CITY OF ERIE

DEPARTMENT OF PUBLIC WORKS

STUDY OF RAIL SERVICE TO ERIE'S BAYFRONT AND PORT

AS PART OF THE IMPLEMENTATION OF THE PENNSYLVANIA COASTAL ZONE MANAGEMENT PROGRAM

Coastal Zone

Funded and Coordinated through
Dept. of Environmental Resources
Office of Resources Management
Coastal Zone Management Office

SUBMITTED TO: LOUIS J. TULLIO, MAYOR

CITY OF ERIE, PENNSYLVANIA

PROJECT 82-140

NOVEMBER 1983

CONSULTANTS, INC.
Pittsburgh, Monroeville,
Pennsylvania 15146

CITY OF ERIE
DEPARTMENT OF PUBLIC WORKS

STUDY OF RAIL SERVICE TO ERIE'S BAYFRONT AND PORT

AS PART OF THE IMPLEMENTATION OF THE PENNSYLVANIA COASTAL ZONE MANAGEMENT PROGRAM

FINAL REPORT

SUBMITTED TO: LOUIS J. TULLIO, MAYOR
CITY OF ERIE, PENNSYLVANIA

PROJECT 82-140

NOVEMBER 1983

GAI CONSULTANTS, INC.
570 BEATTY ROAD
MONROEVILLE, PENNSYLVANIA 15146

THE CITY OF ERIE
Pennsylvania

Municipal Building

WASINDER S. MOKHA, P.E.
City Engineer
Room 400
Municipal Building
Phone 455-8561 Ext. 211

Robert J. Waytenick, P.E.
Director of Public Works

October 12, 1983

Mr. E. James Tabor, Chief
Division of Coastal Zone Management
Bureau of Water Resources Management
Commonwealth of Pennsylvania - DER
P. O. Box 1467
Harrisburg, Pennsylvania 17120

Re: Erie Bayfront Rail Access Study

Dear Mr. Tabor:

We wish to inform you that the Erie Bayfront Rail Access Study funded through the Coastal Zone Management program has been extremely helpful in the preparation of the Bayfront Port-Access Road Design Location Study and Environmental Impact Statement (B-PAR). Because of the interdependence of the aforementioned studies the Erie Bayfront Rail Access Study became a dynamic process as opposed to dealing with relatively fixed events. The City of Erie received several proposals for development of Bayfront properties for other than current zoning uses and as such the said study needed to take into account the impact of such proposals.

The scope of work for the B-PAR was revised to include information and recommendations resulting from the referenced study, such as;

1. Add Alternate Alignment Scheme IA to the B-PAR study stopping rail service east of State Street, thus reducing construction costs by approximately $1,600,000.00.
2. Provide a connection between an existing Port road and Eastern Alternate 3 in order to eliminate commercial truck traffic from local residential streets as well as in the vicinity of the Gertrude Barber Center, a school for the mentally handicapped.
3. Provide a grade-separated connection over Conrail tracks at Wayne Street as opposed to a planned at-grade crossing.
4. Provide a 600-foot tail track for GAF Corp. in order to maintain existing rail service capacity.

The preceding partial list of actions taken by the City of Erie resulted from interviews and other data generated by GAI consultants, Inc. in the preparation of the referenced study. We feel that the Erie Bayfront Rail Access Study has been and will be extremely useful to the City of Erie in formulating short-term as well as long-term plans.

Should you need additional information and/or clarification please feel free to contact this office.

Very truly yours,

Wasinder S. Mokha, P.E.

Wasinder S. Mokha, P.E.
City Engineer

cc: Walter Heintzleman, GAI

WSM:mlf

PREFACE

In recent years the City of Erie has undertaken several initiatives to increase employment, identify development opportunities and plan for new transportation facilities needed to support existing and future economic development particularly in the City's unique Bayfront area. The City has undertaken several studies focussed on Bayfront and Port development, in cooperation with the Coastal Zone Management Program of the Pennsylvania Department of Environmental Resources, the Pennsylvania Department of Transportation, the Erie-Western Pennsylvania Port Authority, the Erie Conference on Community Development and other agencies. A key study, Port and Bayfront Development Potentials, Erie, Pennsylvania, completed in 1982 for the Port Authority, evaluated development potentials for the Erie Bayfront. That report identified sites of potential residential, industrial and commercial uses, emphasized the importance of a Bayfront-Port Access Road to new development initiatives, and recognized the advantage of rail accessibility for marketing industrial development.

Concurrently, the City undertook a Design Location Study and Environmental Impact Statement for the Bayfront-Port Access Road. Early alignment schemes for this road showed right-of-way locations on or near the existing Conrail line and yard that serve Bayfront industry. These locational opportunities for the Bayfront Road advanced several issues concerning the use of and future need for portions of the Bayfront rail line. Of special interest were the implications for user industries and future development of the Port Area if portions of the rail line were abandoned.

The City was also concerned about the effects of Conrail's planned abandonment of the Erie to Warren line, particularly the effect of such action on the market for rail-to-water movements through Erie's Port.

The work described in this report was undertaken for the City of Erie in May, 1982 and deals with rail service to Bayfront industries provided by the Conrail line between East Avenue on the east and 12th Street on the west. Its purpose was to obtain data and provide timely findings pertaining to rail service in the Bayfront which could be used by the City as input to policy and actions during the period of the study, as well as after. Throughout the study period, the data and preliminary findings were made available to the City; and through meetings and interviews, feedback was invited from other public agencies and Bayfront industries.

This study provided the City with the much needed input on the importance of rail services to existing and proposed industries. Also, it provided the City with critical policy information on the impacts of the proposed Bayfront Roadway on rail service to Bayfront industries, and provided options to reduce those impacts and/or costs to maintain adequate rail service.

The timing and funding of this Bayfront Rail Study was fortuitous--as data and results were developed they were used by the City in evaluating locational alternatives for the proposed Bayfront Road, which were being advanced through the on-going Bayfront Road Study and EIS. This interaction permitted a shift in the focus of this study from studying hypothetical rail abandonment futures and hypothetical public responses to evaluating actual abandonment, relocation and grade-crossing schemes developed as part of concurrent Bayfront Road and Port Area Development Studies. More industrial contacts and additional in-depth interviews were undertaken as it became apparent that the continued use of the Bayfront Rail Line by key rail users would largely determine the future viability of rail service there. This in-project emphasis shift permitted detailed information on the rail-dependent operations of major

industries to be obtained and introduced into decisions regarding Bayfront Road locations and Port Area development. This work further provided a timely representation of industrial rail user needs and concerns in the City's effort to resolve potential rail-highway locational conflicts.

As the work progressed, early findings on the effects on Bayfront industries of possible rail line abandonment were transmitted to the City and used by the City in planning for industrial development and in its Bayfront Road Study. Later, the products of more detailed interviews with Bayfront rail users were used by the City in evaluating the impact on existing rail users of possible Bayfront Road crossings of the rail line.

The policy decision process was extremely complex and dynamic. Numerous informal coordinating meetings were held and extensive efforts were made to understand and reconcile the many and varying industrial, railroad and public interests. Key policy decision points focused on what track should be abandoned; need for tail track to serve GAF; options for providing rail service to GAF; potential rail service to Penelec; rail conflict with vehicle access via Holland Street to the proposed industrial park location of the Conrail Lake Yard to minimize conflict and costs of proposed Bayfront Road; access from Port Industrial Road to Bayfront Road; and the potential conflicts of the proposed Bayfront Roadway crossing tracks serving Koppers. The report also deals with policy options for ownership and management of the Bayfront Rail Line and discusses the conditions under which continuation of rail service will be most likely.

Subsequently, the City has used the data and conclusions reported herein to develop policy positions on specific trackage abandonment options supportive of its overall objectives of maintaining Bayfront industrial employment, encouraging new development through improved used of Bayfront property and

continuing rail service to Bayfront and Port industries. It has also used the study at other key policy decision points and has adopted a number of options as articulated in the accompanying letter to this report from City Engineer Wasinder Mokha.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF FIGURES
(continued)

ACKNOWLEDGEMENTS

GAI Consultants wishes to acknowledge the assistance and contributions to this study by the following agencies and firms:

City of Erie

Pennsylvania Department of Environmental Resources - Coastal Zone Management

Codan

Conrail

Erie Conference on Community Development

Erie Marine

Erie Sand and Gravel

Erie-Western Pennsylvania Port Authority

Frontier Lumber

GAF

General Electric

Hammermill Paper

Keystone University Research

Koppers

Pennsylvania Department of Transportation

Penelec

Perry Shipbuilding

United Refinery

Urban Engineers, Inc.

Other businesses, citizens and agencies in the Erie Area

1. INTRODUCTION

The City of Erie is pursuing the revitalization of the City's Bayfront and Port to maximize the advantages of these unique areas for improving the City's employment base and the quality of the Bayfront environment. Key elements of the City's program are efforts to develop productive residential, commercial and industrial uses of Bayfront and Port properties and to construct a Bayfront-Port Access Road linking the Bayfront with I-79 on the west and Route 5 on the east. Of critical importance to maintaining present industry and attracting new industrial development is the continuation of rail service to the Bayfront Area, with provision of new service connections to Port industrial sites as development occurs.

This report presents the results of a study of present and future rail use in the Bayfront Area. It first reviews the major issues regarding the role of rail service in new Bayfront development, the compatibility of the location of rail facilities and the proposed Bayfront-Port Access road, and the future need for rail service. The results of surveys of industrial rail users are presented. The report then reviews the alternatives for rail location derived from the on-going Corridor Design Location Study and Environmental Impact Statement for the Bayfront-Port Access Road. The implications of various rail relocation schemes for present and future Bayfront land uses, and the effects on present rail users are discussed, based on information gathered from in-depth interviews with representatives of Bayfront industries.

Alternatives to rail service for various abandonment or relocation schemes are discussed. The potential effects of the options on industrial development, non-industrial land uses, and Bayfront Road construction are presented along with attention to economic, environmental, management and financial concerns. The final section summarizes the study conclusions.

2. ISSUES

The following key issues which this report addresses focus on the redevelopment of Erie's Bayfront, the compatibility of Bayfront rail and highway access, and the prospect for continuation of rail service to Bayfront properties.

Bayfront Area Redevelopment

- Industrial use and employment in the City's Port and Bayfront area has declined, and the City has advanced concepts and plans to attract new industry and improve facilities for existing industry.
- Erie's Bayfront offers unique opportunities for development of condominium, commercial and recreational markets that are presently untapped.
- Rail service is needed to serve existing industries and to support new industrial development.
- The Bayfront-Port Access Road is needed to link Bayfront properties with I-79 on the west and T.R. 5 on the east, and will serve industrial, recreational, condominium, commercial and commuter traffic.

Compatibility of Bayfront Highway and Rail Access

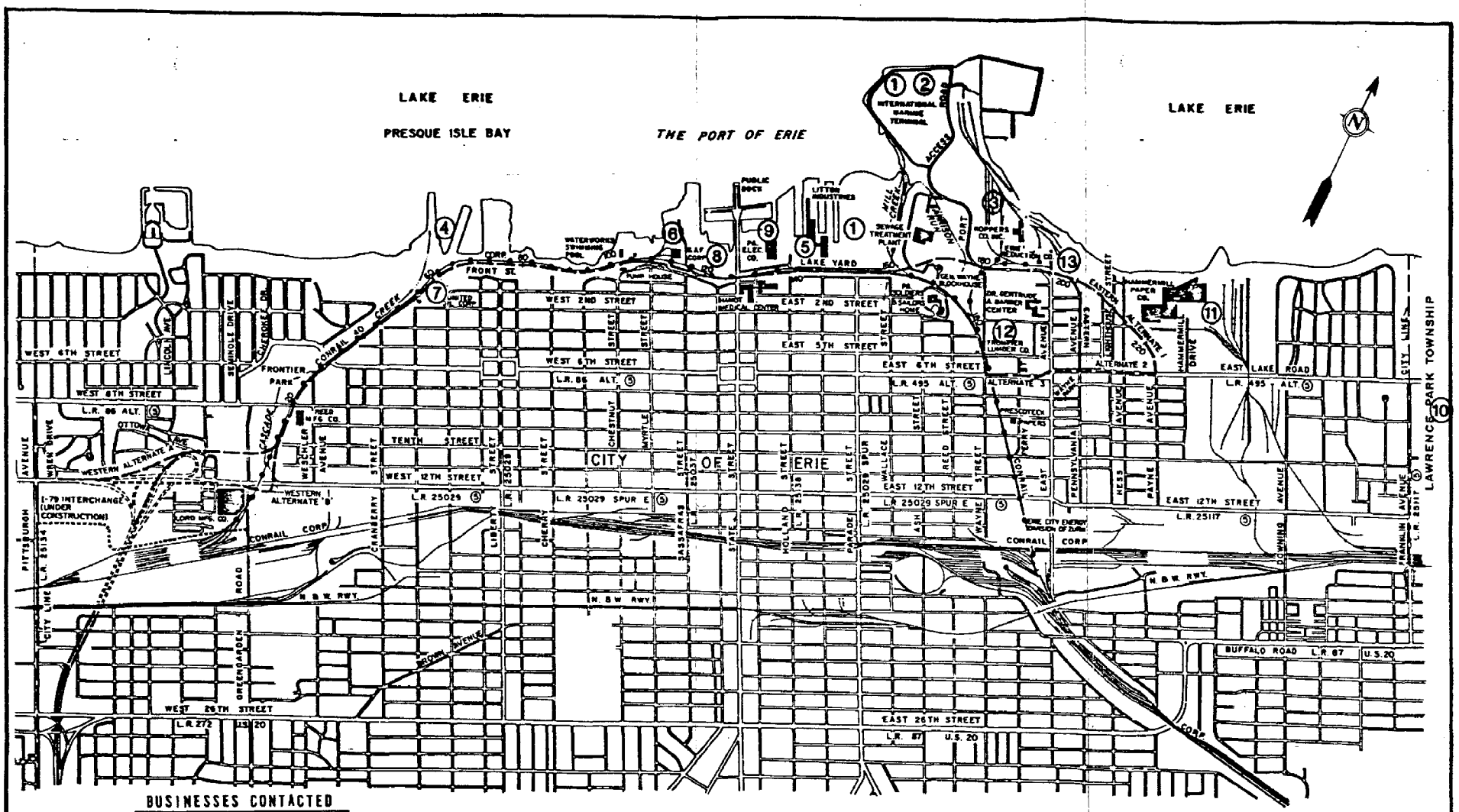
- The proposed Bayfront Road alternatives are located on or adjacent to the present Conrail line along the Bayfront between West 12th Street and East 6th Street, as shown on the map in Figure 1. The relatively narrow corridor available for highway location and the desire to avoid serious environmental impacts could require relocation, reconstruction or abandonment of portions of the rail line.
- Some abandonment options identified in the Bayfront Road Corridor Design Location Study could have potential benefits for Bayfront land development as well as for reduction of highway costs and impacts.

- At several points along the Bayfront, rail and the proposed Bayfront Road cross. Whether at-grade or grade-separated crossings are provided could affect traffic flow on the Bayfront Road, marketing and cost impacts on industrial sites, and highway construction costs.

The Future of Bayfront Rail Service

- Because of increasing abandonment of rail lines by Conrail in recent years, and particularly the abandonment of the Erie-Warren line, the City of Erie is concerned about the future of the existing Bayfront rail services.
- The City wishes to pursue policies that will encourage continuance of the service to present customers and support the marketing of industrial sites in the Port Area.

The following sections of this report present the results of the study of rail service to Erie's Bayfront and Port organized to address the above issues.



BUSINESSES CONTACTED

1. ERIE-WESTERN PENNSYLVANIA PORT AUTHORITY
2. CODAN CORPORATION
3. KOPPERS INC.
4. PERRY SHIPBUILDING CORPORATION
5. ERIE MARINE, INC.
6. GAF
7. UNITED REFINERY
8. ERIE SAND & GRAVEL
9. PENELEC
10. GENERAL ELECTRIC
11. HAMMERMILL PAPER COMPANY
12. FRONTIER LUMBER
13. ERIE REDUCTION CO.

GAI CONSULTANTS, INC.
Engineers • Geologists • Planners
Environmental Specialists
570 Beatty Rd. • Pittsburgh, Monroeville, Pa. 15146
412-856-9400

FIGURE 1
BAYFRONT-PORT ACCESS ROAD AND CONRAIL LINE IN BAYFRONT AREA

CITY OF ERIE, PENNSYLVANIA

DWN. _____ CHKD. _____
APPD. _____ DATE _____
SCALE: AS SHOWN
DRAWING NUMBER 82-140-83
REV

BRUNING 44-142 43487-1

3. SURVEY OF BAYFRONT RAIL USERS[1]

3.1 Methodology

A key issue involving decisions for rail abandonment or service reduction is the potential effect on user industries, and consequently, the associated impact on employment resulting from plant closings or business losses that might occur. Also important are the capability of rail-using industries to shift to water, highway, or pipeline modes of transport, and the cost implications of alternate-mode use.

In this study, extensive interviews with rail-using industries were completed, and subsequent in-depth discussions were held with representatives of businesses whose operations were significantly dependent on rail services. Following the early transmittal of preliminary findings to the City of Erie, the Mayor sponsored a general meeting with Erie business and industrial representatives to invite their further comments on the need for rail service in the Bayfront and on the locational aspects of the proposed Bayfront Road.

The survey of rail users was the first task undertaken in this study. It was designed and conducted by Keystone University Research, Inc., under subcontract to GAI Consultants. The report on this survey is summarized in this chapter and presented in Appendix A. Information derived from subsequent meetings with potentially impacted industries is presented in Chapter 5.

3.2 Transportation Needs of Bayfront and Port Area Industries

Of major concern to the economic revitalization of the Bayfront is the need for improved access to present industries and to sites identified for future development. For Bayfront industries, transportation is the basic link among

[1] The material presented in this chapter is derived in part from "Survey of Rail Users and Impact on the Economy," Report to GAI Consultants, Inc., by Keystone University Research Corp, presented in Appendix A.

plants, warehouses and raw material sources. Since many firms are geographically divorced from their raw material sources and/or their market areas, transportation (afforded by water, rail and truck to Bayfront industries) bridges the gap between production and consumption.

