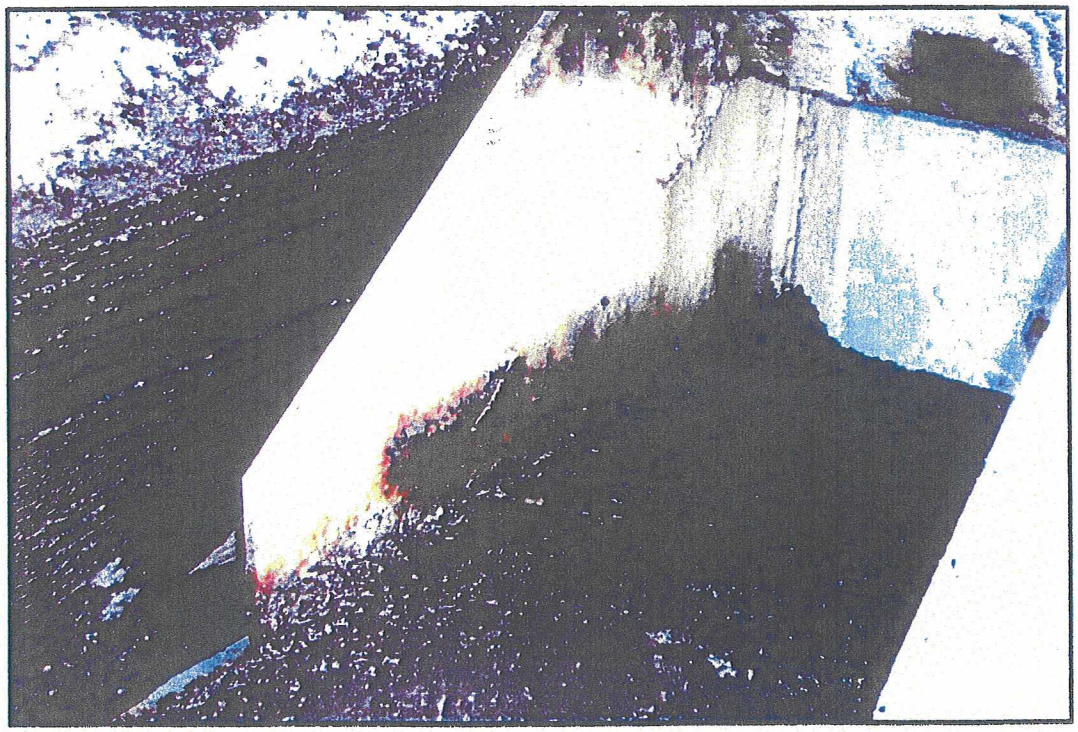


Photo 8 –1/16 " Loss to Gusset Plate Above Lower Chord, Panel Point West L_2, Span 1

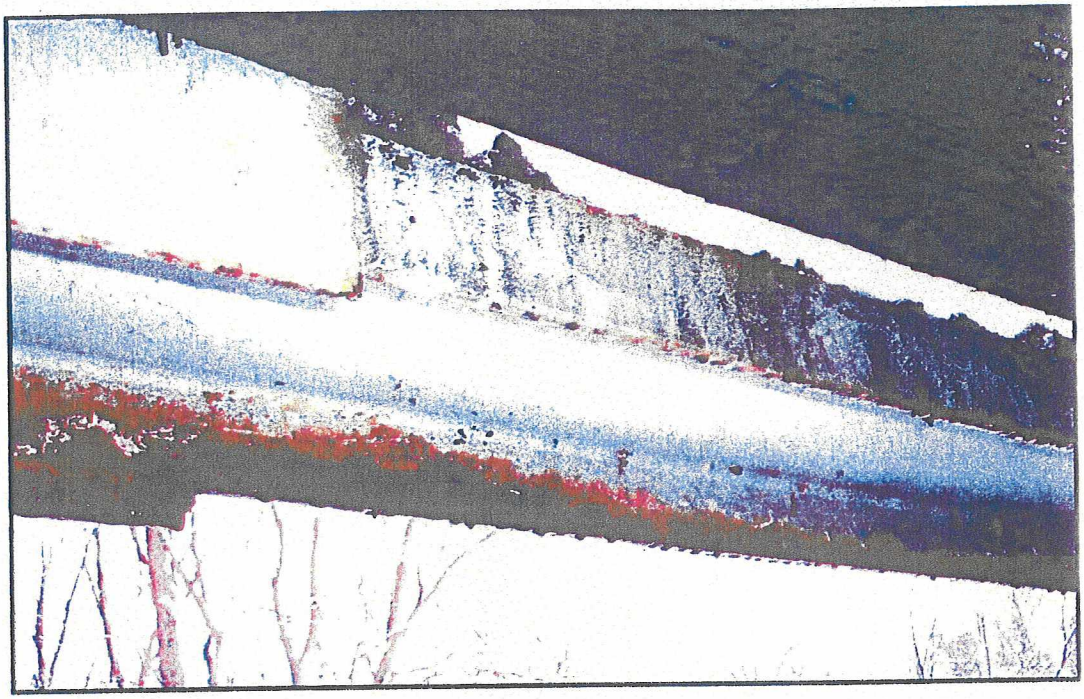


Photo 9 – Corrosion to Lower Chord

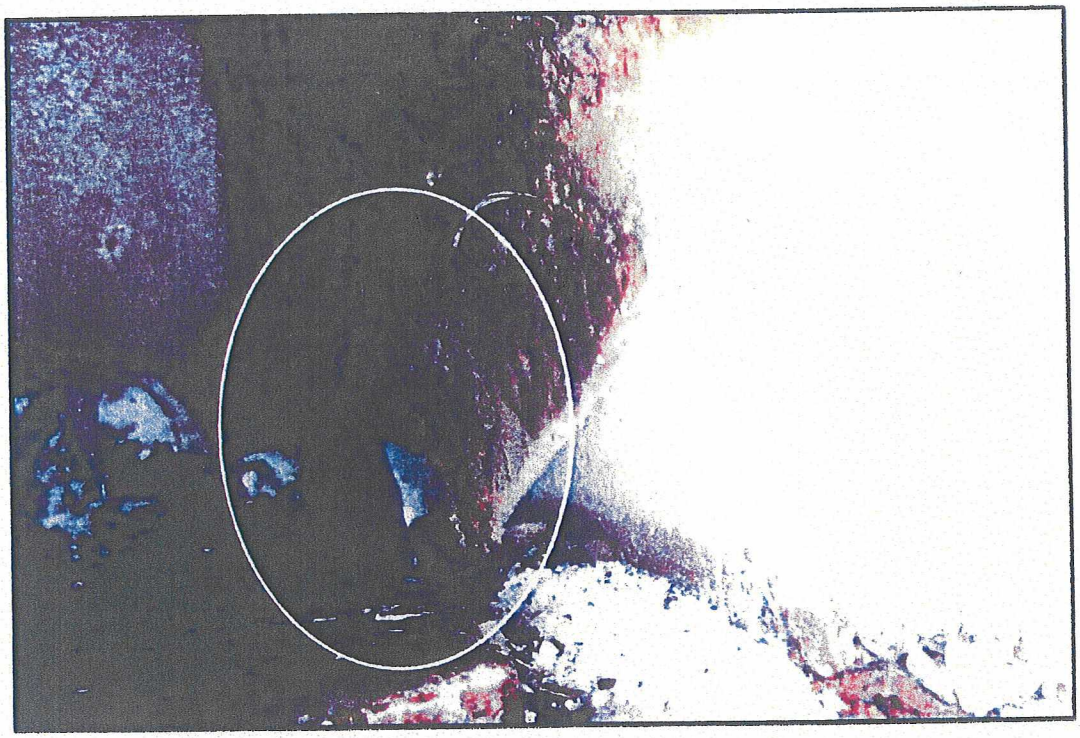


Photo 10 – Hole to West Gusset Plate (Circled) Between Lower Chord and Bearing, Panel Point West L_0, Span 1

Photo 11 – Crack & Delamination Above, North Face of Pier Seat

STATE OF OHIO DEPARTMENT OF TRANSPORTATION
BRIDGE INSPECTION REPORT

STRUCTURAL FILE NUMBER
4337107

BRIDGE NUMBER
LAK 00227 0283
CO RT UNIT

YR BUILT 52-66

LEACY TWP

DIST 12 BRIDGE TYPE Steel Truss Thru
TYPE SERVICE 1 1 5

Vrooman o/ Grand R 2002

DECK 1 Floor	2	2 Wearing Surface	2
3 Curbs, Sidewalks & Walkways		4 Median	
5 Railing	1	6 Drainage	2
7 Expansion Joints	2	8 **SUMMARY**	6
SUPERSTRUCTURE 9 Alignment	1	10 Beams Girders-Slab	
11 Diaphragms or Crossframes		12 Joist/Stringers	2
13 Floor Beams	2	14 Floor Beam Connections	3
15 Verticals	2	16 Diagonals	2
17 End Posts	2	18 Top Chord	2
19. Lower Chord	2	20 Lower Lateral Bracing	3
21 Top Lateral Bracing		22. Sway Bracing	
23. Portals		24. Bearing Devices	3
25 Arch		26 Arch Columns or Hangers	
27 Spandrel Walls		28 Paint	2
29 Pins/Hangers/Hinges		30 Fatigue Prone Connections	2
31 Live Load Response	S	32 **SUMMARY**	4
SUBSTRUCTURE 33 Abutments	2	34. Abutment Seats	1
35 Piers	2	36 Pier Seats	2
37 Backwalls	1	38. Wingwalls	2
39 Fenders and Dolphins		40 Scour 3	1
41 Slope Protection		42 **SUMMARY**	5
CULVERTS 43. General		44. Alignment	
45 Shape		46. Seams	
47 Headwalls or Endwalls		48 Scour	
49.		50 **SUMMARY**	
CHANNEL 51 Alignment	2	52. Protection	2
53. Waterway Adequacy	2	54. **SUMMARY**	5
APPROACHES 55 Pavement	2	56. Approach Slabs	
57. Guardrail	2	58. Relief Joints	
59. Embankment	1	60 **SUMMARY**	6
GENERAL 61 Navigation Lights		62. Warning Signs	
63 Sign Supports		64 Utilities	
65 Vertical Clearance		66. **GENERAL APPRAISAL & OPERATIONAL STATUS** 4	P

67 Inspected by Nancy B. Zimmer P.E [ ] Initials NBZ
HNTB Ohio, Inc
Date 02/10/03

68 Reviewed by W. M. Morris P.E PE Initials WJV
Date 02/28/03

69. Survey 0 0 0 1 1 1 0 0

Appendix A

BRIDGE INSPECTION REPORT

August 2006

VROOMAN ROAD BRIDGE
OVER GRAND RIVER
PERRY AND LEROY TOWNSHIPS

SFN 4337107

Prepared for:

Lake County Engineer
550 Blackbrook Road
Painesville, Ohio 44077

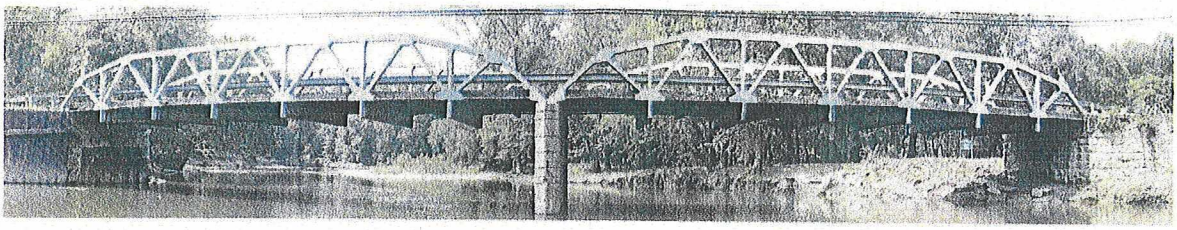
Prepared by:

Richland Engineering Limited
29 North Park Street
Mansfield, Ohio 44902
(419) 524-0074
Email: reltd@r-e-l.com

RICHLAND ENGINEERING LIMITED

DESCRIPTION

The Vrooman Road Bridge (SFN 4337107) crosses the Grand River on the border of Perry and Leroy Townships in Lake County. The bridge carries two lanes of traffic. The structure consists of two single span Warren pony trusses on wall-type masonry abutments and a wall-type reinforced concrete pier. (See Picture #1.) The welded steel trusses were built in 1952 by the Ohio Bridge Company. The structure was inundated by the recent flooding of the Grand River in late July. Large amounts of debris from the flood was entangled with the superstructure and trapped against the substructure. The bridge is posted with a 16-ton load limit. The bridge has been closed to highway traffic since the high water event.



Picture #1 - Looking downstream at bridge.

A major rehabilitation in 1986 replaced the steel stringer and timber deck floor system with a longitudinal timber floor system with an asphalt overlay. The bridge was also painted and a new bridge rail installed as part of the project. The timber deck is supported by floorbeams and timber sleepers on the pier and abutments. (See Figure 1.) The stone abutments were retained from the previous crossing and a concrete cap was added to support the timber floor. The south abutment breastwall and southeast wingwall have been reinforced with steel sheet piling and tiebacks.

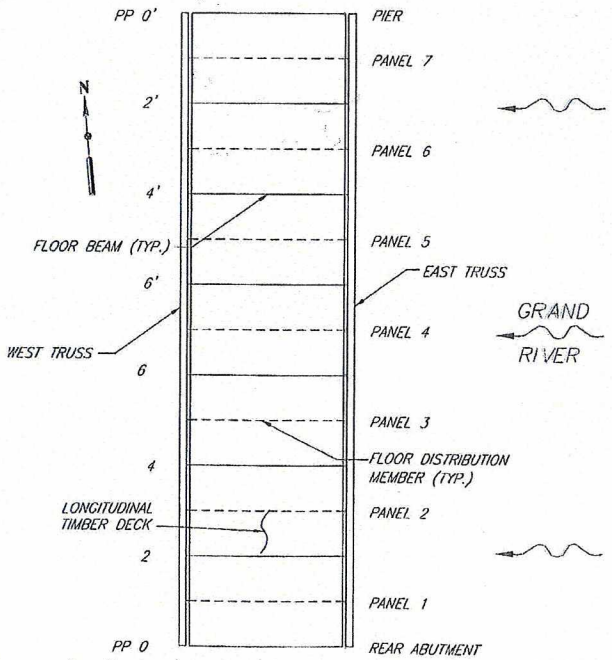
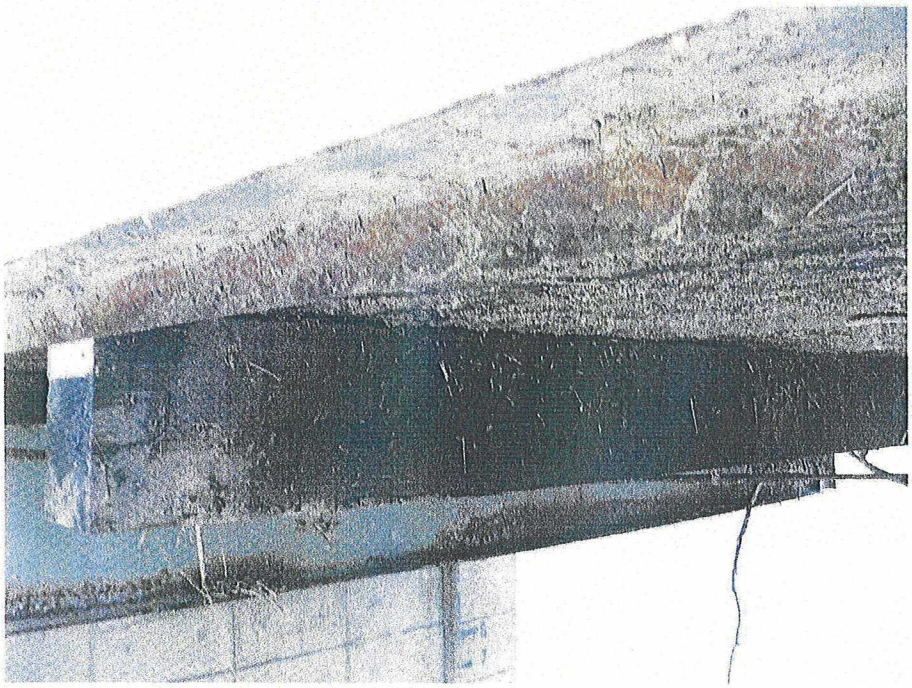


Figure 1 - Span 1 Framing Plan shown (Span 2 similar)

DECK ITEMS

Floor – The longitudinal timber floor is in fair condition. Several of the timber floor distribution members located between floorbeams are rotated, likely from impacts during the flood, leaving a gap between the members and decking up to ¾" in some locations. (See Picture #2.) All fasteners connecting the distribution members to the timber deck were inspected and remain tight. The underside of the floor is covered in flood debris.



Picture #2 - Rotated floor distribution member at span 2, L_3.

Wearing Surface – The asphalt wearing surface is in fair condition with longitudinal and transverse cracks. Approximately 50% of the timber batter blocks which retain the asphalt on the sides of the bridge are missing. There are grooves in the asphalt where an excavator was driven across the bridge.

Railing – The bridge railing is in poor condition. Several of the bolts connecting the C15x33.9 rail to the W6x15 support rail have been broken by vehicle impacts. Between L_3 and L_6 in span 1 of the west truss, six consecutive bolts are broken off, allowing the channel to sag approximately 2 inches. (See Picture #3.)

Picture #3 - Loose west bridge railing due to missing bolts.

SUPERSTRUCTURE ITEMS

Alignment – The superstructure's alignment is in poor condition due to several vehicle and flood impacts. L_0-L_2 span 2, east truss and L_6'-U_5' span 2, west truss have kinks from impacts. Both members are tension only members, so the kinks do not reduce the structure's load carrying capacity. All truss verticals were measured for vertical alignment during this inspection to ensure flood debris had not deflected the trusses. Generally, the flood appears to have had minimal affect on the alignment of the trusses. The worst location is L_6-U_6 span 1, west truss which is 0.7° from vertical, which results in approximately 1 ¼ inch deflection over the 9 foot truss height.

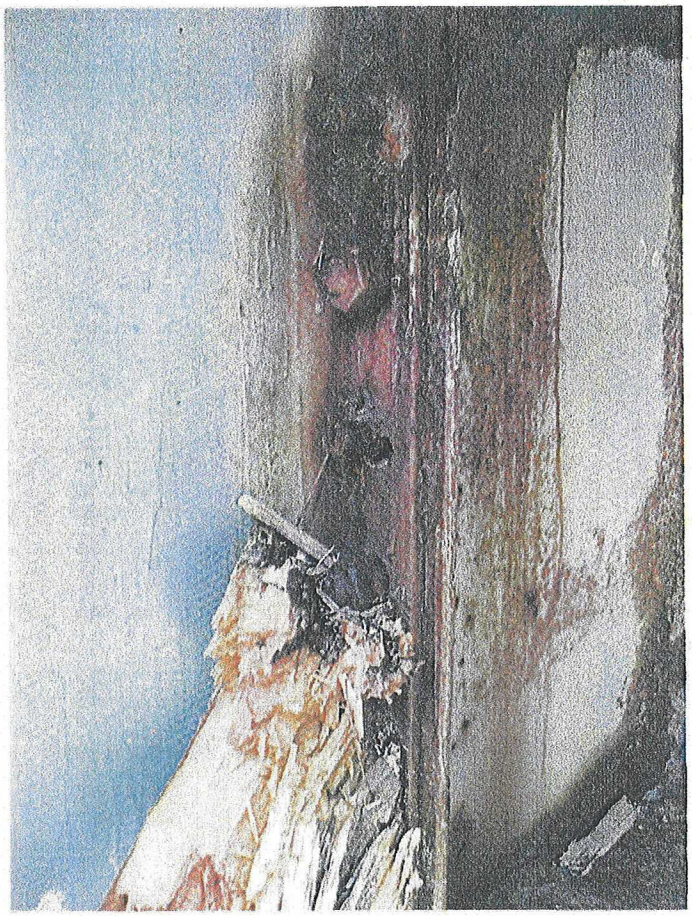
Floorbeams – The floorbeams are generally in fair condition. Surface rust is active on all floorbeams resulting in minor section loss. The ends of a few floorbeams were bent by debris impacts during the flood. The damage does not reduce the structural capacity of the floorbeams.

Floorbeam Connections – The floorbeam connections are in poor condition. Approximately 36% of the bridge's connectors have significant section loss to the dardelet bolt or nut. At 11 of the structure's 24 floorbeam ends, 7 or more of the 14 connectors have significant section loss. (See Table 1 and Picture #4.) The east connection of floorbeam 4 in span 1 has a missing connector. At the west connection of floorbeam 4' in span 2 a connector was replaced with a stainless steel bolt. The floorbeam connections to the truss verticals have several holes that were redrilled in the verticals during original construction. The result is an oversized hole for a bearing type connection. (See Picture #4.)

Floorbeam Location	East Connection	West Connection
SPAN 1		
2	7	4
4	1 *	5
6	0	0
6'	0	1
4'	1	2
2'	7	7
TOTAL	**16**	**19**
SPAN 2		
2	6	3
4	9	.0
6	7	5
6'	12	7
4'	7	12
2'	10	8
TOTAL	**51**	**35**
TOTAL	**67**	**54**

* The east connection of floorbeam 4 is missing one connector.
Each connection is made up of 14 dardelet bolts.

Table 1 – Floorbeam connection dardelet bolts with significant deterioration.



Picture #4 - Deteriorated floorbeam connectors at L_6' span 2, east truss.

Verticals – The truss vertical members are in poor condition. Several verticals have section loss to the interior flange floorbeam connection. The vertical members in a Warren truss are non-load carrying members between the top and bottom chords and are only required to brace the top chord and support the floorbeams. Impact damage from vehicles and storm debris has damaged several truss verticals throughout the structure. The following is a list of specific damaged locations:

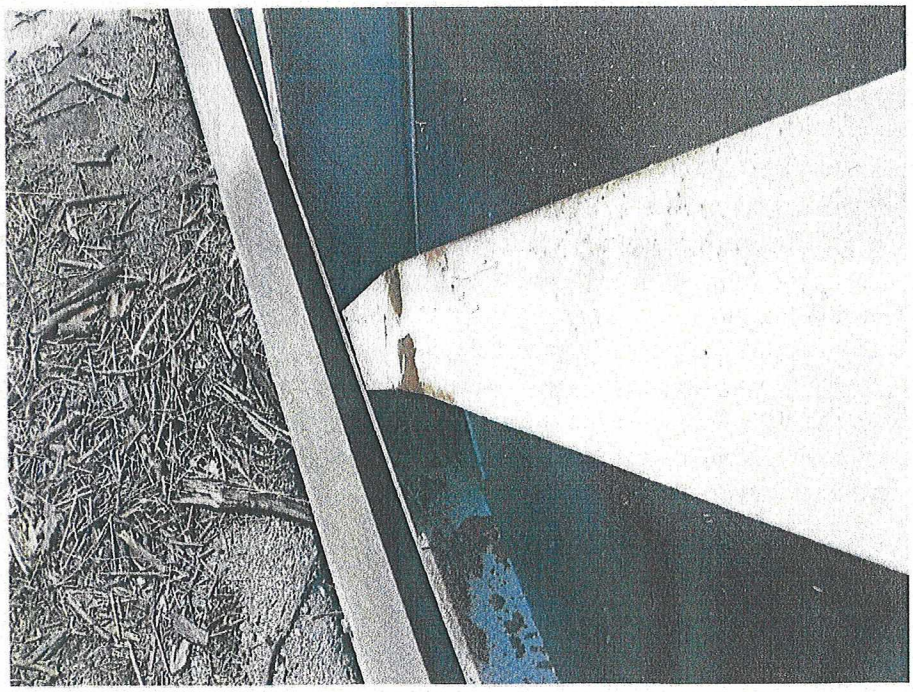
- L_4-U_4 span 1, west truss has several gouges and a bent east flange from vehicle impact.
- L_2-U_2 span 2, west truss was previously bent by vehicle impact. The member has been straightened and a steel plate was added to the web at the lower chord level.
- L_4-U_4 span 2, east truss was damaged at the floorbeam connection by flood debris. (See Picture #5.)

Picture #5 - Flood damaged vertical L_4-U_4, span 2, east truss.

Diagonals – The truss diagonal members are in poor condition. Vehicle impacts have damaged several truss diagonals throughout the structure. None of the damaged members would benefit from heat straightening due to the type of damage or the members being tension only. The following is a list of specific damaged locations:

- U_1-L_2 span 1, east truss has a bent west flange.
- L_4-U_5 span 1, west truss has gouges from vehicle impact.
- U_5-L_6 span 1, west truss has vehicle impact damage. (See Picture #6.)
- L_2-U_3 and U_3-L_4 span 2, west truss appear to have been heat straightened to repair previous damage.
- L_6-U_7 span 2, east truss has a bent east flange.
- L_6'-U_5' span 2, west truss was bent by vehicle impact. (See Picture #7.) The impact put a kink in the entire member and caused noticeable rotation at the upper chord gusset plate connection. All welds appeared to be intact. This is a tension member so the kink does not reduce the members load carrying capacity.

Picture #6 - Damaged U_5-L_6 span 1, west truss.

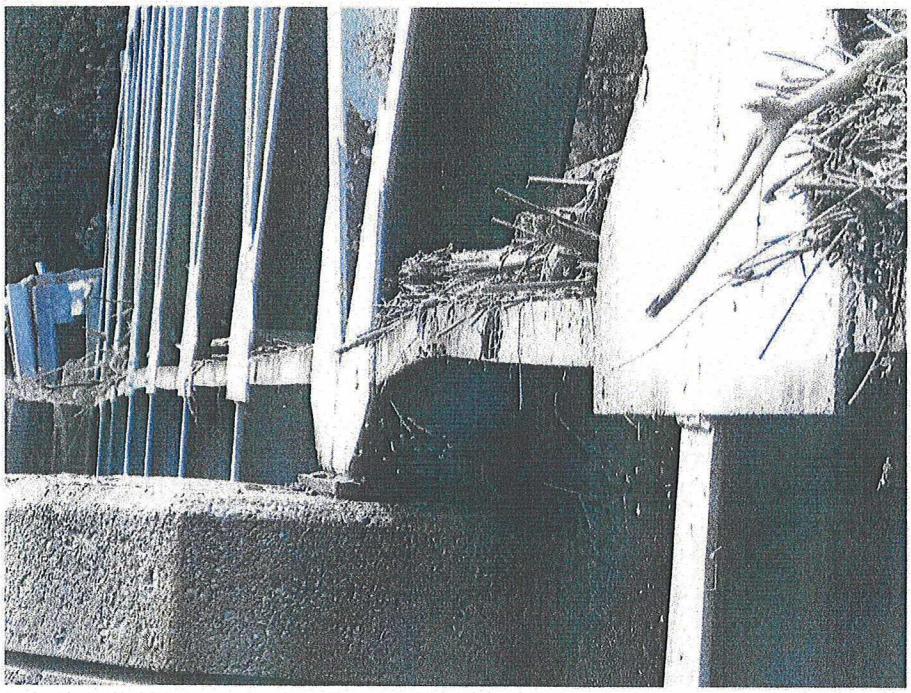


Picture #7 - Damaged L_6'-U_5' span 2, west truss.

