

rodi expressway

RODI EXPRESSWAY-PARKWAY TO
FRANKSTOWN ROAD LINK: EVALUATION AND
IMPACT ANALYSIS

Prepared For:

THE PENN HILLS TOWNSHIP COMMISSIONERS

by:

BECKMAN, SWENSON AND ASSOCIATES
9800 McKnight Road
Pittsburgh, Pennsylvania 15237

CONTENTS

A. Introduction	1
B. Penn Hills Expressway Link - Relationship to Regional Freeway System	2
C. Evaluation and Community Impact of the Rodi Expressway	5
D. Alternative Considerations	23
E. Conclusion	24

ILLUSTRATIONS

Official Interim Highway Network 1990	2
1992 Volumes: Non-Extended Expressway	11
Extended Expressway	12
Generalized Existing Zoning Districts	16

A. INTRODUCTION

Four basic areas constitute this Report's basic coverage of the Rodi Expressway facility from its southern interchange with the Penn-Lincoln Parkway to its northern terminus near the existing intersection of Rodi and Frankstown Roads.

These include:

1. The proposed highway's relationship to the Southwestern Pennsylvania Region's Freeway System and established policies concerning this system.
and;
2. An objective evaluation of the Expressway's:
 - a. Basic character, design and conformance with planning-related criteria.
 - b. Community impact.
 - c. Alternative Alignments.

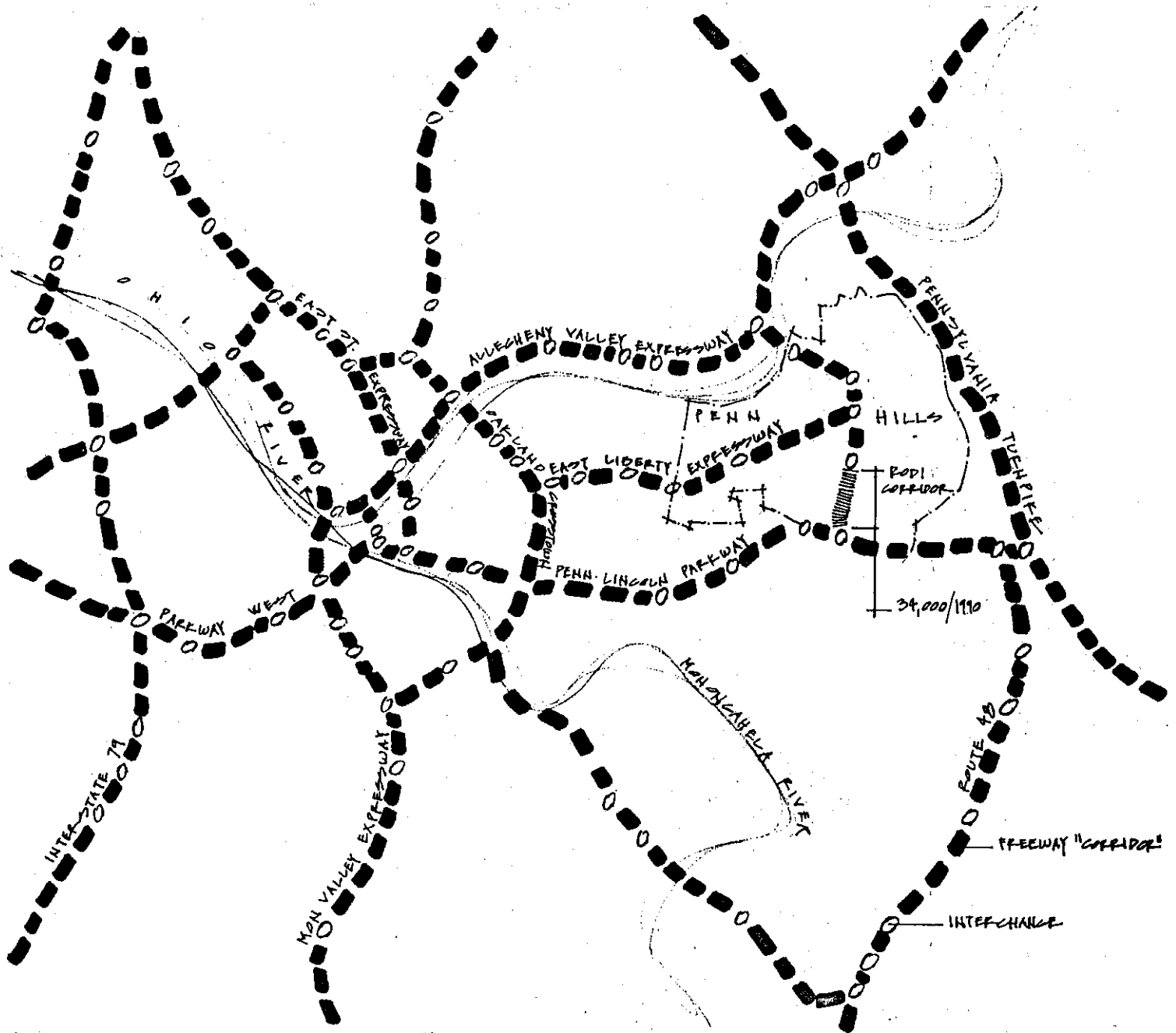
It is hoped that this Document provides a useful description of the proposed Expressway's impact on Penn Hills Township and supplies some significant information which the Township Commissioners may wish to utilize in the formulation of policies concerning the Expressway.