The availability and choice of transportation modes for these firms can affect other elements of their operations such as packaging, production, planning, warehousing, facility location, information processing and inventory control, and can ultimately affect their profitability. In selecting a specific mode and carrier, businesses view transit time, reliability, capability, accessibility and security as important service attributes, to be weighed heavily along with transportation cost. These considerations underlie the evaluation of the need for continued rail service and potential effects of rail abandonment or relocation in Erie's Bayfront-Port Area.

3.3 Interviews with Industrial Firms

Existing users of rail service in the Bayfront Area were interviewed to determine the extent of their present and future use of rail and other transport modes. The survey identified the ability of rail users to shift to alternate modes and assess the effects of increased transportation costs. Thirteen firms were contacted initially. They are listed in Table 1 and are located on the map in Figure 1. Of these, eight which indicated use of Bayfront rail were selected for personal interviews. The transportation modes, cargo types, transportation costs and tonnages for each of the eight firms interviewed are presented in Table 2. The six Bayfront industries reported total annual movements of about 1,000,000 tons (about 30 percent by rail and 70 percent by truck). All of the firms interviewed expressed an interest in rail service in the future.

Project 82-140

GAI CONSULTANTS, INC.

Table 1

BUSINESSES CONTACTED

Name of Business	Address	Nature of Business
Erie-Western Pennsylvania Port Authority	Room 507, Municipal Building	Government; Port Authority
Codan Corporation*	Foot of Wayne Street	Freight Contracting
Koppers Inc.	Foot of East Avenue	Foundry Coke; Coke Ovens
Perry Shipbuilding Corporation	Foot of Cranberry Street	Lake Freighter Repair
Erie Marine, Inc.	Foot of Holland Street	Heavy Construction
GAF	Foot of Sassafras Street	Building Material/Roofing
United Refinery**	Foot of Cranberry Street	Oil Refining
Erie Sand & Gravel**	Foot of Sassafras Street	Sand and Gravel
Penelec**	Foot of Holland Street	Electricity
General Electric***	East Lake Road	Locomotive Production; Motorized Wheel
Hammermill Paper Company***	East Lake Road	Fine Paper Manufacturing
Frontier Lumber***	762 East 5th Street	Lumber
Erie Reduction Co.**	Foot of East Avenue	Reduction

* Codan Corporation is the contractor for the Erie-Western Pennsylvania Port Authority.
** Firms did not envison any need for rail service.
*** Industries not located on Bayfront.

Generally, the firms surveyed indicated that transportation services are the determining factors along with cost in the selection of transportation methods. The most common reason cited for the use of railroad service was the need to transport bulky and heavy cargos. Most of the firms surveyed also indicated that they have been satisfied with the services they received from the railroad. Only two firms expressed some dissatisfaction, stemming mainly from a one-railroad monopoly operation in this area.

3.4 Major Rail Users

The three major rail users of the Bayfront Conrail line are the Erie-Western Pennsylvania Port Authority, Koppers, and GAF. Information on their rail needs and operations was derived from in-depth interviews with representatives of these firms and is summarized here as it affects decisions regarding continuation of rail service and the location of the Bayfront-Port Access Road. More detailed discussion is presented in Chapters 5 and 6.

Erie-Western Pennsylvania Port Authority handles about 180,000 tons of cargo per year. Projections are for about 300,000 tons per year in the 1980's. The Port Authority reports that about 25 percent of this volume is by rail and that rail access to the Port is essential for continued Port operations. The Port Authority currently is marketing land in the Port area for industrial purposes. Rail access to these properties is a positive attraction to new development.

The Koppers Company intends to be in its present location indefinitely and could be looking to add other facilities in the Erie area. During 1982, Koppers handled 6,000 cars into and out of their plant. By 1983 the number is expected to be 9,000 per year. The capacity is 12,000 cars per year. Koppers needs the Lake Yard as an important part of rail service to its plant and needs a yard capacity of 150 cars. Koppers has indicated that either public or private terminal railroad ownership of the Lake Yard would increase its costs and

Table 2

CARGO BY TYPE, TONNAGE, AND TRANSPORTATION COST

Name of Business	By Truck	Tonnage	Cost	By Rail	Tonnage	Cost
Erie-Western Pa. Port Authority and Codan Corporation	coal special ores pig iron steel coils steel claps steel scrap lumber machinery miscellaneous	145,000 tons/yr. (est.)	$2.50/net ton 2.10/metric ton 1.70/metric ton .10/100 lbs. .10/100 lbs. .40/metric ton 1.50/metric ton	coal steel slaps machinery transformers locomotives steam boilers logs	35,000 ton/yr. (est.)	$ 4.50/metric ton 2.50/metric ton 11.00/metric ton 11.00/metric ton 11.00/metric ton 11.00/metric ton .50/100 lbs.
Koppers, Inc.	coke maintenance supplies chemicals	560 tons coke/day	average $12.00/ton	coal chemicals	800 tons per day	average $20.00/ton
GAF	asphalt granules felt roofing shingles finished products	53,000 tons asphalt/year (combined rail and truck)	no data available (confidential)	asphalt granules felt roofing shingles finished products	53,000 tons asphalt/year (combined rail and truck)	no data available (confidential)
Penelec	coal flyash	400,000 tons/yr.				
Perry Shipbuilding Corporation	machinery parts paints general cargo steel	100-200 tons/year	total $20,000/year	bulky and heavy machinery		$14,000/year in 1981
Erie Marine	coal repair parts steel products misc. supplies	100 tons per year year	$26,000/year	none since 1974		
Hammermill Paper Co.	paper supplies chemicals packaging wood chips coal	460 tons per day	$40 million per year	wood pulp chemicals wood chips paper		$16 million per year
General Electric	coal steel products air compressors elec. motor parts engine blocks pistons diesel parts misc.	 50%-80-120 tons 60%-130-160 tons	total approx. $10 million/year	steel products	28,000 tons per year	$500,000/year
By Ship:	finished locomotives (370 per year)					

would not be economically viable alternatives. Reactions by Koppers representatives to specific location alternatives for the Bayfront-Port Access Road are presented in Chapter 5 of this report.

GAF currently transports about 50,000 tons of cargo per year from the Erie plant. As the current recession has substantially reduced producton levels, GAF expects to move more tonnage in the near future. GAF intends to remain in Erie, and needs both rail and truck access to its plant. The Erie plant is part of GAF's nationwide production system, and receives materials by both modes. GAF requires 600 feet of tail track to handle rail cars into and out of the plant. Future usage by GAF could range between 26 and 2000 cars per year depending upon economic conditions, competitiveness of rail and truck costs and limitations of GAF's suppliers and customers to handle materials by truck.

Availability of Other Modes

All of the firms contacted have highway access. Those companies that have access to water transportation through existing docks include Koppers, the Port Authority (port, industrial site and grain elevators), Erie Marine, Penelec, Erie Sand and Gravel, GAF via Erie Sand and Gravel, and Perry Shipbuilding.

4. AREAS OF POSSIBLE RAIL LINE ABANDONMENT

4.1 Background

Prior to the start of this study, the possibility of abandonment of several lines had been advanced. Those which were of concern to the City of Erie were:

- The Conrail Erie Bayfront Line and Lake Yard.
- The Conrail line between Johnsonburg, Pa., and Irvine, Pa.
- The Conrail line between Erie, Pa., and Warren, Pa.

Early in the study period the Erie to Warren line was abandoned. Of major concern to the City was the possible use of this line as a conduit for coal bound for export lake markets through the Port of Erie. A previous evaluation of coal shipment potentials through Erie's Port is presented in Reference 2. That study estimated that future coal movement through the Port would be about 120,000 tons per year, all by truck. In 1982 no coal was shipped through the Port. Even with the Erie-Warren line in service, Erie did not have good direct rail feeder service for coal. Both United Oil and the GAF plant had commodities shipped on the Erie-Warren line. United Oil, however, was not affected by the abandonment as it indicated no further need for rail access. The abandonment, however, did affect the GAF plant, as is discussed in Chapter 5. Also, in May 1982, a group of Pennsylvania businessmen agreed to purchase the Johnsonburg to Irvine line and in July 1982, service was initiated through a private lessee.

The future of portions of the Conrail Bayfront line, however, remained in question. Specifically, early alternatives for the on-going Bayfront Road Design Location Study showed clear cost and environmental advantages if portions of the line could be abandoned, particularly west of the GAF plant. It was also recognized that further elimination of rail west of Holland Street could

reduce highway costs. Additionally, it appeared that provision of a grade-crossing where the highway would cross the spur line to the Koppers plant (rather than a grade separation of rail and highway) would have cost advantages. For these reasons, the compatibility of the proposed road (needed for highway access to the Bayfront) and the existing rail line (used by Bayfront industries) became a major concern of the City and the focus of its policy toward continuation of service to in-place industries.

4.2 Rail Relocation or Abandonment Alternatives

The Corridor Design Location Study of the Bayfront-Port Access Road has identified several alternative alignments and several alternative rail relocation, reconstruction and abandonment options. These along with two other possible options are shown as Schemes IA, IB, IC, II and III in Figure 2.

Scheme IA eliminates the Bayfront Rail Line entirely from near East Avenue on the east to 12th Street on the west.

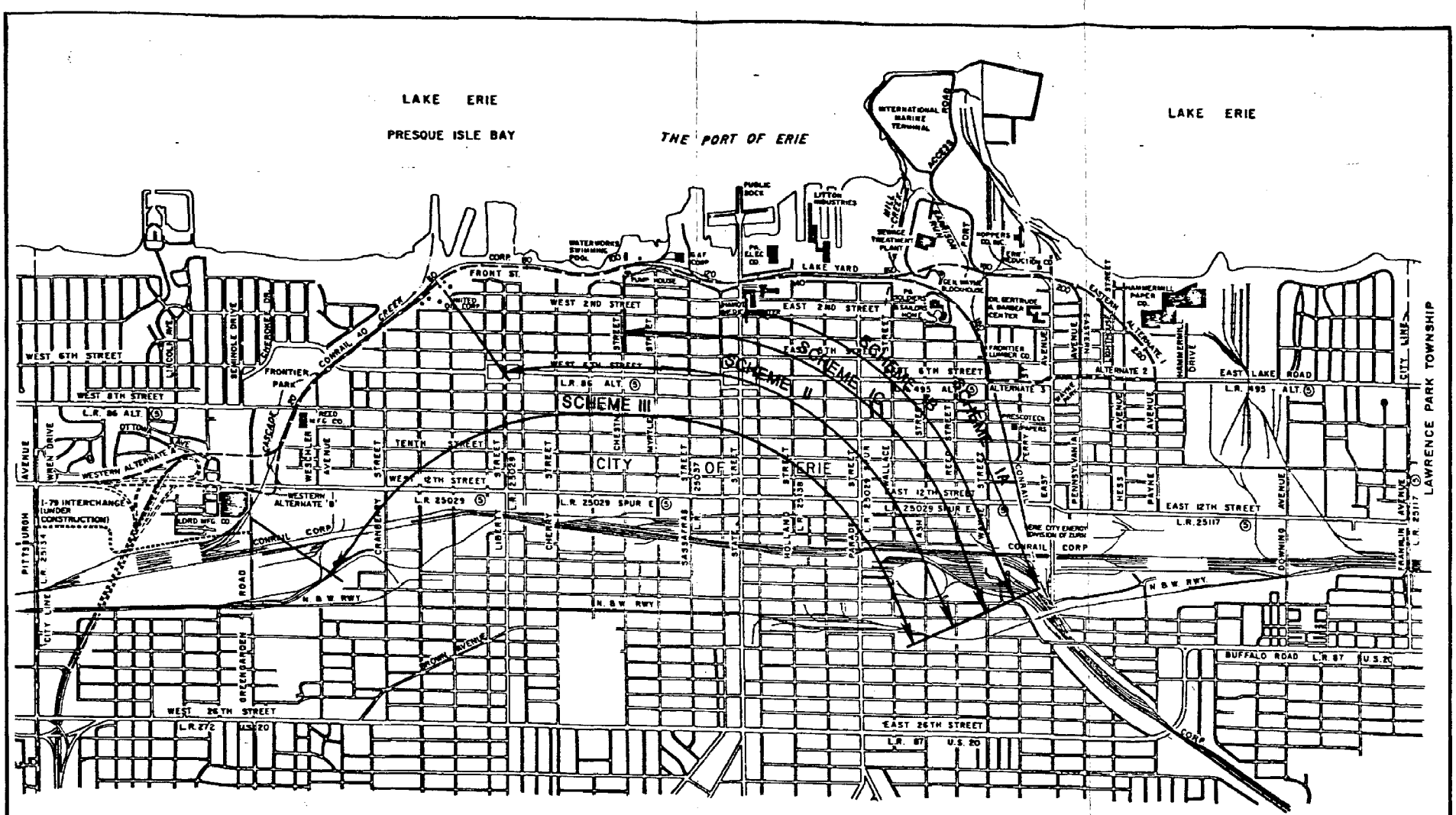
Scheme IB maintains rail service from the east to just east of State Street.

Scheme IC maintains rail service from the east to west of the GAF plant, relocates the Lake Yard to the north of the proposed road and provides a tail track for GAF plant service. This scheme eliminates trackage from west of GAF to West 12th Street.

Scheme II maintains rail service from the east to the United Oil property near Cranberry Street, and relocates the Lake Yard to the north of the road, and maintains rail service to the GAF plant.

Scheme III retains rail service from the east end to the west end near West 12th Street.

In these schemes the retention of service requires some relocation or reconstruction of trackage to accommodate the proposed highway right-of-way. The following chapters discuss the potential effects on Bayfront industries, non-industrial developments, the environment and local economy.



gai CONSULTANTS, INC.
Engineers • Geologists • Planners
Environmental Specialists
570 Beatty Rd. • Pittsburgh, Monroeville, Pa. 15146
412-856-2400

FIGURE 2
ALTERNATE RAIL SCHEMES
ERIE RAIL STUDY

CITY OF ERIE, PENNSYLVANIA

DWN. _____ CHKD. _____
APPD. _____ DATE _____
SCALE: _____
DRAWING NUMBER
82-140-B4
REV

DRAWING 44-142 43457-1

5. EFFECTS ON BAYFRONT INDUSTRIES

5.1 Bayfront Rail Access and Road Location Alternatives

The following observations are based on a review of the alternative Bayfront Road location schemes presented in the prevous chapter from the perspective of rail usage in the Bayfront and Port areas. They are presented to assist the City of Erie to identify rail abandonment and relocation options that have potential for improving access to Bayfront properties, reducing negative environmental effects, or reducing highway construction cost associated with maintaining Bayfront rail service. The effects of eliminating or altering rail service to Bayfront industries is discussed in some detail, along with possible industry reactions such as the use of other transport modes, plant relocation, internal operational changes and plant closings. Table 3 briefly summarizes the rail schemes and possible effects, and key locations are shown in Figure 3. Discussion of these schemes focuses first on areas west of the GAF plant and then on areas east of the GAF plant.

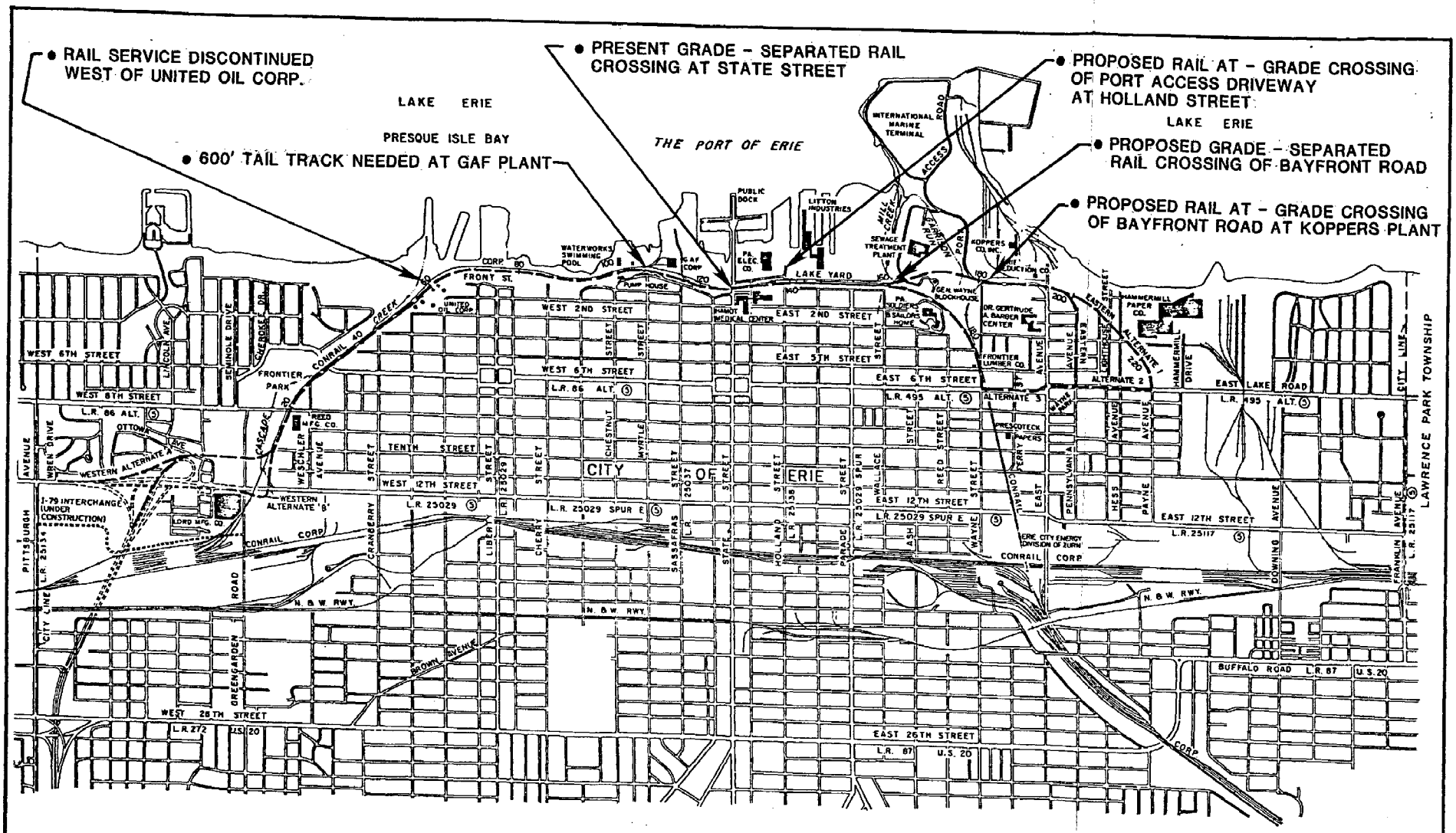
5.2 Areas West of the GAF Plant:

Schemes IA, IB and IC would result in cost savings from not reconstructing the rail line west of the GAF plant to West 12th Street. They further eliminate or reduce environmental effects associated with parkland and recreation since rail right-of-way could be made available for the Bayfront highway, which might otherwise infringe on these sensitive areas. These advantages have been identified in the Corridor Design Location Study and EIS (Ref. 4) which discusses the issue in detail. These schemes would enhance the accessibility of Bayfront properties between the GAF plant and Cranberry Street, and help to encourage new development in this area. Conrail presently has no customer or active sidings in this area and can serve active customers in the Bayfront area via the eastern connection with the mainline. To maintain

Table 3

BAYFRONT AREA RAIL SERVICE

Scheme	Rail Schemes: Bayfront Line Reconstruct	Rail Schemes: Bayfront Line Abandon	Rail Schemes: Lake Yard Reconstruct	Rail Schemes: Lake Yard Abandon	Summary of Effects: Bayfront Highway	Summary of Effects: Bayfront Land Use	Summary of Effects: Present Industries	Summary of Effects: Other
IA	None	All Bayfront track	None	All	Lower, overall cost eliminates or reduces impacts	Negates future rail service to Port industry sites	Eliminates rail to all Bayfront industries	Facilitates PennDOT 12th St. project
IB	Treatment Plant to State St.	East of State St. to 12th St.	Relocate north or south of highway	None	Reduces cost between Parade St. and 12th St.	Encourages new development between State St. and United Oil Site	Eliminates rail service to industries west of State St.	Facilitates PennDOT 12th St. project
IC	Treatment Plant to west of GAF	West of GAF to 12th St.	Relocate north of highway	None	Eliminates or reduces impacts at Frontier Park and School Courts.	Encourages new development in Bayfront area between United Oil and Pump House.	Discontinues services to United Oil.	Facilitates PennDOT 12th St. project
					Reduces cost between GAF and 12th Street.	Reduces accessibility of Erie Sand and Gravel Site.	No opportunity for future rail service west of GAF.	
II	Treatment Plant to west of United Refining Co.	West of United Refining Co. to 12th St.	Relocate north of highway	None	Eliminates or reduces impacts at Frontier Park and School Courts.	No advantage	No impact	Facilitates PennDOT 12th St. Project
					Reduces cost between United Oil and 12th St.			
III	Treatment Plant to 12th St.	None	Relocate north of highway	None	No advantage	No advantage	No impact	PennDOT 12th St. project more costly
					Disadvantages - Impacts at Frontier Park.			
					Higher Cost			



GAI CONSULTANTS, INC.
Engineers • Geologists • Planners
Environmental Specialists
570 Beatty Rd. • Pittsburgh, Monroeville, Pa. 15146
412-856-6400

FIGURE 3
BAYFRONT RAIL SERVICE AND BAYFRONT-PORT ACCESS ROAD LOCATION

CITY OF ERIE, PENNSYLVANIA

DWN. _____ CHKD. _____
APPD. _____ DATE _____
SCALE: _____
DRAWING NUMBER
82-140-85
REV

BRUNING 44-142 43457-1

rail service to the GAF plant will require a 600-foot tail track west of the plant.

Perry Shipbuilding has indicated a desire to expand into a rail car repair business in the future. Elimination of rail service between 12th Street and west of GAF would preclude such an expansion at the present site.

Conrail railroad right-of-way from State Street west to Twelfth Street is approximately 22.9 acres as shown on Erie deed records, and 36.3 acres as shown on Conrail records (see Figure B-1 in Appendix B). Conrail real estate professionals have examined the above right-of-way, and estimated that when appraisals are performed by Conrail and by a public agency interested in purchase for the Bayfront Roadway, the appraisals will range from $0.50 per square foot to $1.00 per square foot. Cost to purchase the property would be expected to range from $500,000 to $1,500,000, depending upon a deed search, appraisals, and negotiations.

Scheme II will result in less cost savings than Schemes IA, IB and IC but will have similar advantages in reducing parkland impacts through possible use of rail property for highway right-of-way. Under this scheme highway access to Bayfront properties between State Street and United Oil would require grade-crossings, possibly inhibiting new development in this area of the Bayfront. Under this scheme rail service could be extended to the Perry Shipbuilding site.

Scheme III has no advantage over Scheme IC and II west of GAF, as it would cost more and could result in negative parkland effects, as identified in the Bayfront Road EIS (Ref. 4).

5.3 Areas East of the GAF Plant:

Scheme IA would result in significant cost savings for the construction of the Bayfront Road. However, the economic effects, both present and future,

would be enormous, as discussed in Chapter 6. This scheme was not an alternative in the Bayfront Road corridor Location Study and EIS but was considered in this Rail Study in order to estimate the economic effects of the extreme case of complete abandonment of the rail line between East Avenue and 12th Street on the west.

Between the GAF Plant and the east end of the proposed Bayfront Road, Schemes IC, II and III are the same. For these schemes, State Street would be reconstructed so that the rail line can pass under State Street north of the road. East of State Street the Bayfront Road would rise in elevation to cross the railroad on structure in the area east of Parade Street. The road again crosses the rail spur to the Koppers Plant near Wayne Street. For these schemes, highway access to Bayfront properties would cross the rail line at Holland Street. In these schemes the Conrail Lake Yard is relocated north of the Bayfront Road right-of-way.

If rail service to the GAF plant is retained, (as in Schemes IC, II and III) this relocation of the Lake Yard to the north is necessary so that a rail crossing of the proposed Bayfront Port Access Road at GAF can be avoided, and the geometry of the State Street grade-separated crossing can be accommodated. If rail service to GAF is eliminated, (as in Scheme IB) the State Street intersection could be easier to construct, and the Conrail Lake Yard could be located south of the Bayfront Road, with some resultant advantages, such as:

- Cost savings in not having to rebuild the rail line west of State Street.
- Less costly intersection and improved geometry at State Street.
- Access by vehicular traffic to Bayfront parcels west of State Street without an at-grade crossing of the Conrail tracks near Holland Street.

- Elimination of the need for grade separation with the railroad yard near Parade State, resulting in cost savings.
- Reduced visual and noise impact on Front Street neighborhood.

In this case, locating the Lake Yard south of the Bayfront Road and shifting the yard 1000 feet to the east would permit traffic serving the existing and future Bayfront industrial developments to access the industrial sites and the Bayfront Road without crossing Conrail at grade (Appendix C). This is particularly important at the connection to Bayfront property at Holland Street where truck movements could be several hundred a day. The Bayfront-Port Access Road will attract truck traffic away from local streets, and use of streets such as Parade Street and Holland Street by non-local truck traffic will not be necessary. For example, trucks traveling from the east on I-90 can get to the proposed Bayfront Industrial Park quicker by using I-90, I-79, and the Bayfront-Port Access Road (estimated 25 minutes) than by exiting I-79 at T.R. 8 and using Parade Street (estimated 29 minutes). However, if major improvements to present restrictions on TR 430 or TR 531 are made, truck travel time to the Bayfront via Parade Street would be comparable to that via the Bayfront Road, and non-local truck trips would be attracted to local streets unless truck use of Parade Street were discouraged. Also, truck traffic from the south using TR 19 and I-79, and from the west on I-90, will be attracted to the Bayfront-Port Access Road for Bayfront and some central destinations, due to travel-time advantages. Of considerable significance to the City will be the removal from local streets of several hundred daily coal truck movements generated by the Penelec plant and by the Port Authority terminal, if truck use of the Bayfront Road is encouraged. (Further discussion and travel time estimates for trucks using alternate routes to the Bayfront are presented in Appendix C.)

In summary, locating the Conrail Lake Yard south of the proposed Bayfront Highway offers advantages, but depends to a large extent on the elimination of rail service to GAF (Scheme IB), which causes economic disbenefits as addressed in Chapter 6.

5.4 Major Industrial Effects

GAF and Koppers are the two major industrial users of the Bayfront Rail Line which would be most seriously effected by its abandonment or by reduction in service. To aid in understanding the relationship between their businesses and their need for rail, detailed descriptions of their operations and shipping priorities are presented. The following further discusses the present use of rail, future needs and possible effects of elimination of rail service on the Erie operations of the GAF plant and the Koppers plant.

GAF. GAF nationally has improved its productivity by recently divesting itself of 50 percent of its various operations. The company has retained its building materials operation, of which the Erie plant is a key facility. Each GAF plant is operated on an individual cost system. The Erie building is old but structurally sound; machinery is in relatively good shape and the plant is effective. The Erie plant employs 70 persons for one shift and up to 200 at full capacity. During boom times (e.g., 1979) three shifts work around the clock.

Material shipments into the plant are 50 percent by truck and 50 percent by rail. Outbound shipments to customers are 98 percent by truck. However, outbound products to other plants could also be made by rail, depending on transportation costs. The Erie plant could possibly be operating at full capacity during 1983, as the market place for building materials is rapidly changing. For inbound shipments GAF estimates that it will use 25 to 1200 rail cars per year with its present operations and possibly increase use to 2000 rail cars

per year in the next 5 years. Rail deregulation and changes in the source of materials could increase rail use. GAF uses 4500 trucks per year with its present operation for inbound shipments, and future truck use is anticipated to be in the same range.

GAF ships about two percent of its outbound tonnage to customers by rail. Finished material normally is shipped to other plants by rail (250 rail cars per year). Outbound trucking movements are about 25-30 trucks per day now and 40-45 trucks per day during boom times.

Generally, GAF believes rail is the life blood of its Erie plant, and the plant could become inefficient and non-competitive without rail. If rail service to the GAF plant were eliminated, GAF foresees several specific problems:

- Increased costs to transport and handle all products and materials by truck may exceed the point at which the plant is profitable.
- Granular manufacturer(s) cannot handle all shipments by truck alone; rail shipment of all granular materials may be required.
- The plant at Erie might not be able to handle all movements by truck. Inadequate space, confusion and potential accidents are perceived to be very serious problems.
- Sources of asphalt used by GAF change frequently, increasing the probable dependence on rail.
- Other suppliers might not be able to handle all tonnages by truck alone. (Suppliers change from time to time.)
- The temperature of asphalt must be kept at 350° F. Rail cars have heat transfer coils for on-site heating. Trucks are insulated, but normally have no means to heat asphalt.

GAF needs 600 feet of tail track to handle its rail movements. At times of full capacity, 15 cars out per day would be possible with anticipated changes in product line. Conrail has been limiting switching to once per day during the past 6 years. Storage of cars on Conrail facilities for 2 to 3 days is necessary to avoid demurrage charge.

If rail service to GAF were eliminated and all inbound and outbound movements were by truck, the GAF plant would generate about 17,000 truck movements per year under current conditions, 20,000 per year under current capacity; and 27,000 under increased capacity anticipated in the next five years. The elimination of rail service and the handling of all shipment by truck and or water could result in costs sufficiently high that the plant may become non-competitive.

One alternative is for GAF to relocate to a new Erie location that has rail service. However, since there is no market to the north of Erie, the city's location is not geographically ideal for GAF and the cost of a new plant in Erie might not be warranted. The cost to build a new plant is in the range of $15,000,000. The cost of relocation to an existing facility that would use existing equipment is estimated to be $13,000,000. However, lost production during relocation could be very high. GAF would like to keep the relocation option open, as in 4 to 6 years circumstances for its business could be different than they are now, making relocation more attractive to all parties. Another alternative, should rail service be eliminated, is to unload materials east of State Street and convey them by pipe or conveyor to the plant. Based on GAF's experience with conveyor belts, truck loading, and piping, this alternative is not cost competitive with other options.

Koppers. Conrail's Bayfront line and Lake Yard is an essential part of the Koppers plant operation. Koppers' traffic accounts for about 80 percent of the tonnage on this line, and the continued use by Koppers at present or higher levels insures the long range availability of rail service to the Bayfront. Koppers intends to remain in its present location in Erie in the future and might add other facilities in the Erie area. Currently between 140 and 160 persons are employed at the plant, depending upon capacity levels.

Since the rail service to the Koppers plant now crosses East Bay Drive at grade, and the proposed Bayfront-Port Access Road will be located on the right-of-way of East Bay Drive at this location, the potential conflict between rail and highway traffic is an issue about which Koppers Company representives are concerned.

During 1982, there were approximately 6000 railroad cars (3,000 in one direction) serving Koppers and crossing East Bay Drive at the location of the proposed Bayfront Road. By 1983 the number is expected to be 9000 per year (4500 in one direction). Of these 4500 cars, 3000 cars from the Norfolk and Western Railroad and other carriers will move coal into the site, and 1500 cars from Conrail will move coke from the site. The same cars are not used for coal and coke. The maximum capacity of cars in and out is 12,000 cars per year. Daily, an average of 45 cars will cross the proposed Bayfront-Port Access Road, with up to 80 cars possible on any given day.

Rail cars are moved across the proposed Bayfront Road location from 6 to 21 times per day with 9 to 15 crossings on a normal day. At any one time, traffic would be delayed from 5-15 minutes or possibly longer. The speed of the train (2 to 3 mph) cannot be increased because of the need to stop the cars on the north side of the crossing. This problem is accentuated by the track grade, sharp curves, and switches on both sides of the crossing. While the track is in only fair condition, improving it will not eliminate the above conditions restricting speed. Two typical daily options for rail service crossing the proposed Bayfront Road to Koppers are described in Appendix D. The sequence varies daily, in order to be most efficient.

Koppers believes that an at-grade crossing will be hazardous and that people using the proposed Bayfront Road will not be willing to accept the time delays. In Kopper's judgment, it is important that a grade separation be

provided. Currently the grade crossing at East Bay Drive is working without serious complaint because of several special circumstances:

- Traffic using the road is light and is destined to the Port.
- The plant has been operating at 60 percent of capacity.
- Conrail is operating with only one shift and is not crossing East Bay Drive during peak highway traffic periods.
- Koppers is currently (during winter) using coal from stockpiles.

Koppers needs the Lake Yard to be maintained as an important part of railroad operations to service the plant. Koppers believes a Lake Yard capacity of 150 cars (50 foot length average) would be adequate. The maximum number of cars serving Koppers that have been backlogged in the last 5 years has been about 600. Koppers' reaction to public ownership of the Lake Yard or private terminal railroad ownership is that either option would increase Koppers' costs and would not be economically viable.

Koppers currently has about 20 trucks daily that would use the proposed Bayfront-Port Access Road. All trucks could access the proposed road from the present Port Access Road to help permit the least expensive, simplest possible at-grade ramped intersection at East Avenue.

6. BAYFRONT DEVELOPMENTAL, ECONOMIC AND ENVIRONMENTAL EFFECTS

6.1 Effects on Future Development

Studies of land use and development potentials in Erie's Bayfront and Port areas have offered recommendations for improved land use along the Bayfront generally (Ref. 1) and, more recently, for specific residential, industrial and commercial projects (Ref. 2). The latter study identified several sites as having market potential (Figures 4, 5, 6 and 7). All of these locations are near Conrail's Bayfront rail line and alternative rights-of-way of the proposed Bayfront Road. They include:

Residential

"Lake Erie Mews" apartments to be developed on the present Erie Sand and Gravel site.

"Erie Bluff" single-family and townhouse units to be developed on a piece of property to be made available to the city near the Zurn headquarters along the western Bayfront.

Industrial

The Port Industrial Park to be developed on 27 acres adjacent to the Port Terminal.

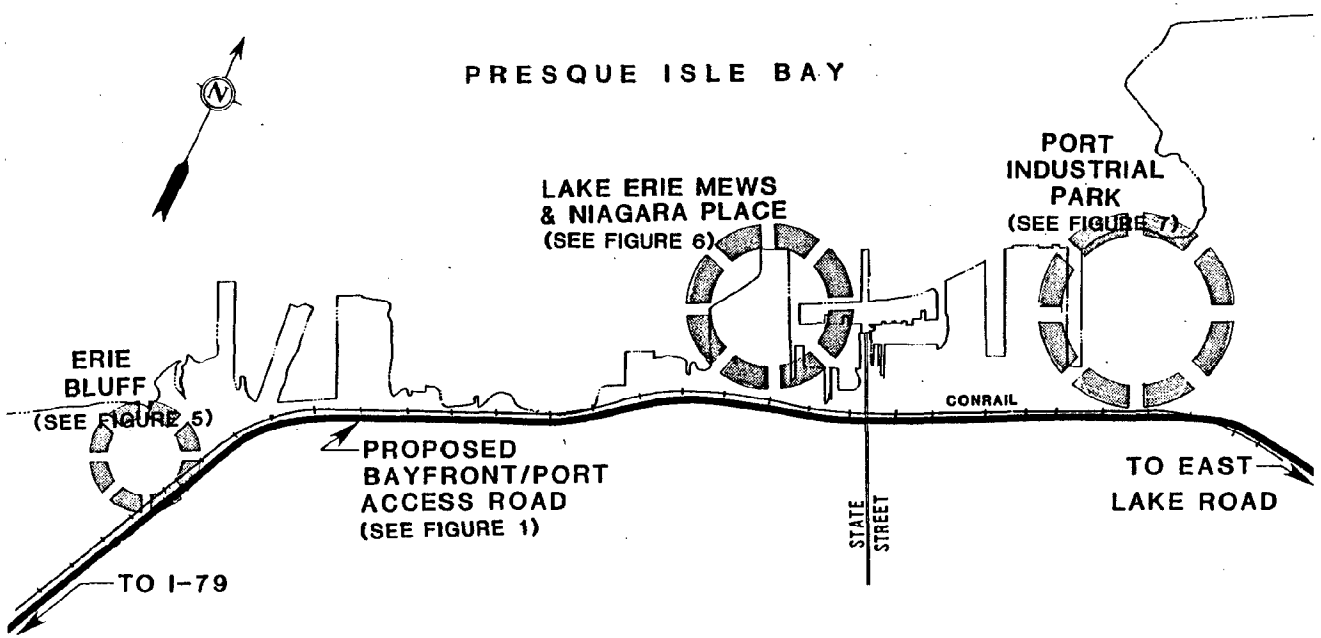
A Foreign Trade Zone to be established and developed in this same area.