<u>End Posts</u> – The truss end posts are in fair condition. L_0-U_2 in span 1 of the east truss has minor damage due to vehicle impact. L_0'-U_2' span 1 and L_0-U_2 span 2, east truss, have several gouges from an excavator reaching over the truss to clear debris out of the river.

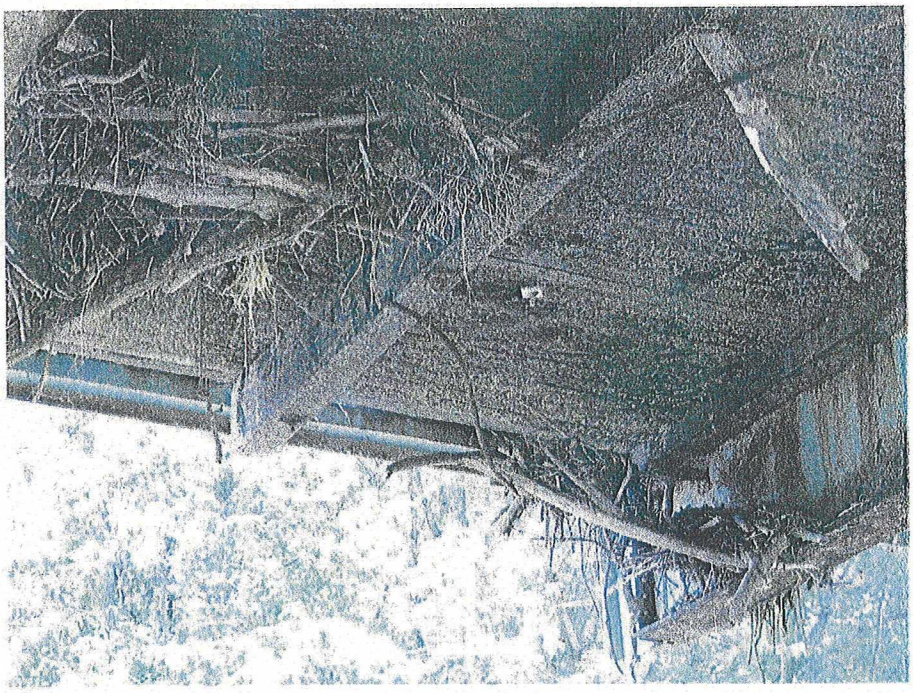
Top Chord – The truss top chords are in good condition with no significant damage found. Minor surface rust and flood debris are present throughout the top chords.

Lower Chord – The truss lower chords are in fair condition. Several members have significant section loss due to corrosion including L_0-L_2 span 1, east and west trusses and L_0'-L_2' span 2, east truss. L_0-L_2 span 2, east truss is bent upward, likely from a log jam in the river. (See Picture #8.) This is a tension member so the kink does not reduce the member's load carrying capacity.



Picture #8 – Damaged L_0-L_2 east, span 2. Note amount of debris on bottom chord.

Lower Lateral Bracing – A combination of deterioration and flood damage has rendered the trusses' lower lateral bracing ineffective. Ten of the original 28 lower lateral braces are missing with the remaining braces bent, sagging and full of debris. (See Picture #9.) The structure remains in horizontal alignment due to the diaphragm bracing provided by the timber floor system.



Picture #9 - Damaged lower lateral bracing and flood debris, span 2.

SUBSTRUCTURE ITEMS

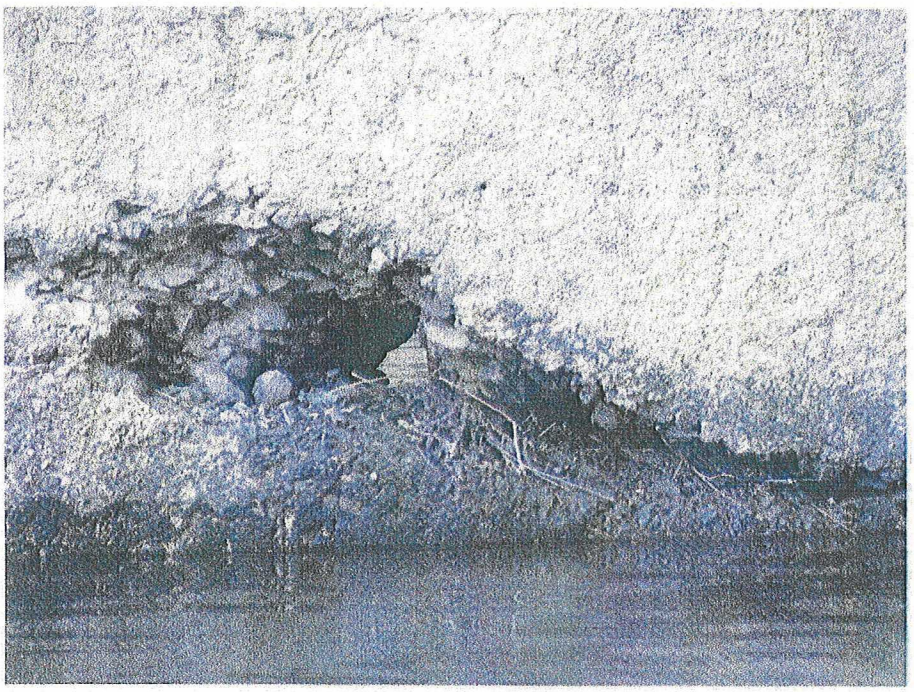
Abutments – The stone masonry abutments are in fair condition. The rear abutment breastwall was reinforced with a steel sheet pile wall that was tied back and then grouted between the stone masonry and sheet piling to fill any voids. The wall was sounded during the inspection with only a few minor voids detected.

Abutment Seats – The abutment seats are in fair condition. The seats are still covered in debris from the flood and the east end of the rear abutment had standing water on the seat.

Pier – The reinforced concrete wall-type pier is in fair condition. There is a 6 inch hole completely through the pier approximately one foot above normal water. The hole appears to be from original construction. (See Picture #10.) The pier also has several spalls on the east end from flood debris impacts.

Pier Seat – The pier seat is in fair condition. Horizontal cracks are present approximately ten inches down from the top of the seat on both sides of the pier.

Wingwalls – The stone masonry wingwalls are in fair condition. The rear abutment's east wingwall was previously reinforced with a steel sheet pile wall. There is a minimal amount of washout behind the end of the wall. The wall also has a slight bulge between the water level and the tieback wale.



Picture #10 - Hole through base of pier.

Scour – Lake Erie Diving, Inc. performed an underwater inspection of the rear abutment and pier. (See attached Lake Erie Diving, Inc. report.) The river's gravel bottom was washed away, exposing the shale bedrock during the recent high water event. No deep scour problems were noted during the inspection.

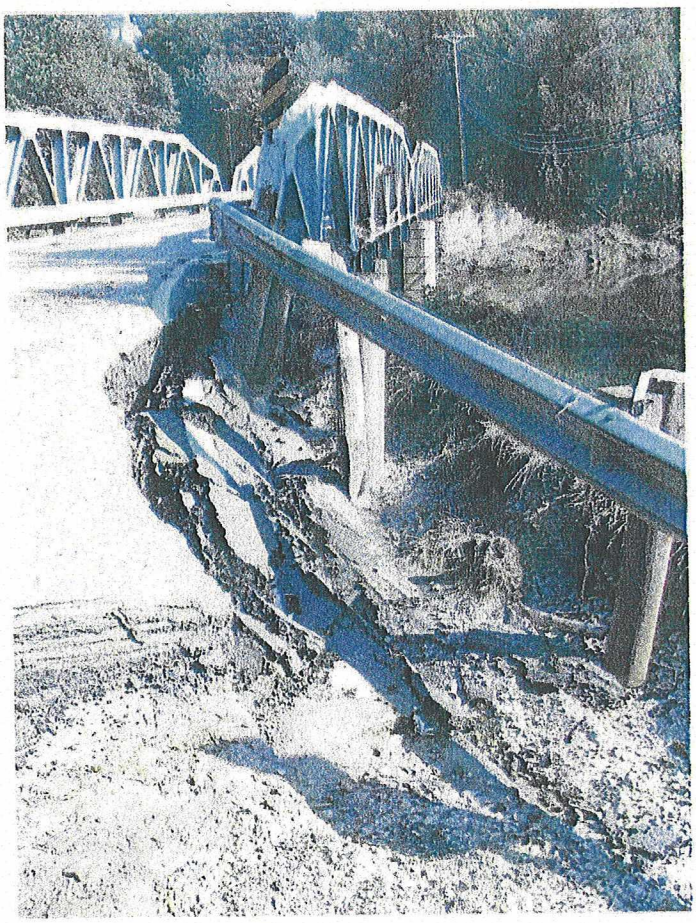
CHANNEL ITEMS

Protection – The recent 500 year frequency high water caused significant erosion to the river banks, removing embankment, vegetation and trees from in front of the breastwalls and wingwalls.

Waterway Adequacy – The recent 500 year flood overtopped the top chord of the bridge, completely submerging the entire structure. The approach roadways were also overtopped and several areas of pavement and guardrail were undermined. The contraction of the river, caused by the approach embankments, creates high water velocities under the bridge, which has lowered the streambed approximately four feet below its normal bottom.

APPROACH ITEMS

Pavement, Guardrail, and Embankment – The approaches are in critical condition following the recent flooding. Several areas of embankment were washed out, undermining the pavement and guardrail. (See Picture #11.)



Picture #11 - Flood damage to rear approach roadway.

SUMMARY

The Vrooman Road Bridge has a General Appraisal Rating of 3, serious condition, and an operational status of X, bridge closed for reasons other than condition or load-carrying capacity.

INSPECTION

The in-depth physical inspection was performed by Richland Engineering Limited on August 23 and August 25, 2006. The inspection team consisted of Jason D. Burgholder, P.E. and Chad E. Owens, Inspector. Lake Erie Diving, Inc. performed an underwater inspection of the rear abutment and pier.

Underwater Bridge Inspection Report

Prepared by: Lake Erie Diving, Inc.
362 Blackbrook Road
Painesville, Ohio 44077

Appendix B

Lake Erie Diving, Inc.

362 Blackbrook Rd.
Painesville, OH 44077

Office (440) 352-9472 Fax (440) 352-8471

UNDERWATER BRIDGE INSPECTION REPORT

Location:

Bridge #: Vrooman Rd.
Waterway: Grand River
City: Perry, Ohio

Inspected By:

Diver: Youri Bardyguine
Tender: Pat Murphy – Mark Maquire
Date: 25 November 2002

Inspection Performed For:

Name: HNTB Corporation
Address: 55 Erieview Plaza, Suite 500
Cleveland, Ohio 44114-1816
Field Representative: Mr. Bill Vermes
Telephone #: (216) 522-1140

Water Elevation:

Reference Location: From top of the pier to the waterline at the downstream end.
Water Elevation (Field Measurement): 14.7'

Weather Conditions: Overcast – 50 Degrees

Water Conditions: Minor flow – 3' Visibility

Soundings: Equipment Used: Surveyors Rod
(See Attached Print)

Number of Piers Inspected: 1
(See Attached For Detailed Observations)

Number of Abutments Inspected: 1
(See Attached For Detailed Observations)

Culvert: N/A
(See Attached For Detailed Observations)

Lake Erie Diving, Inc.

362 Blackbrook Rd.
Painesville, OH 44077

Office (440) 352-9472 Fax (440) 352-8471

PIER OBSERVATIONS

Bridge #: Vrooman Rd. **Inspection Date:** 25 November 2002

Pier Number: 1
(Reference Attached Print)

Type of Construction: Concrete: ☒ Cut-Stone: ☐ Timber: ☐ Steel: ☐
Other: ☐ _____

Bottom Material: Shale & Small Stone

Debris Around Pier: One 24" diameter tree against the upstream end.

Scour: No Scour Present

Exposed Footer: Top of footer even with shale channel bottom.

Footer Undermining: None

Exposed Piling Under Footer: N/A

Piling Condition: N/A

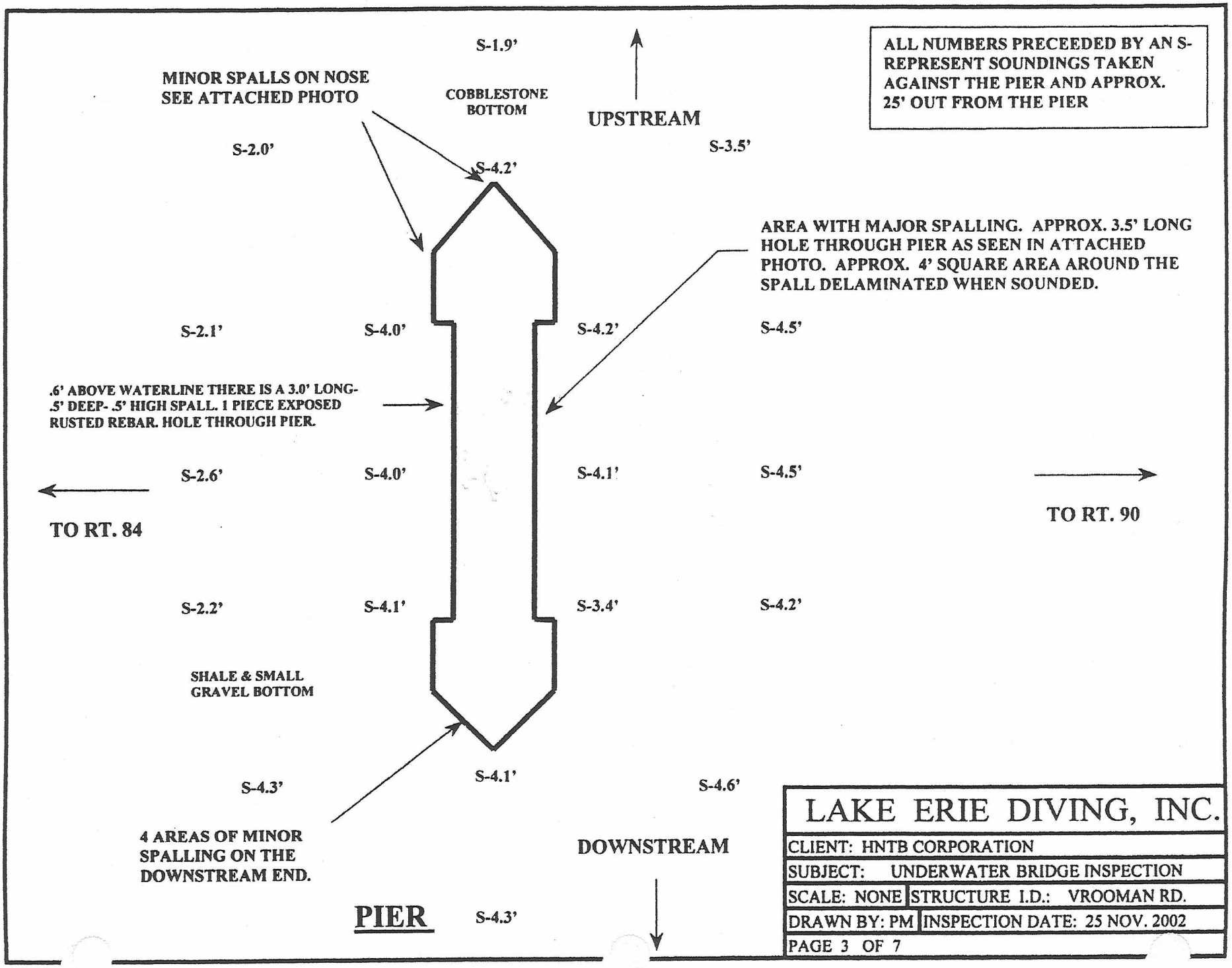
Cracks & Spalls: Yes- See sketch and photo's.

Fender Condition: N/A

Impact Damage: N/A

Unusual Conditions: Hole through pier – see sketch and photo's.

Overall Condition Rating: Fair


ALL NUMBERS PRECEEDED BY AN S- REPRESENT SOUNDINGS TAKEN AGAINST THE PIER AND APPROX. 25' OUT FROM THE PIER
S-1.9'
MINOR SPALLS ON NOSE SEE ATTACHED PHOTO
COBBLESTONE BOTTOM
UPSTREAM
S-2.0'
S-3.5'
S-4.2'
AREA WITH MAJOR SPALLING. APPROX. 3.5' LONG HOLE THROUGH PIER AS SEEN IN ATTACHED PHOTO. APPROX. 4' SQUARE AREA AROUND THE SPALL DELAMINATED WHEN SOUNDED.
S-2.1'
S-4.0'
S-4.2'
S-4.5'
.6' ABOVE WATERLINE THERE IS A 3.0' LONG- .5' DEEP- .5' HIGH SPALL. 1 PIECE EXPOSED RUSTED REBAR. HOLE THROUGH PIER.
S-2.6'
S-4.0'
S-4.1'
S-4.5'
TO RT. 84
TO RT. 90
S-2.2'
S-4.1'
S-3.4'
S-4.2'
SHALE & SMALL GRAVEL BOTTOM
S-4.3'
S-4.1'
S-4.6'
4 AREAS OF MINOR SPALLING ON THE DOWNSTREAM END.
DOWNSTREAM
PIER
S-4.3'
LAKE ERIE DIVING, INC.
CLIENT: HNTB CORPORATION
SUBJECT: UNDERWATER BRIDGE INSPECTION
SCALE: NONE
STRUCTURE I.D.: VROOMAN RD.
DRAWN BY: PM
INSPECTION DATE: 25 NOV. 2002
PAGE 3 OF 7

Lake Erie Diving, Inc.

362 Blackbrook Rd.
Painesville, OH 44077

Office (440) 352-9472 Fax (440) 352-8471

ABUTMENT OBSERVATIONS

Bridge #: Vrooman Rd. **Inspection Date:** 25 November 02

Abutment Number: South
(Reference Attached Print)

Type of Construction: Concrete: ☒ Cut-Stone: ☐ Timber: ☐ Steel: ☐ Other: ☐ _____

Bottom Material: Rock, grout, & mud.

Debris Around Abutment: None

Scour: None

Exposed Footer: None

Footer Undermining: None

Exposed Piling Under Footer: N/A

Piling Condition: N/A

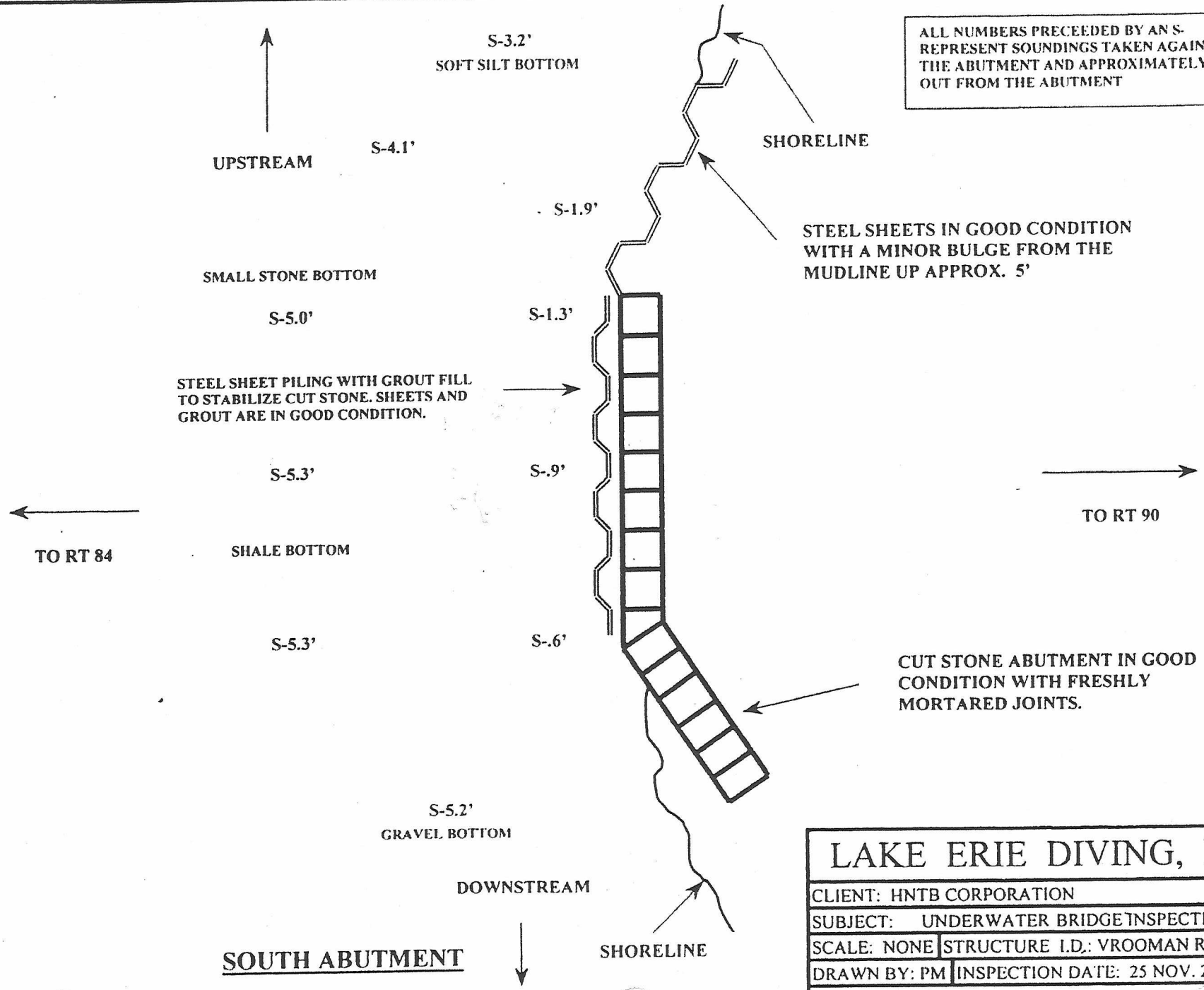
Cracks & Spalls: None

Fender Condition: N/A

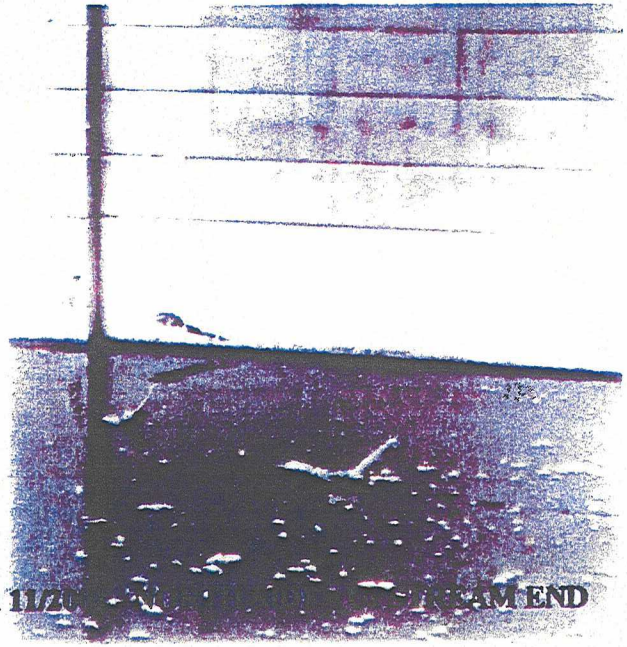
Impact Damage: None

Unusual Conditions: Fresh mortar at cut stone joints. Steel sheets protecting cut stone.