April, 1970

B. PENN HILLS EXPRESSWAY LINK-RELATIONSHIP TO REGIONAL FREEWAY SYSTEM

1. Major System Description

The Rodi Corridor Expressway and its continuation to the Allegheny Valley Expressway is only a small segment of a regional freeway network. The Pittsburgh Metropolitan portion of the six County, Southwestern Pennsylvania Regional System is shown below.



system as expressed by: "official interim highway network - 1990"

ADOPTED SEPTEMBER 1967

2. Regional Freeway Policy Re: Rodi Corridor

- a. Southwestern Pennsylvania Regional Planning Commission's position (SPRPC [Six County continuing transportation planning function responsibility in cooperation with Pennsylvania Department of Highways and U. S. Bureau of Public Roads]).

*Policy: Follow "Official Interim Highway Network" support "Freeway" *facility in Rodi Corridor as part of link between Parkway and Verona/Blawnox (Route 28).*

* Four lane, limited access, grade separated.

No other real information until Highway Plan is completed in September, 1970.

- b. Allegheny County Planning Commission position:

Policy: The Commission generally supports the construction of the Highway Departments Rodi Facility Design and concurs with the Corridor location. (Traffic volume intensity justifies the facility).

This project, Route 48 and the Monongahela Valley Expressway are being considered for deferment into the State Highway 1976-82 Program--County recommended leaving it in the current Six Year Program.

- c. Relationship to Township's 1957 Master Plan

(Prepared by the Pittsburgh Regional Planning Association)

"Proposed Road Plan" recommendation: "Rodi Road should be improved and widened into a four lane divided highway". This facility to function as link in the Parkway to Oakmont Arterial.

(Very similar Corridor as the "Official Network").

Note: Parkway extension not yet built in 1957.

3. Related Bureau of Public Roads Policy to Freeway Corridor Locations

(From Instructional Memorandum 50-2-63 (1) 9/13/63).

"Social and Community Value Factors" stresses:

- a. Use of Transportation facilities to revise area standards.
- b. Preservation and enhancement of existing open space.
- c. Avoidance of neighborhood disruption, such as, cutting of School Districts, Ethnic Groups, Fire Districts, etc.
- d. New facilities should blend into the landscape--"The Location and Design of new facilities should insure a pleasing appearance for the motorist, pedestrian and nearby residents".

4. Conclusion

Although the Rodi Expressway is not directly consistent with the Township's Master Plan, there is significant and Official Regional and County level policy support for its location and general design, i.e., A Limited Access Expressway.

C. EVALUATION AND COMMUNITY IMPACT OF THE RODI EXPRESSWAY

1. Purposes

Assume the design is generally competent, shows good engineering and generally satisfied efficiency and performance--related transportation facility criteria then:

- a. Evaluate against planning-related criteria.
- b. Describe and analyze community impact in general criteria areas.

These, then are the basic purposes of this Report. The following Criteria and impact areas will be used.

CRITERIA AREAS

Minimum disruption
Regional Planning
Economic/Social
Aesthetic/Design

IMPACT AREAS

Land Use/Zoning/Development Potential
Costs or Benefits
Visual
Local Circulation System
Areas for Further Study

2. Evaluation

Application of evaluative criteria to facility to determine if and how well, the criteria are satisfied.

- a. Minimum Disruption

CRITERIA

RODI FACILITY CHARACTERISTIC

CONCLUSION

As little degree of disruption to existing practices, habits and surroundings as possible.

(1) Community and Neighborhood Continuity

Proposed Expressway lies on slope in existing Duff's Run Valley.

Although the Expressway reinforces the

CRITERIA

RODI FACILITY CHARACTERISTIC

CONCLUSION

This Valley and Rodi Road currently constitute somewhat of a "break" in Penn Hills' intensive development.

the Rodi Valley break in the Penn Hills community, its slope location and the Plan's maintenance of existing Rodi Road lessen its impact a great deal. Further, the Frankstown Interchange area will be much less confused and disjointed. Generally not disruptive to continuity, however, volume increases (17-20,000 cars in 1992 vs: 7,000-8,500 cars in 1966), could be disruptive in terms of noise, glare and intensity of movement.

(2) Basic Services: School, Fire, Police, Utilities.

Some sewer modifications and creation of dead-end streets. One access to high school cut off.

Minor disruption except in the case of high school access. Rodi Expressway, its completion to the Allegheny River Expressway would increase the school's accessibility.

(3) Access/Local Road System Loadings

Major Access problem relate to the high school and the Hospitality Inn (distance) in Wilkins Township. Access to properties adjacent to existing Rodi Road is maintained Penn Hills Shopping Center access is enhanced.

Except for school only minor access disruption.

b. Regional Planning

CRITERIA	RODI FACILITY CHARACTERISTIC	CONCLUSION
(1) Consistency with established Highway Plans and Policies.	Consistent with "Official Interim Highway Network" and Allegheny County Policy, drastically different from the 1957 Township Master Plan.	Meets Regional Planning criteria and ignores local Plan (Local Plan may be out of date).
(2) Open Space Review	Alignment requires some slope, open space.	Does not meet criteria, however, Township Zoning would permit residential or business use of slopes anyway.
(3) Consistency with Township Land Use Plan.	Will not greatly disrupt existing or future desires, -- could stimulate development within Plan's context.	Meets criteria.

c. Economic-Social

CRITERIA	RODI FACILITY CHARACTERISTIC	CONCLUSION
Minimum initial loss Maximum potential gain with limits of system efficiency.		
(1) Increases in land values.	Increased accessibility and efficiency will directly effect and increase rent surface of area. Particularly in Interchange area.	Meets criteria.
(2) Displacement/Relocation of existing activities.	Two major light industrial operations, several minor auto-oriented activities will be displaced, otherwise minimum disruption.	Does not meet criteria entirely.
(3) Residential relocation.	Minimum required.	Meets criteria.
(4) Neighborhood Identity/Isolation.	Reinforces Rodi-Duff Run Valley barrier which is currently a natural neighborhood division	Meets criteria partially.