Commercial

"Niagara Place" restaurant and retail complex to be developed at the City Dock.

Sport Fishing and other tourism development to be carried out at various locations along the bayfront.

The site of the proposed "Lake Erie Mews" apartments is bounded on the south by the rail line between State Street and the GAF plant (Figure 6). Elimination of this portion of the rail line would obviate a railroad grade crossing of a driveway to the site, permit better highway



BRUNING 44-142 43457-1

CONSULTANTS, INC. Engineers • Geologists • Planners Environmental Specialists 570 Beatty Rd. • Pittsburgh, Monroeville, Pa. 15146 412-856-6400	FIGURE 4 SITES FOR BAYFRONT RESIDENTAL, COMMERCIAL AND INDUSTRIAL DEVELOPMENT CITY OF ERIE, PENNSYLVANIA	DWN. ____ CHKD. ____ APPD. ____ DATE ____ SCALE: ____ DRAWING NUMBER 82-140-81 REV

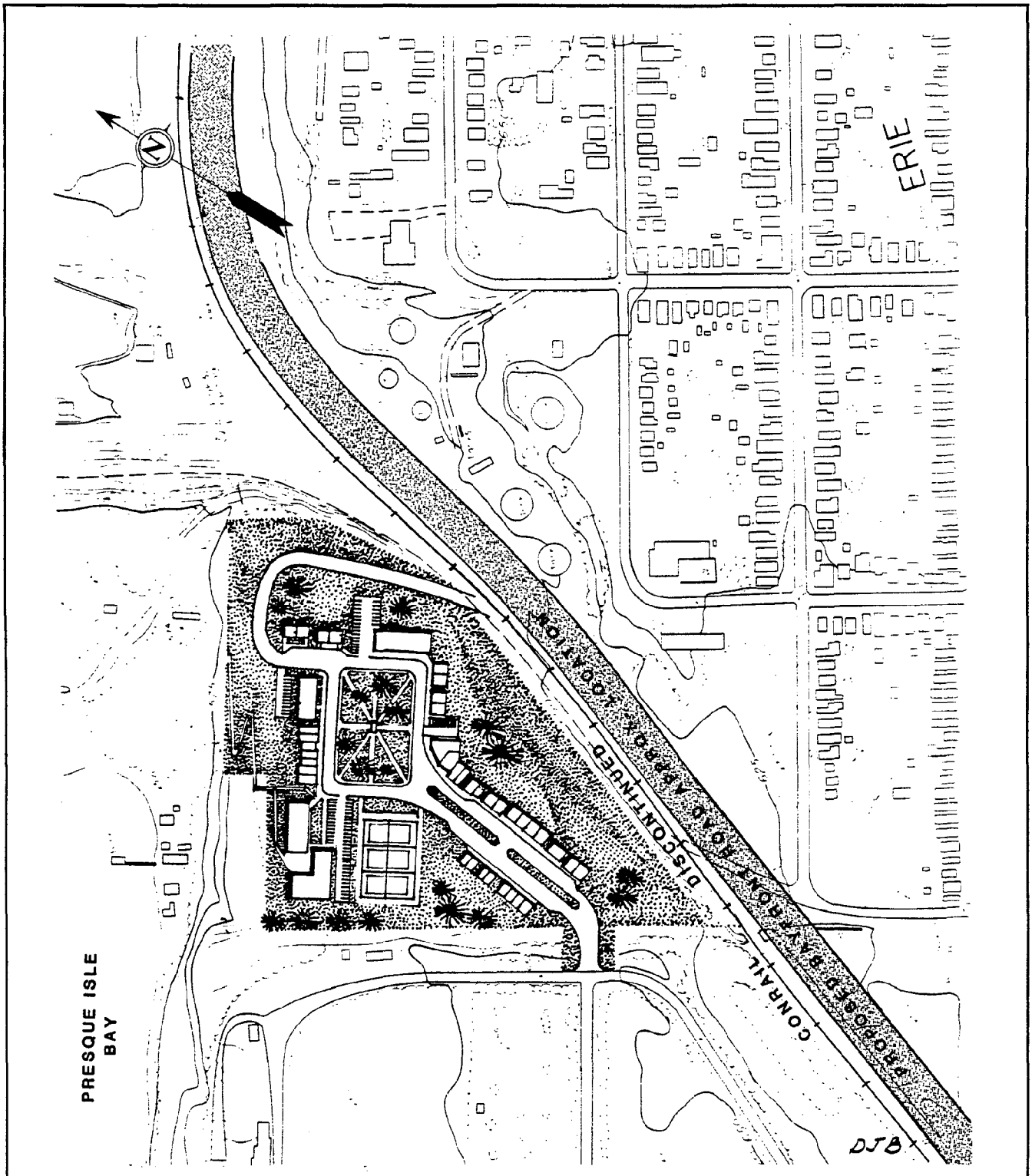


FIGURE 5
CONCEPTUAL SKETCH OF ERIE BLUFF

CITY OF ERIE, PENNSYLVANIA

DWN. _____ CHKD. _____

APPD. _____ DATE _____

SCALE: _____

DRAWING NUMBER
82-140 A2

REV

GAI CONSULTANTS, INC.
Engineers • Geologists • Planners
Environmental Specialists
570 Beatty Rd. • Pittsburgh,
Monroeville, Pa. 15146
412-856-6400

BRUNING 44-142 43457-1

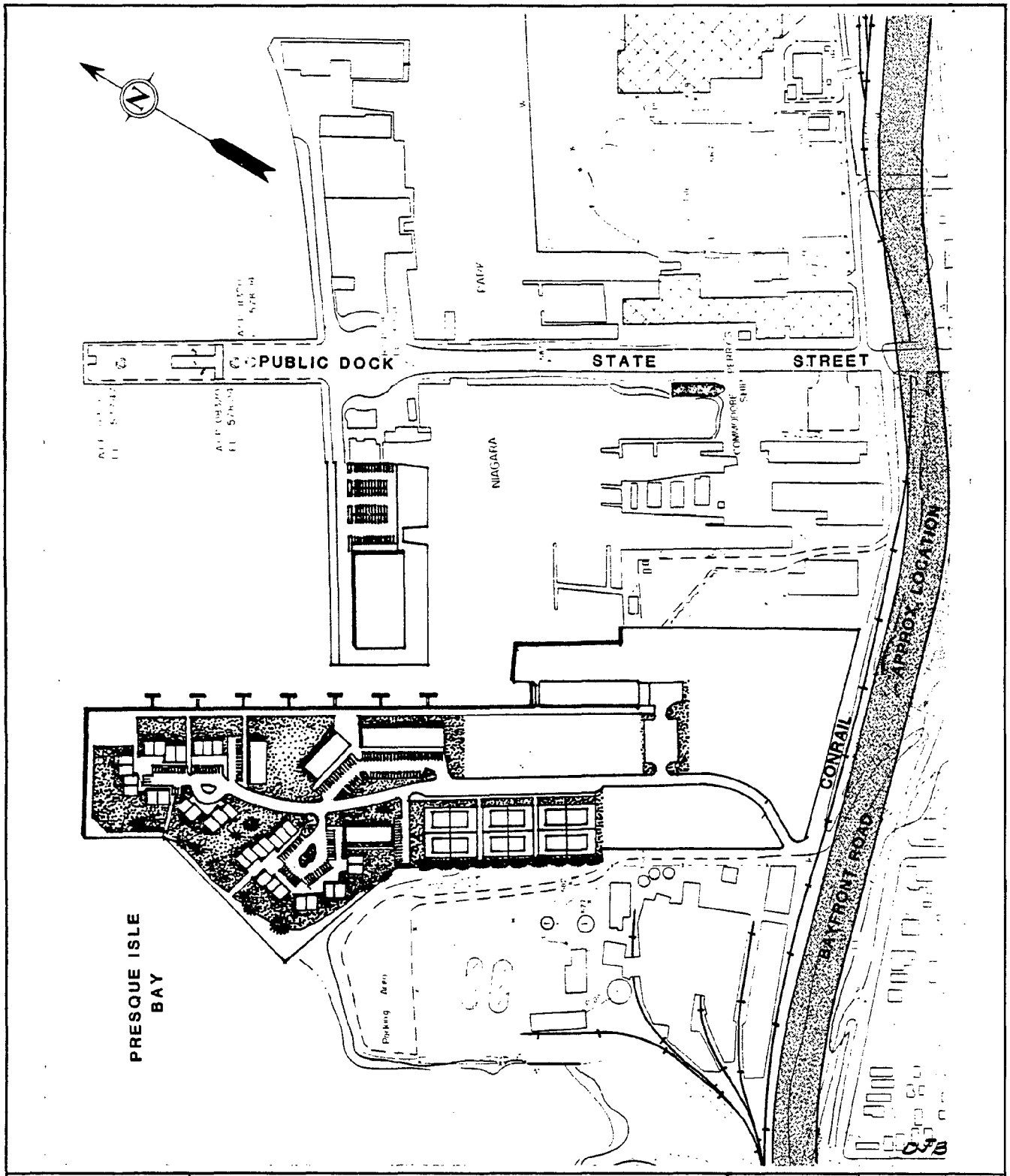


FIGURE 6
CONCEPTUAL SKETCH OF LAKE ERIE MEWS AND NIAGARA PLACE

CITY OF ERIE, PENNSYLVANIA

DWN. _____ CHKD. _____

APPD. _____ DATE _____

SCALE: _____

DRAWING NUMBER
82-140 A3

REV

GAI CONSULTANTS, INC.
Engineers • Geologists • Planners
Environmental Specialists
570 Beatty Rd. • Pittsburgh,
Monroeville, Pa. 15146
412-856-6400

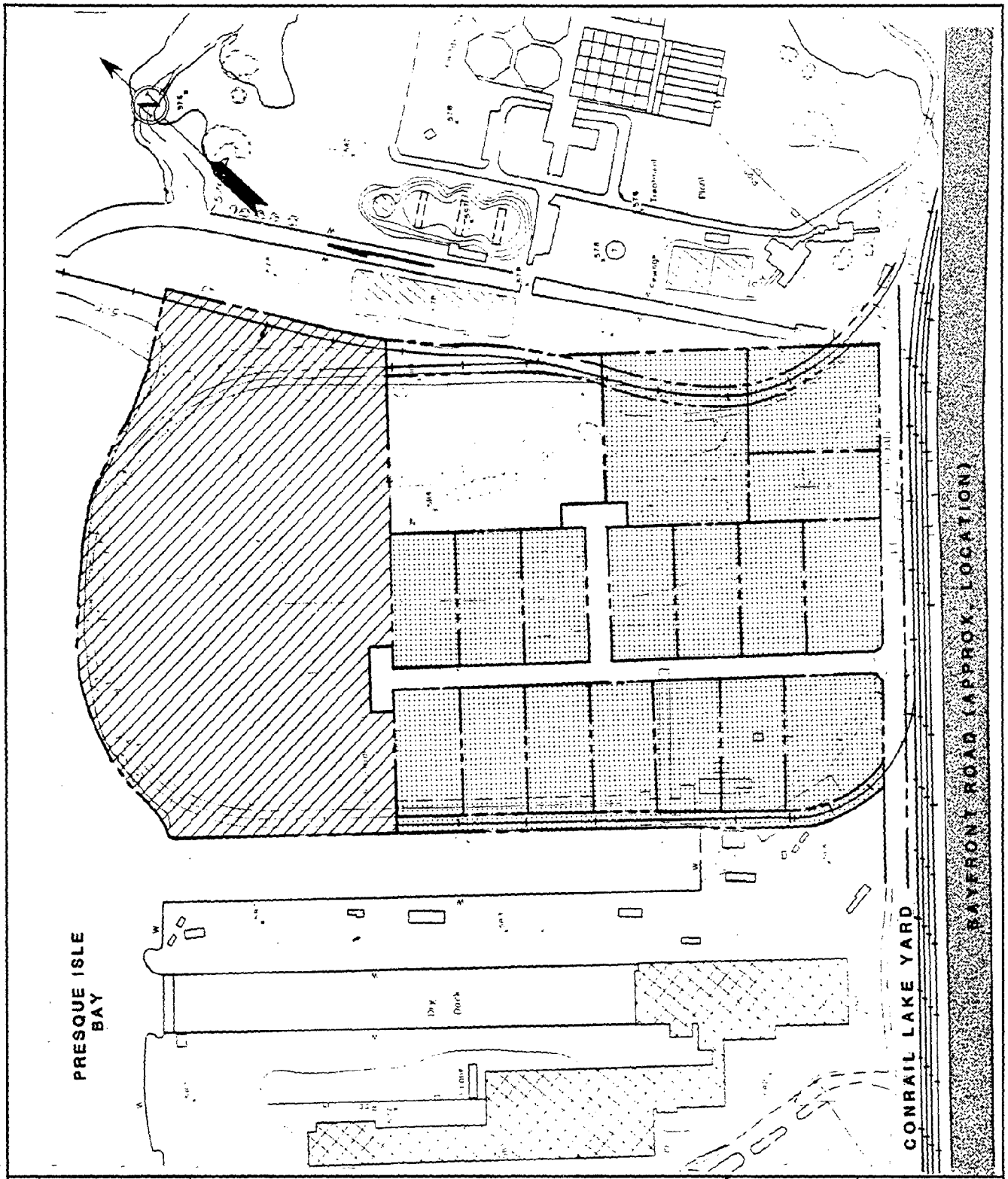


FIGURE 7

CONCEPTUAL SKETCH OF PORT INDUSTRIAL PARK

CITY OF ERIE, PENNSYLVANIA

GAI CONSULTANTS, INC.
Engineers • Geologists • Planners
Environmental Specialists
570 Beatty Rd. • Pittsburgh,
Monroeville, Pa. 15146
412-856-6400

DWN. _____ CHKD. _____

APPD. _____ DATE _____

SCALE: _____

DRAWING NUMBER
82-140 A4

REV

BRUNING 44-142 43457-1

access to the property, free more land for development and substantially enhance the attractiveness and marketability of the development. The Niagara Place project would not be directly affected by rail abandonment.

The Erie Bluff units would be located west of the rail line on the bluff above Cascade Creek and the Bay (Figure 5). Access to this site via the Bayfront Road or Cranberry Street would be accomplished without a railroad grade crossing if the rail line were eliminated, and the quality of the view from this site would be markedly improved.

The Port Industrial Park and Foreign Trade Zone (Figure 7) would have a greater potential for attracting new business if rail service from the east is maintained and extended into the industrial park to conform with planned future parcelization.

6.2 Economic Effects

The economic effects of Bayfront Rail Line abandonment for each of the several schemes discussed in Chapters 4 and 5 were examined for each of the twelve industries contacted. The results are presented in this section and are summarized in Table 4, which lists all of the companies that were contacted and shows their indication of their use of the Bayfront Rail Line. Also indicated is whether these firms would be effected by rail line abandonment under the several schemes discussed in Chapters 4 and 5. For those affected, estimates of the costs and disbenefits are shown for each rail abandonment scheme. The economic effects of rail abandonment or reduction in level of service will be largely related to impacts on these rail users.

At the time the industry contacts were made for this study (1982) most firms indicated that their commodity shipments were lower than normal, and that once the economy recovers, shipments by truck and rail could increase significantly. The economic effects of rail abandonment or reduced level of service

Table 4

SUMMARY OF ECONOMIC EFFECTS

Business Contacted	Indication of Use of Bayfront Rail Line	Affected by Bayfront Rail Line Abandonment Schemes					Potential Economic Effects of Bayfront Rail Line Abandonment Schemes				
		IA	IB	IC	II	III	IA	IB	IC	II	III
Erie-Western Pennsylvania Port Authority and Codan Corporation (Port Authority Contractor)	Yes	Yes	No	No	No	No	$100,000/yr*	-0-	-0-	-0-	-0-
Koppers Inc.	Yes	Yes	No	No	No	No	5,000,000/yr	-0-	-0-	-0-	-0-
Perry Shipbuilding Corp.	Yes	Yes	Yes	Yes	No	No	$200/yr(a)	$200/yr(a)	$200/yr(a)		
Hammermill Paper Company	No	No	No	No	No	No	-0-	-0-	-0-	-0-	-0-
Erie Marine Inc.	No	No	No	No	No	No	-0-	-0-	-0-	-0-	-0-
General Electric	No	No	No	No	No	No	-0-	-0-	-0-	-0-	-0-
GAF	Yes	Yes	Yes	No	No	No	$700,000/yr**	$700,000/yr**	-0-	-0-	-0-
United Refinery	No	No	No	No	No	No	-0-	-0-	-0-	-0-	-0-
Erie Sand & Gravel	No	No	No	No	No	No	-0-	-0-	-0-	-0-	-0-
Penelec	No	No	No	No	No	No	-0-	-0-	-0-	-0-	-0-
Frontier Lumber	No	No	No	No	No	No	-0-	-0-	-0-	-0-	-0-
Erie Reduction Co.	No	No	No	No	No	No	-0-	-0-	-0-	-0-	-0-

*Lack of rail would also jeopardize potential $10,000,000 in wages and benefits of future port industrial development.

**Added transportation cost. If GAF were to relocate to another site in Erie, the annualized cost is approximately $3,000,000 If GAF were to relocate to another site outside of Erie, the annualized disbenefit is estimated at $2,000,000 to $6,000,000.