Overall Condition Rating: Good



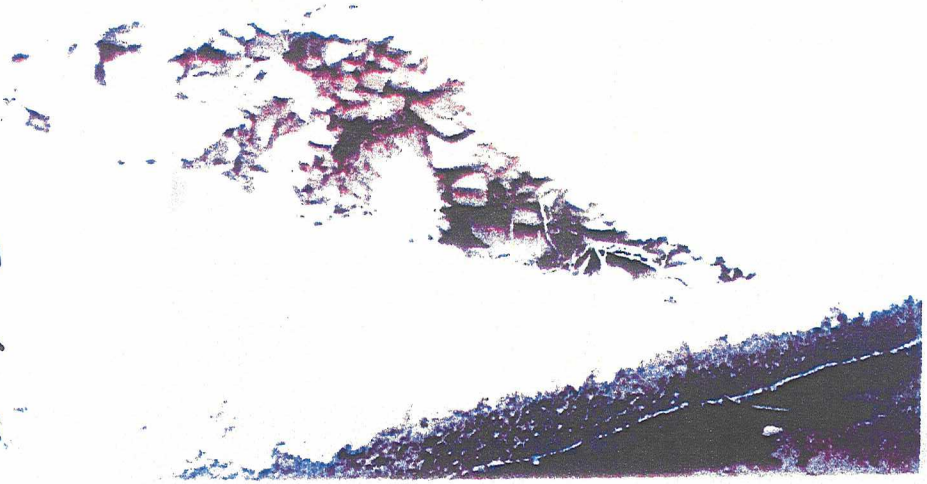
LAKE ERIE DIVING, INC.	
CLIENT: HNTB CORPORATION	
SUBJECT: UNDERWATER BRIDGE INSPECTION	
SCALE: NONE	STRUCTURE I.D.: VROOMAN ROAD
DRAWN BY: PM	INSPECTION DATE: 25 NOV. 2002
PAGE 5 OF 7	



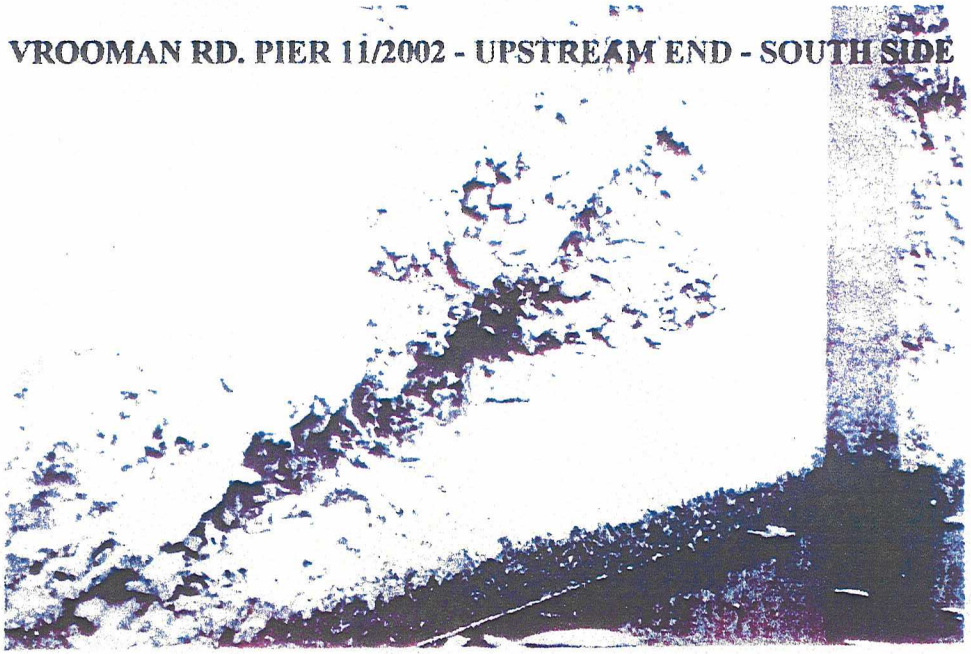
VROOMAN RD. PIER 11/20[illegible] [illegible]TREAM END

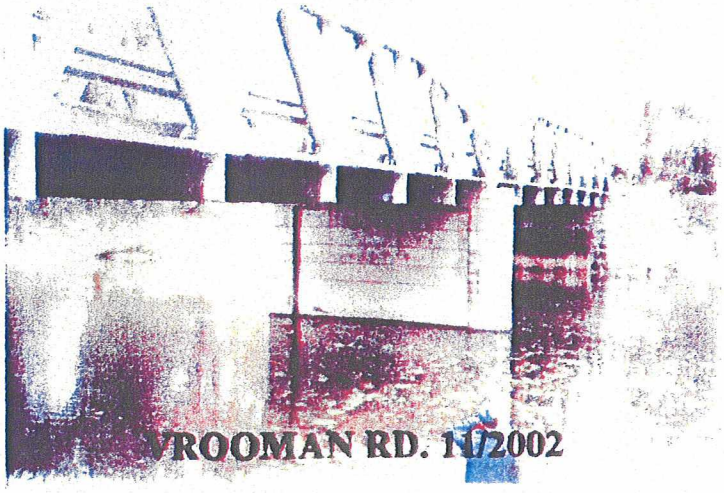
VROO[illegible] PIER 11/2002- NORTH SIDE
HOLE THROU[illegible]ER LOOKING SOUTH - EXPOSED REBAR

VROOMAN RD. PIER 11/2002 - NORTH SIDE - UPSTREAM END

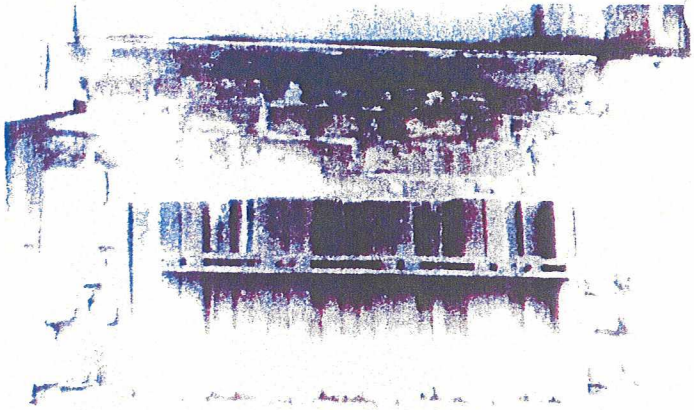


VROOMAN RD. PIER 11/2002 - UPSTREAM END - SOUTH SIDE

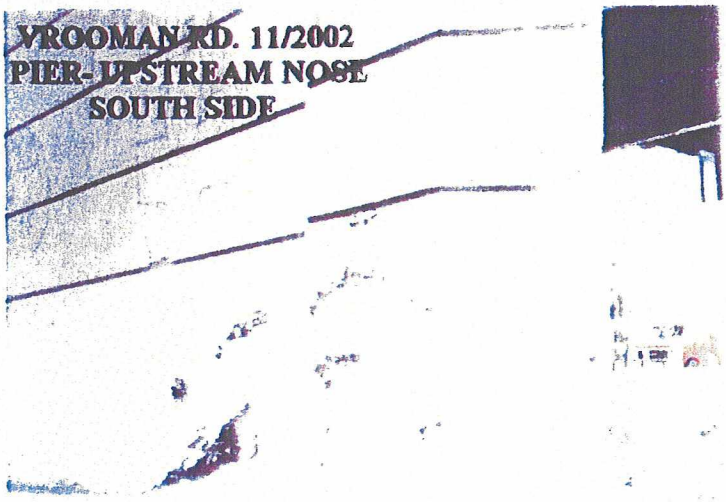




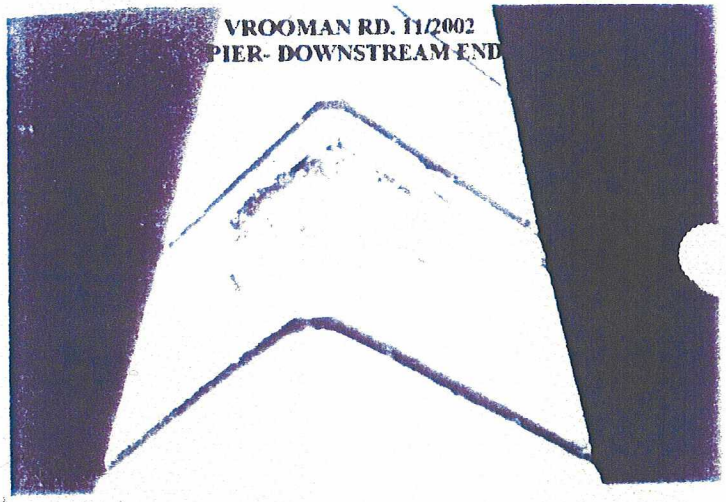
VROOMAN RD. 11/2002



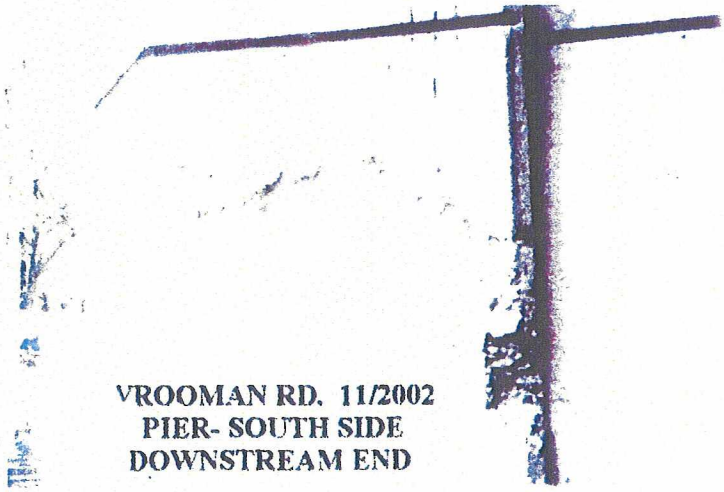
VROOMAN RD. 11/2002
SOUTH ABUMENT



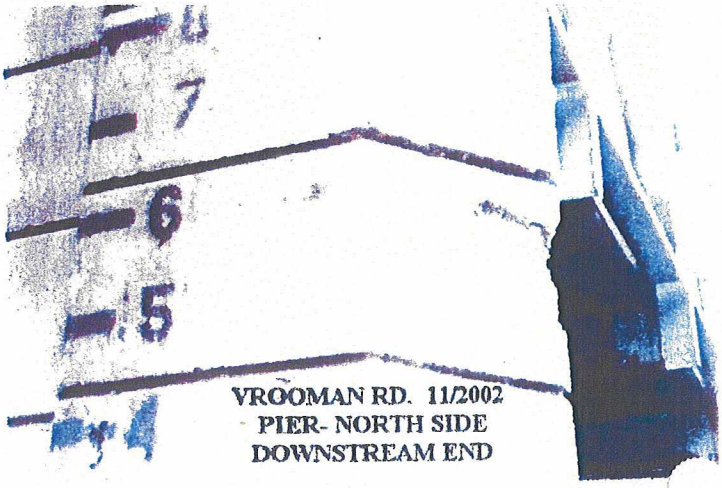
VROOMAN RD. 11/2002
PIER- UPSTREAM NOSE
SOUTH SIDE



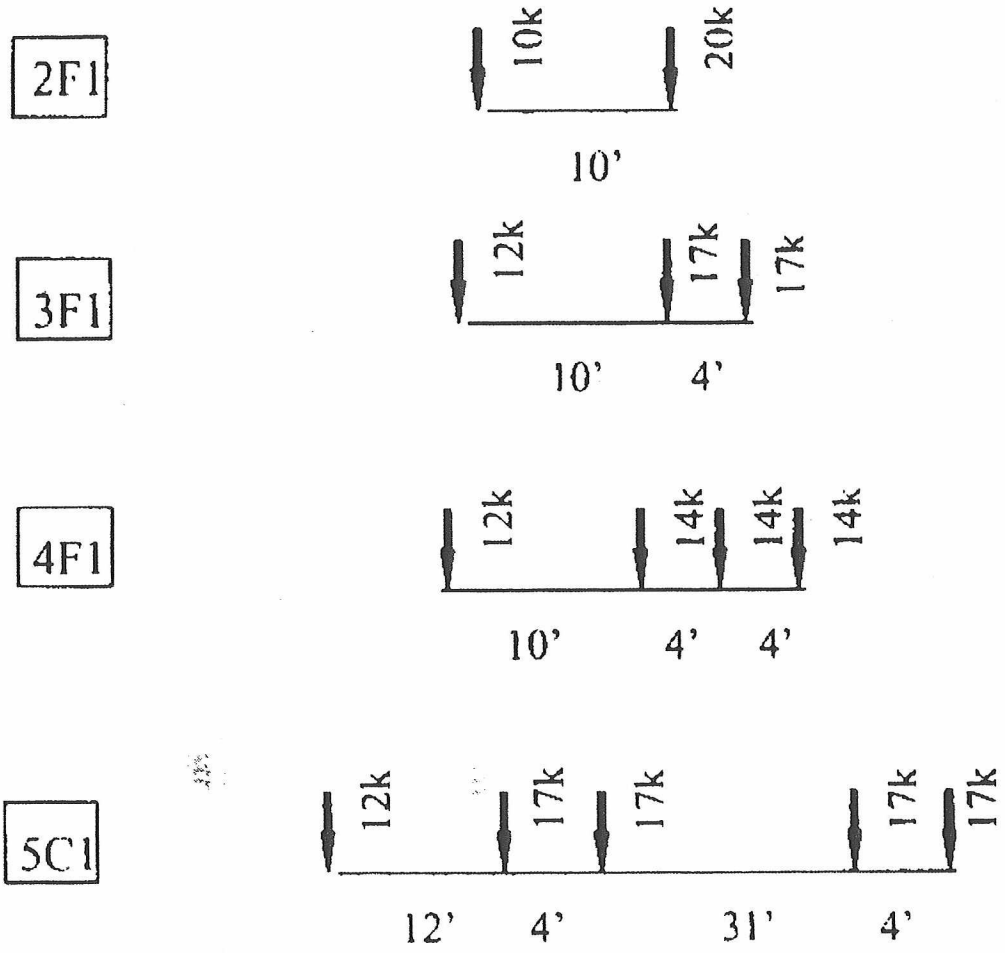
VROOMAN RD. 11/2002
PIER- DOWNSTREAM END



VROOMAN RD. 11/2002
PIER- SOUTH SIDE
DOWNSTREAM END



VROOMAN RD. 11/2002
PIER- NORTH SIDE
DOWNSTREAM END



Ohio Legal Truck Loads
(From ODOT Bridge Design Manual, April 2000)

Appendix C

Lake Erie Diving, Inc.

362 Blackbrook Rd.
Painesville, OH 44077

Office (440) 352-9472 Fax (440) 352-8471

UNDERWATER BRIDGE INSPECTION REPORT

Location:

Bridge #: Vrooman Rd.
Waterway: Grand River
City: Painesville Twp, Ohio

Inspected By:

Diver: Patrick Murphy
Tender: Mike Murphy – Dave Pruit
Date: 18 August 2006

Inspection Performed For:

Name: Lake County Engineer
Address: 550 Blackbrook Rd.
Painesville, Ohio 44077
Field Representative: Mr. Ted Galuschic
Telephone #: (440) 350-2770

Water Elevation:

Reference Location: From top of the pier to the waterline at the downstream end.
Water Elevation (Field Measurement): 14.3'

Weather Conditions: Overcast – 75 Degrees

Water Conditions: Minor flow – 1' Visibility

Soundings: Equipment Used: Surveyors Rod
(See Attached Print)

Number of Piers Inspected: 1
(See Attached For Detailed Observations)

Number of Abutments Inspected: 1
(See Attached For Detailed Observations)

Culvert: N/A
(See Attached For Detailed Observations)

Lake Erie Diving, Inc.

362 Blackbrook Rd.
Painesville, OH 44077

Office (440) 352-9472 Fax (440) 352-8471

PIER OBSERVATIONS

Bridge #: Vrooman Rd. **Inspection Date:** 18 August 2006

Pier Number: 1
(Reference Attached Print)

Type of Construction: Concrete: ☒ Cut-Stone: ☐ Timber: ☐ Steel: ☐
Other: ☐ _____

Bottom Material: Shale, Small Stone, and Silt

Debris Around Pier: None

Scour: None

Exposed Footer: Top of footer even with mudline/ shale.

Footer Undermining: None

Exposed Piling Under Footer: N/A

Piling Condition: N/A

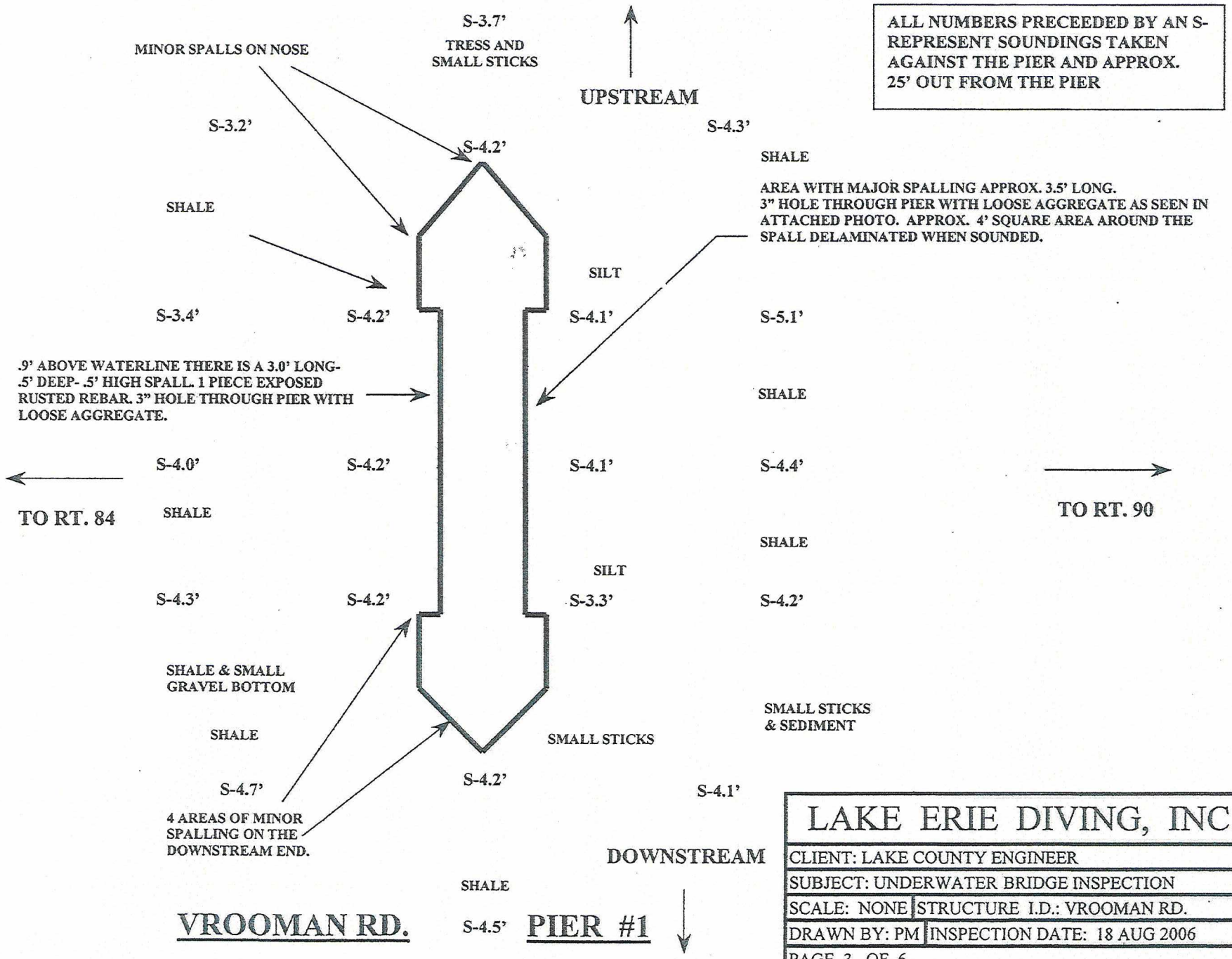
Cracks & Spalls: See sketch and photo's.

Fender Condition: N/A

Impact Damage: None

Unusual Conditions: Hole through pier – see sketch and photo's.

Overall Condition Rating: Good/Fair



LAKE ERIE DIVING, INC.	
CLIENT: LAKE COUNTY ENGINEER	
SUBJECT: UNDERWATER BRIDGE INSPECTION	
SCALE: NONE	STRUCTURE I.D.: VROOMAN RD.
DRAWN BY: PM	INSPECTION DATE: 18 AUG 2006
PAGE 3 OF 6	

Lake Erie Diving, Inc.

362 Blackbrook Rd.
Painesville, OH 44077

Office (440) 352-9472 Fax (440) 352-8471

ABUTMENT OBSERVATIONS

Bridge #: Vrooman Rd. **Inspection Date:** 18 August 2006

Abutment Number: South
(Reference Attached Print)

Type of Construction: Concrete: ☒ Cut-Stone: ☒ Timber: ☐ Steel: ☒
Other: ☐ _____

Bottom Material: Stone, grout, shale, and silt.

Debris Around Abutment: None

Scour: None

Exposed Footer: None

Footer Undermining: None

Exposed Piling Under Footer: N/A

Piling Condition: N/A

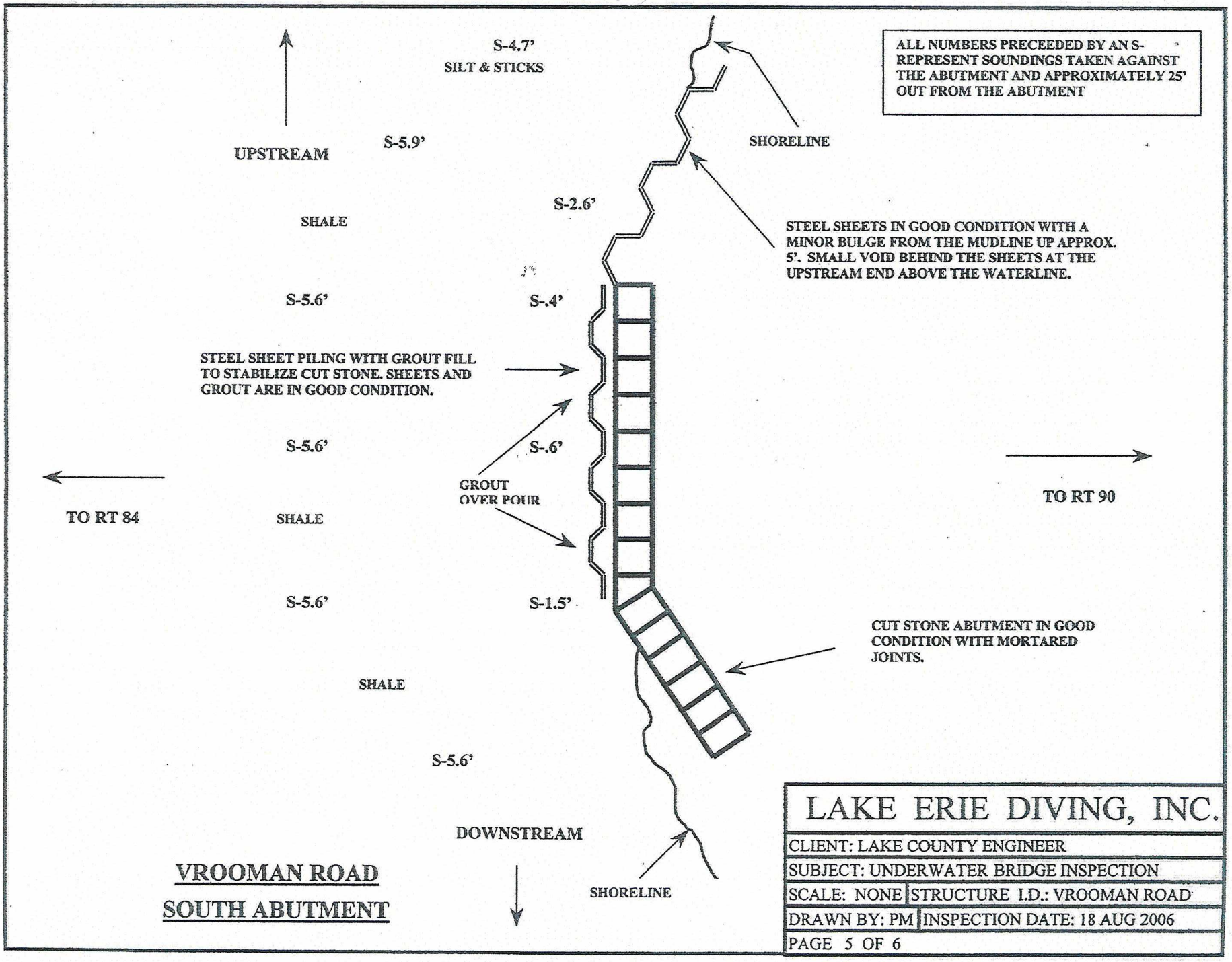
Cracks & Spalls: None

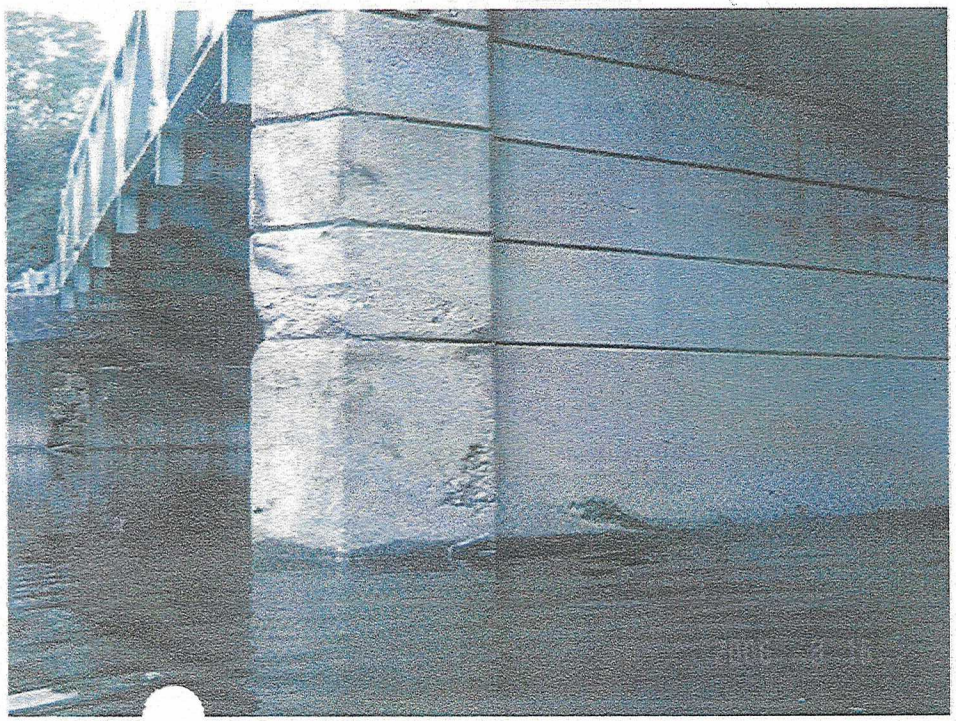
Fender Condition: N/A

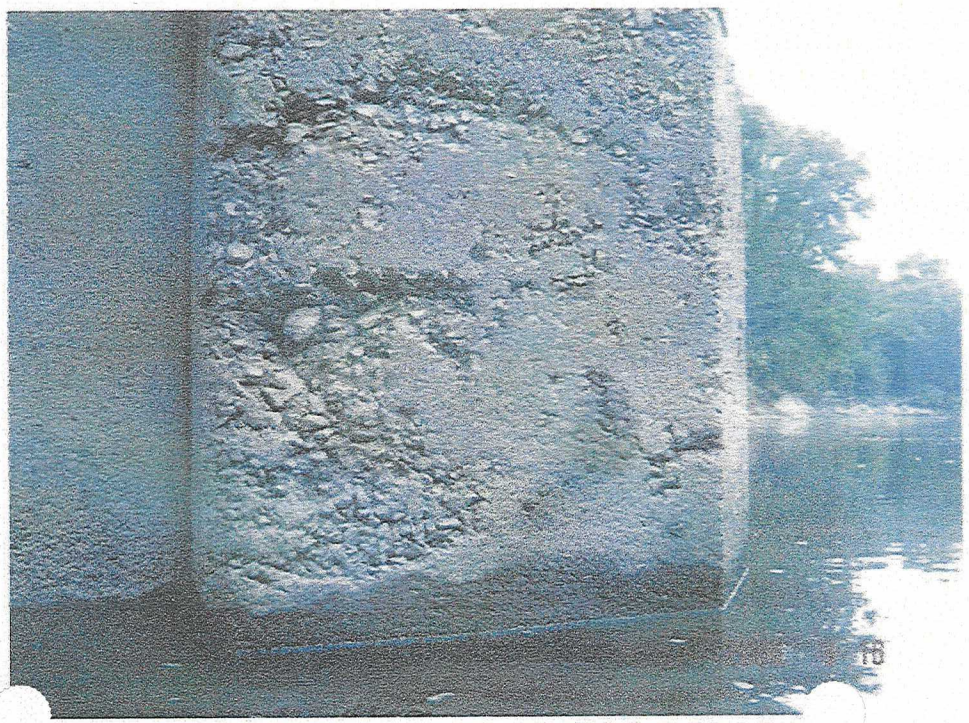
Impact Damage: None

Unusual Conditions: Mortar at cut stone joints. Steel sheets protecting cut stone.