CRITERIA	RODI FACILITY CHARACTERISTIC	CONCLUSION
(5) Opportunity Optimization.	Will increase accessibility to jobs and regional population.	Meets criteria.

d. Aesthetic/Design

CRITERIA	RODI FACILITY CHARACTERISTIC	CONCLUSION
"...A pleasing appearance for the motorist, pedestrian and nearby residents"...		
View from the Road	Elevates driver out of Rodi Road visual clutter. Clarifies movement experience--positively eliminates Rodi-Frankstown Road Intersection is visual chaos.	Meets criteria.
View of the Road	Depends on specific design details, road structure articulation and slope and landscape treatment. Basic criteria of minimum intrusion.	Probably will meet criteria.

e. Summary

SYSTEM EVALUATION FRAMEWORK*

CRITERIA

A. Minimum Disruption	Relative Weight	Meets Criteria	Does Not Meet Criteria
1. Community Continuity	(1)	1	
2. Basic Services	(2)	1	
3. Access	(2)	1	
	(5)	<u>3</u>	
B. Regional Planning			
1. Established Plan Consistency	(10)	6	0
2. Open Space Review	(2)	-	
3. Land Use Plan Consistency	(8)	8	
	(20)	<u>14</u>	
C. Economic/Social			
1. Land Value Increases	(10)	10	
2. Existing Activity Displacement	(5)	3	
3. Residential Relocation	(1)	1	
4. Neighborhood Identity	(2)	1	
5. Opportunity Optimization	(10)	10	
6. Community Goal Conformance	(2)	1 (Assumed)	
	(30)	<u>26</u>	
D. Aesthetic/Design			
1. View from the Road	(2)	2	
2. View of the Road	(2)	2	
	(4)	<u>4</u>	
TOTAL	(59)	<u>48</u> -- 80 per cent	

As proposed, the Rodi Expressway, generally satisfies all planning-related, system evaluation criteria.

* This evaluative system was derived utilizing similar frameworks as discussed in Manual 9--Social and Community Value Factors, Ohio Department of Highways, 1966.

3. IMPACT

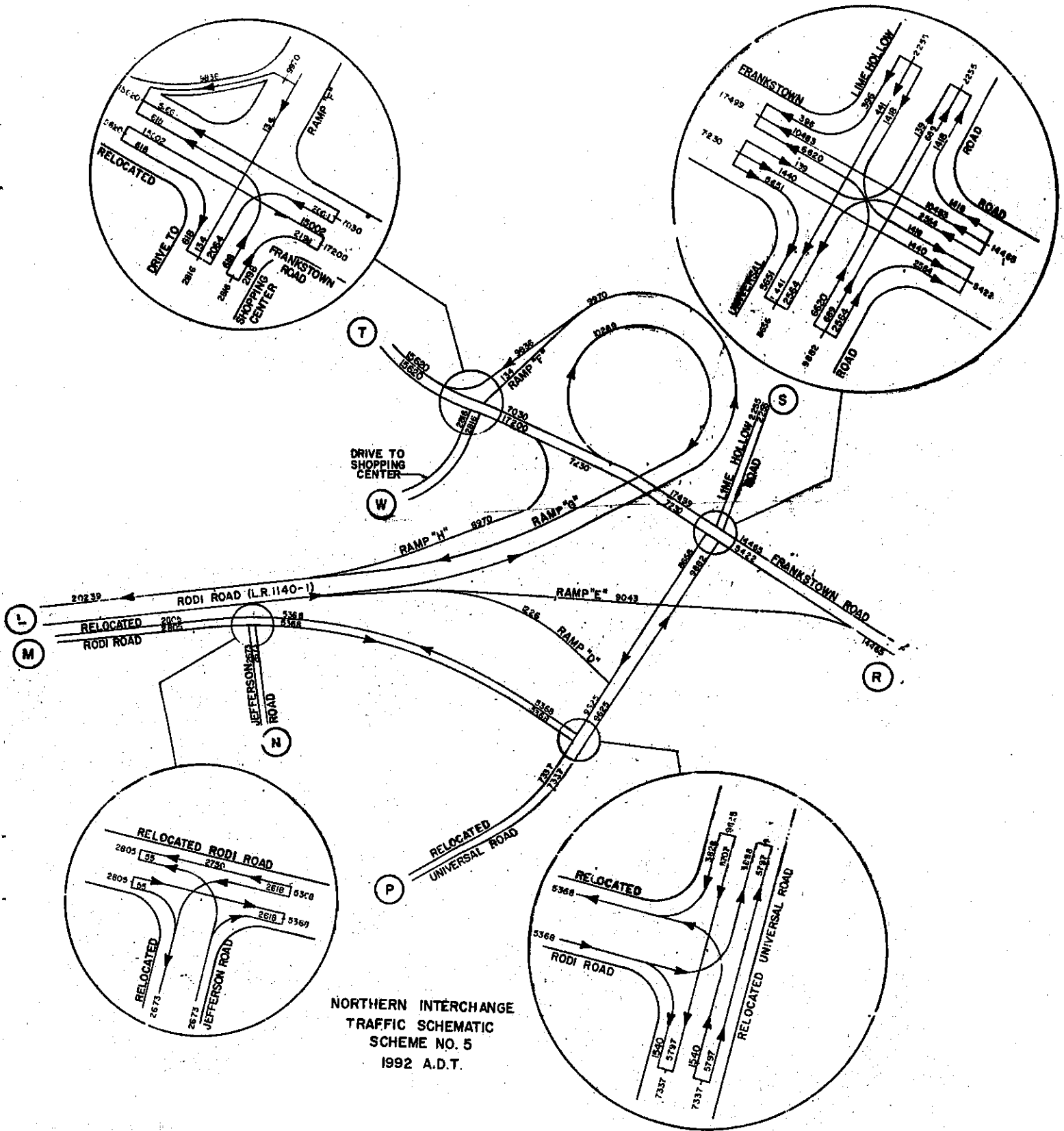
This Section examines the Expressway's quantitative and qualitative effects and influences in five major impact areas related to the criteria covered in the preceding evaluation.