(a) Affects possible future rail car business.

were estimated quantitatively, where possible, and reflect the costs and benefits associated with normal (non-recession) business volumes.

With elimination of rail service, GAF would have several options - shift to truck, relocate its plant to a place in Erie with site and rail amenities comparable to its present location, or relocate out of Erie. In recession periods shift to truck transport would result in marginal cost increases. However, in periods of normal to high production, rail provides a cost-competitive alternative to truck transport for specific commodity shipments. Its elimination would result in higher costs for GAF to do business at the Erie plant. The origins and destinations of GAF's materials and products, as well as unit cost data, are proprietary and were not furnished to the Consultants. However, the potential cost for removal of rail service to GAF is germane to this study and, accordingly, estimates were made by the Consultant. For periods of high production, the added transport cost is estimated to be about $700,000 annually, but depends on the suitability of materials for multi-modal transport.

For GAF to relocate to another site in Erie with rail service could cost $13,000,000 to $15,000,000. To ascertain the advantage of this option, the comparison of the cost of relocation against highway construction cost savings and other benefits would have to be made, as discussed in Chapter 5. If the plant were relocated outside of Erie, between 70 and 200 jobs would be lost locally, and the estimated annual loss in wages and benefits would range between $2,000,000 and $6,000,000.

If rail service to Koppers were eliminated, the added cost to move all commodities by truck would render the Koppers plant operation non-competitive, and it is highly likely that the plant would close. Also, the same result could occur if the cost of moving coal and coke into and out of the plant by rail were to increase to the point where the Koppers operation would be non-competitive.

In either case, closing of the plant would result in the loss of 140 to 160 jobs, depending on production levels, at an estimated $4,000,000 to $5,000,000 wage and benefit loss.

Of its total 180,000 ton per year volume, the Port of Erie presently moves about 35,000 tons of cargo by rail annually. Future projections for non-coal traffic through the Port are 160,000 tons/year, about 50 percent by rail. Based on present average revenues per ton, the Port could lose over $100,000 per year in revenues if rail service to the Port were not available.

Future industrial development concepts for the Port area propose both rail and highway access (Figure 7). Assuming that half the estimated future development and employment potential of the site would be for industries relying on rail, the loss in employment potential if rail is not available is estimated to be about 400, representing over $10,000,000 per year in wages and benefits.

In addition to the effects on GAF, Koppers and the Port Authority abandonment of rail from west of GAF to 12th Street would preclude future direct rail service to Perry Shipbuilding. Although Conrail indicated that revenues from sources west of GAF would not justify the retention of a service track there, the lack of service could inhibit expansion of rail-dependent business (such as rail-car repair) by Perry Shipbuilding with some potential future negative economic effects.

6.3 Environmental Effects

This Rail Study is concerned with the environmental issues advanced by possibilities of rail line abandonment in the Bayfront and deals with effects of shifting from rail to truck, particularly if truck traffic were to use local streets.

It should be noted that detailed and comprehensive environmental studies have been undertaken by the City of Erie in the Bayfront-Port Access Road

Design Location Study and EIS, and deal with the issues regarding impacts of the proposed Bayfront Road (Ref. 4). That study and supporting Technical Basis Reports are available from the City of Erie.

In that study the elimination of rail service between 12th Street and the GAF plant (as would occur in Schemes IA, IB or IC in Figure 2) was identified as an option that would permit much greater flexibility in alignment and right-of-way requirements for the Bayfront Road. This action (with future right-of-way purchase) would permit alignment options having lesser environmental effects in the area of Frontier Park, the High School, Cascade Creek and the bluff facing Presque Isle Bay. Because there is no active Conrail customer between 12th Street and the GAF plant, no additional truck movements would be generated by abandoning this section of track.

The abandonment of Conrail's Erie to Warren line has already increased truck movements to the GAF plant. If all GAF rail service were eliminated (Schemes IA and IB), truck movements into and out of the GAF plant would increase by about 45 per day in periods of high production. If access by these trucks were by the Bayfront Road, I-90 and I-79, local streets would not be impacted. However, if truck access were by the Bayfront Road via Parade Street or Holland Street, or directly by State Street, local streets would be affected.

If rail service to the Port Area were eliminated (Scheme IA), and trucks transported all commodities to and from the Koppers plant, truck movements could increase by 150 to 250 per day. (The likelihood of this occurring is low, since the added cost for truck transport will render the Koppers plant non-competitive, as discussed in the previous section.) Another 20 trucks per day would result from Port Authority shipments.

To examine the environmental issues in more detail, the possible effects on air quality and noise levels of increased truck traffic which might result from the various Bayfront rail abandonment schemes were estimated and are summarized in Tables 5, 6A, 6B and 7. In Table 5, the industries which would be affected by rail abandonment are listed with the approximate increase in daily truck traffic for each scheme. Tables 6A, 6B and 7 present estimates of noise levels and CO concentrations associated with additional traffic on East Street and on State Street at two receptor sites--the Dr. Gertrude A. Barber Center on East Avenue and Hamot Medical Center on State Street.

Air quality estimates for 1981, 1985 with and without rail abandonment, and 2004 with and without rail abandonment were made utilizing the Pennsylvania Department of Transportation Air Quality Screening Process (PaDOT, 1982) and Circular Letter C-2998 (1981). This procedure provides a worst case carbon monoxide (CO) concentration at a receptor given certain traffic volumes, traffic compositions, and vehicle emission factors. For the present study, traffic volumes were obtained from References 4 and 5.

Traffic volumes for the daily peak flow for the year 1983 were extrapolated from these data. Traffic in all cases was assumed to be composed of automobiles and heavy duty diesel trucks. Percent truck composition was obtained from Reference 5 and additional truck traffic associated with rail abandonment schemes were added. Vehicle emission factors for the years 1981 and 1985 were taken directly from the Federal Highway Administration's Mobile Source Emission Factor Tables (FHWA Technical Advisory T6640.1, 1978). This document provides emission factors up to and including the year 1999. However, because the fleet of cars and heavy duty diesel trucks show no additonal reduction in CO emissions for the years 1994-1999, the emission factors for these vehicle types for those years was utilized for the year 2004.

A sensitive receptor was chosen for each probable route which would receive additional truck traffic (the Gertrude A. Barber Center on East Avenue and the Hamot Medical Center on State Street). These receptors were located on the USGS 7.5' Érie North, Pennsylvania Topographic Quadrangle (Photo-revised, 1975) and all measurements related to roadway geometry taken from the map.

Noise level determinations were made utilizing the FHWA's Highway Traffic Noise Prediction Model (RHWA-RD-77-108, 1978) for hand-held calculators. Again, traffic volumes were obtained from the above sources and roadway geometry relative to the sensitive receptors obtained from gross measurements on the U.S.G.S. topographic map. As summarized in Tables 6A, 6B and 7, Schemes IB, IC, II and II show no or negligible air and noise effects. Scheme IA (total abandonment of the rail line) is the only scheme with non-negligible effects.

For the year 2004 projection, CO concentrations decrease for all cases even with the addition of truck traffic, chiefly due to long term decreases in auto-emission rates built into the national automobile fleet. Total CO concentrations are well within HUD and FHWA standards. Increases in noise level at Hamot Hospital are negligible. The projected 3.14 dbA increase at the Dr. Gertrude A. Barber Center for Scheme IA represents small increase in noise level at that location.

Table 7 presents the results of air and noise effects if rail abandonment schemes were to take place over the short term (1985) and compares these to the effects in the long term (2004). At both receptor sites CO concentrations decline with time and the levels are well within standards. Noise levels at both receptor sites are within standard.

In summary, projected air and noise effects of rail abandonment are negligible except for Scheme IA--abandonment of the entire Bayfront line. This could increase noise levels at the Dr. Gertrude A. Barber Center by 3.14 dbA. The resultant level of 44.63 dbA is significantly less than the 67 dbA highway noise design standard for hospitals.

Table 5

ADDITIONAL TRUCK MOVEMENTS
DUE TO VARIOUS RAIL ABANDONMENT SCHEMES

Industry Affected by Rail Abandonment (Ref. Table 4)	Added Trucks Per Day Scheme				
	1A	IB	IC	II	III
Erie-Western Pa. Port Authority	20	0	0	0	0
Koppers	250	0	0	0	0
Perry Shipbuilding	0.02	0.02	0.02	0	0
GAF	45	45	0	0	0

Table 6A

ESTIMATED AIR QUALITY AND NOISE LEVELS (1985)
AT TWO RECEPTOR SITES

Scheme	Added CO Concentrations (ppm)		Total Concentrations (ppm)		Added Exterior Noise Leq Level (dbA)		Total Exterior Noise Leq Level (dbA)	
	Barber	Hamot	Barber	Hamot	Barber	Hamot	Barber	Hamot
IA	-0.10	-0.78	2.17	3.07	2.23	0.33	43.72	49.86
IB	-0.11	-0.78	2.16	3.07	0.35	0.33	41.84	49.86
IC	-0.11	-0.78	2.16	3.07	0.35	0.11	41.84	49.64
II	-0.11	-0.78	2.16	3.07	0.35	0.11	41.84	49.64
III	-0.11	-0.78	2.16	3.07	0.35	0.11	41.84	49.64

Table 6B

ESTIMATED AIR QUALITY AND NOISE LEVELS (2004)
AT TWO RECEPTOR SITES

Scheme	Added CO Concentrations (ppm)		Total Concentrations (ppm)		Added Exterior Noise Leq Level (dbA)		Total Exterior Noise Leq Level (dbA)	
	Barber	Hamot	Barber	Hamot	Barber	Hamot	Barber	Hamot
IA	-0.15	-1.26	2.12	2.59	3.14	0.98	44.63	50.51
IB	-0.16	-1.26	2.11	2.59	1.68	0.98	43.17	50.51
IC	-0.16	-1.26	2.11	2.59	1.68	0.64	43.17	50.17
II	-0.16	-1.26	2.11	2.59	1.68	0.64	43.17	50.17
III	-0.16	-1.26	2.11	2.59	1.68	0.64	43.17	50.17

Table 7

COMPARISON OF AIR QUALITY AND NOISE LEVELS

	ppmCO	Leq Total (dbA)
Barber Center (Scheme IA)		
1981	2.27	41.49
1985 w/o abandonment	2.16	41.84
1985 w/abandonment	2.17	43.72
2004 w/o abandonment	2.11	43.17
2004 w/abandonment	2.12	44.63
Hamot Medical Center (Schemes IA or IB)		
1981	3.85	49.53
1985 w/o abandonment	3.07	49.64
1985 w/abandonment	3.07	49.86
2004 w/o abandonment	2.59	50.17
2004 w/abandonment	2.59	50.51

7. FUTURE BAYFRONT RAIL SERVICE

7.1 Market for Rail Service

The present Conrail service to Bayfront industries carries over 300,000 tons per year, with up to 500,000 tons expected in near future years. The development of new industries on the Bayfront could increase this volume in the future. The marketing of new industry to the Bayfront now under way will be enhanced by the availability of rail and further justifies continuation of rail service to the Bayfront.

7.2 Management and Financial Options

A range of possible methods of operation of the Lake Front Yard and remaining track to the east of GAF were considered in this study, including public ownership with public or private operation, independent owner-operator, continued ownership and operation by Conrail, and continued ownership by Conrail with multi-private operations.

The Erie-Western Pennsylvania Port Authority was the only public agency that showed an interest in the purchase and operation of the Bayfront track and Lake Front yard. This interest was stimulated with the prospects of making Erie a major coal port and in using the Erie to Warren rail line to link to the West Virginia coal field by way of the Allegheny and Monongahela Rivers. The ownership and operation of the Bayfront tracks to the Erie Port and use of Lake Yard would have been an important part of that transportation link as it effected the cost-competitiveness of the port. Also, the Port Authority was interested in the Bayfront tracks for rail access to existing and potential Bayfront industries between State Street and the Koppers plant.

With the abandonment of the rail line from Warren to Erie and the determination that coal would not be shipped in large quantities through the

Port by rail (Ref. 2), revenues from those sources to support a publicly owned Yard facility will not be available. In addition, the Pennsylvania Department of Transportation has indicated that it has no interest in investing public money in purchasing the Erie-Warren line. The Department's position was stated in a letter dated April 14, 1982, from William C. Underwood, Director, Bureau of Public Transit and Goods Movement Systems, to Pennsylvania Representative Bernard J. Dembrowski (Appendix E).

The main concern for ownership and operation of remaining trackage (Lake Yard and track to the east of GAF) is now focused on how to maintain rail service to present industries (chiefly GAF, Koppers and the Port) and to proposed industrial development along the Bayfront. To investigate the future possibilities for private ownership and operation of these tracks, extended discussions have been held with the major Bayfront rail users (GAF and Koppers) and Conrail staff.

The GAF plant is a major rail user. Presently, the use of the Conrail track west of the GAF plant does not justify retaining that portion of the track in view of the cost and service advantages of the Bayfront Road alignment alternative that assumes that this portion is not retained (Ref. 4). GAF has expressed the need for continued rail service to its plant in the future. Alternatives to rail service such as the use of other modes or plant relocation are being reviewed by GAF. The feasibility of such options will require further definition in the future as the costs to GAF are weighed against cost advantages to Bayfront Road highway construction. GAF, however, was not willing to consider ownership and/or operation of the Bayfront track.

With over 80-85 percent of all rail tonnage in the Bayfront being delivered to and from the Koppers coke plant, the future ownership and operation of rail service in the Bayfront will be largely determined by the continued operation of

the Koppers plant. Numerous meetings and conversations with Koppers Co. management were held to ascertain their views on the future of the Erie plant. Their position was that the Erie plant is important to Kopper's operation. Koppers has spent considerable money in meeting environmental regulations and anticipates that there could be additional Koppers facilities in Erie. It is their reported intent to weather the economic recession and remain with a viable facility in Erie. Koppers is adamantly opposed to public, private, or private Terminal Rail takeover of the Lake Yard facility based on their past experience in other areas.

The final option investigated was ownership by Conrail with multi-private operations. The Bayfront track and Lake Yard is presently being operated this way to a reasonable extent. For example, Norfolk and Southern (formerly N&W) currently services the Kopper's plant. Switching and maintenance is being handled by Conrail, however. The complexity of the Lake Yard operation and constrained operating conditions makes the use of more than one switching and maintenance operator impractical.

On the positive side, Conrail has indicated its intention to continue to operate and maintain the Lake Yard to service Koppers and other users. Conrail has examined the Lake Yard facility and track to GAF and has expressed no reason to consider abandonment.

Of the options investigated for the Bayfront tracks and the Lake Yard, the most feasible, cost-effective option is to maintain a viable Koppers facility with rail service owned and operated by Conrail.

Continuation of Rail Usage in the Bayfront Area

This study further examined potential ways that the public could enhance continued rail usage to the Bayfront-Port area. This examination indicated that there was a detrimental impact on future rail service to the Bayfront caused by

a proposed at-grade crossing of rail to the Koppers plant and the proposed Bayfront roadway. To maintain a viable rail service in the Bayfront necessitates understanding and examining ways to reduce conflicts with the rail services which might threaten the financial health of the rail operation to the Koppers plant, and which in turn could threaten rail service in the Bayfront area. A detailed examination of rail service to Koppers is presented in Appendix D.

Conrail and Koppers concur in recognizing the need to maintain a high level of service for movements into and out of the Koppers plant. These companies have expressed concern over the potential conflicts with the proposed Bayfront Roadway and the need for these to be resolved so as not to affect the economic viability of rail service to the Koppers plant, and hence of rail service to the Bayfront area. This information has become a basis for the City's policy positions in negotiations with PaDOT, their engineers, Koppers and Conrail so as to balance a viable future industrial rail service with other considerations.

In view of present and future needs for rail service to Bayfront industries, continuation of the Conrail service to the Bayfront and its Lake Yard operations is important. In this regard Conrail has maintained the line and yard in a condition satisfactory for present operation (Appendix B). Conrail conducts routine inspection of the track with maintenance performed as needed (about $100,000 per year). Within two to five years Conrail anticipates re-ballasting the tracks and replacing some ties as necessary. Based on observations of the current conditions of the track and this level of inspection and maintenance, the track should be capable of accommodating present service levels in the future.

Summary

Without the Koppers operation or its equivalent, the continuation of rail service to the Bayfront could be in jeopardy. However, since Koppers has indicated that it intends to keep the Erie plant in operation well into the future, rail service as presently provided will continue as long as the service and costs remain at levels comparable to or better than the present. For this reason and because there is no indication of major future rail movements of coal through the Port of Erie, the prospect for public ownership and operation of Bayfront rail service is diminished. The need for public funding of property purchase, administration and operation of a terminal or short-line railroad is not indicated, subject to the conditions discussed above.

8. CONCLUSIONS

1. The section of Conrail track between 12th Street and the GAF plant could be taken out of service with small effect on current rail users as compared with major cost and environmental advantages to the alignment of the Bayfront-Port Access Road, and the continued cost of maintaining the track.

2. The GAF plant requires rail service presently and the plant's operation will require continued and possibly higher use in the future. If the rail trackage to the present GAF location is eliminated for the purpose of cost reduction of the Bayfront-Port Access Road, this cost should be compared to costs of other options such as costs for relocation or costs to switch to truck and water modes.

   Elimination of the trackage to GAF would permit location of the Bayfront-Port Access Road to the north of the Lake Yard with the potential cost savings of eliminating a highway structure crossing the railroad near Parade Street.

3. The Conrail Lake Yard is needed by the Koppers Company for their present and long-range future operations. This service requires maintaining the present capacity - trackage for 150 cars (50 feet long) and a by-pass track.

4. Access to the Port and Bayfront Industrial properties from the Bayfront-Port Access Road should be provided with minimal conflict between rail operations and highway traffic movement.

5. Upon completion of I-79 and the Bayfront-Port Access Road, truck traffic to present Port and Bayfront properties and to planned industrial sites from the west and south can use the Bayfront Road. Truck traffic from the east and north can also use I-79 and the Bayfront Road until an

improved corridor is provided from the Bayfront Road to I-90 eastward (using, for example, Routes 5, 531 or 430).