Overall Condition Rating: Good


ALL NUMBERS PRECEEDED BY AN S- REPRESENT SOUNDINGS TAKEN AGAINST THE ABUTMENT AND APPROXIMATELY 25' OUT FROM THE ABUTMENT
S-4.7'
SILT & STICKS
UPSTREAM
S-5.9'
SHORELINE
S-2.6'
SHALE
STEEL SHEETS IN GOOD CONDITION WITH A MINOR BULGE FROM THE MUDLINE UP APPROX. 5'. SMALL VOID BEHIND THE SHEETS AT THE UPSTREAM END ABOVE THE WATERLINE.
S-5.6'
S-.4'
STEEL SHEET PILING WITH GROUT FILL TO STABILIZE CUT STONE. SHEETS AND GROUT ARE IN GOOD CONDITION.
S-5.6'
S-.6'
GROUT OVER POUR
TO RT 84
SHALE
TO RT 90
S-5.6'
S-1.5'
CUT STONE ABUTMENT IN GOOD CONDITION WITH MORTARED JOINTS.
SHALE
S-5.6'
DOWNSTREAM
SHORELINE
VROOMAN ROAD
SOUTH ABUTMENT
LAKE ERIE DIVING, INC.
CLIENT: LAKE COUNTY ENGINEER
SUBJECT: UNDERWATER BRIDGE INSPECTION
SCALE: NONE
STRUCTURE I.D.: VROOMAN ROAD
DRAWN BY: PM
INSPECTION DATE: 18 AUG 2006
PAGE 5 OF 6





STATE OF OHIO DEPARTMENT OF TRANSPORTATION

BRIDGE INSPECTION REPORT

BR-86 REV. 02-95

4 3 3 7 1 0 7 — STRUCTURE FILE NUMBER

BRIDGE NUMBER LAK (CO) CH227 (ROUTE) 02.83 (UNIT) — YEAR BUILT 5286

DIST. 12 — BRIDGE TYPE STEEL/TRUSS/THRU — TYPE SERVICE 1 15 — VROOMAN RD. OVER GRAND RIVER

DECK 1. FLOOR 8	2	CRACKS; EXCAVATOR TRACK INDENTATIONS 7. WEARING SURFACE 41	2
NONE 3. CURBS, SIDEWALKS & WALKWAYS 9		4. MEDIAN 87	
5 MISSING BOLTS IN WEST RAIL, SPAN 1, BETWEEN L3 AND L6; RAIL LOOSE AND SAGGING ≈2" 5. RAILING 10	3	OVER SIDE WITHOUT DRIP STRIP 6. DRAINAGE 43	2
CRACKS IN ASPHALT ALLOWING DRAINAGE ONTO ABUTMENT SEATS 7. EXPANSION JOINTS 11	2	8. SUMMARY 44	5
SUPERSTRUCTURE SEVERAL TRUSS MEMBERS BENT FROM VEHICLE IMPACT 9. ALIGNMENT 12	3	10. BEAMS/GIRDERS/SLAB 45	
11. DIAPHRAGMS or CROSSFRAMES 13		12. JOISTS/STRINGERS 46	
SECTION LOSS AND ACTIVE CORROSION FROM DRAINAGE 13. FLOOR BEAMS 14	2	SIGNIFICANT DETERIORATION TO SEVERAL CONNECTORS; 1 MISSING @ SPAN 1, PANEL 4 EAST 14. FLOOR BEAM CONNECTIONS 47	3
L4-U4 SPAN 1 WEST AND L2-U2 SPAN 2 WEST DAMAGED BY VEHICLE IMPACT 15. VERTICALS 15	3	SEVEN BENT OR DAMAGED MEMBERS FROM VEHICLE IMPACTS 16. DIAGONALS 48	3
L0-U1 SPAN 1 AND L0-U1 SPAN 2 EAST, SEVERAL GOUGES FROM EXCAVATOR IMPACT 17. END POSTS 16	2	MINOR SURFACE RUST AND PITTING 18. TOP CHORD 49	1
L0-L2 SPAN 2 EAST TRUSS IS BENT; ACTIVE CORROSION AND LOSS ON SEVERAL MEMBERS 19. LOWER CHORD 17	2	10 OF 28 MISSING; OTHERS BENT, SAGGING, FULL OF DEBRIS 20. LOWER LATERAL BRACING 50	4
21. TOP LATERAL BRACING 18		22. SWAY BRACING 51	
23. PORTALS 19		24. BEARING DEVICES 52	2
25. ARCH 20		26. ARCH COLUMNS or HANGERS 53	
27. SPANDREL WALLS 21		GENERALLY FAIR ABOVE ROADWAY; POOR CONDITION BELOW ROADWAY, ESP. FLOORBEAM CONNECTIONS 28. PAINT 54	5
29. PINS/HANGERS/HINGES 22		SURFACE RUST ON WELDED FLOORBEAM SPLICES 30. FATIGUE PRONE CONNECTIONS 55	2
BRIDGE CLOSED DURING INSPECTION; PREVIOUS REPORT HAD EXCESSIVE L.L.R. 31. LIVE LOAD RESPONSE 23	E	32. SUMMARY 56	3
SUBSTRUCTURE 33. ABUTMENTS 24	2	DEBRIS AND STANDING WATER 34. ABUTMENT SEATS 57	2
6" HOLE THRU BASE OF PIER; HORIZONTAL CRACKS ≈10" DOWN FROM TOP OF PIER 35. PIERS 25	2	MINOR CRACKS AND SPALLS 36. PIER SEATS 58	2
37. BACKWALLS 26	1	SHEET PILING AT SOUTHEAST WALL HAS MINOR BULGING 38. WINGWALLS 59	2
39. FENDERS and DOLPHINS 27		PERFORMED BY LAKE ERIE DIVING, INC. 40. SCOUR 60	3 / 1
NONE 41. SLOPE PROTECTION 28		42. SUMMARY 62	5
CULVERTS 43. GENERAL 29		44. ALIGNMENT 63	
45. SHAPE 30		46. SEAMS 64	
47. HEADWALLS or ENDWALLS 31		48. SCOUR 65	
49. 32		50. SUMMARY 66	
CHANNEL 51. ALIGNMENT 33	1	EROSION TO BANKS; VEGETATION WASHED AWAY 52. PROTECTION 67	3
500 YR. FLOOD OVERTOPPED; BRIDGE WASHED OUT APPROACHES; STREAM BED LOWERS @ BRIDGE 53. WATERWAY ADEQUACY 34	3	54. SUMMARY 68	3
APPROACHES PAVEMENT UNDERMINED AND MISSING 55. PAVEMENT 35	4	56. APPROACH SLABS 69	
POSTS HANGING IN AIR ON EAST SIDE OF REAR APPROACH 57. GUARDRAIL 36	4	58. RELIEF JOINTS 70	
LARGE HOLES IN BOTH APPROACHES FROM FLOODING 59. EMBANKMENT 37	4	60. SUMMARY 71	0
GENERAL 61. NAVIGATION LIGHTS 38		NORTHEAST SIGN DESTROYED; OTHER 3 HAVE MINOR DAMAGE 62. WARNING SIGNS 72	3
63. SIGN SUPPORTS 39		NONE 64. UTILITIES 73	
65. VERTICAL CLEARANCE 40	N	66. GENERAL APPRAISAL & OPERATIONAL STATUS 74 — COND 3	STAT X

67. INSPECTED BY — SIGNED: Jason D. Burgholder — 76 PE: P E — 78 INITIALS: J D B

JASON D. BURGHOLDER #69829

DOT 2852

DATE 0 8 2 8 0 6

68. REVIEWED BY — SIGNED: Dean A. Palmer — 81 PE: P E — 83 INITIALS: D A P

Dean A. Palmer, PE #37475

0 0 0 1 1 1 1 1 1

DATE 0 9 1 3 0 6

APPENDIX C

TRAFFIC ANALYSIS OUTPUT

HCS2000™ DETAILED REPORT

General Information

Analyst	Lori Keyser
Agency or Co.	TranSystems
Date Performed	3/28/2005
Time Period	AM Peak Hour

Site Information

Intersection	Lane/River & SR 84
Area Type	All other areas
Jurisdiction	
Analysis Year	Opening Year (2010)
Project ID	Existing intersection configurations

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	0	1	0	0	1	0	0	1	0	0	1	0
Lane group		LTR			LTR			LTR			LTR	
Volume, V (vph)	46	132	28	1	296	7	101	32	6	2	11	55
% Heavy vehicles, %HV	2	2	2	2	2	2	2	2	2	2	2	2
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Pretimed (P) or actuated (A)	A	A	A	A	A	A	A	A	A	A	A	A
Start-up lost time, l_1		2.0			2.0			2.0			2.0	
Extension of effective green, e		2.0			2.0			2.0			2.0	
Arrival type, AT		3			3			3			3	
Unit extension, UE		3.0			3.0			3.0			3.0	
Filtering/metering, I		1.000			1.000			1.000			1.000	
Initial unmet demand, Q_b		0.0			0.0			0.0			0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width		12.0			12.0			12.0			12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B		0			0			0			0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 26.5	G =	G =	G =	G = 25.5	G =	G =	G =
	Y = 4	Y =	Y =	Y =	Y = 4	Y =	Y =	Y =

Duration of Analysis, T = 0.25

Cycle Length, C = 60.0

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		229			338			155			75	
Lane group capacity, c		710			820			606			702	
v/c ratio, X		0.32			0.41			0.26			0.11	
Total green ratio, g/C		0.44			0.44			0.43			0.43	
Uniform delay, d_1		10.9			11.4			11.1			10.4	
Progression factor, PF		1.000			1.000			1.000			1.000	
Delay calibration, k		0.11			0.11			0.11			0.11	
Incremental delay, d_2		0.3			0.3			0.2			0.1	

HCS2000™ DETAILED REPORT

General Information

Analyst	*Lori Keyser*
Agency or Co.	*TranSystems*
Date Performed	*3/28/2005*
Time Period	*AM Peak Hour*

Site Information

Intersection	*Lane/River & SR 84*
Area Type	*All other areas*
Jurisdiction	
Analysis Year	*Design Year (2030)*
Project ID	*Existing intersection configurations*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	0	1	0	0	1	0	0	1	0	0	1	0
Lane group		LTR			LTR			LTR			LTR	
Volume, V (vph)	69	196	42	2	440	10	151	47	8	3	17	82
% Heavy vehicles, %HV	2	2	2	2	2	2	2	2	2	2	2	2
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Pretimed (P) or actuated (A)	A	A	A	A	A	A	A	A	A	A	A	A
Start-up lost time, l_1		2.0			2.0			2.0			2.0	
Extension of effective green, e		2.0			2.0			2.0			2.0	
Arrival type, AT		3			3			3			3	
Unit extension, UE		3.0			3.0			3.0			3.0	
Filtering/metering, I		1.000			1.000			1.000			1.000	
Initial unmet demand, Q_b		0.0			0.0			0.0			0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width		12.0			12.0			12.0			12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B		0			0			0			0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 27.5	G =	G =	G =	G = 24.5	G =	G =	G =
	Y = 4	Y =	Y =	Y =	Y = 4	Y =	Y =	Y =
Duration of Analysis, T = 0.25					Cycle Length, C = 60.0			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		342			502			229			113	
Lane group capacity, c		701			851			546			674	
v/c ratio, X		0.49			0.59			0.42			0.17	
Total green ratio, g/C		0.46			0.46			0.41			0.41	
Uniform delay, d_1		11.3			12.1			12.7			11.3	
Progression factor, PF		1.000			1.000			1.000			1.000	
Delay calibration, k		0.11			0.18			0.11			0.11	
Incremental delay, d_2		0.5			1.1			0.5			0.1	

HCS2000™ DETAILED REPORT

General Information		Site Information	
Analyst	Lori Keyser	Intersection	Lane/River & SR 84
Agency or Co.	TranSystems	Area Type	All other areas
Date Performed	3/28/2005	Jurisdiction	
Time Period	PM Peak Hour	Analysis Year	Design Year (2030)
		Project ID	Existing intersection configurations

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	0	1	0	0	1	0	0	1	0	0	1	0
Lane group		LTR			LTR			LTR			LTR	
Volume, V (vph)	85	452	124	3	192	15	49	15	3	22	60	92
% Heavy vehicles, %HV	2	2	2	2	2	2	2	2	2	2	2	2
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Pretimed (P) or actuated (A)	A	A	A	A	A	A	A	A	A	A	A	A
Start-up lost time, l_1		2.0			2.0			2.0			2.0	
Extension of effective green, e		2.0			2.0			2.0			2.0	
Arrival type, AT		3			3			3			3	
Unit extension, UE		3.0			3.0			3.0			3.0	
Filtering/metering, I		1.000			1.000			1.000			1.000	
Total unmet demand, Q_b		0.0			0.0			0.0			0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width		12.0			12.0			12.0			12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B		0			0			0			0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 32.5	G =	G =	G =	G = 19.5	G =	G =	G =
	Y = 4	Y =	Y =	Y =	Y = 4	Y =	Y =	Y =
Duration of Analysis, T = 0.25						Cycle Length, C = 60.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		734			233			74			193	
Lane group capacity, c		914			993			450			543	
v/c ratio, X		0.80			0.23			0.16			0.36	
Total green ratio, g/C		0.54			0.54			0.32			0.32	
Uniform delay, d_1		11.2			7.2			14.4			15.5	
Progression factor, PF		1.000			1.000			1.000			1.000	
Delay calibration, k		0.35			0.11			0.11			0.11	
Incremental delay, d_2		5.3			0.1			0.2			0.4	

Initial queue delay, d_3												
Control delay		16.4			7.3			14.6			15.9	
Lane group LOS		B			A			B			B	
Approach delay	16.4			7.3			14.6			15.9		
Approach LOS	B			A			B			B		
Intersection delay	14.5			$X_c = 0.64$			Intersection LOS			B		

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HCS2000™ DETAILED REPORT

General Information

lyst	Lori Keyser
gency or Co.	TranSystems
Date Performed	3/28/2005
Time Period	AM Peak Hour

Site Information

Intersection	Vrooman/Madison & SR 84
Area Type	All other areas
Jurisdiction	
Analysis Year	Opening Year (2010)
Project ID	Existing intersection configurations

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	0	1	0	0	1	0	0	1	0	0	1	0
Lane group		LTR			LTR			LTR			LTR	
Volume, V (vph)	3	83	109	135	131	83	61	133	38	81	155	20
% Heavy vehicles, %HV	0	2	0	0	2	0	0	0	0	2	0	2
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Pretimed (P) or actuated (A)	A	A	A	A	A	A	A	A	A	A	A	A
Start-up lost time, l_1		2.0			2.0			2.0			2.0	
Extension of effective green, e		2.0			2.0			2.0			2.0	
Arrival type, AT		3			3			3			3	
Unit extension, UE		3.0			3.0			3.0			3.0	
Filtering/metering, I		1.000			1.000			1.000			1.000	
al unmet demand, Q_b		0.0			0.0			0.0			0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width		12.0			12.0			12.0			12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B		0			0			0			0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 27.5	G =	G =	G =	G = 24.5	G =	G =	G =
	Y = 4	Y =	Y =	Y =	Y = 4	Y =	Y =	Y =

Duration of Analysis, T = 0.25

Cycle Length, C = 60.0

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		216			388			258			284	
Lane group capacity, c		795			672			652			636	
v/c ratio, X		0.27			0.58			0.40			0.45	
Total green ratio, g/C		0.46			0.46			0.41			0.41	
orm delay, d_1		10.1			12.0			12.5			12.8	
Progression factor, PF		1.000			1.000			1.000			1.000	
Delay calibration, k		0.11			0.17			0.11			0.11	
Incremental delay, d_2		0.2			1.2			0.4			0.5	

Initial queue delay, d_3												
Control delay		10.2			13.2			12.9			13.3	
Lane group LOS		B			B			B			B	
Approach delay	10.2			13.2			12.9			13.3		
Approach LOS	B			B			B			B		
Intersection delay	12.6			$X_c = 0.52$			Intersection LOS			B		

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HCS2000™ DETAILED REPORT

General Information

Analyst	Lori Keyser
Agency or Co.	TranSystems
Date Performed	3/28/2005
Time Period	PM Peak Hour

Site Information

Intersection	Vrooman/Madison & SR 84
Area Type	All other areas
Jurisdiction	
Analysis Year	Opening Year (2010)
Project ID	Existing intersection configurations

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	0	1	0	0	1	0	0	1	0	0	1	0
Lane group		LTR			LTR			LTR			LTR	
Volume, V (vph)	16	165	46	63	106	73	80	125	128	146	123	6
% Heavy vehicles, %HV	0	2	0	0	2	0	0	0	0	2	0	2
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Pretimed (P) or actuated (A)	A	A	A	A	A	A	A	A	A	A	A	A
Start-up lost time, l_1		2.0			2.0			2.0			2.0	
Extension of effective green, e		2.0			2.0			2.0			2.0	
Arrival type, AT		3			3			3			3	
Unit extension, UE		3.0			3.0			3.0			3.0	
Filtering/metering, I		1.000			1.000			1.000			1.000	
Initial unmet demand, Q_b		0.0			0.0			0.0			0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width		12.0			12.0			12.0			12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B		0			0			0			0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 25.0	G =	G =	G =	G = 27.0	G =	G =	G =
	Y = 4	Y =	Y =	Y =	Y = 4	Y =	Y =	Y =

Duration of Analysis, T = 0.25 | Cycle Length, C = 60.0

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		252			269			370			306	
Lane group capacity, c		738			654			694			561	
v/c ratio, X		0.34			0.41			0.53			0.55	
Total green ratio, g/C		0.42			0.42			0.45			0.45	
Uniform delay, d_1		11.9			12.3			11.9			12.0	
Progression factor, PF		1.000			1.000			1.000			1.000	
Delay calibration, k		0.11			0.11			0.14			0.15	
Incremental delay, d_2		0.3			0.4			0.8			1.1	

Initial queue delay, d_3												
Control delay		12.2			12.7			12.7			13.1	
Lane group LOS		B			B			B			B	
Approach delay	12.2			12.7			12.7			13.1		
Approach LOS	B			B			B			B		
Intersection delay	12.7			$X_c = 0.48$			Intersection LOS			B		

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HCS2000™ DETAILED REPORT

General Information		Site Information	
Analyst	Lori Keyser	Intersection	Vrooman/Madison & SR 84
Agency or Co.	TranSystems	Area Type	All other areas
Date Performed	3/28/2005	Jurisdiction	
Time Period	AM Peak Hour	Analysis Year	Design Year (2030)
		Project ID	Existing intersection configurations

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	0	1	0	0	1	0	0	1	0	0	1	0
Lane group		LTR			LTR			LTR			LTR	
Volume, V (vph)	5	124	162	200	195	124	91	198	57	121	231	29
% Heavy vehicles, %HV	0	2	0	0	2	0	0	0	0	2	0	2
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Pretimed (P) or actuated (A)	A	A	A	A	A	A	A	A	A	A	A	A
Start-up lost time, l_1		2.0			2.0			2.0			2.0	
Extension of effective green, e		2.0			2.0			2.0			2.0	
Arrival type, AT		3			3			3			3	
Unit extension, UE		3.0			3.0			3.0			3.0	
Filtering/metering, I		1.000			1.000			1.000			1.000	
Initial unmet demand, Q_b		0.0			0.0			0.0			0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width		12.0			12.0			12.0			12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B		0			0			0			0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 29.5	G =	G =	G =	G = 22.5	G =	G =	G =
	Y = 4	Y =	Y =	Y =	Y = 4	Y =	Y =	Y =
Duration of Analysis, T = 0.25						Cycle Length, C = 60.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		324			577			384			423	
Lane group capacity, c		850			654			554			521	
v/c ratio, X		0.38			0.88			0.69			0.81	
Total green ratio, g/C		0.49			0.49			0.38			0.38	
Uniform delay, d_1		9.5			13.7			15.8			16.8	
Progression factor, PF		1.000			1.000			1.000			1.000	
Delay calibration, k		0.11			0.41			0.26			0.35	
Incremental delay, d_2		0.3			13.4			3.7			9.5	

HCS2000™ DETAILED REPORT

General Information		Site Information	
Analyst	Lori Keyser	Intersection	Vrooman/Madison & SR 84
Agency or Co.	TranSystems	Area Type	All other areas
Date Performed	3/28/2005	Jurisdiction	
Time Period	PM Peak Hour	Analysis Year	Design Year (2030)
		Project ID	Existing intersection configurations

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	0	1	0	0	1	0	0	1	0	0	1	0
Lane group		LTR			LTR			LTR			LTR	
Volume, V (vph)	16	165	46	63	106	73	80	125	128	146	123	6
% Heavy vehicles, %HV	0	2	0	0	2	0	0	0	0	2	0	2
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Pretimed (P) or actuated (A)	A	A	A	A	A	A	A	A	A	A	A	A
Start-up lost time, l_1		2.0			2.0			2.0			2.0	
Extension of effective green, e		2.0			2.0			2.0			2.0	
Arrival type, AT		3			3			3			3	
Unit extension, UE		3.0			3.0			3.0			3.0	
Filtering/metering, I		1.000			1.000			1.000			1.000	
Initial unmet demand, Q_b		0.0			0.0			0.0			0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width		12.0			12.0			12.0			12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B		0			0			0			0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 25.0	G =	G =	G =	G = 27.0	G =	G =	G =
	Y = 4	Y =	Y =	Y =	Y = 4	Y =	Y =	Y =
Duration of Analysis, T = 0.25						Cycle Length, C = 60.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		252			269			370			306	
Lane group capacity, c		738			654			694			561	
v/c ratio, X		0.34			0.41			0.53			0.55	
Total green ratio, g/C		0.42			0.42			0.45			0.45	
Uniform delay, d_1		11.9			12.3			11.9			12.0	
Progression factor, PF		1.000			1.000			1.000			1.000	
Delay calibration, k		0.11			0.11			0.14			0.15	
Incremental delay, d_2		0.3			0.4			0.8			1.1	

HCS2000™ DETAILED REPORT

General Information		Site Information	
Analyst	Lori Keyser	Intersection	Vrooman/Madison & SR 84
Agency or Co.	TranSystems	Area Type	All other areas
Date Performed	1/16/2005	Jurisdiction	
Time Period	AM Peak Hour	Analysis Year	Opening Year (2010)
		Project ID	Vrooman Road High Level Bridge to Madison Ave

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	0	1	0	1	1	0	1	1	0	0	1	0
Lane group		LTR		L	TR		L	TR			LTR	
Volume, V (vph)	3	83	109	156	131	83	61	133	63	81	155	20
% Heavy vehicles, %HV	0	0	0	0	0	0	0	0	0	0	0	0
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Pretimed (P) or actuated (A)	A	A	A	A	A	A	A	A	A	A	A	A
Start-up lost time, l_1		2.0		2.0	2.0		2.0	2.0			2.0	
Extension of effective green, e		2.0		2.0	2.0		2.0	2.0			2.0	
Arrival type, AT		3		3	3		3	3			3	
Unit extension, UE		3.0		3.0	3.0		3.0	3.0			3.0	
Filtering/metering, I		1.000		1.000	1.000		1.000	1.000			1.000	
Initial unmet demand, Q_b		0.0		0.0	0.0		0.0	0.0			0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width		12.0		12.0	12.0		12.0	12.0			12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B		0		0	0		0	0			0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 25.5	G =	G =	G =	G = 26.5	G =	G =	G =
	Y = 4	Y =	Y =	Y =	Y = 4	Y =	Y =	Y =
Duration of Analysis, T = 0.25						Cycle Length, C = 60.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		216		173	238		68	218			284	
Lane group capacity, c		745		502	761		484	799			699	
v/c ratio, X		0.29		0.34	0.31		0.14	0.27			0.41	

Total green ratio, g/C		0.43		0.43	0.43		0.44	0.44			0.44	
Uniform delay, d_1		11.3		11.6	11.4		10.0	10.6			11.4	
Progression factor, PF		1.000		1.000	1.000		1.000	1.000			1.000	
Delay calibration, k		0.11		0.11	0.11		0.11	0.11			0.11	
Incremental delay, d_2		0.2		0.4	0.2		0.1	0.2			0.4	
Initial queue delay, d_3												
Control delay		11.5		12.0	11.7		10.1	10.8			11.8	
Lane group LOS		B		B	B		B	B			B	
Approach delay	11.5			11.8			10.6			11.8		
Approach LOS	B			B			B			B		
Intersection delay	11.5			X_c = 0.38			Intersection LOS			B		

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HCS2000™ DETAILED REPORT

General Information		Site Information	
Analyst	Lori Keyser	Intersection	Vrooman/Madison & SR 84
Agency or Co.	TranSystems	Area Type	All other areas
Date Performed	1/16/2005	Jurisdiction	
Time Period	PM Peak Hour	Analysis Year	Opening Year (2010)
		Project ID	Vrooman Road High Level Bridge to Madison Ave

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	0	1	0	1	1	0	1	1	0	0	1	0
Lane group		LTR		L	TR		L	TR			LTR	
Volume, V (vph)	16	165	46	88	106	73	80	125	149	146	123	6
% Heavy vehicles, %HV	0	0	0	0	0	0	0	0	0	0	0	0
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Pretimed (P) or actuated (A)	A	A	A	A	A	A	A	A	A	A	A	A
Start-up lost time, l_1		2.0		2.0	2.0		2.0	2.0			2.0	
Extension of effective green, e		2.0		2.0	2.0		2.0	2.0			2.0	
Arrival type, AT		3		3	3		3	3			3	
Unit extension, UE		3.0		3.0	3.0		3.0	3.0			3.0	
Filtering/metering, I		1.000		1.000	1.000		1.000	1.000			1.000	
Initial unmet demand, Q_b		0.0		0.0	0.0		0.0	0.0			0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width		12.0		12.0	12.0		12.0	12.0			12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B		0		0	0		0	0			0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 23.5	G =	G =	G =	G = 28.5	G =	G =	G =
	Y = 4	Y =	Y =	Y =	Y = 4	Y =	Y =	Y =
Duration of Analysis, T = 0.25						Cycle Length, C = 60.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		252		98	199		89	305			306	
Lane group capacity, c		707		425	699		528	829			535	
v/c ratio, X		0.36		0.23	0.28		0.17	0.37			0.57	

Total green ratio, g/C		0.39		0.39	0.39		0.47	0.47			0.47	
Uniform delay, d_1		12.9		12.2	12.5		9.0	10.0			11.4	
Progression factor, PF		1.000		1.000	1.000		1.000	1.000			1.000	
Delay calibration, k		0.11		0.11	0.11		0.11	0.11			0.17	
Incremental delay, d_2		0.3		0.3	0.2		0.2	0.3			1.5	
Initial queue delay, d_3												
Control delay		13.2		12.5	12.7		9.1	10.3			12.8	
Lane group LOS		B		B	B		A	B			B	
Approach delay	13.2			12.6			10.0			12.8		
Approach LOS	B			B			B			B		
Intersection delay	12.0			X_c = 0.47			Intersection LOS			B		

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HCS2000™ DETAILED REPORT

General Information		Site Information	
Analyst	Lori Keyser	Intersection	Vrooman/Madison & SR 84
Agency or Co.	TranSystems	Area Type	All other areas
Date Performed	1/16/2005	Jurisdiction	
Time Period	AM Peak Hour	Analysis Year	Design Year (2030)
		Project ID	Vrooman Road High Level Bridge to Madison Ave

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	0	1	0	1	1	0	1	1	0	0	1	0
Lane group		LTR		L	TR		L	TR			LTR	
Volume, V (vph)	5	124	162	231	195	124	91	198	94	121	231	29
% Heavy vehicles, %HV	0	0	0	0	0	0	0	0	0	0	0	0
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Pretimed (P) or actuated (A)	A	A	A	A	A	A	A	A	A	A	A	A
Start-up lost time, l_1		2.0		2.0	2.0		2.0	2.0			2.0	
Extension of effective green, e		2.0		2.0	2.0		2.0	2.0			2.0	
Arrival type, AT		3		3	3		3	3			3	
Unit extension, UE		3.0		3.0	3.0		3.0	3.0			3.0	
Filtering/metering, I		1.000		1.000	1.000		1.000	1.000			1.000	
Initial unmet demand, Q_b		0.0		0.0	0.0		0.0	0.0			0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width		12.0		12.0	12.0		12.0	12.0			12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B		0		0	0		0	0			0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 24.0	G =	G =	G =	G = 28.0	G =	G =	G =
	Y = 4	Y =	Y =	Y =	Y = 4	Y =	Y =	Y =
Duration of Analysis, T = 0.25						Cycle Length, C = 60.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		324		257	355		101	324			423	
Lane group capacity, c		699		379	716		436	844			610	
v/c ratio, X		0.46		0.68	0.50		0.23	0.38			0.69	