a. Local Circulation System

Particularly the Expressway's influence on Universal, Jefferson and Rodi-Frankstown Roads.

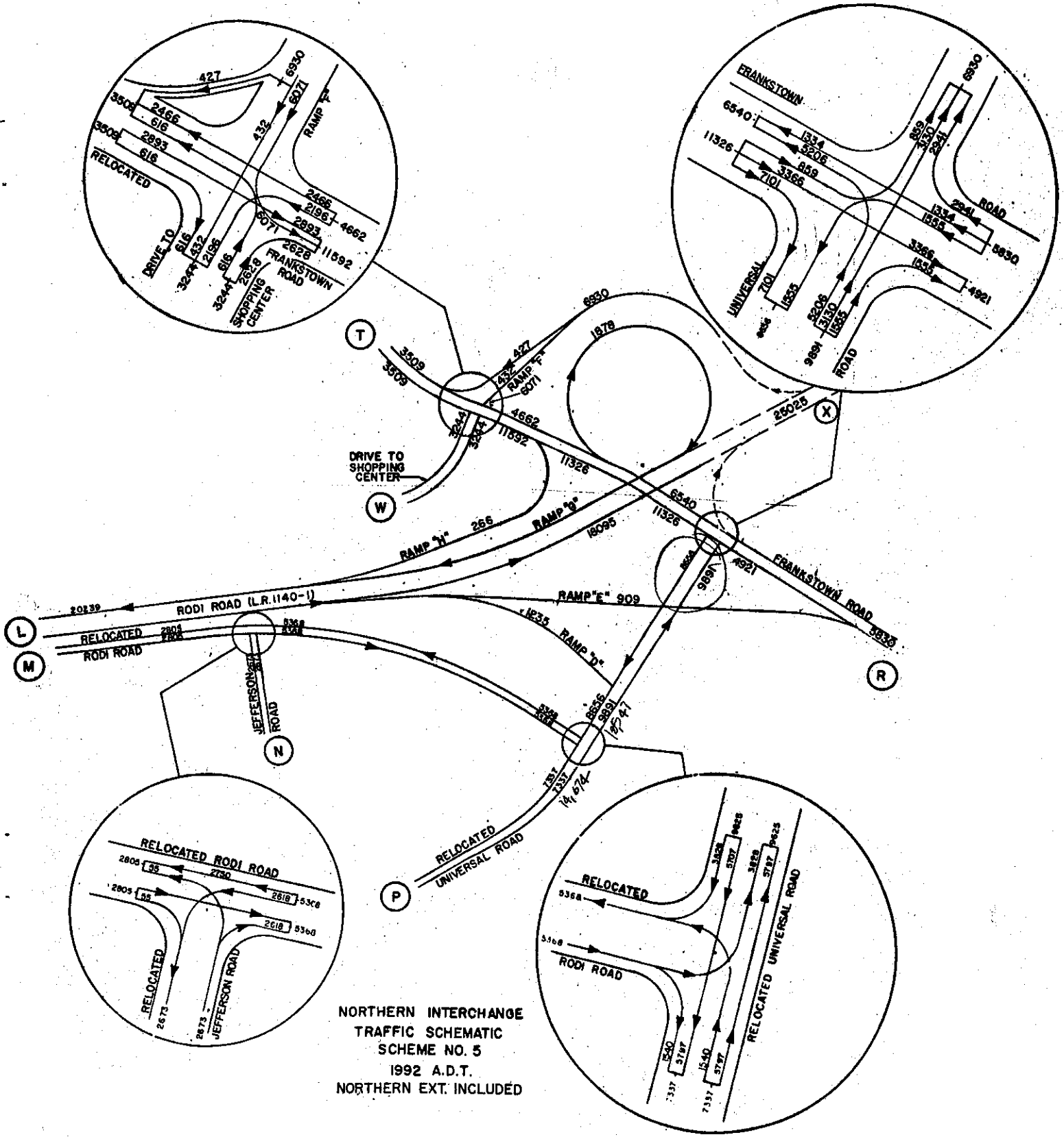
IMPACT AREA	FINDINGS/ANALYSIS			CONCLUSION
	(1) Traffic Volume Changes	Existing Volumes	1992 Traffic* With Expressway Extended	
Existing Rodi Road	6,725-	a. 1,850	a. 1,850	Non-extended version of Expressway will place severely increased traffic loads on Frankstown Road particularly west of the interchange where volumes will be almost double current levels.
	8,580	b. 5,610	b. 5,610	
		c. 10,736	c. 10,736	
Universal Road	No Count	a. Parkway to Duff Road Interchange		
		b. Duff Road to relocated Jefferson Road		
		c. Relocated Jefferson to relocated Universal Road. (Rodi Road relocated)		
		d. 14,674	d. 14,674	
		e. 19,250-18,538	e. 18,546-18,547	
		d. South of relocated Rodi Road		
		e. Rodi Road to Frankstown (Universal Relocated)		
Jefferson Road	5,580	5,346	5,346	
Frankstown Road	f. 15,440	h. 7,018	h. 31,240	
	g. 12,580	i. 16,254	i. 24,230	
		j. 17,866	j. 24,729	
		k. 10,751	k. 19,887	
	f. West of Rodi Rd.	h. East of ramp to shopping center.		
	g. East of Rodi Rd.	i. Shopping Center ramp to southbound access ramp "H".		
Proposed Rodi Expressway (LR 1140-1)	0	j. Ramp "H" to relocated Universal Road.		
		k. East of Relocated Universal Road.		
		l. 17,600	l. 17,600	
		m. 20,239	m. 20,239	
		n. 25,025	n. 25,025	
		l. South Interchange to Duff Road Interchange.		
		m. Duff Road to South of Frankstown Road.		
		n. North of Frankstown Road for Extension.		