6. Partial rail line abandonment in the Bayfront area would not result in significant air or noise effects. Total abandonment of the line could result in higher noise levels on East Avenue, but within HUD or FHWA standards.

7. Because of the potential delays to Bayfront Road traffic from an at-grade rail crossing to Koppers in the vicinity of Wayne Street, a grade-separated rail crossing would be advantageous to highway users, Koppers and Conrail.

8. Truck and other traffic to and from Koppers Company using the Bayfront-Port Access Road could be accommodated by a simple connection at East Avenue near the proposed highway bridge over East Avenue. Truck traffic could be limited to the Port Access Road, if desirable, to reduce truck volumes at the East Avenue intersection.

9. Koppers Company is the predominant user of rail service in the Bayfront area and has the need for continued heavy rail service. Koppers intends to continue the Bayfront plant operation in the future with possible additional facilities. Extensive increase in the amount of coal through the Port of Erie in excess of recent volumes is not anticipated, and the need for a separate publicly owned terminal railroad for the purpose of moving coal is not indicated.

10. To support the City's objective for continuation of rail service to the Bayfront and Port, the policy of the City should be to encourage the continued operation of the Koppers plant and the continued or improved level of rail service to the Koppers plant.

REFERENCES

1. Parsons, Brinkerhoff, Quade and Douglass, Inc., Port of Erie Waterfront Development Plan, Report prepared for Port Commission, City of Erie, Pennsylvania, April 1968.

2. Hammer, Siler, George Associates, Port and Bayfront Development Potentials, Erie, Pennsylvania, Report prepared for the Erie-Western Pennsylvania Port Authority, March 1982.

3. Erie-Western Pennsylvania Port Authority, 1981-1982 Annual Report.

4. City of Erie, Bayfront-Port Access Road Design Location Study and Pre-Draft Environmental Impact Statement, 1983.

5. Pennsylvania Department of Transportation, Feasibility Study for L.R. 1003 Bayfront Highway, City of Erie, Pennsylvania.

APPENDIX A

APPENDIX A

REPORT FOR:

SURVEY OF RAIL USERS AND IMPACT ON THE ECONOMY

Submitted To:

GAI Consultants, Inc.
Monroeville, Pennsylvania 15146

Submitted By:

Keystone University Research Corporation
434 West 8th Street
Erie, Pennsylvania 16502

September 1982

1.0 INTRODUCTION

The objective of this study is to evaluate the economic impact of track retirement or abandonment of the rail system now serving the Erie Bayfront-Port area.

In order to have a comprehensive evaluation of the economic impact, we should first review the contribution of transportation in general to business operations. It is virtually inconceivable in today's economy for a firm to function without the aid of transportation. Transportation is the basic link among a firm's plants, warehouses and raw material sources. Transportation enables the firm to physically move goods to the place desired and at the time desired. Most firms are geographically divorced from their raw material sources and/or their market areas. Therefore, transportation is necessary to bridge the gap between production and consumption.

There are various modes of transportation from which a firm can choose a particular mode and a particular carrier in the mode. The choice of transportation mode directly affects all other elements of the business operation, e.g., packaging, production, planning, warehousing, facility location, information processing, inventory control, ect. Consequently, transportation methods must be selected to provide for efficient operation of the entire business system.

2.0 DETERMINANTS OF CARRIER SELECTION

The carrier selection decision is a specialized purchasing process whereby a firm purchases the services of a carrier to provide the necessary and vital link among business units. The carrier selection decision is a twofold decision. First, a mode of transport (rail, motor, air, water, pipeline) is selected and second, a particular carrier(s) from within this mode must be chosen. The selection of mode usually involves the evaluation of the rates and service levels via alternative modes. For example, in a decision regarding use of air or rail carriers, consideration would be given to advantages of shorter transit time by air and the low rates by rail. Then, in the selection of a specific carrier from a chosen mode, carrier service performance becomes the more important determinant. The relevant service performance determinants are: transit time, reliability, capability, accessibility and security.

2.1 Transportation Cost

Transportation cost was the predominant carrier selection determinant in early carrier selection works. The carrier selection decision was basically choosing the carrier having the lowest transportation costs. Transportation cost areas are: rates, mimimum weights, loading and unloading facilities, packaging and blocking, damage-in-transit, and special services available from a carrier. However, recently the importance of transportation costs declined somewhat. Attention is now focused upon the cost trade-offs existing

between the service provided by a carrier and the transportation costs.

2.2 Transit Time and Reliability

Transit time is the total time that elapses from the time the consignor makes the goods available for dispatch until the carrier delivers same to the consignee. This includes the time required for pick-up and delivery, for terminal handling and for movement between origin and destination terminals. Reliability refers to the consistency of the transit time provided by a carrier, i.e., reliability is a measure of variation in the transit time provided by carriers. Transit time and reliability affect the costs of inventory and stockouts (lost sales or foregone productivity). Lower transit time results in lower inventories, while less dependability causes higher inventory levels or costs of stockouts. A business can gain a competitive advantage in the marketplace by utilizing a carrier that provides dependable service.

2.3 Capability and Accessibility

Capability and accessibility determine whether a particular carrier can physically perform the transport service desired. Capability refers to the ability of a carrier to provide the equipment and facilities required for the movement of a particular commodity. Accessibility considers the ability of the carrier to provide service, i.e., the availability of carrier routes and terminals in

the proximity of the shipping locations. Accessibility refers to the ability of the carrier to physically approach (have access to) the business units.

2.4 Security

Security is concerned with the arrival of the goods in the same location as they were in when tendered to the carrier. The unsafe service would result in opportunity costs of foregone profits or productivity as a consequence of the goods arriving in a damaged condition and not available for sale or use. To guard against these opportunity costs, a firm will increase inventory levels with resulting increased inventory costs.

In this study, major attention will be placed on two transportation modes, railroad and motor carriers (trucking) and comparison of those two modes.

3.0 SURVEY OF THE BUSINESSES

In order to evaluate the economic impact of the railroad abandonment now serving the Erie Bayfront-Port area, it is necessary to find out the present business practices in their selection of transportation carriers, especially railroad vs. other alternatives, mainly trucking.

Since there are only a handful of business firms using the service of the railroad system under this study, we decided to conduct a personal interview survey. The other survey methods, such as mailed questionnaire or telephone interview, would probably result in a level of non-response.

A total of twelve firms were initially contacted to set up an interview. Those firms are listed in Table 1. Interviews could not be arranged at all firms, thus, the final list includes only eight firms. Then, item analyses were applied to draw the general findings from the interview results. Any other statistical techniques could not be applied in this study because the size of the sample was too small and the nature of the data did not lend itself to statistical analysis.

The findings of the survey in light of the four determinants of carrier selection are as follows:

3.1 Transportation Costs

As shown in Table 2, the results of the survey regarding transportation costs are difficult to explain and inconclusive. There is

Table 1

BUSINESSES CONTACTED

Name of Business	Address	Nature of Business	Interviewer
Erie-Western Pennsylvania Port Authority	Room 507 Municipal Building	Government Port Authority	Iutcovich and Min
Codan Corporation (a)	Foot of Wayne Street	Freight Contracting	Min
Koppers Inc.	Foot of East Avenue	Foundry Coke Coke Ovens	Iutcovich
Perry Shipbuilding Corp.	Foot of Cranberry St.	Lake Freighter Repair	Min
Hammermill Paper Company.	East Lake Road	Fine Paper Manufacturing	Iutcovich
Erie Marine Inc.	Foot of Holland St.	Heavy Construction	Min
General Electric	East Lake Road	Locomotive Production Motorized Wheel	Iutcovich
GAF (b)	Foot of Sassafras St.	Building Material/ Roofing	Iutcovich
United Refinery (c)	Foot of Cranberry St.	Oil Refining	
Erie Sand & Gravel (c)	Foot of Sassafras St.	Sand & Gravel	
Pennelec (d)		Electricity	
Frontier Lumber (e)	762 East 5th Street	Lumber	

Notes:

a) Codan Corporation is the contractor for the Erie-Western Pennsylvania Port Authority.
b) Telephone Interview with Manager of Distribution in Wayne, New Jersey.
c) Initial telephone contact made. No further interview was conducted because the firm did not envision any need for rail service and it did not wish to be interviewed.
d) Telephone conversation with Materials Manager in Johnstown, Pennsylvania.
e) Interview was scheduled but was not to be conducted because of the business owner's time schedule.

a large degree of variation in rates according to different types of cargo. Most of the firms were not able to give transportation cost breakdowns. At least one firm would not provide the data because they claimed it to be confidential. Overall, the indication from the survey was that the transportation cost was not the primary determinant in the selection of a specific carrier. This confirms the theoretical description presented in the previous section.

3.2 Transportation Services

There was a concensus within the firms surveyed that transportation services are the determining factors in the selection of transportation methods. The most common reason cited by each firm for the use of railroad service was that each firm requires some type of bulky and heavy cargos in its operation. In other words, capability and accessibility are more important factors in determining the use of railroad service over trucking, accompanied by transit time, reliability, and security of transportation. As indicated in Table 2 and Table 3, all the firms interviewed are using or had used the service of the Bayfront rail system. They further emphasized that the continuation of railroad service is essential for their businesses. One firm even went as far as to say that the life of its business depends on the existence of railroad service. Most of the firms surveyed also indicated that they have been satisfied with the services they received from the railroad. Only two firms expressed some

Table 2

CARGO TYPES AND TRANSPORTATION COSTS

Name of Business	Types of Cargo	Transportation Costs	Tonnage of Cargo
Erie-Western Pa. Port Authority and Codan Corporation	By Truck:		
	coal	$ 2.50/net ton	
	special ores	2.10/metric ton	
	pig iron	1.70/metric ton	900,000
	steel coils	.10/100 lbs.	approx.
	steel slaps	.10/100 lbs.	1,600,000/year
	steel scrap	.40/metric ton	
	lumber	.40/100 lbs.	
	machinery	.12/100 lbs.	
	miscellaneous	1.50/metric ton	
	By Rail:		
	coal	$ 4.50/metric ton	
	steel slaps	2.50/metric ton	
	machinery	11.00/metric ton	
	transformers	11.00/metric ton	
	locomotives	11.00/metric ton	
	steam boilers	11.00/metric ton	
	logs	.50/100 lbs.	
Koppers, Inc.	By Truck:		
	coke	average	560 tons
	maintenance supplies	$12.00/ton	coke/day
	chemicals		
	By Rail:		
	coal	average	800 tons
	chemicals	$20.00/ton	coal/day
Perry Shipbuilding Corporation	By Truck:		
	machinery parts		
	paints	total	
	general cargo	$20,000/year	100-200
	steel		tons/year
	By Rail:		
	bulky and heavy machinery	$14,000/year in 1981	

Table 2 (continued)

Name of Business	Types of Cargo	Transportation Costs	Tonnage of Cargo
Hammermill Paper Co.	By Truck: paper supplies chemicals packaging wood chips coal By Rail: wood pulp chemicals wood chips paper	$40 million per year $16 million per year (total $56 million/year)	460 tons per day
Erie Marine, Inc.	By Truck: coal repair parts steel products misc. supplies By Rail: none since 1974	$26,000/year	100 tons per year
General Electric	By Truck: coal steel products air compressors elec. motor parts engine blocks pistons diesel parts misc. By Rail: steel products finished locomotive By Ship: finished locomotives	total approx. $10 million/year $500,000/year	370 finished locomotives per year 40%-80-120 tons 60%-130-160 tons 28,000 tons per year
GAF	By Truck and Rail: asphalt granules felt roofing shingles finished products	no data available (confidential)	53,000 tons asphalt/year (other data are confidential)

Table 3

METHODS OF TRANSPORTATION

Name of Business	Current Method of Transportation	Level of Satisfaction with current Transportation	Future Plan to use Rail	Proportion of Transportaion by Rail
Erie-Western Pa. Port Authority	Truck: all common carriers Rail: Conrail Ship:	Satisfied Somewhat less than satisfactory Satisfied	Yes (absolute necessity for bulky and heavy cargo)	20-30%
Koppers, Inc.	Truck: Jack Gray Buffalo Fuel Seaway Rail: Conrail	Satisfied Satisfied	Yes (essential to bring coal by train)	100% of raw materials. 50% of out bound products
Perry Shipbuilding Corporation	Truck: all common carriers	Satisfied	Yes (essential for bulk & heavy cargo) *Plan to expand into rail car repair business	25%
Hammermill Paper Company	Truck: all common carriers Rail: Conrail some N&W	Satisfied Satisfied	Yes	27-30%
Erie Marine, Inc.	Truck: all common carriers Rail: Conrail (no use since 1974)	Satisfied	Yes (essential for main operation)	80% with main operation

Table 3 (continued)

Name of Business	Current Method of Transportation	Level of Satisfaction with current Transportation	Future Plan to use Rail	Proportion of Transportation by Rail
General Electric	Truck: all common carriers	No satisfied	Yes (no alternative for locomotive)	20% inbound
	Rail: Conrail N&W Bessemer-Lake Erie	Satisfied		80% outbound
GAF	Truck: all common carriers	Satisfied	Yes 1) essential for bulky & heavy loads 2) too many trucks already for the streets in the City of Erie	5% outbound
	Rail: Conrail	Not at all satisfied		60% inbound

dissatisfaction and the main reason was the bureaucratic aspects of the railroad company stemming from its monopoly in this area. All the firms indicated that they plan to use the railroad service in the future for the same reasons, namely, railroad service is essential for the transportation of bulky and heavy loads.

3.3 Economic Impacts of Rail Abandonment

It was the consistent opinion of the firms surveyed that the abandonment of the rail system serving Erie Bayfront area would have some negative effects on the local economy, on both employment and revenue. All the firms indicated that the effect of rail abandonment on current level of employment and revenue may not be that great because the current level of business is already very low. But once the general economy starts to recover, then the negative effect of rail abandonment would become very significant.

There would be some differences in the economic effect of rail abandonment for different alternative abandonment options because of business firms' locations.

3.3.1 Option 1 (Abandonment from 16th Street to West of GAF)

It would not affect any on the firms' current business operations. It would have an impact though on the future expansion plan of Perry Shipbuilding into rail car repair business.

3.3.2 Option 2 (Abandonment from 16th Street to East of State Street)

It would affect the current business of GAF and the expansion of Perry Shipbuilding.

3.3.3 Option 3 (Abandonment from 16th Street to East of Erie Marine)

It would have negative impact on business of all firms except Hammermill Paper Company which uses the mainline rail service only.

3.3.4 Option 4 (Abandonment from 16th Street to Buffalo Road)

Same as Option 3.

3.4 Effects of Proposed Bayfront Access Road

Reaction to the proposed construction of the Bayfront Access Road was mixed. Only two firms indicated that the proposed Access Road would bring some favorable effect to the Erie economy because of the following reasons:

1) Turnaround time of transportation would be reduced,
2) Trucking rate of transportation might be reduced because of shorter transportation time and better road condition,
3) Erie Port would become more competitive against neighboring ports.

However, the other firms were somewhat skeptical about the econimic impact of the proposed Bayfront Access Road on their business.

Analysis of the impact of the rail abandonment on income and state revenues, potential savings possible under alternative actions, and comparison of cost incurred by governmental agencies were not able to be conducted because of lack of relevant data. As soon as the requested data through GAI are provided to us, we will submit a supplementary report on those subjects.

4.0 FINDINGS

Through a careful examination of the available data, the following highlights of the findings can be pointed out:

1) All the firms surveyed either have been using the railroad service or have used it in the past.

2) All the firms surveyed are planning to use the railroad service in the future.

3) All the firms contend that the continuation of railroad service is essential for bulky and heavy loads.

4) Survey results indicate that the transportation cost is not a major determinant in the selection of particular carriers. Firms consider the quality of transportation service in terms of transportation time, reliability, accessibility and transportation safety to be more important factors in the carrier selection process.

5) Survey results indicate that continuation of the railroad service in the Erie Bayfront area up to west of GAF is desirable.

APPENDIX B

APPENDIX B

APPENDIX B - CONRAIL TRACK AND PROPERTY

Rail facilities in the Bayfront Area between 12th Street and United Oil were removed during the period of this study. Remaining rail facilities west of GAF are being used as a tail track to service GAF. The track east of GAF, including the Lake Front Yard, is in a "neutral" condition. This means that with routine inspection and maintenance, the trackage is operational.

The "neutral" trackage requires monthly inspection of switches and track. This requires four to five working days per month in the Yard/Bayfront area. Identified problems would be expected to be fixed in two to three days with minimal effect on operations.

Repair of the problems identified by the inspection requires a four-man gang, normally five days per month. Inspection and repair (24 man-days per month at $140 per man-day; i.e., $90 per man-day plus fringes) comes to an estimated $3,500 per month for track work. In addition, flashers for Fifth and Wayne require checking weekly plus an additional monthly checking. This requires a total of five man-days per month for inspection. Allowing for repairs, total flashers costs would be an estimated $1800 per month. Total maintenance of Yard in a "neutral" condition with flashers is $5,300 per month. Present life expectancy of the existing tracks in a "neutral" condition as described above is two to five years.

Some time in the next two to five years, substantial work will be required to install new ties and surfacing of track (raising track to eliminate dips). Surfacing of tracks requires picking up track to the proper level one rail at a time, replacing each tie, and machine vibrating ballast. Tie replacement and surfacing of track will cost $500,000 for the Lake Front Yard.

Operations in the yard depend upon usage. Because of the two percent grade and heavy loads, two locomotives are used at all times for the switching

operations. Costs for yard operations are included in the rates charged by Conrail and N&W for delivery.