Total green ratio, g/C		0.40		0.40	0.40		0.47	0.47			0.47	
Uniform delay, d_1		13.3		14.8	13.5		9.6	10.4			12.6	
Progression factor, PF		1.000		1.000	1.000		1.000	1.000			1.000	
Delay calibration, k		0.11		0.25	0.11		0.11	0.11			0.26	
Incremental delay, d_2		0.5		4.8	0.5		0.3	0.3			3.4	
Initial queue delay, d_3												
Control delay		13.7		19.6	14.0		9.8	10.7			16.0	
Lane group LOS		B		B	B		A	B			B	
Approach delay	13.7			16.4			10.5			16.0		
Approach LOS	B			B			B			B		
Intersection delay	14.4			X_c = 0.69			Intersection LOS			B		

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HCS2000™ DETAILED REPORT

General Information		Site Information	
Analyst	Lori Keyser	Intersection	Vrooman/Madison & SR 84
Agency or Co.	TranSystems	Area Type	All other areas
Date Performed	1/16/2005	Jurisdiction	
Time Period	PM Peak Hour	Analysis Year	Design Year (2030)
		Project ID	Vrooman Road High Level Bridge to Madison Ave

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	0	1	0	1	1	0	1	1	0	0	1	0
Lane group		LTR		L	TR		L	TR			LTR	
Volume, V (vph)	24	245	69	130	157	109	119	186	221	217	183	9
% Heavy vehicles, %HV	0	0	0	0	0	0	0	0	0	0	0	0
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Pretimed (P) or actuated (A)	A	A	A	A	A	A	A	A	A	A	A	A
Start-up lost time, l_1		2.0		2.0	2.0		2.0	2.0			2.0	
Extension of effective green, e		2.0		2.0	2.0		2.0	2.0			2.0	
Arrival type, AT		3		3	3		3	3			3	
Unit extension, UE		3.0		3.0	3.0		3.0	3.0			3.0	
Filtering/metering, I		1.000		1.000	1.000		1.000	1.000			1.000	
Initial unmet demand, Q_b		0.0		0.0	0.0		0.0	0.0			0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width		12.0		12.0	12.0		12.0	12.0			12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B		0		0	0		0	0			0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 18.5	G =	G =	G =	G = 33.5	G =	G =	G =
	Y = 4	Y =	Y =	Y =	Y = 4	Y =	Y =	Y =
Duration of Analysis, T = 0.25						Cycle Length, C = 60.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		376		144	295		132	453			454	
Lane group capacity, c		549		225	550		549	974			537	
v/c ratio, X		0.68		0.64	0.54		0.24	0.47			0.85	

Total green ratio, g/C		0.31		0.31	0.31		0.56	0.56			0.56	
Uniform delay, d_1		18.2		17.9	17.2		6.8	7.9			11.1	
Progression factor, PF		1.000		1.000	1.000		1.000	1.000			1.000	
Delay calibration, k		0.25		0.22	0.14		0.11	0.11			0.38	
Incremental delay, d_2		3.5		6.0	1.0		0.2	0.4			11.9	
Initial queue delay, d_3												
Control delay		21.7		23.9	18.2		7.0	8.3			23.0	
Lane group LOS		C		C	B		A	A			C	
Approach delay	21.7			20.1			8.0			23.0		
Approach LOS	C			C			A			C		
Intersection delay	17.3			X_c = 0.79			Intersection LOS			B		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Lori Keyser*	Intersection	*SR 84 & Lane/River*
Agency/Co.	*TranSystems*	Jurisdiction	
Date Performed	*1/16/2005*	Analysis Year	*2010*
Analysis Time Period	*AM Peak Hour*		

Project Description *Vrooman Road High Level Bridge to Madison Ave*

East/West Street: *SR 84* | North/South Street: *River Road/Lane Road*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	71	132	28	1	296	7
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate (veh/h)	71	132	28	1	296	7
Proportion of heavy vehicles, P_{HV}	35	--	--	0	--	--
Median type	Undivided					
RT Channelized?			0			0
Lanes	1	1	0	0	1	0
Configuration	L		TR	LTR		
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	101	32	6	2	11	76
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate (veh/h)	101	32	6	2	11	76
Proportion of heavy vehicles, P_{HV}	4	4	4	4	4	27
Percent grade (%)		0			0	
Flared approach		N			N	
Storage		0			0	
RT Channelized?			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Control Delay, Queue Length, Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	LTR		LTR			LTR	
Volume, v (vph)	71	1		139			89	
Capacity, c_m (vph)	1092	1432		345			612	
v/c ratio	0.07	0.00		0.40			0.15	
Queue length (95%)	0.21	0.00		1.89			0.51	
Control Delay (s/veh)	8.5	7.5		22.3			11.9	

LOS	A	A	C	B
Approach delay (s/veh)	--	--	22.3	11.9
Approach LOS	--	--	C	B

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	Lori Keyser	Intersection	SR 84 & Lane/River
Agency/Co.	TranSystems	Jurisdiction	
Date Performed	1/16/2005	Analysis Year	2010
Analysis Time Period	PM Peak Hour		

Project Description: Vrooman Road High Level Bridge to Madison Ave

East/West Street: SR 84 | North/South Street: River Road/Lane Road

Intersection Orientation: East-West | Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	78	304	83	2	130	10
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate (veh/h)	78	304	83	2	130	10
Proportion of heavy vehicles, P_{HV}	27	--	--	0	--	--
Median type	Undivided					
RT Channelized?			0			0
Lanes	1	1	0	0	1	0
Configuration	L		TR	LTR		
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	33	10	2	15	41	87
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate (veh/h)	33	10	2	15	41	87
Proportion of heavy vehicles, P_{HV}	4	4	4	4	4	29
Percent grade (%)	0			0		
Flared approach		N			N	
Storage		0			0	
RT Channelized?			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Control Delay, Queue Length, Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	LTR		LTR			LTR	
Volume, v (vph)	78	2		45			143	
Capacity, c_m (vph)	1303	1183		297			543	
v/c ratio	0.06	0.00		0.15			0.26	
Queue length (95%)	0.19	0.01		0.53			1.05	
Control Delay (s/veh)	7.9	8.0		19.3			14.0	

LOS	A	A	C	B
Approach delay (s/veh)	--	--	19.3	14.0
Approach LOS	--	--	C	B

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	Lori Keyser	Intersection	SR 84 & Lane/River
Agency/Co.	TranSystems	Jurisdiction	
Date Performed	1/16/2005	Analysis Year	2030
Analysis Time Period	AM Peak Hour		

Project Description: Vrooman Road High Level Bridge to Madison Ave

East/West Street: SR 84 | North/South Street: River Road/Lane Road

Intersection Orientation: East-West | Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	106	196	42	2	440	10
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate (veh/h)	106	196	42	2	440	10
Proportion of heavy vehicles, P_{HV}	35	--	--	0	--	--
Median type	Undivided					
RT Channelized?			0			0
Lanes	1	1	0	0	1	0
Configuration	L		TR	LTR		
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	151	47	8	3	17	113
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate (veh/h)	151	47	8	3	17	113
Proportion of heavy vehicles, P_{HV}	4	4	4	4	4	27
Percent grade (%)	0			0		
Flared approach		N			N	
Storage		0			0	
RT Channelized?			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Control Delay, Queue Length, Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	LTR		LTR			LTR	
Volume, v (vph)	106	2		206			133	
Capacity, c_m (vph)	956	1341		187			467	
v/c ratio	0.11	0.00		1.10			0.28	
Queue length (95%)	0.37	0.00		10.06			1.16	
Control Delay (s/veh)	9.2	7.7		147.4			15.7	

LOS	A	A	F	C
Approach delay (s/veh)	--	--	147.4	15.7
Approach LOS	--	--	F	C

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Lori Keyser*
Agency/Co.	*TranSystems*
Date Performed	*1/16/2005*
Analysis Time Period	*PM Peak Hour*

Site Information

Intersection	*SR 84 & Lane/River*
Jurisdiction	
Analysis Year	*2030*

Project Description *Vrooman Road High Level Bridge to Madison Ave*

East/West Street: *SR 84* | North/South Street: *River Road/Lane Road*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	116	452	124	3	192	15
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate (veh/h)	116	452	124	3	192	15
Proportion of heavy vehicles, P_{HV}	27	--	--	0	--	--
Median type	Undivided					
RT Channelized?			0			0
Lanes	1	1	0	0	1	0
Configuration	L		TR	LTR		
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	49	15	3	22	60	129
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate (veh/h)	49	15	3	22	60	129
Proportion of heavy vehicles, P_{HV}	4	4	4	4	4	29
Percent grade (%)	0			0		
Flared approach		N			N	
Storage		0			0	
RT Channelized?			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Control Delay, Queue Length, Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	LTR		LTR			LTR	
Volume, v (vph)	116	3		67			211	
Capacity, c_m (vph)	1229	1007		144			381	
v/c ratio	0.09	0.00		0.47			0.55	
Queue length (95%)	0.31	0.01		2.14			3.23	
Control Delay (s/veh)	8.2	8.6		50.1			25.6	

LOS	A	A	F	D
Approach delay (s/veh)	--	--	50.1	25.6
Approach LOS	--	--	F	D

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HCS2000™ DETAILED REPORT

General Information		Site Information	
Analyst	Lori Keyser	Intersection	SR 84 & Lane/River
Agency or Co.	TranSystems	Area Type	All other areas
Date Performed	1/16/2005	Jurisdiction	
Time Period	AM Peak	Analysis Year	2030
		Project ID	Vrooman Road High Level Bridge to Madison Ave

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	1	1	0	0	1	0	0	1	0	0	1	0
Lane group	L	TR			LTR			LTR			LTR	
Volume, V (vph)	106	196	42	2	440	10	151	47	8	3	17	113
% Heavy vehicles, %HV	27	3	3	3	3	3	4	4	4	4	4	29
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Pretimed (P) or actuated (A)	A	A	A	A	A	A	A	A	A	A	A	A
Start-up lost time, l_1	2.0	2.0			2.0			2.0			2.0	
Extension of effective green, e	2.0	2.0			2.0			2.0			2.0	
Arrival type, AT	3	3			3			3			3	
Unit extension, UE	3.0	3.0			3.0			3.0			3.0	
Filtering/metering, I	1.000	1.000			1.000			1.000			1.000	
Initial unmet demand, Q_b	0.0	0.0			0.0			0.0			0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width	12.0	12.0			12.0			12.0			12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B	0	0			0			0			0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 28.0	G =	G =	G =	G = 24.0	G =	G =	G =
	Y = 4	Y =	Y =	Y =	Y = 4	Y =	Y =	Y =
Duration of Analysis, T = 0.25						Cycle Length, C = 60.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v	118	265			502			229			148	
Lane group capacity, c	280	838			858			518			534	
v/c ratio, X	0.42	0.32			0.59			0.44			0.28	
Total green ratio, g/C	0.47	0.47			0.47			0.40			0.40	

Uniform delay, d_1	10.6	10.0			11.7			13.1			12.1	
Progression factor, PF	1.000	1.000			1.000			1.000			1.000	
Delay calibration, k	0.11	0.11			0.18			0.11			0.11	
Incremental delay, d_2	1.0	0.2			1.0			0.6			0.3	
Initial queue delay, d_3												
Control delay	11.6	10.2			12.8			13.7			12.4	
Lane group LOS	B	B			B			B			B	
Approach delay	10.7				12.8			13.7			12.4	
Approach LOS	B				B			B			B	
Intersection delay	12.3				$X_c = 0.52$			Intersection LOS			B	

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HCS2000™ DETAILED REPORT

General Information		Site Information	
Analyst	*Lori Keyser*	Intersection	*SR 84 & Lane/River*
Agency or Co.	*TranSystems*	Area Type	*All other areas*
Date Performed	*1/16/2005*	Jurisdiction	
Time Period	*PM Peak*	Analysis Year	*2030*
		Project ID	*Vrooman Road High Level Bridge to Madison Ave*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	1	1	0	0	1	0	0	1	0	0	1	0
Lane group	L	TR			LTR			LTR			LTR	
Volume, V (vph)	116	452	124	3	192	15	49	15	3	22	60	129
% Heavy vehicles, %HV	27	3	3	3	3	3	4	4	4	4	4	29
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Pretimed (P) or actuated (A)	A	A	A	A	A	A	A	A	A	A	A	A
Start-up lost time, l_1	2.0	2.0			2.0			2.0			2.0	
Extension of effective green, e	2.0	2.0			2.0			2.0			2.0	
Arrival type, AT	3	3			3			3			3	
Unit extension, UE	3.0	3.0			3.0			3.0			3.0	
Filtering/metering, I	1.000	1.000			1.000			1.000			1.000	
Initial unmet demand, Q_b	0.0	0.0			0.0			0.0			0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width	12.0	12.0			12.0			12.0			12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B	0	0			0			0			0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 29.0	G =	G =	G =	G = 23.0	G =	G =	G =
	Y = 4	Y =	Y =	Y =	Y = 4	Y =	Y =	Y =
Duration of Analysis, T = 0.25						Cycle Length, C = 60.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v	129	640			233			74			234	
Lane group capacity, c	449	863			879			516			545	
v/c ratio, X	0.29	0.74			0.27			0.14			0.43	
Total green ratio, g/C	0.48	0.48			0.48			0.38			0.38	

Uniform delay, d_1	9.3	12.5			9.2			12.1			13.7	
Progression factor, PF	1.000	1.000			1.000			1.000			1.000	
Delay calibration, k	0.11	0.30			0.11			0.11			0.11	
Incremental delay, d_2	0.4	3.5			0.2			0.1			0.5	
Initial queue delay, d_3												
Control delay	9.7	16.0			9.3			12.2			14.2	
Lane group LOS	A	B			A			B			B	
Approach delay	14.9				9.3			12.2			14.2	
Approach LOS	B				A			B			B	
Intersection delay	13.6				$X_c = 0.60$			Intersection LOS			B	

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HCS2000™ DETAILED REPORT

General Information

Analyst	Lori Keyser
Agency or Co.	TranSystems
Date Performed	1/16/2005
Time Period	AM Peak

Site Information

Intersection	SR 84 & Lane/River
Area Type	All other areas
Jurisdiction	
Analysis Year	2030
Project ID	Vrooman Road High Level Bridge to Madison Ave 3-phase

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	1	1	0	0	1	0	0	1	0	0	1	0
Lane group	L	TR			LTR			LTR			LTR	
Volume, V (vph)	106	196	42	2	440	10	151	47	8	3	17	113
% Heavy vehicles, %HV	27	3	3	3	3	3	4	4	4	4	4	29
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Pretimed (P) or actuated (A)	A	A	A	A	A	A	A	A	A	A	A	A
Start-up lost time, l_1	2.0	2.0			2.0			2.0			2.0	
Extension of effective green, e	2.0	2.0			2.0			2.0			2.0	
Arrival type, AT	3	3			3			3			3	
Unit extension, UE	3.0	3.0			3.0			3.0			3.0	
Filtering/metering, I	1.000	1.000			1.000			1.000			1.000	
Initial unmet demand, Q_b	0.0	0.0			0.0			0.0			0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width	12.0	12.0			12.0			12.0			12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B	0	0			0			0			0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	SB Only	NB Only	07	08
Timing	G = 21.5	G =	G =	G =	G = 13.0	G = 13.5	G =	G =
	Y = 4	Y =	Y =	Y =	Y = 4	Y = 4	Y =	Y =
Duration of Analysis, T = 0.25						Cycle Length, C = 60.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v	118	265			502			229			148	
Lane group capacity, c	169	644			659			394			291	
v/c ratio, X	0.70	0.41			0.76			0.58			0.51	

Total green ratio, g/C	0.36	0.36			0.36			0.22			0.22	
Uniform delay, d_1	16.5	14.5			17.0			20.7			20.7	
Progression factor, PF	1.000	1.000			1.000			1.000			1.000	
Delay calibration, k	0.26	0.11			0.31			0.17			0.12	
Incremental delay, d_2	12.0	0.4			5.2			2.2			1.5	
Initial queue delay, d_3												
Control delay	28.5	14.9			22.2			22.9			22.2	
Lane group LOS	C	B			C			C			C	
Approach delay	19.1				22.2			22.9			22.2	
Approach LOS	B				C			C			C	
Intersection delay	21.4				X_c = 0.64			Intersection LOS			C	

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HCS2000™ DETAILED REPORT

General Information		Site Information	
Analyst	Lori Keyser	Intersection	SR 84 & Lane/River
Agency or Co.	TranSystems	Area Type	All other areas
Date Performed	1/16/2005	Jurisdiction	
Time Period	PM Peak	Analysis Year	2030
		Project ID	Vrooman Road High Level Bridge to Madison Ave 3-phase

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	1	1	0	0	1	0	0	1	0	0	1	0
Lane group	L	TR			LTR			LTR			LTR	
Volume, V (vph)	116	452	124	3	192	15	49	15	3	22	60	129
% Heavy vehicles, %HV	27	3	3	3	3	3	4	4	4	4	4	29
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Pretimed (P) or actuated (A)	A	A	A	A	A	A	A	A	A	A	A	A
Start-up lost time, l_1	2.0	2.0			2.0			2.0			2.0	
Extension of effective green, e	2.0	2.0			2.0			2.0			2.0	
Arrival type, AT	3	3			3			3			3	
Unit extension, UE	3.0	3.0			3.0			3.0			3.0	
Filtering/metering, I	1.000	1.000			1.000			1.000			1.000	
Initial unmet demand, Q_b	0.0	0.0			0.0			0.0			0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width	12.0	12.0			12.0			12.0			12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B	0	0			0			0			0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	SB Only	NB Only	07	08
Timing	G = 24.5	G =	G =	G =	G = 14.5	G = 8.0	G =	G =
	Y = 4	Y =	Y =	Y =	Y = 4	Y = 5	Y =	Y =
Duration of Analysis, T = 0.25						Cycle Length, C = 60.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v	129	640			233			74			234	
Lane group capacity, c	364	729			742			234			351	
v/c ratio, X	0.35	0.88			0.31			0.32			0.67	

Total green ratio, g/C	0.41	0.41			0.41			0.13			0.24	
Uniform delay, d_1	12.3	16.4			12.0			23.5			20.6	
Progression factor, PF	1.000	1.000			1.000			1.000			1.000	
Delay calibration, k	0.11	0.40			0.11			0.11			0.24	
Incremental delay, d_2	0.6	11.8			0.2			0.8			4.8	
Initial queue delay, d_3												
Control delay	12.9	28.2			12.3			24.3			25.3	
Lane group LOS	B	C			B			C			C	
Approach delay	25.6				12.3			24.3			25.3	
Approach LOS	C				B			C			C	
Intersection delay	23.1				X_c = 0.72			Intersection LOS			C	

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HCS2000™ DETAILED REPORT

General Information		Site Information	
Analyst	Lori Keyser	Intersection	SR 84 & Vrooman/Lane
Agency or Co.	TranSystems	Area Type	All other areas
Date Performed	1/17/2005	Jurisdiction	
Time Period	AM Peak	Analysis Year	2010
		Project ID	High Level Bridge w/ Vrooman Road relocation to Lane

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	0	1	0	0	1	0	0	1	0	0	1	0
Lane group	L	LTR		L	LTR		L	LTR		L	LTR	
Volume, V (vph)	32	154	161	123	302	38	195	39	24	14	32	44
% Heavy vehicles, %HV	0	0	0	0	0	0	0	0	0	0	0	0
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Pretimed (P) or actuated (A)	A	A	A	A	A	A	A	A	A	A	A	A
Start-up lost time, l_1		2.0			2.0			2.0			2.0	
Extension of effective green, e		2.0			2.0			2.0			2.0	
Arrival type, AT		3			3			3			3	
Unit extension, UE		3.0			3.0			3.0			3.0	
Filtering/metering, I		1.000			1.000			1.000			1.000	
Initial unmet demand, Q_b		0.0			0.0			0.0			0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width		12.0			12.0			12.0			12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B		0			0			0			0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = ~~28.5~~	G =	G =	G =	G = ~~23.5~~	G =	G =	G =
	Y = 4 20.5	Y =	Y =	Y =	Y = 4 25.5	Y =	Y =	Y =
Duration of Analysis, T = 0.25						Cycle Length, C = 60.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		386			515			287			101	
Lane group capacity, c		789			722			527			655	
v/c ratio, X		0.49			0.71			0.54			0.15	

Total green ratio, g/C		0.47			0.47			0.39			0.39	
Uniform delay, d_1		10.8			12.5			14.1			11.8	
Progression factor, PF		1.000			1.000			1.000			1.000	
Delay calibration, k		0.11			0.28			0.14			0.11	
Incremental delay, d_2		0.5			3.3			1.2			0.1	
Initial queue delay, d_3												
Control delay		11.3			15.8			15.3			11.9	
Lane group LOS		B			B			B			B	
Approach delay	11.3	11.9		15.8	12.0		15.3	11.8		11.9	10.4	
Approach LOS	B			B			B			B		
Intersection delay	14.0	11.8		X_c = 0.64			Intersection LOS			B		

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HCS2000™ DETAILED REPORT

General Information		Site Information	
Analyst	Lori Keyser	Intersection	SR 84 & Vrooman/Lane
Agency or Co.	TranSystems	Area Type	All other areas
Date Performed	1/17/2005	Jurisdiction	
Time Period	PM Peak	Analysis Year	2010
		Project ID	High Level Bridge w/ Vrooman Road relocation to Lane

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	0	1	0	0	1	0	0	1	0	0	1	0
Lane group	L	LTR		L	LTR		L	LTR		L	LTR	
Volume, V (vph)	17	371	140	50	132	20	205	62	87	55	37	50
% Heavy vehicles, %HV	0	0	0	0	0	0	0	0	0	0	0	0
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Pretimed (P) or actuated (A)	A	A	A	A	A	A	A	A	A	A	A	A
Start-up lost time, l_1		2.0			2.0			2.0			2.0	
Extension of effective green, e		2.0			2.0			2.0			2.0	
Arrival type, AT		3			3			3			3	
Unit extension, UE		3.0			3.0			3.0			3.0	
Filtering/metering, I		1.000			1.000			1.000			1.000	
Initial unmet demand, Q_b		0.0			0.0			0.0			0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width		12.0			12.0			12.0			12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B		0			0			0			0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = ~~26.5~~	G =	G =	G =	G = ~~25.5~~	G =	G =	G =
	Y = 4 ~~28.5~~	Y =	Y =	Y =	Y = 4 23.5	Y =	Y =	Y =
Duration of Analysis, T = 0.25						Cycle Length, C = 60.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		587			225			394			158	
Lane group capacity, c		800			680			587			611	
v/c ratio, X		0.73			0.33			0.67			0.26	

Total green ratio, g/C		0.44			0.44			0.43			0.43	
Uniform delay, d_1		13.8			11.0			13.9			11.1	
Progression factor, PF		1.000			1.000			1.000			1.000	
Delay calibration, k		0.29			0.11			0.24			0.11	
Incremental delay, d_2		3.5			0.3			3.0			0.2	
Initial queue delay, d_3												
Control delay		17.4			11.2			16.9			11.4	
Lane group LOS		B			B			B			B	
Approach delay	17.4	13.7		11.2	9.3		16.9	13.4		11.4	11.8	
Approach LOS	B			B	A		B			B		
Intersection delay	15.5	12.7		X_c = 0.70			Intersection LOS			B		

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HCS2000™ DETAILED REPORT

General Information		Site Information	
Analyst	Lori Keyser	Intersection	SR 84 & Vrooman/Lane
Agency or Co.	TranSystems	Area Type	All other areas
Date Performed	1/17/2005	Jurisdiction	
Time Period	AM Peak	Analysis Year	2030
		Project ID	High Level Bridge w/ Vrooman Road relocation to Lane

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	1	1	0	1	1	0	0	1	0	0	1	0
Lane group	L	TR		L	TR			LTR			LTR	
Volume, V (vph)	48	229	239	183	448	57	289	57	36	20	47	66
% Heavy vehicles, %HV	0	0	0	0	0	0	0	0	0	0	0	0
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Pretimed (P) or actuated (A)	A	A	A	A	A	A	A	A	A	A	A	A
Start-up lost time, l_1	2.0	2.0		2.0	2.0			2.0			2.0	
Extension of effective green, e	2.0	2.0		2.0	2.0			2.0			2.0	
Arrival type, AT	3	3		3	3			3			3	
Unit extension, UE	3.0	3.0		3.0	3.0			3.0			3.0	
Filtering/metering, I	1.000	1.000		1.000	1.000			1.000			1.000	
Initial unmet demand, Q_b	0.0	0.0		0.0	0.0			0.0			0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width	12.0	12.0		12.0	12.0			12.0			12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B	0	0		0	0			0			0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = ~~26.5~~	G =	G =	G =	G = ~~25.5~~	G =	G =	G =
	Y = 4 28.0	Y =	Y =	Y =	Y = 4 24.0	Y =	Y =	Y =
Duration of Analysis, T = 0.25						Cycle Length, C = 60.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v	53	520		203	561			424			147	
Lane group capacity, c	220	775		252	825			560			696	
	0.24	0.67		0.81	0.68			0.76			0.21	

v/c ratio, X												
Total green ratio, g/C	0.44	0.44		0.44	0.44			0.43			0.43	
Uniform delay, d_1	10.5	13.3		14.5	13.4			14.6			10.9	
Progression factor, PF	1.000	1.000		1.000	1.000			1.000			1.000	
Delay calibration, k	0.11	0.24		0.35	0.25			0.31			0.11	
Incremental delay, d_2	0.6	2.3		17.2	2.3			5.9			0.2	
Initial queue delay, d_3												
Control delay	11.0	15.6		31.7	15.7			20.5			11.0	
Lane group LOS	B	B		C	B			C			B	
Approach delay	15.1 13.4			19.9 15.8			20.5 15.5			11.0 11.7		
Approach LOS	B			B			C B			B		
Intersection delay	17.9 14.7			X_c = 0.78			Intersection LOS			B		

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HCS2000™ DETAILED REPORT

General Information		Site Information	
Analyst	Lori Keyser	Intersection	SR 84 & Vrooman/Lane
Agency or Co.	TranSystems	Area Type	All other areas
Date Performed	1/17/2005	Jurisdiction	
Time Period	PM Peak	Analysis Year	2030
		Project ID	High Level Bridge w/ Vrooman Road relocation to Lane