* Projections provided by Design Liasion-Pennsylvania Department of Highways.



NORTHERN INTERCHANGE
 TRAFFIC SCHEMATIC
 SCHEME NO. 5
 1992 A.D.T.

1992 volumes (FRANKSTOWN INTERCHANGE WITHOUT EXTENSION)



NORTHERN INTERCHANGE
 TRAFFIC SCHEMATIC
 SCHEME NO. 5
 1992 A.D.T.
 NORTHERN EXT. INCLUDED

1992 volumes (EXTENDED BEYOND FRANKSTOWN INTERCHANGE)

Assuming a completion schedule as indicated below, interim traffic loads should be at tolerable intensities on all elements of the Township road system serving the Interchange, except on Frankstown Road.

ESTIMATED PROGRESS

RODI EXPRESSWAY *

A. Public Hearings	1970
B. Final Design	1971-1972
C. Right-of-Way Acquisition	1972-1974
D. Construction	1975-1976/1977
E. Possible Completion	1977

* Not Extended

1977 Estimated Volumes With Expressway Complete

Frankstown Road: West of Shopping Center - 20 - 22,500 vehicles.
East of relocated Universal Road - 16 - 18,000 vehicles.

1977 Frankstown Road Volumes Without Expressway

West of Rodi Road: 18,600
East of Rodi Road: 15,200

* @ + 3 per cent per year increase (1970 Base).

(2) Access Considerations

IMPACT AREA	FINDINGS/ANALYSIS	CONCLUSION
<u>(a) Existing Activities</u>		
1. Hospitality Motor Inn (Wilkins Twp.)	Access Distance increased 2,000'. Must use Duff Road Interchange for Exit.	Access while somewhat less direct is satisfactory. No activity is denied access.

IMPACT AREA	FINDINGS/ANALYSIS	CONCLUSION
2. Existing Rodi Rd. and adjacent activities between Parkway and Penn Hills Shopping Center	Existing Rodi Road maintained access off parking via Rodi Expressway-Duff Road Interchange.	Access while somewhat less direct is satisfactory. No activity denied access.
3. Penn Hills Shopping Center	Direct access of Interchange and grade separated link with relocated Universal Road.	Shopping Center gets "own Interchange" in effect superior to existing situation. Access somewhat less direct with Expressway Extension to Route 28.
4. Activities West Of Interchange.	Access not significantly affected --except perhaps by backing at Southbound Ramp.	Investigate possible problem.
5. Activities East Of Interchange.	Access blocked to Harvard and Marymont Drive affecting school and residential uses on single (Parkridge Drive access).	Investigate other access and states position. Possible link with Universal Road.

b. Future Activities

Access from Duff Road and Frankstown Road Interchanges --very good. Access to new uses in Penn Hills Shopping Center-- Excellent.

Future Activity access very satisfactory.

(3) Flow Considerations

Directness and ease of flow-turning movements.

-Duff Road Interchange increases access distance to southern interchange destinations.
 -Existing Rodi Road access to Frankstown Road via relocated Universal Road.
 -Direct access from relocated Universal Road to Frankstown Road.

Future flows fairly direct and easy. Signals probably needed at these points, Rodi-- Universal, Universal-- Frankstown, Frankstown --Shopping Center access.