Table B-1

CONRAIL BAYFRONT PROPERTY
(City Records)

Parcel-by Street		Area
Cranberry-Raspberry:	4th-3rd	95,429 SF
	3rd-2nd	52,571
Raspberry-Cascade:	3rd-2nd	28,571
	2nd-Front	59,429
Cascade-Plum:	N of Front	24,000
North of Front:		
Plum-Liberty		46,286
Liberty-Poplar		68,571
Poplar-Cherry		69,143
Cherry-Walnut		27,429
Walnut-Chestnut		64,571
Chestnut-Myrtle		22,857
Myrtle-Sassafras		33,143
Sassafras-Peach		34,286
Subtotal		626,286
12th Street to 3rd Street		370,800
Total		997,086 SF

Approximately 22.9 Acres

Table B-2

CONRAIL BAYFRONT PROPERTY
(Conrail Records)

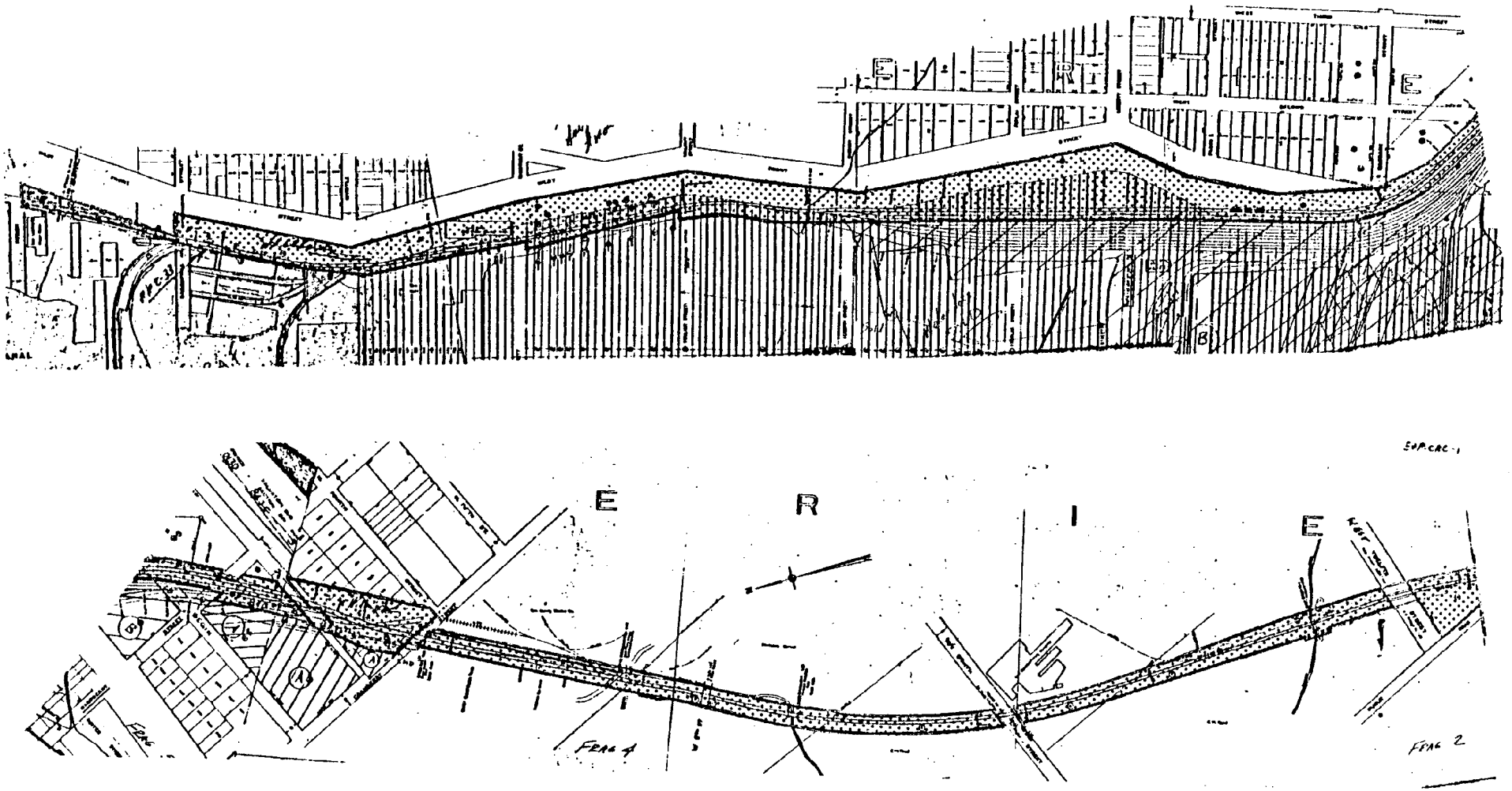
Parcel by Street	Area
12th St. to 3rd St.	370,800
3rd St. to Front St.	122,000
Front St. and Spurs	1,092,000
Totals	1,584,800

Approximately 36.3 Acres

ELK CREEK STABILIZATION AND RECHANNELIZATION STUDY

PA-L81

LAKE CITY BOROUGH, ERIE CO., PA



CONRAIL PROPERTY
STATE STREET WEST TO 12TH STREET
(BASED ON CONRAIL RECORDS)

FIGURE B1

APPENDIX C

APPENDIX C - ALTERNATIVE TRUCK ROUTES TO BAYFRONT INDUSTRIES

An evaluation of alternative routes and travel times for non-local truck traffic to Bayfront industries was made to identify likely paths of added truck trips if portions of the rail line were abandoned, and to provide additional information on the possible use of local streets in Erie if trucks were to access the Bayfront Road via streets such as Parade Street, Holland Street or State Street.

Possible routes to the Bayfront from I-90 or I-79 were identified and travel times (adjusted for truck speeds) were measured in the field on specific links. Truck travel times on the future Bayfront Road were estimated. Comparisons among four routes were made to identify those that non-local trucks would be likely to use. The routes studied are shown in Figures C-1 through C-4. Table C-1 presents measured and estimated truck travel times.

Results indicated that trucks traveling from the east on I-90 will arrive at the proposed Bayfront Industrial Park sooner by remaining on I-90 to I-79 and using the Bayfront Road to the Industrial Park (est. 25 minutes) than by getting off I-79 at T.R. 8 and using Parade Street and the Parade Street Ramp to the Bayfront Road (est. 29 min.).

If the geometrical restrictions on T.R. 430 and T.R. 531 are removed in some future improvement program, these routes would be quicker than other alternatives (est. 23 min.). The I-90 and I-79 alternative which is only 2 minutes longer may still be attractive to truckers from I-90 east who want to avoid local streets.

Also, truck traffic destined to the Bayfront and some central Erie destinations from T.R. 19 and I-79 from the south and I-90 from the west would be attracted to the Bayfront Road because of obvious travel time advantages compared to local streets.

The alternative location plans for the Bayfront Road show a single access point at the foot of Holland Street to the Bayfront industrial area between State Street and the Port. All truck and auto movements to and from the Bayfront industrial area by the Bayfront Road or by Holland Street would use this single access point. All of these movements will have to cross the Conrail Lake Yard tail track that is used to reverse direction of engines, remove cars from the west end of the yard and service GAF. At least once each day, engines (2) pull cars into the yard and exit by crossing Holland Street. This movement takes 5 minutes each way for a total 10 minute delay.

Two to four times each week engines pass to the west side of Holland Street, cross back to the east to pick up cars, and remove those cars across Holland Street to the west (on the tail track) and to the east on the passing track. This movement takes about 40 minutes.

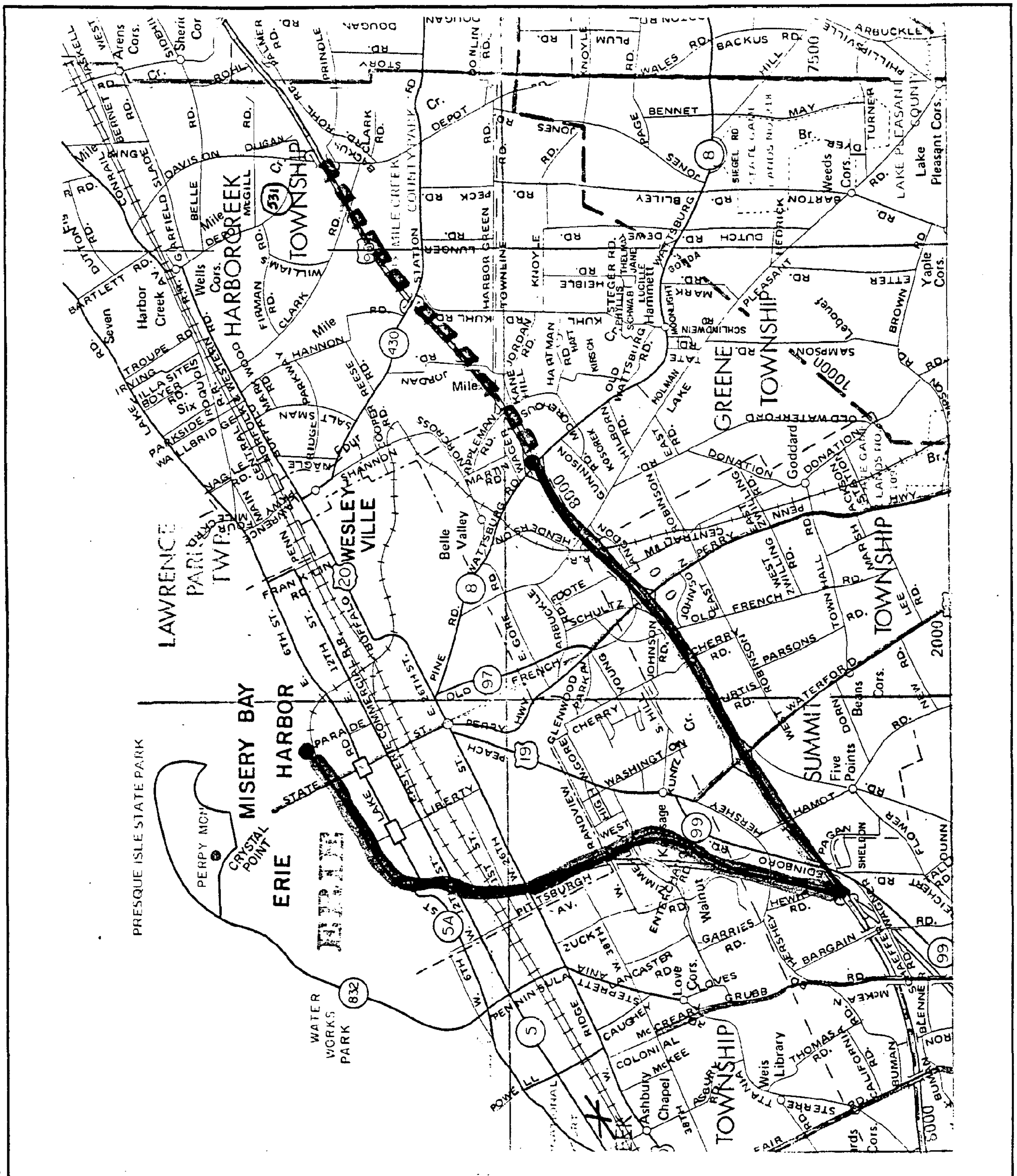
These train movements could cause significant delay to truck and auto trips to and from the Bayfront industrial area at Holland Street and the industrial service road. Also, vehicles making turns into the industrial area from the Bayfront Road would queue onto the Bayfront Road during train movements.

Conrail has expressed concern that objections to such delays by the public or fire officials could result in actions that would constrain their operations and increase operating cost. Possible measures for reducing delay include:

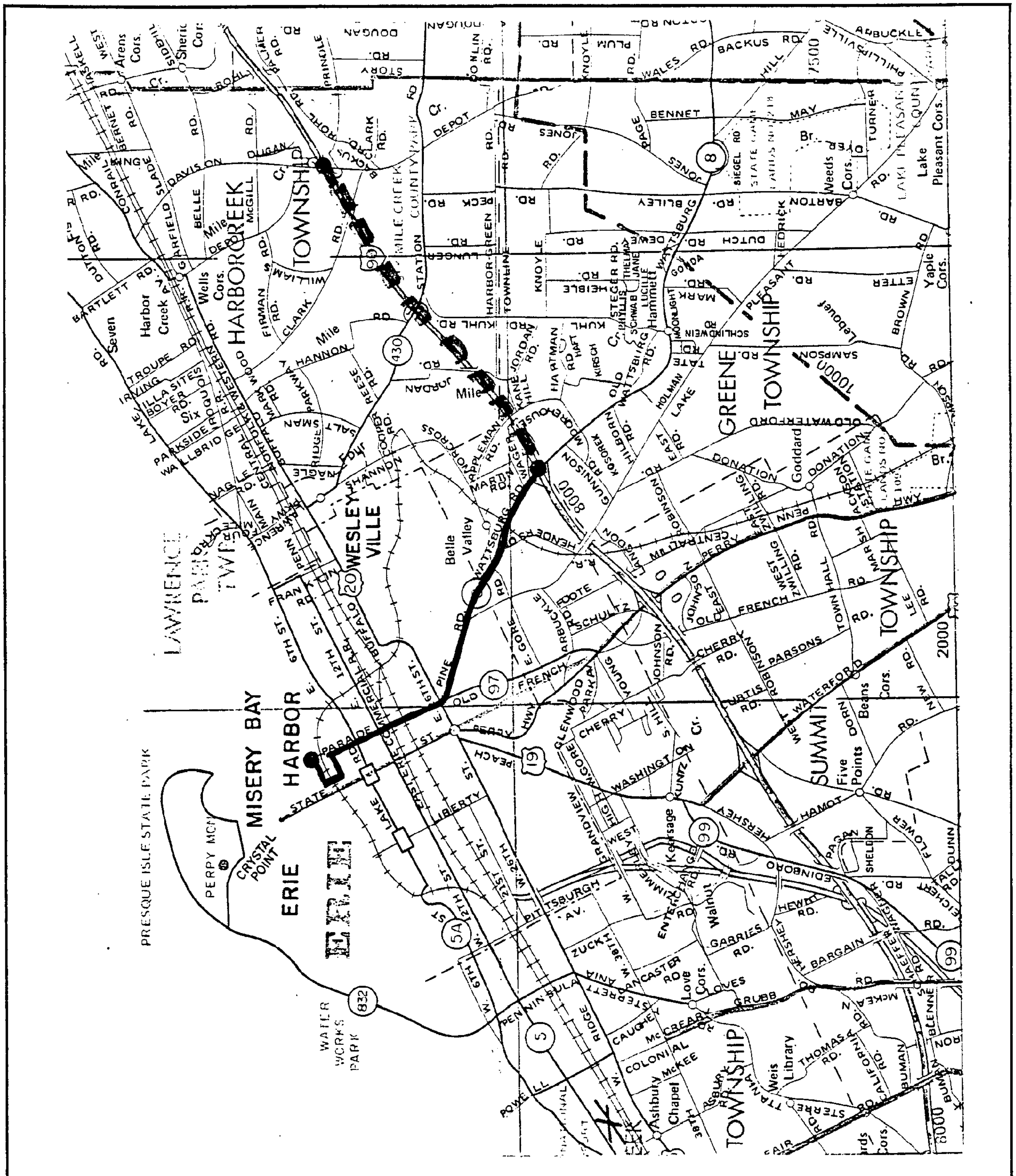
a. Relocation of the Lake Yard 1000 feet to the east, which would eliminate all train crossings of the industrial road access except movements to GAF.

b. Use of a flagman rather than gates to control traffic.

c. Upgrading of the track to increase train speed and facilitate quicker crossings of the industrial area access point.



gai CONSULTANTS, INC. Engineers • Geologists • Planners Environmental Specialists 570 Beatty Rd. • Pittsburgh, Monroeville, Pa. 15146 412-856-6400	FIGURE C-1 TRUCK ROUTE ALTERNATE 1 ERIE RAIL STUDY	DWN. ______ CHKD. ______ APPD. ______ DATE ______
	CITY OF ERIE, PENNSYLVANIA	SCALE: ______ DRAWING NUMBER 82-140-A5 REV



gai CONSULTANTS, INC. Engineers • Geologists • Planners Environmental Specialists 570 Beatty Rd. • Pittsburgh, Monroeville, Pa. 15146 412-856-6400	FIGURE C-2 TRUCK ROUTE ALTERNATE 2 ERIE RAIL STUDY	DWN. _____ CHKD. _____ APPD. _____ DATE _____
	CITY OF ERIE, PENNSYLVANIA	SCALE: _____ DRAWING NUMBER B2-140-A6 REV