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	1	1	0	1	1	0	1	1	0	1	1	0
Lane group	L	TR		L	TR		L	TR		L	TR	
Volume, V (vph)	25	551	207	75	196	30	305	92	129	82	55	74
% Heavy vehicles, %HV	0	0	0	0	0	0	0	0	0	0	0	0
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Pretimed (P) or actuated (A)	A	A	A	A	A	A	A	A	A	A	A	A
Start-up lost time, l_1	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Extension of effective green, e	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Arrival type, AT	3	3		3	3		3	3		3	3	
Unit extension, UE	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Filtering/metering, I	1.000	1.000		1.000	1.000		1.000	1.000		1.000	1.000	
Initial unmet demand, Q_b	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B	0	0		0	0		0	0		0	0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 31.5	G =	G =	G =	G = 20.5	G =	G =	G =
	Y = 4	Y =	Y =	Y =	Y = 4	Y =	Y =	Y =
Duration of Analysis, T = 0.25						Cycle Length, C = 60.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v	28	842		83	251		339	245		91	143	
Lane group capacity, c	590	957		127	978		432	592		351	593	
	0.05	0.88		0.65	0.26		0.78	0.41		0.26	0.24	

v/c ratio, X												
Total green ratio, g/C	0.52	0.52		0.52	0.52		0.34	0.34		0.34	0.34	
Uniform delay, d_1	6.9	12.6		10.3	7.8		17.8	15.1		14.3	14.2	
Progression factor, PF	1.000	1.000		1.000	1.000		1.000	1.000		1.000	1.000	
Delay calibration, k	0.11	0.41		0.23	0.11		0.33	0.11		0.11	0.11	
Incremental delay, d_2	0.0	9.5		11.4	0.1		9.2	0.5		0.4	0.2	
Initial queue delay, d_3												
Control delay	7.0	22.1		21.7	8.0		27.0	15.6		14.7	14.4	
Lane group LOS	A	C		C	A		C	B		B	B	
Approach delay	21.6			11.4			22.2			14.5		
Approach LOS	C			B			C			B		
Intersection delay	19.3			X_c = 0.84			Intersection LOS			B		

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HCS2000™ DETAILED REPORT

General Information		Site Information	
Analyst	Lori Keyser	Intersection	Vrooman/Madison & SR 84
Agency or Co.	TranSystems	Area Type	All other areas
Date Performed	1/17/2005	Jurisdiction	
Time Period	AM Peak	Analysis Year	2010
		Project ID	Low Level Bridge on Existing Vrooman with additional trucks

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	0	1	0	0	1	0	0	1	0	0	1	0
Lane group	L	LTR		L	LTR		L	LTR		L	LTR	
Volume, V (vph)	3	83	109	156	131	83	61	133	63	81	155	20
% Heavy vehicles, %HV	33	4	3	14	4	3	7	3	38	4	2	6
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Pretimed (P) or actuated (A)	A	A	A	A	A	A	A	A	A	A	A	A
Start-up lost time, l_1		2.0			2.0			2.0			2.0	
Extension of effective green, e		2.0			2.0			2.0			2.0	
Arrival type, AT		3			3			3			3	
Unit extension, UE		3.0			3.0			3.0			3.0	
Filtering/metering, I		1.000			1.000			1.000			1.000	
Initial unmet demand, Q_b		0.0			0.0			0.0			0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width		12.0			12.0			12.0			12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	10	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B		0			0			0			0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NB Only	SB Only	07	08
Timing	G = ~~22.0~~	G =	G =	G =	G = ~~14.0~~	G = ~~12.0~~	G =	G =
	Y = 4 11.5	Y =	Y =	Y =	Y = 4 15.5	Y = 4 15.0	Y =	Y =
Duration of Analysis, T = 0.25					Cycle Length, C = 60.0			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		216			411			286			284	
Lane group capacity, c		617			474			358			360	
v/c ratio, X		0.35			0.87			0.80			0.79	

Total green ratio, g/C		0.37			0.37			0.23			0.20	
Uniform delay, d_1		13.8			17.6			21.7			22.8	
Progression factor, PF		1.000			1.000			1.000			1.000	
Delay calibration, k		0.11			0.40			0.34			0.34	
Incremental delay, d_2		0.3			15.6			12.1			11.2	
Initial queue delay, d_3												
Control delay		14.2			33.2			33.8			34.0	
Lane group LOS		B			C			C			C	
Approach delay	~~14.2~~ 17.8			~~33.2~~ 20.2			~~33.8~~ 20.2			~~34.0~~ 19.1		
Approach LOS	B			C			C			C		
Intersection delay	~~30.1~~ 19.5			X_c = 0.83			Intersection LOS			~~C~~ B		

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HCS2000™ DETAILED REPORT

General Information		Site Information	
Analyst	Lori Keyser	Intersection	Vrooman/Madison & SR 84
Agency or Co.	TranSystems	Area Type	All other areas
Date Performed	1/17/2005	Jurisdiction	
Time Period	PM Peak	Analysis Year	2010
		Project ID	Low Level Bridge on Existing Vrooman with additional trucks

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	0	1	0	0	1	0	0	1	0	0	1	0
Lane group	L	LTR		L	LTR		L	LTR		L	LTR	
Volume, V (vph)	16	165	46	88	106	73	80	125	149	146	123	6
% Heavy vehicles, %HV	0	2	2	30	1	0	1	2	14	4	2	6
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Pretimed (P) or actuated (A)	A	A	A	A	A	A	A	A	A	A	A	A
Start-up lost time, l_1		2.0			2.0			2.0			2.0	
Extension of effective green, e		2.0			2.0			2.0			2.0	
Arrival type, AT		3			3			3			3	
Unit extension, UE		3.0			3.0			3.0			3.0	
Filtering/metering, I		1.000			1.000			1.000			1.000	
Initial unmet demand, Q_b		0.0			0.0			0.0			0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width		12.0			12.0			12.0			12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	10	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B		0			0			0			0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NB Only	SB Only	07	08
Timing	G = ~~17.0~~	G =	G =	G =	G = ~~18.0~~	G = ~~13.0~~	G =	G =
	Y = 4 15.5	Y =	Y =	Y =	Y = 4 18.5	Y = 4 14.0	Y =	Y =
Duration of Analysis, T = 0.25						Cycle Length, C = 60.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		252			297			394			306	
Lane group capacity, c		498			365			473			388	
v/c ratio, X		0.51			0.81			0.83			0.79	

Total green ratio, g/C		0.28			0.28			0.30			0.22	
Uniform delay, d_1		18.0			20.0			19.6			22.2	
Progression factor, PF		1.000			1.000			1.000			1.000	
Delay calibration, k		0.11			0.35			0.37			0.34	
Incremental delay, d_2		0.8			13.2			12.1			10.5	
Initial queue delay, d_3												
Control delay		18.8			33.2			31.7			32.7	
Lane group LOS		B			C			C			C	
Approach delay	~~18.8~~ 19.6			~~33.2~~ 19.9			~~31.7~~ 19.7			~~32.7~~ 19.9		
Approach LOS	B			~~C~~ B			~~C~~ B			~~C~~ B		
Intersection delay	~~29.7~~ 19.8			X_c = 0.81			Intersection LOS			~~C~~ B		

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HCS2000™ DETAILED REPORT

General Information		Site Information	
Analyst	Lori Keyser	Intersection	Vrooman/Madison & SR 84
Agency or Co.	TranSystems	Area Type	All other areas
Date Performed	1/17/2005	Jurisdiction	
Time Period	AM Peak	Analysis Year	2030
		Project ID	Low Level Bridge on Existing Vrooman with addtional trucks

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	0	1	0	1	1	0	1	1	0	1	1	0
Lane group	L	LTR		L	TR		L	TR		L	TR	
Volume, V (vph)	5	124	162	231	195	124	91	198	94	121	231	29
% Heavy vehicles, %HV	33	4	3	14	4	3	7	3	38	4	2	6
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Pretimed (P) or actuated (A)	A	A	A	A	A	A	A	A	A	A	A	A
Start-up lost time, l_1		2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Extension of effective green, e		2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Arrival type, AT		3		3	3		3	3		3	3	
Unit extension, UE		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Filtering/metering, I		1.000		1.000	1.000		1.000	1.000		1.000	1.000	
Initial unmet demand, Q_b		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width		12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	10	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B		0		0	0		0	0		0	0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NB Only	SB Only	07	08
Timing	G = 21.05	G =	G =	G =	G = 15.0	G = 12.0115	G =	G =
	Y = 4	Y =	Y =	Y =	Y = 4	Y = 4	Y =	Y =
Duration of Analysis, T = 0.25						Cycle Length, C = 60.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		324		257	355		101	324		134	289	
Lane group capacity, c		588		272	604		401	376		347	365	
		0.55		0.94	0.59		0.25	0.86		0.39	0.79	

v/c ratio, X												
Total green ratio, g/C		0.35		0.35	0.35		0.25	0.25		0.20	0.20	
Uniform delay, d_1		15.7		18.9	16.0		18.0	21.5		20.8	22.8	
Progression factor, PF		1.000		1.000	1.000		1.000	1.000		1.000	1.000	
Delay calibration, k		0.15		0.46	0.18		0.11	0.39		0.11	0.34	
Incremental delay, d_2		1.1		39.8	1.5		0.3	18.1		0.7	11.3	
Initial queue delay, d_3												
Control delay		16.8		58.7	17.5		18.3	39.6		21.5	34.1	
Lane group LOS		B		E	B		B	D		C	C	
Approach delay	16.8 16.1			34.8 34.3			34.6			30.1 33.1		
Approach LOS	B			C			C			C		
Intersection delay	30.4 30.8			X_c = 0.88			Intersection LOS			C		

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HCS2000™ DETAILED REPORT

General Information		Site Information	
Analyst	Lori Keyser	Intersection	Vrooman/Madison & SR 84
Agency or Co.	TranSystems	Area Type	All other areas
Date Performed	1/17/2005	Jurisdiction	
Time Period	PM Peak	Analysis Year	2030
		Project ID	Low Level Bridge on Existing Vrooman with additional trucks

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	1	1	0	1	1	0	1	1	0	1	1	0
Lane group	L	TR		L	TR		L	TR		L	TR	
Volume, V (vph)	24	245	69	130	157	109	119	186	221	217	183	9
% Heavy vehicles, %HV	0	2	2	30	1	0	1	2	14	4	2	6
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Pretimed (P) or actuated (A)	A	A	A	A	A	A	A	A	A	A	A	A
Start-up lost time, l_1	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Extension of effective green, e	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Arrival type, AT	3	3		3	3		3	3		3	3	
Unit extension, UE	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Filtering/metering, I	1.000	1.000		1.000	1.000		1.000	1.000		1.000	1.000	
Initial unmet demand, Q_b	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	10	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B	0	0		0	0		0	0		0	0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NB Only	SB Only	07	08
Timing	G = 18.0	G =	G =	G =	G = 19.5	G = 10.5	G =	G =
	Y = 4	Y =	Y =	Y =	Y = 4	Y = 4	Y =	Y =

Duration of Analysis, T = 0.25

Cycle Length, C = 60.0

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v	27	349		144	295		132	453		241	213	
Lane group capacity, c	253	540		160	532		552	497		304	323	
	0.11	0.65		0.90	0.55		0.24	0.91		0.79	0.66	

v/c ratio, X												
Total green ratio, g/C	0.30	0.30		0.30	0.30		0.32	0.32		0.17	0.17	
Uniform delay, d_1	15.2	18.2		20.1	17.6		14.8	19.4		23.7	23.1	
Progression factor, PF	1.000	1.000		1.000	1.000		1.000	1.000		1.000	1.000	
Delay calibration, k	0.11	0.22		0.42	0.15		0.11	0.43		0.34	0.23	
Incremental delay, d_2	0.2	2.7		43.5	1.3		0.2	21.0		13.4	4.9	
Initial queue delay, d_3												
Control delay	15.4	20.9		63.6	18.9		15.0	40.5		37.1	28.0	
Lane group LOS	B	C		E	B		B	D		D	C	
Approach delay	20.5			33.6			34.7			32.8		
Approach LOS	C			C			C			C		
Intersection delay	31.1			X_c = 0.88			Intersection LOS			C		

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HCS2000™ DETAILED REPORT

General Information		Site Information	
Analyst	Lori Keyser	Intersection	Vrooman/Madison & SR 84
Agency or Co.	TranSystems	Area Type	All other areas
Date Performed	1/17/2005	Jurisdiction	
Time Period	AM Peak	Analysis Year	2010
		Project ID	Low Level Bridge on Existing Vrooman Alignment

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	0	1	0	0	1	0	0	1	0	0	1	0
Lane group	L	LTR		L	LTR		L	LTR		L	LTR	
Volume, V (vph)	3	83	109	135	131	83	61	133	38	81	155	20
% Heavy vehicles, %HV	33	4	3	1	4	3	7	3	0	4	2	6
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Pretimed (P) or actuated (A)	A	A	A	A	A	A	A	A	A	A	A	A
Start-up lost time, l_1		2.0			2.0			2.0			2.0	
Extension of effective green, e		2.0			2.0			2.0			2.0	
Arrival type, AT		3			3			3			3	
Unit extension, UE		3.0			3.0			3.0			3.0	
Filtering/metering, I		1.000			1.000			1.000			1.000	
Initial unmet demand, Q_b		0.0			0.0			0.0			0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width		12.0			12.0			12.0			12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	10	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B		0			0			0			0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NB Only	SB Only	07	08
Timing	G = ~~21.0~~	G =	G =	G =	G = ~~13.5~~	G = ~~13.5~~	G =	G =
	Y = 4 17.0	Y =	Y =	Y =	Y = 4 15.5	Y = 4 15.5	Y =	Y =
Duration of Analysis, T = 0.25					Cycle Length, C = 60.0			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		216			388			258			284	
Lane group capacity, c		589			490			378			405	
v/c ratio, X		0.37			0.79			0.68			0.70	
Total green ratio, g/C		0.35			0.35			0.22			0.22	

Uniform delay, d_1		14.5			17.5			21.3			21.4	
Progression factor, PF		1.000			1.000			1.000			1.000	
Delay calibration, k		0.11			0.34			0.25			0.27	
Incremental delay, d_2		0.4			8.6			5.0			5.4	
Initial queue delay, d_3												
Control delay		14.9			26.2			26.3			26.8	
Lane group LOS		B			C			C			C	
Approach delay	14.9	18.3		26.2	18.9		26.3	18.8		26.8	18.6	
Approach LOS	B			C	B		C	B		C	B	
Intersection delay	24.2	18.7		X_c = 0.74			Intersection LOS			C	B	

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HCS2000™ DETAILED REPORT

General Information		Site Information	
Analyst	Lori Keyser	Intersection	Vrooman/Madison & SR 84
Agency or Co.	TranSystems	Area Type	All other areas
Date Performed	1/17/2005	Jurisdiction	
Time Period	PM Peak	Analysis Year	2010
		Project ID	Low Level Bridge on Existing Vrooman Alignment

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	0	1	0	0	1	0	0	1	0	0	1	0
Lane group	L	LTR		L	LTR		L	LTR		L	LTR	
Volume, V (vph)	16	165	46	63	106	73	80	125	128	146	123	6
% Heavy vehicles, %HV	0	2	2	4	1	0	1	2	0	4	2	6
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Pretimed (P) or actuated (A)	A	A	A	A	A	A	A	A	A	A	A	A
Start-up lost time, l_1		2.0			2.0			2.0			2.0	
Extension of effective green, e		2.0			2.0			2.0			2.0	
Arrival type, AT		3			3			3			3	
Unit extension, UE		3.0			3.0			3.0			3.0	
Filtering/metering, I		1.000			1.000			1.000			1.000	
Initial unmet demand, Q_b		0.0			0.0			0.0			0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width		12.0			12.0			12.0			12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	10	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B		0			0			0			0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NB Only	SB Only	07	08
Timing	G = 15.5	G =	G =	G =	G = 17.5	G = 15.0	G =	G =
	Y = 4	Y =	Y =	Y =	Y = 4	Y = 4	Y =	Y =
Duration of Analysis, T = 0.25						Cycle Length, C = 60.0		

No change

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		252			269			370			306	
Lane group capacity, c		455			384			489			447	
v/c ratio, X		0.55			0.70			0.76			0.68	
Total green ratio, g/C		0.26			0.26			0.29			0.25	

Uniform delay, d_1		19.3			20.1			19.3			20.4	
Progression factor, PF		1.000			1.000			1.000			1.000	
Delay calibration, k		0.15			0.27			0.31			0.25	
Incremental delay, d_2		1.5			5.6			6.7			4.3	
Initial queue delay, d_3												
Control delay		20.7			25.8			26.0			24.7	
Lane group LOS		C			C			C			C	
Approach delay	20.7		19.6	25.8		19.1	26.0		19.0	24.7		18.9
Approach LOS	C		B	C		B	C		B	C		B
Intersection delay	24.5		19.1	X_c = 0.72			Intersection LOS			C		B

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HCS2000™ DETAILED REPORT

General Information		Site Information	
Analyst	Lori Keyser	Intersection	Vrooman/Madison & SR 84
Agency or Co.	TranSystems	Area Type	All other areas
Date Performed	1/17/2005	Jurisdiction	
Time Period	AM Peak	Analysis Year	2030
		Project ID	Low Level Bridge on Existing Vrooman Alignment

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	0	1	0	1	1	0	1	1	0	1	1	0
Lane group	L	LTR		L	TR		L	TR		L	TR	
Volume, V (vph)	5	124	162	200	195	124	91	198	57	121	231	29
% Heavy vehicles, %HV	33	4	3	1	4	3	7	3	0	4	2	6
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Pretimed (P) or actuated (A)	A	A	A	A	A	A	A	A	A	A	A	A
Start-up lost time, l_1		2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Extension of effective green, e		2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Arrival type, AT		3		3	3		3	3		3	3	
Unit extension, UE		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Filtering/metering, I		1.000		1.000	1.000		1.000	1.000		1.000	1.000	
Initial unmet demand, Q_b		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width		12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	10	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B		0		0	0		0	0		0	0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NB Only	SB Only	07	08
Timing	G = 20.0	G =	G =	G =	G = 14.5	G = 13.5	G =	G =
	Y = 4	Y =	Y =	Y =	Y = 4	Y = 4	Y =	Y =
Duration of Analysis, T = 0.25						Cycle Length, C = 60.0		

No change

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		324		222	355		101	283		134	289	
Lane group capacity, c		560		283	576		387	412		391	410	
v/c ratio, X		0.58		0.78	0.62		0.26	0.69		0.34	0.70	

Total green ratio, g/C		0.33		0.33	0.33		0.24	0.24		0.22	0.22	
Uniform delay, d_1		16.5		18.1	16.8		18.4	20.7		19.5	21.4	
Progression factor, PF		1.000		1.000	1.000		1.000	1.000		1.000	1.000	
Delay calibration, k		0.17		0.33	0.20		0.11	0.26		0.11	0.27	
Incremental delay, d_2		1.5		13.5	2.0		0.4	4.7		0.5	5.4	
Initial queue delay, d_3												
Control delay		18.0		31.5	18.8		18.8	25.4		20.1	26.9	
Lane group LOS		B		C	B		B	C		C	C	
Approach delay	18.0 17.7			23.7 24.9			23.7			24.7		
Approach LOS	B			C			C			C		
Intersection delay	22.9 23.2			X_c = 0.73			Intersection LOS			C		

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HCS2000™ DETAILED REPORT

General Information		Site Information	
Analyst	Lori Keyser	Intersection	Vrooman/Madison & SR 84
Agency or Co.	TranSystems	Area Type	All other areas
Date Performed	1/17/2005	Jurisdiction	
Time Period	PM Peak	Analysis Year	2030
		Project ID	Low Level Bridge on Existing Vrooman Alignment

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	1	1	0	1	1	0	1	1	0	1	1	0
Lane group	L	TR		L	TR		L	TR		L	TR	
Volume, V (vph)	24	245	69	93	157	109	119	186	190	217	183	9
% Heavy vehicles, %HV	0	2	2	4	1	0	1	2	0	4	2	6
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Pretimed (P) or actuated (A)	A	A	A	A	A	A	A	A	A	A	A	A
Start-up lost time, l_1	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Extension of effective green, e	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Arrival type, AT	3	3		3	3		3	3		3	3	
Unit extension, UE	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Filtering/metering, I	1.000	1.000		1.000	1.000		1.000	1.000		1.000	1.000	
Initial unmet demand, Q_b	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	10	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B	0	0		0	0		0	0		0	0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NB Only	SB Only	07	08
Timing	G = 15.5	G =	G =	G =	G = 18.5	G = 14.0	G =	G =
	Y = 4	Y =	Y =	Y =	Y = 4	Y = 4	Y =	Y =
Duration of Analysis, T = 0.25						Cycle Length, C = 60.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v	27	349		103	295		132	418		241	213	
Lane group capacity, c	198	465		148	458		524	509		405	431	
v/c ratio, X	0.14	0.75		0.70	0.64		0.25	0.82		0.60	0.49	

Total green ratio, g/C	0.26	0.26		0.26	0.26		0.31	0.31		0.23	0.23	
Uniform delay, d_1	17.1	20.5		20.1	19.8		15.6	19.2		20.5	19.9	
Progression factor, PF	1.000	1.000		1.000	1.000		1.000	1.000		1.000	1.000	
Delay calibration, k	0.11	0.31		0.26	0.22		0.11	0.36		0.18	0.11	
Incremental delay, d_2	0.3	6.7		13.3	3.1		0.3	10.4		2.4	0.9	
Initial queue delay, d_3												
Control delay	17.4	27.2		33.5	22.9		15.8	29.6		22.9	20.8	
Lane group LOS	B	C		C	C		B	C		C	C	
Approach delay	26.5			25.6			26.3			21.9		
Approach LOS	C			C			C			C		
Intersection delay	25.1			X_c = 0.73			Intersection LOS			C		

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APPENDIX D

RED FLAG SUMMARY
Red Flag Mapping

RED FLAG SUMMARY

Red Flag Summary Completed: April 2005

The purpose of this Red Flag summary is to identify concerns that could cause revisions to the anticipated design and construction scope of work, the purposed project development schedule, the estimated project budget, or the potential impacts of the project on the surrounding area.

Date Red Flag Summary Completed:	
District	12
Project Name (County, Route, Section):	LAK-Vrooman Road
City, Township or Village Name(s):	Leroy and Perry Townships
PID	5669
Prepared By:	Michael Baker Jr., Inc.
ODOT Project Manager:	

GENERAL PROJECT PLANNING INFORMATION

Project Description:

Remove and replace functionally obsolete and structurally deficient Vrooman Road Bridge over the Grand River. Realign Vrooman Road between I-90 and SR-84. Construct a new, high-level crossing over the Grand River. Reconfigure deficient Vrooman Road / SR-84 intersection.

Project Limits / General Location:

State of Ohio, Lake County, Leroy and Perry Townships. Planning study area consists of Vrooman Road from I-90 to a point on the southern/western edge of the river valley, and a triangular area roughly bounded on the west by a line from this point on Vrooman Road to the SR-84/Madison Avenue intersection; roughly bounded on the east by a line from this point on Vrooman Road to the SR-84/Lane Road intersection; and on the north by SR-84 from the SR-84/Madison Avenue intersection to the SR-84/Lane Road intersection. Please refer to attached map.

List Structures:

Bridge No.:	Vrooman Road over Grand River	Structure File #:	4337107
Bridge No.:		Structure File #:	
Bridge No.:		Structure File #:	
Bridge No.:		Structure File #:	
Bridge No.:		Structure File #:	
Bridge No.:		Structure File #:	

Estimated Project Cost: $23,200,000 (2005 dollars)

Funding Source(s):

- [X] Federal
- [X] State
- [X] Local
- [ ] Private

Are Funding Splits Reqired?

- [X] Yes
- [ ] No

Specify Splits: SIB loan / STP funds / County funds / CEAO funds

Anticipated Quarter and Fiscal Year of Project Awarded: 3 rd quarter SFY 2011

Project Sponser, if any: Lake County Engineers Office

Is Local Legislation Required?

- [X] Yes
- [ ] No

Is FHWA Oversight Required?

- [ ] Yes
- [ ] No

Is the project located on the congestion / safety list?

- [ ] Yes
- [ ] No

Problem identified by (indicated document date):

[ ]	District Work Plan	
[ ]	Congestion Study	
[ ]	Safety Study	
[ ]	Major New	
[ ]	MPO TIP	
[ ]	MPO LRP	
[ ]	Access Ohio	
[X]	Other	County records, bridge inspections, flooding history, accident history

Are there any projects in the area (ODOT, Local, Utility) that might conflict with the project (e.g. a local project on the proposed detour route, a resurfacing project a year after the pavement marking project)?

[ ] Yes

[X] No

Specify:

Are there growth or land use changes in the area surrounding the project that could have an impact on the project scope?

[ ] Yes

[ ] No

Specify:

Are there known public involvement issues?

[X] Yes

[ ] No

Specify: NIMBY syndrome

Purpose and Need Statement (Must be a separate document for Major Projects):

Provide a structurally sufficient crossing of the Grand River that meets the current design standards; Improve the existing geometrics that correct existing roadway deficiencies; Provides a safe, efficient evacuation route that meets the requirements of the Department of Homeland Security

Other Information / Notes:

EXISTING INFORMATION:

Check all information that was reviewed for the Red Flag Summary. Not all information is available or necessary for every project. The scope of the Red Flag Summary should be commensurate with the nature of the proposed project.

- [x] Legal Speed: 25 mph
- [x] Design Speed: 45 mph
- [x] Traffic Data:
  - Opening Year ADT: 15300 (projected)
  - Design Year ADT: 17380 (projected)
  - Design Hourly Volume: 1740 (projected)
  - Directional Distribution: 55%
  - Trucks (24 Hr. B&C): 869 (projected)

  (Traffic data does not need to be certified for the Red Flag Summary.)
- [x] Turning Movement Traffic Counts
- [x] Functional Classification:
  - [ ] Interstate, Freeway
  - [ ] Arterial
  - [x] Collector
  - [ ] Local
- [x] Locale:
  - [ ] Rural
  - [x] Urban
- [ ] National Highway System (NHS):
  - [ ] NHS Routes:
  - [ ] Non-NHS Routes:
- [ ] (3R) Project?
  - [ ] Yes
  - [ ] No

- [ ] Aerial Mapping
- [ ] Ohio Utility Protection Service (OUPS) Markings
- [x] United States Geologic Survey (USGS) topographic mapping
- [x] Federal Emergency Management Agency (FEMA) flood plain study mapping
- [ ] Natural Resources Conservation Services (NRCS) mapping
- [x] County Map(s)
- [x] Airport locations within 4 miles of project: Concord Airpark (4.0); Pheasant Run (3.3)
- [x] Tax maps
- [ ] Property deeds
- [ ] Pavement marking log
- [ ] Original construction plans:
- [ ] Existing Right-of-Way plans:
- [x] Bridge Inspection Reports
- [x] Bridge Load Ratings
- [ ] Pile Driving Logs
- [ ] Recorded vertical clearances for overpasses and underpasses
- [x] Old soil borings
- [x] Old Geologic reports
- [ ] Pavement Cores
- [ ] Dynaflec Testing
- [ ] Deck Cores
- [ ] Ground Penetrating Radar (GPR Data)
- [x] Maintenance history
- [ ] Pavement Condition Ratings (PCRs)
- [ ] County manager concerns

- [ ] Traffic studies, Highway Safety Program (HSP) studies
- [ ] Previous Maintenance of Traffic concerns on roadway
- [x] Accident history / Accident reports
- [ ] Past Project Construction Diaries
- [ ] Permitted Lane Closure Map
- [ ] Property owner contacts
- [ ] National Register of Historic Places
- [ ] Other:

EXISTING GEOTECHNICAL INFORMATION:
Identify all geotechnical references found. It is assumed , based on the project type, that not all reference materials listed herein will be applicable for use during the Red Flag Study. This study should provide a comprehensive review of all existing information available for the project area and should be supplemented with a complete field reconnaissance

Review of Information From ODOT:

- [ ] Original Construction Plans including plan views, profiles, and cross-sections
- [ ] Construction diaries and inspection reports for original construction
- [ ] Compile information on changes to the plans during construction activities (e.g., slope, spring drains)
- [ ] Interview people knowledgeable with the previous projects
- [ ] Maintenance records
- [ ] Boring log on file with the Office of Geotechnical Engineering
- [ ] History and occurrence of landslides
- [ ] History and occurrence of rockfalls
- [ ] Other

Review of information from ODNR:

From the Division of Geological Survey

- [ ] Boring logs on file
- [ ] Measured geological sections
- [ ] Bedrock Geological Maps
- [ ] Bedrock Topography Maps
- [ ] Bedrock Structure Maps
- [ ] Geologic Map of Ohio
- [ ] Quaternary Geology of Ohio
- [ ] Known and Probable Carst in Ohio
- [ ] Bulletins
- [ ] Information Circulars
- [ ] Report of Investigations
- [ ] Locations and Information on underground mines
- [ ] Location and characteristics of karst features
- [ ] Landslide Maps
- [ ] Other

From the Division of Mineral Resource Management

- [ ] Applications and permits files for surface mines (coal & industrial mineral)
- [ ] Active, reclaimed or abandoned surface mines
- [ ] Abandoned Mine Land (AML) sites
- [ ] Emergency Projects
- [ ] Other

From the Division of Soil & Water

- [ ] Water well Logs
- [ ] Soil Survey

- [ ] Ohio Wetland Inventory Maps
- [ ] National Wetland Inventory Maps
- [ ] Presence of lake bed sediments, organic soils or peat deposits
- [ ] Other

Other Sources:

- [ ] Aerial photography
- [ ] Satellite imagery
- [x] USGS quadrangles
- [ ] USGS publications and files
- [x] City and County Engineers
- [ ] Academia with engineering or geology programs
- [ ] USGS open File Map Series #78-1057 "Landslide and Related Features"
- [x] Other: Boring logs and geotechnical reports from previous projects and studies

SITE VISIT:

A site visit is required for ALL projects. The site visit shall consist of visual inspection of the entire project area including the ditch lines, cut slopes, stream banks, bridge foundations, pavement, rock / soil slopes, etc.