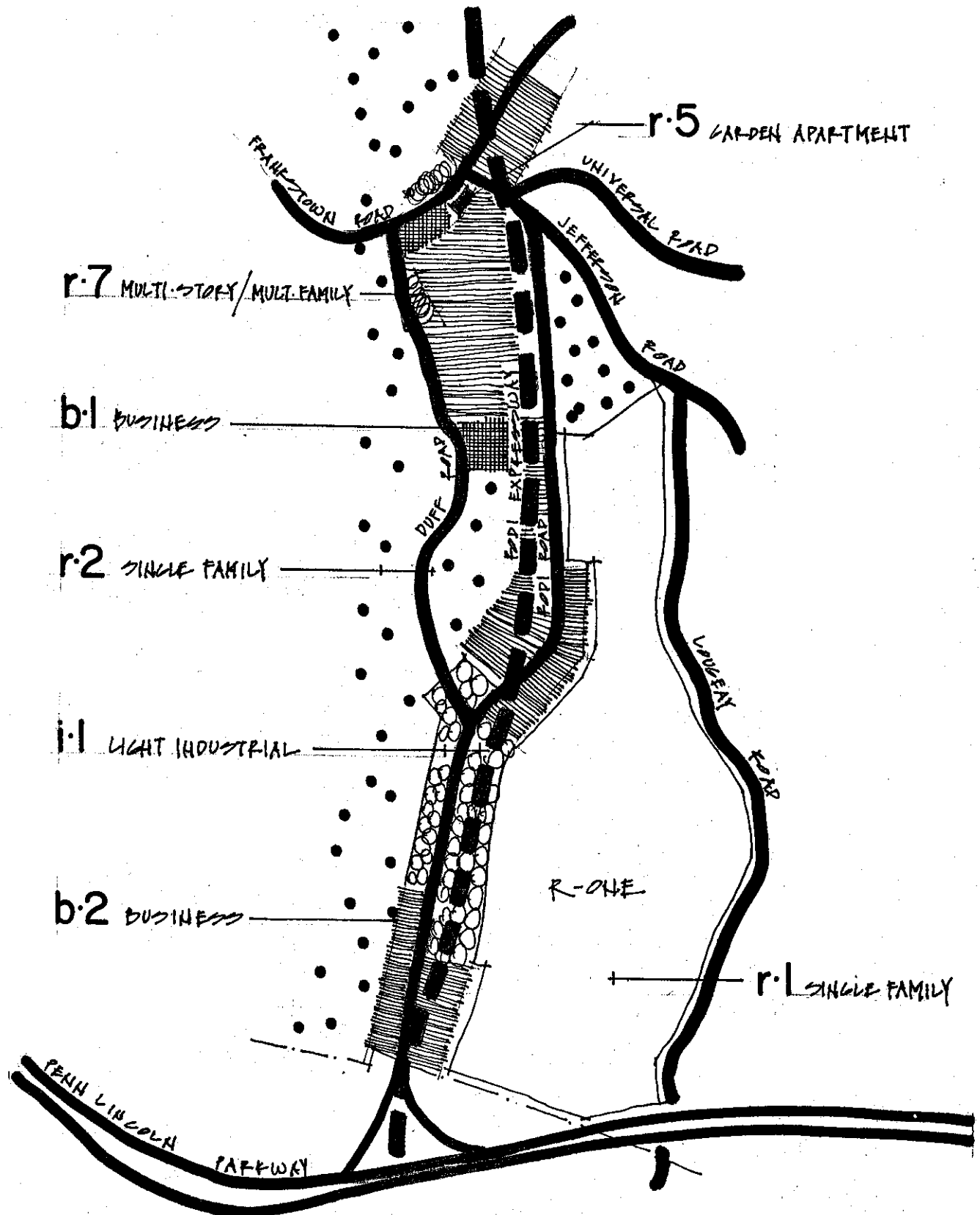
b. Land Use/Zoning/Development Potential

(1) Existing Land Use and Zoning

IMPACT AREA	FINDINGS/ANALYSIS					CONCLUSION
(a) Zoning's relation to existing land uses.	Zoned for Business, Light Industrial and Residential. Uses summarized below:					Zoning directly reflects land use.
B-2 Community Business	R-1 Single Family	R-2 Single Family	R-4 Multiple Family	Light Industrial		
Retail and Offices	Single-Family Only	Single-Family Only	Multiple-Family Only	Light Industry Research		
R-5 Garden Apartment 3 Stories Multiple Family Only	B-1 Neighborhood Business			R-7 Multi-Story/Multi-Family		
	Retail, Services and Offices			Limited Commercial 5-10 Stories Offices and Services on first two floors		

(2) Development Potential

IMPACT AREA	FINDINGS/ANALYSIS	CONCLUSION
(a) Types of expected Uses.	<u>Highway-Oriented</u> serving driver and vehicle. <u>Accessibility-Oriented</u> large traffic generators requiring ready access to broad geographic or market areas.	Expect Both.
(b) Locational Tendencies.	Within 1/4 to 1 mile of Interchange or, utilizing air rights, or Interchange property locations in special circumstances.	Locate close to Interchange.



generalized existing zoning districts

IMPACT AREA	FINDINGS/ANALYSIS	CONCLUSION
(c) Needs or Characteristics	<u>Highway-Oriented Uses</u> -Very close to Interchange. -Good direct access. -Adjacent high volume Highway <u>Accessibility-Oriented Uses</u> -1/2 to 1 mile from Interchange or "on top". -Good Access -Medium to large sites. -Flat to moderate topography. -Visibility from Freeway important.	Similar to Frankstown Roads current activities.
(d) Possible Types.	<u>Highway-Oriented</u> -Motel -Car and Truck Service. -Car and Truck Sales. -Vehicle accessory Sales. <u>Accessibility-Oriented</u> -Regional Shopping -Office -High density residential -Warehousing -Research -Light Manufacturing -Truck Terminals	Possible land uses vary greatly.
(e) Development Parameters	1. Site availability vacant or ability to assemble parcels. 2. Land Costs. 3. Site Location & Access 4. Site shape. 5. Site Size. 6. Site Topography. 7. Favorable Zoning. 8. Adjacent land use.	Location and Access are provided, all others are variable.
(f) Potential Development 20,000-35,000 ADT Corridor (Contingencies: Those cited above particularly site availability and favorable Zoning.)	1. Offices-ALA Parkway and Penn Centers/Greentree and Monroeville. 2. Research-ALA Route 22-30 Mobay--Crucible. 3. Motels-ALA Holiday Inn "anywhere". 4. Light Industry/warehousing/terminal facilities--particularly in southern interchange area.	Expect anything, particularly commercial and apartments.