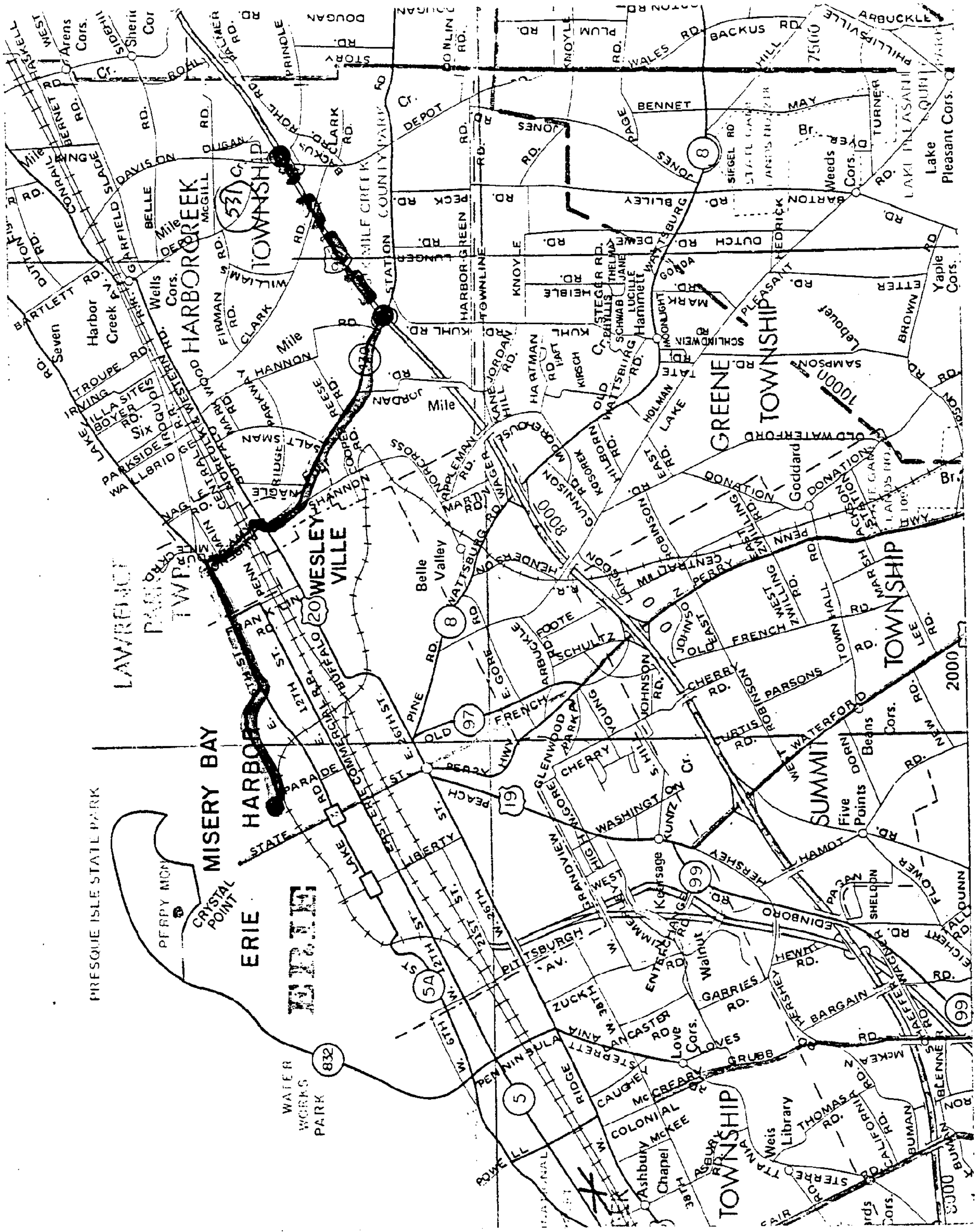


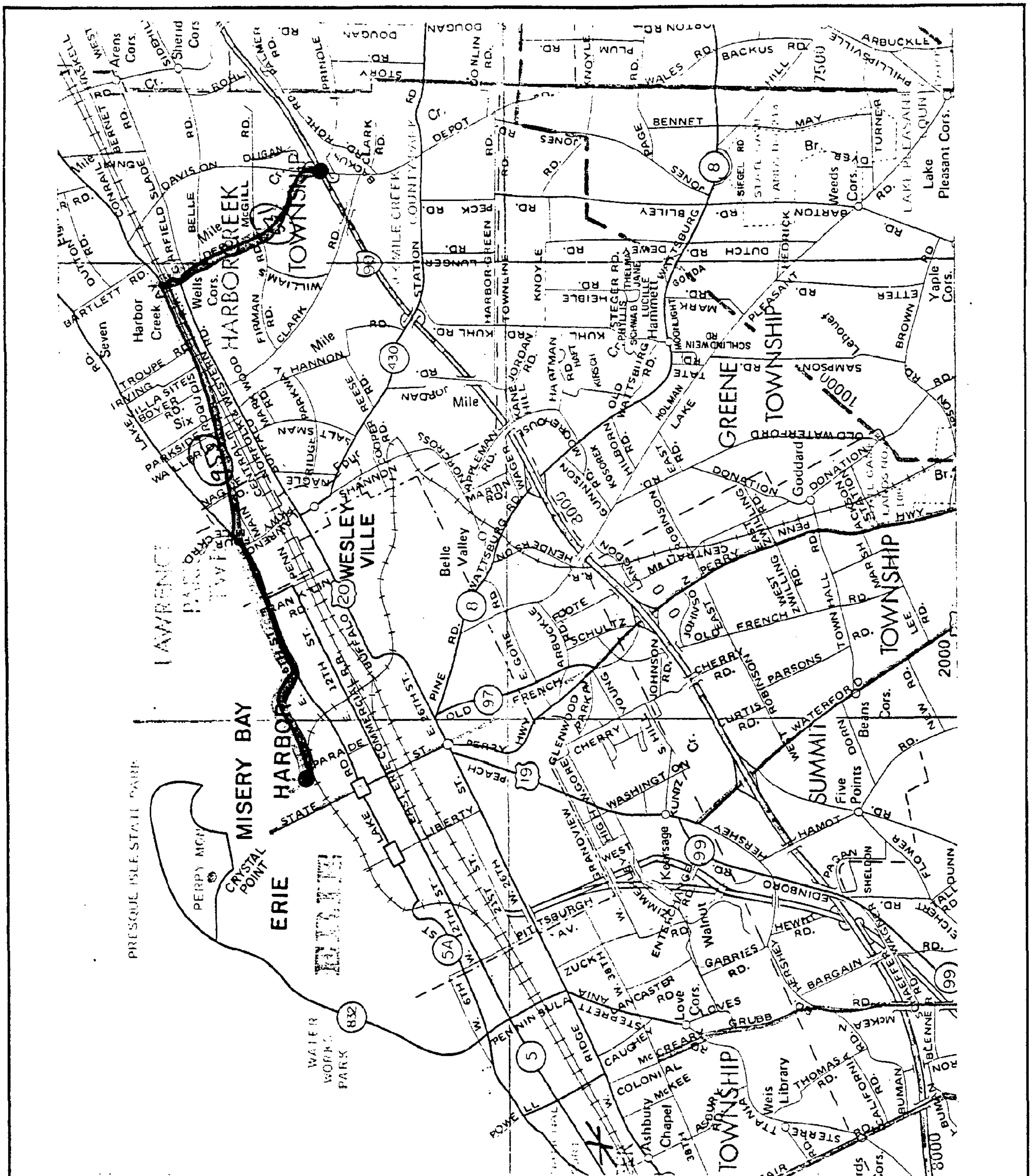
FIGURE C-3
TRUCK ROUTE ALTERNATE 3
ERIE RAIL STUDY

CITY OF ERIE, PENNSYLVANIA

gai CONSULTANTS, INC.
Engineers • Geologists • Planners
Environmental Specialists
570 Beatty Rd. • Pittsburgh, Monroeville, Pa. 15146
412-856-6400

DWN. ______ CHKD. ______
APPD. ______ DATE ______
SCALE: ______
DRAWING NUMBER
82-140-A7
REV

BRUNING 44-142 43457-1



CONSULTANTS, INC.

Engineers • Geologists • Planners
Environmental Specialists

570 Beatty Rd. • Pittsburgh,
Monroeville, Pa. 15146
412-856-6400

FIGURE C-4
TRUCK ROUTE ALTERNATE 4
ERIE RAIL STUDY

CITY OF ERIE, PENNSYLVANIA

DWN.	CHKD.
APPD.	DATE
SCALE:	
DRAWING NUMBER 82-140-A8	REV

BRUNING 44-142 43457-1

Table C-1

TRAVEL TIMES BETWEEN INTERSECTION OF I-90 AND T.R. 531
TO PROPOSED BAYFRONT INDUSTRIAL PARK OPPOSITE PARADE STREET

Alternate	Link	Node	Time (Minutes)	Total Times (Minutes)	
1		T.R. 531			
	I-90		6(1)		
		T.R. 8			
	I-90 & I-79		13(2)	19	25
		I-79/26th St.			
	I-79 & Bayfront Road		6(3)		
		Bayfront Ind. Park			
2		T.R. 531			
	I-90		6(1)		
		T.R. 8			
	T.R. 8 & Parade St.		20(2)	23	29
		Front Street			
	Bayfront Road		3(3)		
		Bayfront Ind. Park			
3		T.R. 531			
	I-90		3(1)		
		T.R. 430			
	T.R. 430		17(2)	20	23
		Hammermill			
	Bayfront Road		3(3)		
		Bayfront Ind. Park			
4		T.R. 531 & I-90			
	T.R. 531, 955, and 5		20(2)		
		Hammermill			
	Bayfront Road		3(3)	23	
		Bayfront Ind. Park			

(1) Calculated from distance and 55 mph speed
(2) Floating car measurement, adjusted for truck speed*
(3) Calculated from distance and estimated Bayfront Road speed

*Adjustments for Truck Speed

Alternate	Measured (minutes)	Estimated for Truck (minutes)
1	12	13
2	17	20
3	12	17 (restricted by offset streets at T.R. 20 intersections)
4	15	20 (restricted by RR overpass)

APPENDIX D

APPENDIX D

Table D-1

TYPICAL DAILY[1] KOPPERS RAILROAD OPERATIONS
CROSSING PROPOSED BAYFRONT ROAD

Crossing[2] Time Range (Minutes)	Movement
2-3	1. Light engines[3] cross forward to ore trestle.
5-15	2. Engines pick up empty coal cars (av. 12-16; max 20) and cross back to lake front yard.
5-15	3. Engines[4] return with full coal cars (av. 12-16;[5] max 20) pushing empty coke cars (av. 6-8; max 20[6] and cross forward to first whallon storage tracks to deposit empty coke cars, and then
5-15	4. Engines[4] and full coal cars cross back.
5-15	5. Engines and full coal cars cross forward to ore trestle.
2-3	6. Light engines cross back.
2-3	7. Light engines cross forward to whallon track to distribute empty coke cars to "race course" and/or
5-10	8. Engines and empty coke cars cross back.
5-10	9. Engines and empty coke cars cross forward to ore trestle.
2-3	10. Light engines cross back.
2-3	11. Light engines cross forward to second whallon track to distribute empty coke cars within the plant.
2-3	12. After assembly of full coke cars on first whallon track (engines working from east side), the light engines cross back on second whallon track.
2-3	13. Light engines cross forward to first whallon tracks to pick up full coke cars (6-8 av; max 20).
5-10	14. Engines cross back with full coke cars to lake front yard.
5-10	15. Engines cross forward with full coal cars (6 max.) to first whallon track.
2-3	16. Light engines cross back.

Table D-1
(continued)

2-3	17.	Light engines cross forward on second whallon track to distribute full coal cars to coal trestle.

[1]Based on full plant capacity. Sequence of operations varies daily depending upon weather, plant operations and delivery.

[2]Speed of train normally 2-3 mph through crossing with 4 mph max. Speed and time of crossing depend on weather, size of load, and stopping point.

[3]Double engines; "light engines" means there are no cars attached.

[4]Steps 3 and 4 normally require continuous closing of road since "whallon tracks" not long enough to hold entire train.

[5]In winter, number of coal cars reduced to about 1/2 normal number supplemented with on-site coal storage.

[6]Empty coke cars may be crossed 20 to 3 times per week, eliminating crossings number 3 and 4 the other days.

Table D-2

AN ALTERNATE TYPICAL DAILY[1] KOPPERS RAILROAD OPERATION CROSSING PROPOSED BAYFRONT ROAD

Crossing[2] Time Range (Minutes)	Movement
5-15	1. Engines cross forward to first whallon tracks with full coal cars (av. 12-16; max. 20)
2-3	2. Light engines[3] cross back.
2-3	3. Light engines cross forward to ore trestle.
5-15	4. Engines with empty coal cars (av. 12-16; max. 20) cross back.
5-10	5. Engines with empty coal cars cross forward to second whallon track.
2-3	6. Light engines cross back.
2-3	7. Light engines cross forward to first whallon track.
5-15	8. Engines cross back with full coal cars (av. 12-16; max. 20)
5-15	9. Engines and full coal cars cross forward to ore trestle.
2-3	10. Light engines cross back.
5-10	11. Light engines cross forward to second whallon track.
5-10	12. Engines cross back with empty coal cars (av. 12-16; 20 max.) to take to lake front yard.
5-10	13. Engines with empty coke cars (av. 6-8; max. 20) cross forward to first whallon to "race course".
2-3	14. Light engines cross back.
2-3	15. Light engines cross forward on second whallon tracks to distribute empty coke cars within the plant.
2-3	16. After assembly of full coke cars from first whallon tracks (engines work from east side), the light engines cross back on second whallon track.
2-3	17. Light engines cross forward to first whallon track to pick up full coke cars (6-8 av.; max. 20).

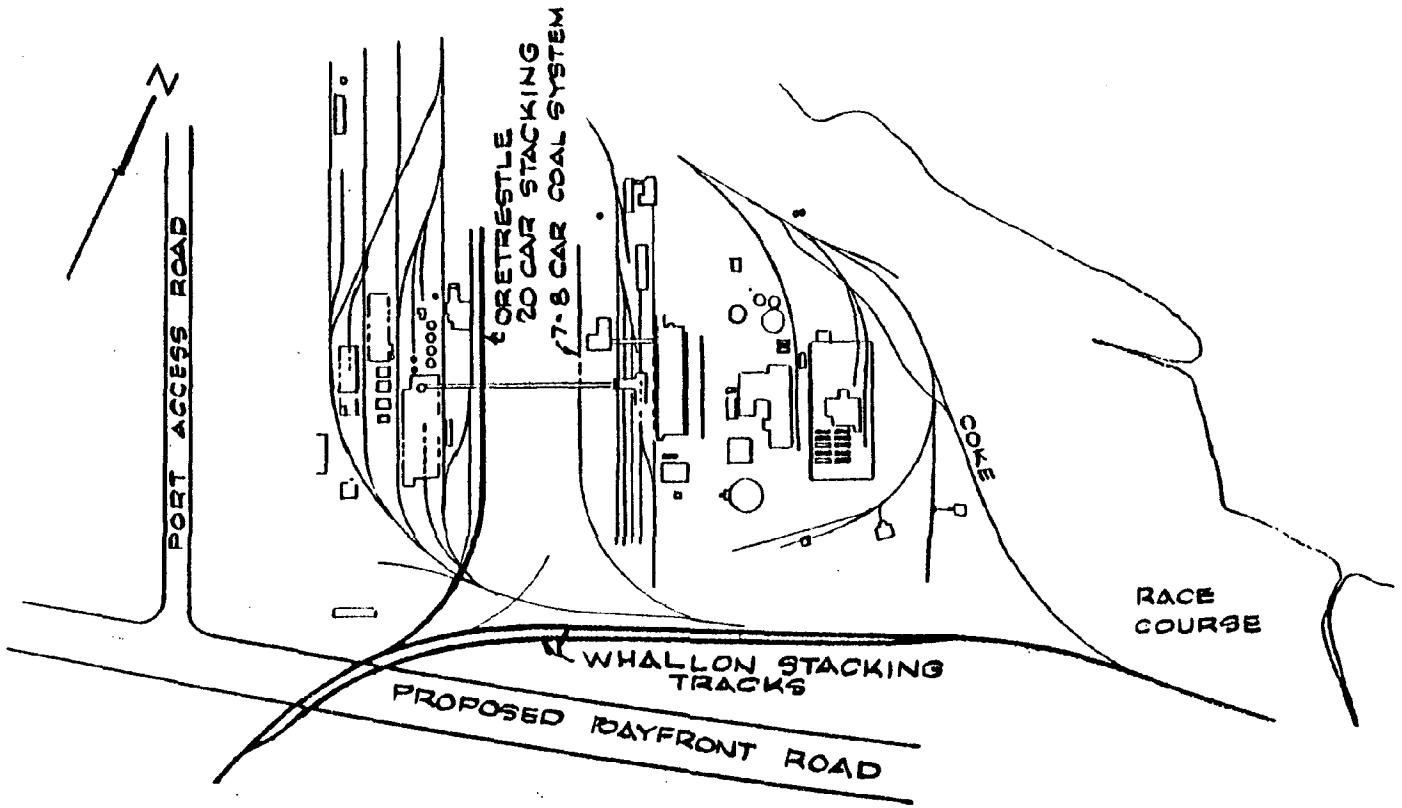
Table D-2
(continued)

5-10	18.	Engines cross back with full coke cars to lake front yard.
5-10	19.	Engines cross forward with full coal cars (6 max.) to first whallon track.
2-3	20.	Light engines cross back.
2-3	21.	Light engines cross forward on second whallon track to distribute full coal cars to coal trestle.

[1]Based on full plant capacity. Sequence of operations varies daily depending upon weather, plant operations and delivery.

[2]Speed of train normally 2-3 mph through crossing with 4 mph max.

[3]Double engines; "light engines" means there are no cars attached.



CONSULTANTS, INC. Engineers • Geologists • Planners Environmental Specialists 570 Beatty Rd. • Pittsburgh, Monroeville, Pa. 15146	KOPPERS ERIE PLANT RAILROAD ACCESS	DWN. FJC CHKD. ____ APPD. ____ DATE ____ SCALE: NONE DRAWING NUMBER 82-140 REV
	FIGURE D-1	

APPENDIX E

APPENDIX E

Harrisburg, Pennsylvania 17120
April 14, 1982

The Honorable Bernard J. Dombrowski
House of Representatives
328 Capitol
Harrisburg, PA 17120

Dear Mr. Dombrowski:

I am writing in reply to your letter of March 30, addressed to Ms. Elaine King, concerning the future of the rail line from Erie to Warren.

The Department's policy related to the preservation of abandoned Conrail lines is that we will provide limited State assistance for operating subsidies and accelerated maintenance to shippers' groups and other railroads which acquire lines from Conrail. To receive State assistance, each line must meet certain eligibility requirements established by the Department. The Department will not participate in the acquisition of any of these lines. There is also limited federal funding available for rehabilitation projects.

The State assistance for the Warren area and for Wilkes-Barre, which the Governor announced, will be provided in each case in accordance with the program guidelines outlined above. In each of these cases, the shippers indicated their intentions to finance the purchase of the rail lines they want to preserve. The State assistance will be provided for accelerated maintenance work to be performed after the shippers purchase the lines.

Regarding the line from Erie to Warren, I believe this Bureau has gone as far as it can by providing information and technical assistance to the rail users and others in the area. Acquisition of this line is now a local decision to be made. I do understand, however, that the Pittsburgh and Lake Erie Railroad is still interested in purchasing parts of this line in conjunction with their proposed acquisition of the former Erie Lackawanna mainline from Conrail. You might want to contact them directly about their plans.

If you wish to pursue further the Department's policy on the preservation of abandoned Conrail lines, I suggest that you contact either Secretary Larson or Deputy Secretary Don Bryan.

Sincerely yours,

bc: Mr. Thomas C. Hoffman

William C. Underwood, Director
Bureau of Public Transit &
Goods Movement Systems

570 Beatty Road, Pittsburgh, Monroeville, Pennsylvania 15146 / (412) 856-6400