Date(s) of Site Visit: 29-Sep-06

ODOT DISCIPLINE INVOLVEMENT:

List name and phone number of individual(s) representing each discipline during the site visit and preparation of the Red Flag Summary. One individual may represent multiple disciplines. Check box if individual attended the site visit.

[ ]	District Project Manager		Phone:
[ ]	Geometrics		Phone:
[ ]	Hydraulics		Phone:
[ ]	Pavements		Phone:
[ ]	Geotechnical		Phone:
[ ]	General Roadway		Phone:
[ ]	Structures		Phone:
[ ]	Traffic Control		Phone:
[ ]	Signals		Phone:
[ ]	Maintenance of Traffic		Phone:
[ ]	Right-of-Way / Real Estate		Phone:
[ ]	Utilities		Phone:
[ ]	Survey		Phone:
[ ]	Environmental		Phone:
[ ]	Highway Management		Phone:
[ ]	CO Program Mangager		Phone:
[ ]	County Manager(s)**		Phone:
[ ]	Production Administrator**		Phone:
[ ]	Planning Administrator**		Phone:

** The County Manager, District Production Administrator, and District Planning Administrator (or qualified represenative) must attend the site visit.

EXTERNAL AGENCY INVOLVEMENT:

Indicate external agency involvement during identification of red flags. List the name and phone number of individual(s) representing each agency during the site visit. Check box if individual attended the field review.

[ ]	Federal Highway Administration (FHWA)		Phone:
[x]	County Engineer	James R. Gills, P.E., P.S.	Phone: (440) 350-2770
[ ]	City Engineer		Phone:

☐	Other Local Public Agency		Phone:
☐	Federal Emergency Management Agency (FEMA)		Phone:
☐	US Army Corps of Engineers (USACE)		Phone:
☐	U.S. Coast Guard		Phone:
☐	Ohio Department of Natural Resources (ODNR)		Phone:
☐	Ohio Environmental Protection Agency (OEPA)		Phone:
☐	Railroad Railway Company		Phone:
☐	State Historical Preservation Office (SHPO)		Phone:
☐	Metropolitan Planning Organization (MPO)		Phone:
☐	Utilities Company list:		
☐	Electric		Phone:
☐	Telephone		Phone:
☐	Water		Phone:
☐	Gas		Phone:
☐	Sanitary		Phone:
☐	Cable		Phone:
☐	Other		Phone:
☐	Other		Phone:
X	Other	Michael Baker Jr., Inc.	Phone: (216) 776-6601

ODOT COUNTY MANAGER CONCERNS:
List any comments / requests from the ODOT County Manager

ACCIDENT DATA:

Summarize accident history. Indicate and design features that should be revised to increase safety

Intersection of Vrooman Road, Madison Avenue and SR-84 3.425 accidents per million vehicle entering intersection. State average 0.20 accidents per million vehicle entering intersection. Intersection of Lane Road, River Road and SR-84 2.854 accidents per million vehicle entering intersection. State average 0.20 accidents per million vehicle entering intersection. Intersection of Vrooman Road and Seeley Road 2.283 accidents per million vehicle entering intersection. State average 0.20 accidents per million vehicle entering intersection. Fixed object accidents at or near Vrooman Road Bridge 2.283 accidents per million vehicle miles. State average 2.186 accidents per million vehicle miles. Please refer to the Planning Study for a complete summary of accident data.

ENVIRONMENTAL ISSUES:
Make a preliminary determination on whether the following resources will be affected by the proposed project.

Involvement:	Resource	Comments	References*
X Yes ☐ No ☐ Possible	Parkland, nature preserves and wildlife areas (Name)	The propsed project are contains two parks - the Lake Metroparks' Indian Point Park and the Lake Metroparks' Mason's Landings Park	
☐ Yes ☐ No X Possible	Cemetery (Name)	There is a cemetery located on the northeast corner of the intersection of SR-84, Lane Road, and River Road	
X Yes ☐ No ☐ Possible	Scenic River (Name)	The Grand River is a state designated Wild and Scenic River. The portion of the Grand River designated as Wild, is within the porject area.	EPM: 104.2, 104.2.4

☐ Yes ☒ No ☐ Possible	Public Facilities (Name)	None Identified	
☐ Yes ☐ No ☒ Possible	Threatened and Endangered Species and/or habitat (e.g., Indiana bat trees, etc.)	One threatened species, the black sandshell (Ligumia recta) has a general location within the study area. A critical area designated as mole salamander habitat protection zone falls within the study area (Hildebrant, 1995). Field investigations did not reveal the presence of any state listed endangered, threatened, potentially threatened, or other rare plant species as occurring within the study area. The U.S. Fish and Wildlife Service names several federally-listed threatened, endangered, proposed, and candidate species for Lake County (USFWS, 2005). Those species include the endangered Indiana bat (Myotis sodalis), the threatened bald eagle (Haliaeetus leucocephalus), the endangered piping plover (Charadrius melodus) and critical habitat designated for the piping plover. No live state or federally-listed endangered, threatened, species of concern, and special interest were identified within the study area. The Division of Natural Areas and Preserves has no records of any Indiana bat capture locations or hibernacula within a five-mile radius of the study area.	EPM: 104.2, 104.2.6
☒ Yes ☐ No ☐ Possible	Existing cat tails (Location)	Loacted within the wetlands identified below	
☒ Yes ☐ No ☐ Possible	Existing wet areas (Location)	During the field reconnaissance, a total of fourteen wetlands comprising approximately 4.22 acres were identified along both sides of the Grand River within the study area.	EPM: 104.2, 104.2.3
☒ Yes ☐ No ☐ Possible	Streams, rivers and watercourses (Use Designation)	Two streams comprising approximately 2,326 linear feet, the Grand River, and an unnamed tributary to the Grand River were identified within the limits of the study area. This segment of the Grand River is designated as a state resource water (SRW) and seasonal salmonid habitat (SSH), based on the 1978 water quality standards (Ohio EPA, 2003). Based on the results of a biological field assessment performed by the Ohio Environmental Protection Agency this segment of the Grand River is also designated as an exceptional warmwater habitat (EWH), agricultural water supply (AWS), industrial water supply (IWS), and a primary contact recreation stream (PCR) (Ohio EPA, 2003).	EPM: 104.2, 104.2.4
☒ Yes ☐ No ☐ Possible	Historic Building(s) (Location)	During the field reconnaissance, two history/architecture sites, previously recorded within or immediately adjacent to the project study area, were identified as extant. These two resources have not been evaluated according to the NRHP criteria. The Field reconnaisance further identified an additional 11 properties within or immediately adjacent to the project study area that are older than 50 years.	EPM: 104.3
☐ Yes ☒ No ☐ Possible	Historic Bridge(s) (Location)	The proposed undertaking involves the replacement of the Vrooman Road Bridge (SFN 4337107) a single-span, concrete open-spandrel bridge that has been determined to be not eligible for inclusion on the National Register of Historic Places (NRHP).	EPM: 104.3
☒ Yes ☐ No ☐ Possible	Farmland (Location)	A field reconnaisance determined that farmland is located between River Road and SR-84	
☐ Yes ☒ No ☐ Possible	Landfill(s) (Location)	None Identified	
☐ Yes ☐ No ☒ Possible	Total Maximum Daily Load (TDML) Streams	The Grand River Watershed is identified with a TMDL staus of Development Phase. The Grand River (downstream Mill Creek to mouth), excluding Grand River mainstem, isidentified on the 303(d) List of Prioritized Impaired Waters (Catergroy 5).	
☒ Yes ☐ No ☐ Possible	ODOT MS4 Phase 2 Regulated Areas	Loacted within a MS4 Phase 2 Regulated Area	
☐ Yes ☐ No ☐ Possible	Evidence of hazardous materials (Location)	Field reconnaissance and review of regulatory database and mapping information were undertaken during this ESA Screening. A Phase I Environmental Site Assessment was recommended forThe Northeast Auto Service facility located at 2606 Madison Avenue on the northwest portion of the study area; the former Lane Auto Sales and Wickliffe Truss Manufacturing facility located at 5188-5194 Lane Road on the northeast portion of the study area; and The former service station located at 5848 Vrooman Road on the southwest portion of the study area	EPM: 104.7
☐ Yes ☒ No ☐ Possible	Sensitive environmental justice areas	None Identified	

[X] Yes [ ] No [ ] Possible	Federal Emergency Management Agency (FEMA) floodplains	The proposed project traverses FEMA identified flodplains located in the Grand River Valley.	EPM: 104.2, 104.2.5
[ ] Yes [X] No [ ] Possible	Lake Erie Coatal Management Area	Not loacted within a Lake Erie Coastal Management Area	EMP: 104.2
[ ] Yes [X] No [ ] Possible	Sole Source Acquifers (Location)	No sole source acquifers were indentified within the project area.	
[ ] Yes [ ] No [ ] Possible	Wellhead Protection Areas (Specify)		
[X] Yes [ ] No [ ] Possible	Does it appear that noise abatement will be an issue for the project?	Project will involve a new bridge on a new alignment and possible the construction of a new road on new alignment	
[ ] Yes [ ] No [X] Possible	Other Environmental Issues		

GEOMETRIC ISSUES:
Use the design speed, design functional classification and available traffic data to make a preliminary determination as to the geometric standards for the project. Compare these requirements to accident data and impacts if deviations are being considered

Design Exception Required?	Design Feature	Preliminary Comments Regarding Justification	References*
[ ] Yes [X] No [ ] Possible [ ] Not Applicable	Lane Width (including curve widening)	Not anticipated at this time.	LDV1: 301.1.1
[ ] Yes [X] No [ ] Possible [ ] Not Applicable	Graded Shoulder Width	Not anticipated at this time.	LDV1: 301.2.3
[ ] Yes [ ] No [X] Possible [ ] Not Applicable	Bridge Width	Possible. May reduce shoulder widths to reduce structure costs. TBD.	LDV1: 302.1
[ ] Yes [X] No [ ] Possible [ ] Not Applicable	Structural Capacity	Not anticipated at this time.	
[ ] Yes [X] No [ ] Possible [ ] Not Applicable	Horizontal Alignment (including Excessive Deflections, Degree of Curve, Lack of Spirals, Transition/Taper Rates and Intersection Angles)	Not anticipated at this time.	LDV1: 202, 401.2
[ ] Yes [X] No [ ] Possible [ ] Not Applicable	Vertical Alignment (including grade breaks)	Not anticipated at this time.	LDV1: 203
[ ] Yes [X] No [ ] Possible [ ] Not Applicable	Grades	Not anticipated at this time.	LDV1: 203.2
[ ] Yes [X] No [ ] Possible [ ] Not Applicable	Stopping Sight Distance	Not anticipated at this time.	LDV1: 201.2
[ ] Yes [X] No [ ] Possible [ ] Not Applicable	Pavement Cross Slopes	Not anticipated at this time.	LDV1: 301.1.5
[ ] Yes [X] No [ ] Possible [ ] Not Applicable	Superelevation (Maximum rate, transition, position)	Not anticipated at this time.	LDV1: 202.4
[ ] Yes [X] No [ ] Possible [ ] Not Applicable	Horizontal Clearance	Not anticipated at this time.	LDV1: 301.2.5
[ ] Yes [X] No [ ] Possible [ ] Not Applicable	Vertical Clearance	Not anticipated at this time.	LDV1: 302.1

Indicate if the following geometric issues are present or should be considered during project development. Consider work on the mainline as well as any side roads or service roads. Provide additional comments as needed.

	Design Issue	Comments	References*
[X] Yes [ ] No [ ] Possible [ ] Not Applicable	Does the existing horizontal alignment need to be modified?	Substandard existing horizontal curves for roadway classification and design speed.	LDV1:202
[X] Yes [ ] No [ ] Possible [ ] Not Applicable	Does the existing vertical alignment need to be modified?	To improve existing clearance	LDV1:203

☐ Yes ☐ No ☒ Possible ☐ Not Applicable	Does stopping sight distance need to be increased?	This will be based on proposed Final selection of alignment and incorporated into the final design	LDV:201.2
☒ Yes ☐ No ☐ Possible ☐ Not Applicable	Does intersection sight distance need to be increased?	Poor existing intersection geometry at Vrooman Road / SR-84 intersection.	LDV1: 201.3
☒ Yes ☐ No ☐ Possible ☐ Not Applicable	Are there any hazards in the clear zone? Specify treatment.	Trees may need to be cleared.	LDV1: 600.2, 601
☒ Yes ☐ No ☐ Possible ☐ Not Applicable	Does existing guardrail need to be replaced (e.g., too low, poor condition)?	LON calculations will be performed to locate the proposed guradrail.	LDV1: 602, 603
☒ Yes ☐ No ☐ Possible ☐ Not Applicable	Is there sufficient area for guardrail anchor assemblies (E-98 or B-98)?		LDV1: 602, 603
☒ Yes ☐ No ☐ Possible ☐ Not Applicable	Does the number of turn lanes appear to be adequate?		LDV1: 401.7, 402
☒ Yes ☐ No ☐ Possible ☐ Not Applicable	Does the number of through lanes appear to be adequate?		LDV1: 401.7
☐ Yes ☒ No ☐ Possible ☐ Not Applicable	Are changes to access control required?		LDV1: 800, 801, 802
☐ Yes ☐ No ☒ Possible ☐ Not Applicable	Are there any drive locations that will require special attention during design (e.g., very steep grades, high volume commercial drives, drives close to bridges or intersections)?		LDV1: 803, 804, 805
☐ Yes ☐ No ☒ Possible ☐ Not Applicable	Are new mailbox turnouts required?		LDV1: 803.1
☐ Yes ☐ No ☐ Possible ☒ Not Applicable	Is there any evidence of accidents due to substandard vertical clearance on overpass structures?		
☐ Yes ☐ No ☒ Possible ☐ Not Applicable	Will an interchange be added or modified?	Possible, dependent upon the selection of the Prefered Alternative	LDV1: 403, 404
☐ Yes ☐ No ☒ Possible ☐ Not Applicable	Do the existing intersection radius returns need to be modified to accommodate larger truck turning movements?		LDV1: 401.5
☒ Yes ☐ No ☐ Possible ☐ Not Applicable	Does grading need to be upgraded? To what criteria (e.g., clear zone, safety, standard)?	Clear Zone and Safety Grading	LDV1: 307
☐ Yes ☐ No ☒ Possible ☐ Not Applicable	Are there any other geometric issues? Describe	TBD.	

HYDRAULIC ISSUES:

Indicate if the following drainage issues are present or should be considered during project development. Side road and service road work should be considered in this assessment. Provide additional comments as needed.

	Design Issue	Comments	References*
☐ Yes ☒ No ☐ Possible ☐ Not Applicable	Based on visual evidence (height of debris, erosion or other markings left from high water) and approximate drainage areas, does the existing drainage system (culverts, storm sewers and/or ditches) appear to be appropriately sized and functioning properly? Describe deficiencies.	The Existing structure over the Grand River is insufficient for the 100 year flood and the previous inspection rated the structure a 4, fair to poor condition	LDV2: 1003 - 1006
☐ Yes ☐ No ☐ Possible ☒ Not Applicable	Is there evidence of alignment or flow velocity problems (e.g., scour, bank erosions, silting) at culvert entrances or exits?		LDV2: 1107
☐ Yes ☐ No ☐ Possible ☒ Not Applicable	Are there sinkholes or other deterioration in the pavement that would indicate separations in the existing pipes?		
☐ Yes ☐ No ☐ Possible ☒ Not Applicable	Should guardrail over culverts be eliminated with clear zone grading?		LDV1: 307.2
☐ Yes ☐ No ☐ Possible ☒ Not Applicable	Should the existing culverts be replaced?		LDV2: 1105
☐ Yes ☐ No ☐ Possible	Should the existing culverts be extended?		LDV2: 1105

[X] Not Applicable			
[ ] Yes [ ] No [X] Possible [ ] Not Applicable	Will a new alignment concentrate flow (in culverts) that is currently overland flow?	Possible, dependant upon thte selection of the prefered alternative	LDV2: 1105
[ ] Yes [ ] No [ ] Possible [X] Not Applicable	Will the maximum height of cover (100') be exceeded for any culvert?		LDV2: 1008
[ ] Yes [ ] No [ ] Possible [X] Not Applicable	Will bankfull design be used for any culverts?		LDV2: 1105.3.3
[ ] Yes [ ] No [ ] Possible [X] Not Applicable	Could materials with long lead times (e.g., large boxes) have an impact on construction schedule?		
[ ] Yes [ ] No [ ] Possible [ ] Not Applicable	Does the existing drainage system have an odor that might indicate that it includes septic connections?		LDV2: LD-30 Form 1111.1
[ ] Yes [ ] No [ ] Possible [X] Not Applicable	Is the exposed curb height in existing gutters adequate to contain flow (include height of proposed resurfacing)?		LDV2: 1103
[ ] Yes [ ] No [ ] Possible [X] Not Applicable	Do the existing inlets or catch basins need to be raised to meet proposed grade?		
[X] Yes [ ] No [ ] Possible [ ] Not Applicable	Is the project in a FEMA flood zone?		LDV2: 1005
[X] Yes [ ] No [ ] Possible [ ] Not Applicable	Does the project affect a wetland or waterway (e.g., stream, river, jurisdictional ditch)?	Grand River	LDV2: 1001.2
[X] Yes [ ] No [ ] Possible [ ] Not Applicable	Is the existing and/or proposed channel alignment compatible with the existing/proposed structure?		
[ ] Yes [ ] No [X] Possible [ ] Not Applicable	Will channel relocation be required?		LDV2: 1102.2.4
[X] Yes [ ] No [ ] Possible [ ] Not Applicable	Will Municipal Separate Storm Sewer System (MS4) requirements apply?		
[ ] Yes [ ] No [X] Possible [ ] Not Applicable	Will post construction flow requirements be required?	Possible, dependant upon thte selection of the prefered alternative	LDV2: 1115.1 LDV2: 1115.2
[ ] Yes [ ] No [ ] Possible [ ] Not Applicable	Is there evidence of existing field tiles?		LDV2: 1002.3.6, 1108
[ ] Yes [ ] No [ ] Possible [X] Not Applicable	Are underdrain outlets functioning properly?		
[ ] Yes [ ] No [X] Possible [ ] Not Applicable	Will a new storm sewer outfall be required?	Possible, dependant upon thte selection of the prefered alternative	LDV2: 1104
[ ] Yes [ ] No [X] Possible [ ] Not Applicable	Is ditch cleanout required?	Possible, dependant upon thte selection of the prefered alternative	
[ ] Yes [X] No [ ] Possible [ ] Not Applicable	Does the drainage work warrant any special maintenance of traffic considerations?		TEM: PART 6
[ ] Yes [X] No [ ] Possible [ ] Not Applicable	Are there any other hydraulic issues? Describe.		

GEOTECH ISSUES:

"Geotechnical Red Flag" features may include, but are not limited to, known or suspected geologic hazards (e.g., organic soils, karst, rockfalls, landslides, surface and underground mines, poor subgrade conditions, or difficulty in correcting existing surface or subsurface drainage problems).

GEOLOGY

Provide a brief geologic description of the project area

Not available.

Provide a description of the hydrogeologic setting

Not available.

Describe the characteristics of the soils

The south valley slopes consisted of predominantly overconsolidated silty clays. The north abutment area soils consisted of silt and sand with hard-pan like soils below elevation 729. Along the flood plain, below the valley floor, predominantly unconsolidated alluvial sediments of sands, silt and clay soils with variable gravel contents were evidenced. Applied Construction Technology Geotechnical Report dated August 10, 1990.

Describe the characteristics of the rock

Bedrock consists of a soft to medium hard gray shale per Applied Construction Technology Geotechnical Report dated August 10, 1990.

ORIGINAL CONSTRUCTION PLAN OBSERVATIONS

Provide a bulleted list of all pertinent features found during the plan and specification review

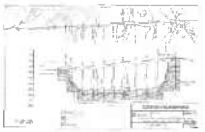
Not available.

Include findings from previous geotechnical reports or investigations

Indicated in appropriate sections from Applied Construction Technology Geotechnical Report dated August 10, 1990. The foundations were recommended as spread footings for the South Abutment, Pier 1 and Pier 10. For Piers 2 through 9, bedrock is located at a depth of ten to fifteen feet so either a deep footing or drilled shafts/driven piles are recommended. A rock bearing capacity of ten TSF is recommended. Since rock is deep at the North Abutment, a deep foundation system of drilled shafts or drvien piles is required.

If general alignment or corridor is known, develop profiles to graphically present subsurface conditions (e.g., soil, rock, groundwater

Profile from Applied Construction Technology Geotechnical Report dated August 10, 1990 is attached:



Describe soil classifications and problem conditions

Soils at the site classify primarily as A-4 and A-6 soils with some A-2-4 and A-2-6 in the valley bottom. Applied Construction Technology Geotechnical Report dated August 10, 1990.

Describe bedrock and problem conditions

Bedrock consists of a soft to medium hard gray shale per Applied Construction Technology Geotechnical Report dated August 10, 1990. Use of a lean concrete mud mat was recommended to reduce deterioration.

DISTRICT NOTATIONS

Provide synopsis of information compiled through the District and County Garages

Retaining wall requires extensive maintenance. Bridge is closed due to flooding several times a year;

Include construction issues and maintenance problems

The retaining wall south of SR 84 and adjacent to Vrooman road requires extensive maintenance.

FIELD REVIEW

Summarize the findings from a complete field reconnaissance

The Grand River Valley at the proposed bridge crossing is approximately 1900 feet wide and ranges in depth between 80 and 130 feet at the south approach and the north approach area, respectively. The area is primarily wooded and contains normal soil and vegetation cover. The north side slopes of the valley are too steep to retain soil cover for vegetation or tree growth and therefore the rock is exposed. Applied Construction Technology Geotechnical Report dated August 10, 1990.

Provide bulleted items with references to locations

Not available

Include conditions of embankments, soil & rock cut slopes, surface water erosion, ground water seeps or springs, settlements, surface deformation, abnormal pavement cracking, etc.

Not available.

SUMMARY OF GEOTECHNICAL ISSUES

Based on the information compiled during this study indicate whether or not the following geotechnical issues are present or should be further considered during project development. Provide additional comments as needed.

	Design issue	Comments	References*
☐ Yes ☐ No ☒ Possible ☐ Not Applicable	Is there evidence of soil drainage problems (e.g., wet or pumping subgrade, standing water, the presence of seeps, wetlands, swamps, bogs)?		SSI: 2.1, 2.2
☐ Yes ☐ No ☒ Possible ☐ Not Applicable	Is there evidence of any embankment or foundation problems (e.g., differential settlement, sag, foundation failures, slope failures, scours, evidence of channel migrations)?	Applied Construction Technology Geotechnical Report dated August 10, 1990 indicated the potential for weathering of the exposed shale bedrock.	SSI: 2.1, 2.2
☐ Yes ☒ No ☐ Possible ☐ Not Applicable	Is there evidence of any landslides?		SSI: 2.1, 2.2
☐ Yes ☐ No ☒ Possible ☐ Not Applicable	Is there evidence of unsuitable materials (e.g., presence of debris or man-made fills or waste pits containing these materials, indications from old soil borings)?	Applied Construction Technology Geotechnical Report dated August 10, 1990 indicated that the excavated shale bedrock is not suitable for backfill.	SSI: 2.1, 2.2
☒ Yes ☐ No ☐ Possible ☐ Not Applicable	Is there evidence of rock strata (e.g., presence of exposed bedrock, rock on the old borings)?	See profile from Applied Construction Technology Geotechnical Report dated August 10, 1990 above.	SSI: 2.1

☐ Yes ☒ No ☐ Possible ☐ Not Applicable	Is there evidence of active, reclaimed or abandoned surface mines?		SSI: 2.1, 2.2, AUM
☐ Yes ☒ No ☐ Possible ☐ Not Applicable	Is there information pertaining to the existence of underground mines?		SSI: 2.1, 2.2, AUM
☒ Yes ☐ No ☐ Possible ☐ Not Applicable	Are soil borings needed for pavement design, foundations (bridge, headwall, retaining wall, noise wall) or slopes?	Yes for retaining wall, bridge, and slopes	SSI: 2.1, 2.2
☐ Yes ☒ No ☐ Possible ☐ Not Applicable	Does an undercut appear to be needed?	Applied Construction Technology Geotechnical Report dated August 10, 1990 indicated that the shale should be undercut when exposed at subgrade.	SSI: 5.3.2.1
☐ Yes ☒ No ☐ Possible ☐ Not Applicable	Should the Office of Geotechnical Engineering be contacted to evaluate the project site?		SSI: 1.3
☐ Yes ☐ No ☒ Possible ☐ Not Applicable	Are There any other geotechnical issues? Describe.	Possible concern over fractures in bedrock in vicinity of north bridge abutment.	

Provide a list of bulleted items referencing additional areas of concern or special notation.

Not available.

PAVEMENT ISSUES:

Indicate if the following pavement issues are present or should be considered during project development. Side road and service road work should be considered in this assessment. Provide additional comments as needed.