IMPACT AREA	FINDINGS/ANALYSIS	CONCLUSION
	5. High density residential --High rise/or unit develop- ment-ALA Greentree Road and Carnegie. 6. Expanded shopping facili- ties at Penn Hills Shopping Center--particularly with completion of Expressway to Blawnox. 7. Interchange area transit facilities-Bus parking "kiss and ride or park and ride".	
(g) Empirical Aspects of highway interchange development.	The Monroeville Experience. (1950-1957).	
Rise per acre in real property values.	+ 366 % from new development and appreciation.	
Number of Real Estate Transfers	+ 212 %	
Total Population	+ 119 %	
Protection of Persons and property costs	+ 998 %	
School Expenditures	+ 588 %	Rapid growth followed rapid traffic volume increases.
School Population	+ 72 %	
Taxes Levied (all)	+ 306 %	
Taxes Leived (Real Estate)	+ 311 %	

c. Economic

IMPACT AREA	FINDINGS/ANALYSIS	CONCLUSION
(1) Losses and Costs		
(a) Assessed Value and Taxes	Assessed value of R/O/W Property --\$1,641,060. Tax loss @ 12 1/2 Mills \$20,512.	Even at over 1 1/2 million, loss is relatively minor when contrasted against the benefits the Expressway could produce e.g. Green-tree--+\$1,000,000 per/year, assessed value growth with Parkway--accessibility, attracted activities which produce generally high tax rates, e.g., Parkway Center cost \$5,000,000.
(b) Sewer Relocations.	Several sanitary and storm sewer relocations required. State will pay most of the costs.	Minor cost.
(c) Local Street Modifications.	-Several cul-de-sacs needed. -State will relocate major local roads. -Access problem at Senior High School. -Major signalization at Rodi-Frankstown Interchange.	Cul-de-sacs minor, however, restriction of school access appears worthy of compensation by State either through Parkridge widening or rear connection to Universal. Further investigation needed on who bears signal costs installation.
(d) Other potential costs. -pollution from construction.	Siltation, slope erosion and mine acid discharge could occur during construction.	Investigate safeguards taken by State and contractor.

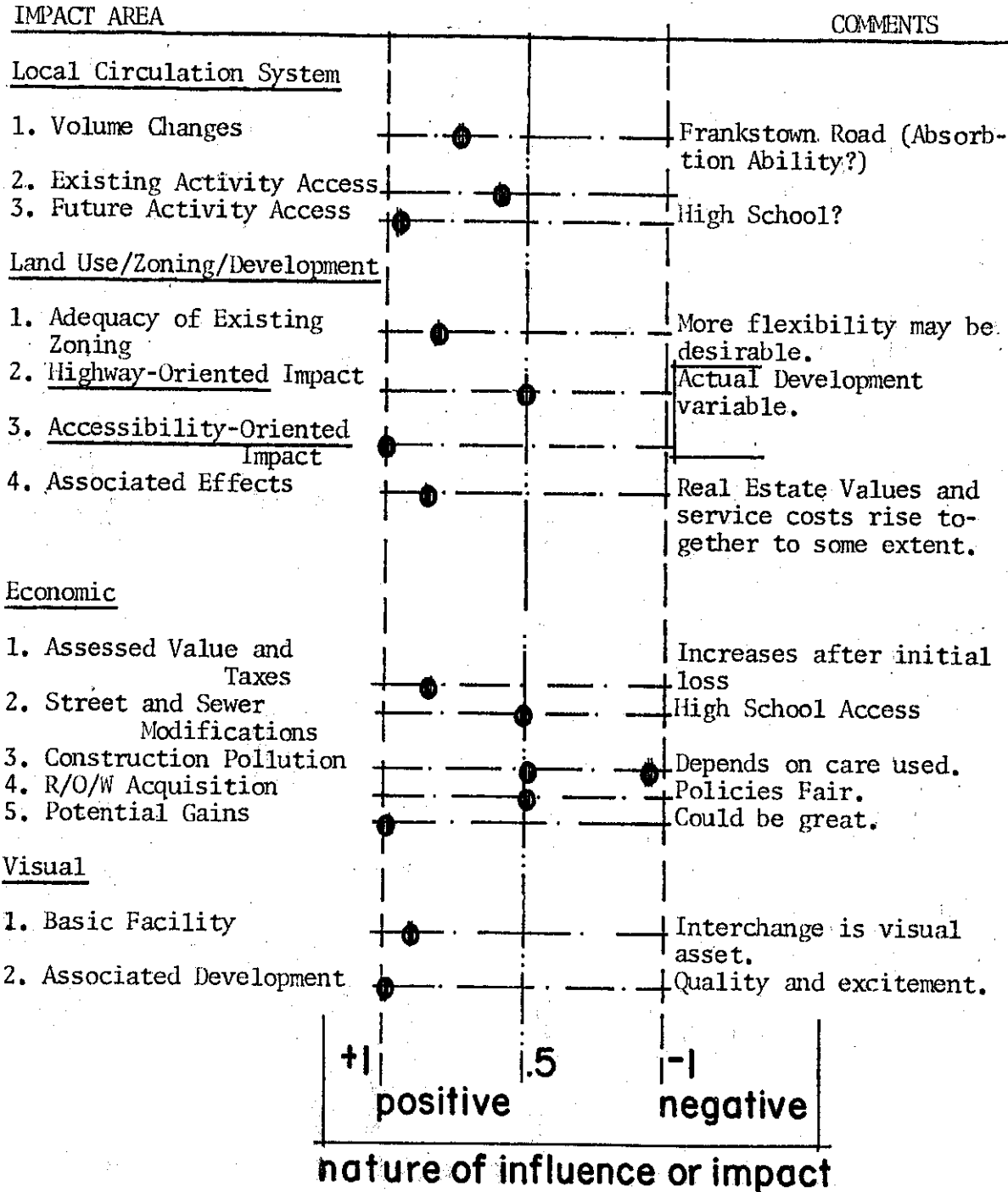
IMPACT AREA	FINDINGS/ANALYSIS	CONCLUSION
(e) Acquisition of R/O/W Property	<p>State Acquisition Policy</p> <ol style="list-style-type: none"> 1. Appraisal-one or more by either private or state appraisers. 2. Compensation: <ol style="list-style-type: none"> a. Fair market value based on appraisal plus: b. "Just compensation" <ul style="list-style-type: none"> -Relocation/moving costs - Structure retention. - Rent supplements. - Closing costs. - Interest differential. 3. Non-cooperation settled through condemnation-litigation. 4. Time: <ul style="list-style-type: none"> - 90 days from offer (Law) - Usually one year. 	Essentially fair-- even generous in some ways. However--does meet so called "replacement", or "Humane Appraisal" or "loss of business" goals.
(2) Potential Gains (a) Real Estate Values	<p>Will go up, but how much is undeterminable.</p> <p>-e.g., Greentree + \$1,000,000/yr. consistently lower taxes.</p> <p>Monroeville + 366% in 7 years.</p>	Expect some increase.
(b) Exciting, attractive development--enhanced community image.	(See b 2) "Development Potential".	Some attractive development should occur.