	Design Issue	Comments	References*
☐ Yes ☒ No ☐ Possible ☐ Not Applicable	Are pavement cores needed to determine the existing pavement buildup and/or condition?		
☐ Yes ☒ No ☐ Possible ☐ Not Applicable	Is the proposed pavement buildup known? (For pavement preservation projects, pavement treatment, including pavement type & thickness should be specified in the design scope of services)		
☒ Yes ☐ No ☐ Possible ☐ Not Applicable	Is the existing pavement concrete or asphalt?	Asphalt	
☐ Yes ☒ No ☐ Possible ☐ Not Applicable	Are dynaflect tests available to assess existing pavement condition?		
☐ Yes ☐ No ☒ Possible ☐ Not Applicable	Does the proposed pavement buildup need to be approved by the Pavement Selection Committee?		
☐ Yes ☒ No ☐ Possible ☐ Not Applicable	Are joint repairs needed?		
☐ Yes ☐ No ☒ Possible ☐ Not Applicable	Are pressure relief joints needed?	Possible, dependent upon the selection of the pavement buildup.	
☐ Yes ☒ No			

☐ Possible ☐ Not Applicable	Are pavement repairs needed?		
☐ Yes ☒ No ☐ Possible ☐ Not Applicable	Does the maintenance of traffic scheme require additional permanent or temporary pavement?		
☐ Yes ☐ No ☐ Possible ☒ Not Applicable	Does curb need to be replaced due to deteriorated condition or lack of curb reveal?		
☐ Yes ☐ No ☐ Possible ☒ Not Applicable	Does sidewalk need to be replaced or installed?		LDV1: 306.2
☐ Yes ☐ No ☐ Possible ☒ Not Applicable	Are new curb ramps needed?		LDV1: 306.3
☐ Yes ☐ No ☐ Possible ☒ Not Applicable	Do truncated domes need to be installed?		LDV1: 306.3.5
☒ Yes ☐ No ☐ Possible ☐ Not Applicable	Is there any work on side roads, service roads or ramps?	Depenedent on the selection of the preferred alternative	
☐ Yes ☒ No ☐ Possible ☐ Not Applicable	Are there any special drive treatments or preferences (e.g., concrete for all drive aprons, curved aprons, etc.)?		
☐ Yes ☐ No ☒ Possible ☐ Not Applicable	Has the site received repeated resurfacings in recent years?		
☐ Yes ☐ No ☒ Possible ☐ Not Applicable	Does pavement deterioration appear to be caused by drainage or geotechnical problems?		
☐ Yes ☒ No ☐ Possible ☐ Not Applicable	Are there any other pavement issues? Specify.		

STRUCTURAL ISSUES:
Indicate if the following strucutre issues are present or should be considered during project development. Provide additional comments as needed.
Provide a separate table for each structure.

Structure:	Design Issue	Comments	References*
☐ Yes ☒ No ☐ Possible ☐ Not Applicable	Can the structure be replaced with a prefabricated box culvert or 3-sided box?		BDM: 201
☐ Yes ☒ No ☐ Possible ☐ Not Applicable	Does the bridge (including foundation) meet current design live loading?	Refer to Physical Condition Report.	BDM: 301.4, 301.4.1, 301.4.2
☒ Yes ☐ No ☐ Possible ☐ Not Applicable	Was the existing structure built according to plan?		BDM: 206, 401.1, 610.1
☐ Yes ☐ No ☐ Possible ☒ Not Applicable	Is deck coring needed?	Wood deck with asphalt overlay.	BDM: 412
☐ Yes ☐ No ☐ Possible ☒ Not Applicable	Is the deck delaminated? Specify.	Wood deck with asphalt overlay.	BDM: 412
☐ Yes ☐ No ☐ Possible ☒ Not Applicable	Is non-destructive testing needed to determine the amount of delamination?	Wood deck with asphalt overlay.	BDM: 412
☒ Yes ☐ No ☐ Possible ☐ Not Applicable	Is the bridge deck in good condition?	Refer to Physical Condition Report.	BDM: 412
☐ Yes ☐ No ☐ Possible ☒ Not Applicable	Has a deck condition survey (Bridge Design Manual, Section 412) been performed?	Wood deck with asphalt overlay.	
☐ Yes ☒ No ☐ Possible ☐ Not Applicable	Are there areas to be patched or repaired on the deck?	Refer to Physical Condition Report.	BDM: 403.1, 404.3
☐ Yes ☒ No ☐ Possible ☐ Not Applicable	Is the bridge a good candidate for an overlay? Specify type of overlay if known.		BDM: 404.1, 404.2
☐ Yes ☒ No ☐ Possible ☐ Not Applicable	Does the bridge rail meet current standards?	Refer to Physical Condition Report.	BDM: 209.2, 304, 410

☐ Yes ☒ No ☐ Possible ☐ Not Applicable	Is a fatigue analysis required?		BDM: 402.2, 402.3
☐ Yes ☒ No ☐ Possible ☐ Not Applicable	Should all fatigue prone details be retrofitted or replaced? Specify.		BDM: 402.2, 402.3
☐ Yes ☒ No ☐ Possible ☐ Not Applicable	Is the abutment (including backwall, beam seats, breatwall, wingwall, etc.)) in good condition? Specify location and level of deterioration.	Masonry abutments exhibit loss of mortar. Refer to Physical Condition Report.	BDM: 403.1
☐ Yes ☒ No ☐ Possible ☐ Not Applicable	Is there any evidence of substructure movement (e.g., settlement, rotation)?	Refer to Physical Condition Report.	
☒ Yes ☐ No ☐ Possible ☐ Not Applicable	Should the piers be replaced or reused? Specify.	Replaced	BDM: 303.3
☒ Yes ☐ No ☐ Possible ☐ Not Applicable	Is there any evidence of existing beam deterioration/section loss, strands exposed, shear joints leaking or longitudinal cracks?	Refer to Physical Condition Report.	BDM: 402.1
☐ Yes ☒ No ☐ Possible ☐ Not Applicable	Are the bearings in good condition?	Refer to Physical Condition Report.	BDM: 411
☐ Yes ☐ No ☒ Possible ☐ Not Applicable	Can the deck joint be eliminated? If not, specify what modifications are necessary.		BDM: 205.8, 205.9, 406
☒ Yes ☐ No ☐ Possible ☐ Not Applicable	Are new approach slabs needed?		BDM: 209.5
☐ Yes ☐ No ☐ Possible ☒ Not Applicable	Can hinges be removed to make the members continuous?		BDM: 402.8
☐ Yes ☒ No ☐ Possible ☐ Not Applicable	Does existing vertical and horizontal clearance meet design standards?	Insufficient lateral clearance on existing bridge.	BDM: 207.1, 207.3, 209.8
☐ Yes ☒ No ☐ Possible ☐ Not Applicable	Is the bridge on a curve, skew or superelevation transition?	Located on tangent across river between reverse curves on approach roadway.	BDM: 207.5, 209.1
☒ Yes ☐ No ☐ Possible ☐ Not Applicable	Is there any evidence that the bridge does not meet hydraulic capacity?	Closed due to flooding on a regular basis.	BDM: 202.5, 203
☐ Yes ☒ No ☐ Possible ☐ Not Applicable	Are there existing sidewalks on or adjacent to the bridge?		BDM: 209.11
☐ Yes ☐ No ☒ Possible ☐ Not Applicable	Will the structure work require any special maintenance of traffic (e.g., closing of roadway for erection of beams, special location of cut line, etc.)? Specify.		BDM: 208, 409, 304.3.5
☒ Yes ☐ No ☐ Possible ☐ Not Applicable	Is the structure in a Federal Emergency Management Agency (FEMA) flood plain?		BDM: 203
☐ Yes ☐ No ☒ Possible ☐ Not Applicable	Is there any erosion in the existing channel?		BDM: 203.3
☐ Yes ☒ No ☐ Possible ☐ Not Applicable	Is the foundation exposed due to scour?		BDM: 203.3, 409.3
☐ Yes ☐ No ☒ Possible ☐ Not Applicable	Will there be more than 25' of channel relocation?		
☐ Yes ☐ No ☒ Possible ☐ Not Applicable	Are there any opportunities to construct the bridge faster (e.g., precast walls, segmental construction)?		
☐ Yes ☒ No ☐ Possible ☐ Not Applicable	Is there any railroad involvement?		BDM: 209.8
☐ Yes ☒ No ☐ Possible ☐ Not Applicable	Does the bridge need to accommodate future additional roadway lanes or railroad tracks?		
☐ Yes ☐ No ☒ Possible ☐ Not Applicable	Will temporary shoring be required next to the roadway?		BDM: 208.3

☐ Yes ☐ No ☒ Possible ☐ Not Applicable	Could materials with long lead times for delivery (e.g., steel beams) have an impact on the construction schedule?		
☒ Yes ☐ No ☐ Possible ☐ Not Applicable	Are there any problems with existing retaining walls?		BDM: 204.9
☐ Yes ☒ No ☐ Possible ☐ Not Applicable	Are there any other structures issues? Specify		

TRAFFIC CONTROL ISSUES:
Indicate if the following traffic control (signals, signing, pavement markings, etc.) issues are present or should be considered during project development. Provide additional comments as needed.

	Design Issue	Comments	References*
☐ Yes ☐ No ☒ Possible ☐ Not Applicable	Do the existing signs need to be replaced due to poor condition?	Possible, dependent upon the selection of the Prefered Alternative	TEM: 260
☐ Yes ☒ No ☐ Possible ☐ Not Applicable	Are there any obvious deviations from requirements of the Ohio Manual of Uniform Traffic Control Devices (OMUTCD)?		
☐ Yes ☐ No ☒ Possible ☐ Not Applicable	Is a particular type of pavement marking desired (e.g., paint, epoxy, thermoplastic)?		TEM: 320
☐ Yes ☒ No ☐ Possible ☐ Not Applicable	Will pavement planing affect loop detectors?		TEM: 450-10.7, 420-5
☐ Yes ☐ No ☒ Possible ☐ Not Applicable	Will pavement widening affect pole locations?	Possible, dependent upon the selection of the Prefered Alternative	TEM: 450-6
☐ Yes ☐ No ☐ Possible ☒ Not Applicable	Will resurfacing effect signal height?		TEM: 450-7
☐ Yes ☐ No ☒ Possible ☐ Not Applicable	Does it appear that any traffic control items will fall outside the existing right of way limits (e.g., large signs, strain poles)?	Possible, dependent upon the selection of the Prefered Alternative	
☐ Yes ☐ No ☒ Possible ☐ Not Applicable	Are there any special pedestrian considerations?	Possible, dependent upon the selection of the Prefered Alternative	TEM: 404
☐ Yes ☒ No ☐ Possible ☐ Not Applicable	Are there any accidents that can be related to existing signal deficiencies (e.g., timing, lack of turn lanes)?		TEM: 402-3.5
☐ Yes ☐ No ☐ Possible ☒ Not Applicable	Do turn lane lengths appear to have sufficient storage capacity?		LDV1: 401.7
☐ Yes ☐ No ☐ Possible ☒ Not Applicable	Does the controller need to be upgraded?		TEM: 460
☐ Yes ☒ No ☐ Possible ☐ Not Applicable	Do proprietary materials need to be specified?		
☐ Yes ☐ No ☒ Possible ☐ Not Applicable	Should signs or signal installations be supplemented with lighting?	Possible, dependent upon the selection of the Prefered Alternative	TEM: 408
☒ Yes ☐ No ☐ Possible ☐ Not Applicable	Are any TODS signs present?		TEM: 207-3
☐ Yes ☐ No ☒ Possible ☐ Not Applicable	Could material with long lead times for delivery have an impact on the construction schedule (e.g., strain poles)?	Possible, dependent upon the selection of the Prefered Alternative	
☐ Yes ☐ No ☒ Possible ☐ Not Applicable	If traffic control at an intersection is being changed from stop control to signalization, does the stop condition road need to be upgraded to accommodate faster traffic?	Possible, dependent upon the selection of the Prefered Alternative	
☐ Yes ☒ No ☐ Possible ☐ Not Applicable	Are there any other traffic control issues? Specify.		

MAINTENANCE OF TRAFFIC ISSUES:
Indicate if the following maintenance of traffic issues are present or should be considered during project development. Provide additional comments as needed.

	Design Issue	Comments	References*
[X] Yes [ ] No [ ] Possible [ ] Not Applicable	Can traffic be detoured?		TEM: 602-6
[X] Yes [ ] No [ ] Possible [ ] Not Applicable	Is the local alternate detour route in good condition? Are there any load limits or bridge width restrictions?		
[ ] Yes [ ] No [X] Possible [ ] Not Applicable	Will the detour route have a detrimental impact on emergency vehicles, school buses or other sensitive traffic?	Current use of Blair Road (2 mi east) and SR 86 (4 mile west) during floods and other closures. Allows some level of faimiliarity with detour.	
[ ] Yes [X] No [ ] Possible [ ] Not Applicable	Are there any load limits on the proposed detour route?		
[ ] Yes [X] No [ ] Possible [ ] Not Applicable	Does the project fall within the permitted lane closure map?		TEM: 630-4
[ ] Yes [X] No [ ] Possible [ ] Not Applicable	Is existing bridge width sufficient to maintain traffic? Number of beam lines sufficient?		TEM: 640-2
[ ] Yes [X] No [ ] Possible [ ] Not Applicable	Will temporary pavement be required?		TEM: 640-2, 640-11
[ ] Yes [ ] No [ ] Possible [X] Not Applicable	Should temporary pavement be retained after project completion?		TEM: 640-11
[ ] Yes [ ] No [ ] Possible [X] Not Applicable	Will the speed limit be lowered by more than 10 mph during construction?		TEM: 640-18
[ ] Yes [ ] No [ ] Possible [X] Not Applicable	Is the existing shoulder in good enough condition to support traffic during construction?		TEM: 640-5
[ ] Yes [ ] No [ ] Possible [X] Not Applicable	Does pedestrian traffic need to be maintained?		TEM: 64-25
[ ] Yes [ ] No [ ] Possible [X] Not Applicable	Will additional width be required on culverts or bridges to maintain traffic?		TEM: 640-2
[ ] Yes [X] No [ ] Possible [ ] Not Applicable	Will a temporary structure / run-around be required?		TEM: 640-11
[ ] Yes [X] No [ ] Possible [ ] Not Applicable	Will a cross over be utilized?		TEM: 640-11
[ ] Yes [ ] No [ ] Possible [X] Not Applicable	Will the road need to be closed for short durations (e.g., 15 minutes for beam erection)?		TEM: 640-8
[ ] Yes [ ] No [X] Possible [ ] Not Applicable	Can drive access be maintained at all times?	Possible, dependent upon the selection of the Prefered Alternative	TEM: 640-10
[ ] Yes [ ] No [ ] Possible [X] Not Applicable	Can trucks make turning movements during construction?		
[ ] Yes [ ] No [ ] Possible [X] Not Applicable	Will portable concrete barrier wall obstruct stopping sight distance?		LDV1-201.2
[ ] Yes [ ] No [ ] Possible [X] Not Applicable	Will additional signal heads be needed for drives and/or side roads?		TEM: 605-13
[ ] Yes [X] No [ ] Possible [ ] Not Applicable	Are there any issues regarding access to the work site?		TEM: 640-9
[X] Yes [ ] No [ ] Possible [ ] Not Applicable	Are there any issues regarding construction timeframes (e.g., time of day, time limits)?	Time of day because of proximity to residential areas. Possible seasonal restrictions due to migratory fish and mammals.	TEM: 606-3, 640-14
[ ] Yes [X] No [ ] Possible [ ] Not Applicable	Have innovative contracting ideas been considered? Specify.		
[ ] Yes [ ] No [ ] Possible [X] Not Applicable	Are there specific requirements for maintaining railroad traffic?		TEM: 606-19

☐ Yes ☒ No ☐ Possible ☐ Not Applicable	Does it appear that the maintenance of traffic will require additional right of way?		
☐ Yes ☒ No ☐ Possible ☐ Not Applicable	Are there any other maintenance of traffic issues? Specify.		

RIGHT OF WAY / SURVEY ISSUES:
Indicate if right of way or survey issues are present or should be considered during project development. Provide additional comments as needed.

	Design Issue	Comments	References*
☒ Yes ☐ No ☐ Possible ☐ Not Applicable	Will there be any work beyond the existing right of way limits?		
☐ Yes ☐ No ☒ Possible ☐ Not Applicable	Will major real estate relocation acquisition be involved?	Possible, dependent upon the selection of the Prefered Alternative	
☐ Yes ☐ No ☒ Possible ☐ Not Applicable	Will relocation of residences be involved?	Possible, dependent upon the selection of the Prefered Alternative	
☒ Yes ☐ No ☐ Possible ☐ Not Applicable	Will relocation of businesses be involved?	Possible, dependent upon the selection of the Prefered Alternative	
☐ Yes ☒ No ☐ Possible ☐ Not Applicable	Does access control need to be revised?		
☐ Yes ☐ No ☒ Possible ☐ Not Applicable	Are there any obvious encroachments?	Possible, dependent upon the selection of the Prefered Alternative	
☐ Yes ☐ No ☒ Possible ☐ Not Applicable	Can the number of involved property owners be determined? If so, how many?	Approximately six property owners.	
☐ Yes ☐ No ☒ Possible ☐ Not Applicable	Will temporary parcels be needed (e.g., for drive work)?	Possible, dependent upon the selection of the Prefered Alternative	
☒ Yes ☐ No ☐ Possible ☐ Not Applicable	Will right of way need to be acquired for an agency other than ODOT (e.g., county, city)? Specify.	County	
☐ Yes ☐ No ☒ Possible ☐ Not Applicable	Will additional right of way be needed for utility relocations?	Possible, dependent upon the selection of the Prefered Alternative	
☐ Yes ☐ No ☒ Possible ☐ Not Applicable	Will right of way need to be acquired for storm sewer outfalls?	Possible, dependent upon the selection of the Prefered Alternative	
☐ Yes ☐ No ☒ Possible ☐ Not Applicable	Do property owners need to be contacted for the locations of underground items such as leach fields, septic systems or field tiles that might be effected by the proposed take?	Possible, dependent upon the selection of the Prefered Alternative	
☐ Yes ☒ No ☐ Possible ☐ Not Applicable	Are there any mineral rights considerations?		
☒ Yes ☐ No ☐ Possible ☐ Not Applicable	Are there any specific property owner concerns?	Possible, dependent upon the selection of the Prefered Alternative	
☐ Yes ☒ No ☐ Possible ☐ Not Applicable	Will right of way acquisition from a railroad/railway be involved?		
☐ Yes ☐ No ☒ Possible ☐ Not Applicable	Can work agreements be used?		
☐ Yes ☒ No ☐ Possible ☐ Not Applicable	Does the centerline of construction match the centerline of right of way?		
☐ Yes ☐ No ☒ Possible ☐ Not Applicable	Will right of way be acquired for wetland or stream mitigation?	Possible, dependent upon the selection of the Prefered Alternative	
☐ Yes ☒ No ☐ Possible ☐ Not Applicable	Are there any other right of way or survey issues? Specify.		

UTILITY ISSUES:
Indicate if the following utility issues are present or should be considered during project development. Provide additional comments as needed.

	Design Issue	Comments	References*
[ ] Yes [ ] No [X] Possible [ ] Not Applicable	Do existing utilities need to be relocated?	Possible, dependent upon the selection of the Prefered Alternative	
[X] Yes [ ] No [ ] Possible [ ] Not Applicable	Can utility conflicts be minimized (e.g., by careful placement of storm sewer and underdrains)?		
[ ] Yes [ ] No [X] Possible [ ] Not Applicable	Would the project benefit from subsurface utility engineering (SUE)?	Possible, dependent upon the selection of the Prefered Alternative	
[ ] Yes [X] No [ ] Possible [ ] Not Applicable	Are there existing utilities on an existing structure that need to be relocated?		
[X] Yes [ ] No [ ] Possible [ ] Not Applicable	Are there any specific utility requirements or concerns? Specify.	Vertical clearance between potential proposed roadway / structure and existing overhead electric transmission lines.	
[ ] Yes [ ] No [X] Possible [ ] Not Applicable	Are there facilities that require a large lead time to relocate?	Possible, dependent upon the selection of the Prefered Alternative	
[ ] Yes [ ] No [X] Possible [ ] Not Applicable	Is additional right of way needed to accommodate utility relocations?	Possible, dependent upon the selection of the Prefered Alternative	
[ ] Yes [X] No [ ] Possible [ ] Not Applicable	Are there water or sanitary lines that will be relocated as part of the ODOT contract?		
[ ] Yes [X] No [ ] Possible [ ] Not Applicable	Are there any other utility issues? Specify		

PERMIT ISSUES:
Indicate if the following permit issues are present or should be considered during project development. Provide additional comments as needed.

	Design Issue	Comments	References*
[ ] Yes [ ] No [X] Possible [ ] Not Applicable	Will an individual Corps of Engineers/Environmental Protection Agency 404/401 permit be required?		
[ ] Yes [ ] No [X] Possible [ ] Not Applicable	Does it appear that the project can be constructed under a nationwide 404/401 permit? If so, which permit and what specific requirements apply?		
[ ] Yes [X] No [ ] Possible [ ] Not Applicable	Will a Coast Guard Permit be Required		
[X] Yes [ ] No [ ] Possible [ ] Not Applicable	Is review by a local public agency or project sponsor required? Specify.	Lake County Engineers Office	
[X] Yes [ ] No [ ] Possible [ ] Not Applicable	Is Airway/Highway clearance analysis required?		
[ ] Yes [ ] No [X] Possible [ ] Not Applicable	Is Federal Emergency Management Agency (FEMA) approval required?		
[ ] Yes [X] No [ ] Possible [ ] Not Applicable	Is railroad/railway coordination required?		
[ ] Yes [ ] No [X] Possible [ ] Not Applicable	Is State Historic Preservation Office (SHPO) coordination for work involving historic bridges or historic properties required?		
[X] Yes [ ] No [ ] Possible [ ] Not Applicable	Is coordination with ODNR for work involving State Scenic Rivers, State Wildlife Areas or State Recreational Areas required?		
[ ] Yes [ ] No [X] Possible [ ] Not Applicable	Is coordination with any other agency required? (See Location and Design Manual, Figures 1402-2 through Figure 1402-7.)		

MISCELLANEOUS ISSUES:
Indicate if the following issues are present or should be considered during project development. Provide additional comments as needed

	Design Issue	Comments	References*

☐ Yes ☒ No ☐ Possible ☐ Not Applicable	Will a value engineering study be required due to project cost (total cost greater than $20 million) or project complexity?		
☐ Yes ☐ No ☒ Possible ☐ Not Applicable	Will warranties be used?		
☐ Yes ☐ No ☒ Possible ☐ Not Applicable	Are there aesthetic concerns? Specify.	Possible, dependent upon the selection of the Prefered Alternative	
☐ Yes ☒ No ☐ Possible ☐ Not Applicable	Are there any concerns relating to noise walls?		
☐ Yes ☒ No ☐ Possible ☐ Not Applicable	Are there areas available within the existing right of way for portable plans or waste and borrow sites?		
☐ Yes ☒ No ☐ Possible ☐ Not Applicable	Are there specific concerns related to pedestrian access?		
☐ Yes ☒ No ☐ Possible ☐ Not Applicable	Any concerns related to landscaping?		
☐ Yes ☒ No ☐ Possible ☐ Not Applicable	Are there any concerns related to existing or proposed lighting (e.g., light trespass, river navigation, airway clearance)?		
☐ Yes ☒ No ☐ Possible ☐ Not Applicable	Are there any other concerns? Specify.		

RED FLAG MAPPING:

Is a map showing locations of red flag areas attached?

☒ Yes ☐ No **(A map showing locations of red flag areas is mandatory for Major Projects.)**

GEOTECHNICAL DELIVERABLES:

Include copies of plan views, geologic cross-sections, existing boring logs, and soil and rock testing data. This information should be augmented with data from ODOT's archived files of previous projects in the area. Additional information on soil survey data, glacial deposits, bedrock topography, bedrock structure, and aquifer mapping, etc. should be compiled as a GIS workspace. Both digital ortho-quarter quadrangles and U.S.G.S. quadrangles should be available for base mapping. Copies of the reference maps and ArcView files should be provided.

SCOPE, SCHEDULE AND BUDGET CONSIDERATIONS:

Based on the responses to the red flag questions, do any of the following need to be modified?

	Design Issue	Comments	References*
☐ Yes ☐ No ☐ Possible ☒ Not Applicable	Conceptual (draft) scope?		
☐ Yes ☐ No ☒ Possible ☐ Not Applicable	Work limits?	Possible, dependent upon the selection of the Prefered Alternative	LDV3: 1307.7
☐ Yes ☐ No ☐ Possible ☐ Not Applicable	Probable environmental document type?		
☐ Yes ☒ No ☐ Possible ☐ Not Applicable	Major / minor / minimal classification?	Minor	LDV3: 1400
☐ Yes ☐ No ☒ Possible ☐ Not Applicable	Schedule?	Possible, dependent upon the selection of the Prefered Alternative	
☐ Yes ☐ No ☒ Possible ☐ Not Applicable	Budget?	Possible, dependent upon the selection of the Prefered Alternative	

Abbreviations:

AUM = Manual for Abandoned Underground Mine Inventory and Risk Assessment
BDM = Bridge Design Manual
LDV1 = Location and Design Manual, Volume 1
LDV2 = Location and Design Manual, Volume 2
LDV3 = Location and Design Manual, Volume 3
SSI = Specifications for Subsurface Investigations
TEM = Traffic Engineering Manual
EPM = Environmental Process Manual

Vrooman Road Red Flag Mapping

APPENDIX E

LAKE COUNTY EMERGENCY MANAGEMENT AGENCY COORDINATION LETTER

COUNTY of LAKE
BOARD of COMMISSIONERS

Daniel P. Troy, President
Robert E. Aufuldish
Raymond E. Sines

Larry Greene
Director

P.O. Box 480
Mentor, OH 44061
(440) 350-5499
(440)953-5397 Fax

April 11, 2006

James R. Gills, County Engineer
Lake County Engineer's Office
550 Blackbrook Rd.
Painesville, OH 44077

RE: Vrooman Rd. Bridge Project

Dear Mr. Gills:

As the person fundamentally responsible for disaster planning and preparedness for Lake County, I would like to express my concern with the deteriorating condition of Vrooman Rd. and lend support to the high-level bridge project being proposed by the Lake County Engineer's Office. EMA planners see two problems with Vrooman Rd. First, the 16-ton weight restriction on its bridge over the Grand River prohibits the crossing of large-truck traffic. The fact the roadway is susceptible to seasonal flooding is the second. This is why EMA does not include the road as a dedicated evacuation route in either the county Radiological Emergency Response Plan (RERP) or the Emergency Preparedness Information (EPI) brochure mailed to residents living inside the 10-mile Emergency Planning Zone (EPZ) of the Perry Nuclear Power Plant.

With that said, I believe the proposed high-level bridge is definitely needed to transform Vrooman Rd into a viable transportation asset. The roadway's direct access to Interstate 90 is critical to potential evacuation of those residents living within the 10-mile EPZ, as well as the ability to efficiently deliver critical resources back into the area if needed. With terrorism as the catalyst, both topics are currently in the forefront of disaster planning at all governmental levels.

Thank you for allowing me the opportunity to offer my support of the Vrooman Rd. bridge project. Please let me know if you have any questions.

Sincerely,

Larry Greene Director
Lake County Emergency Management Agency