d. Visual Considerations

<u>IMPACT AREA</u>	<u>FINDINGS/ANALYSIS</u>	<u>CONCLUSION</u>
(1) Basic Facility	Expressway hugs slope through most of Corridor, with adequate landscaping and proper slope treatment it should be unobstrusive. - Rodi-Frankstown Interchange should have positive visual influence on its vicinity--"Breath of Fresh Air" or break in Frankstown Road intensity and confusion.	Generally unobstrusive or even positive visual influence.
(2) Associated Development Activity	Anticipate multiple story verticality and generally sophisticated architecture. Air Rights uses would produce even more visual excitement but should be designed so they do not produce visual discontinuity.	Should produce positive visual influences.

e. Summary

IMPACT CONSIDERATIONS



Scale position indicates nature of impact, i. e. +1 is totally positive or beneficial, -1 is a detrimental influence, .5 position indicates generally neutral impact with some negative aspects.

D. ALTERNATIVE CONSIDERATIONS

1. Any alternative alignment Corridor would require significant modification of strongly established regional highway policies.
2. Alternatives

ALTERNATIVE	ANALYSIS	CONCLUSION
a. <u>1957 Township Plan</u> No expressway-Rodi Road to four lanes.	-Problems of R/O/W acquisition in tight Corridor. -Essentially local arterial improvement with little regional benefit and limited volume capacity.	Not a regionally beneficial facility.
b. <u>"Penn Hills Chamber of Commerce Plan"</u> -Eliminate Rodi Express- way. -Frankstown four lanes: Beulah to Saltsburg Roads -Thompson Run Corridor- Parkway-Leechburg Road link.	-Discontinuous locally oriented system. -Condemnation costs and access problems on Frankstown proposal could be severe. -Costs and topography problems in building Thompson Run Inter- change are severe. -Also Corridor topography could produce high construction costs.	Costs excessive for benefits received.
c. <u>Wilkins Township</u>		
<u>Alternative</u>		
Put Expressway in different Corridor in paralleling valley west of Duff Run Valley.	-Sandy Creek Corridor with Beulah Road link to Parkway probable selection. -Development intensity and necessary interchange modi- fication--Make acquisition and construction costs severe.	

All these alternatives are generally invalid and inadequate because of their associated costs, local service orientation, and lack of regional continuity and benefit.

E. CONCLUSION

1. Generally, the proposed Rodi Expressway will not adversely affect the Penn Hills Township community and will produce many positive benefits. Major problems are associated with access to the Senior High School and the ability of Frankstown Road to absorb the volumes generated by the Rodi Facility (Until the Blawnox link is complete).
2. Areas for further study:
 - a. The source or rationale behind the traffic volume projections given as the volumes generated by the Rodi Expressway and the adjacent, modified local road system
 - b. Ability of Frankstown Road to absorb increased volume loads without some widening, particularly without the Expressway extension
 - c. Access denial to the Senior High School and Harvard Drive neighborhood and adequacy of shopping center access with Expressway extension
 - d. Signalization of interchange and who pays plus possible vehicle storage and backing problem on South Ramp off Frankstown Road.
 - e. State pollution controls during construction
 - f. Zoning modifications to control new types of development, particularly in interchange area
 - g. Potential interchange area transit facilities
 - h. Possibility of deferment of project to next six year program (1976-82).

