

PRELIMINARY ALTERNATIVES ANALYSIS REPORT

EXECUTIVE SUMMARY

APRIL 2005

B. Project History

In 1986, the Pennsylvania Department of Transportation initiated corridor and design location studies along with the preparation of an Environmental Impact Statement (EIS) for the combined PA 23/US 30 project. During this study, a total of seven potential alternatives were evaluated, including four alternatives combining traffic relief routes connecting PA 23 and US 30 at a single interchange with the Lancaster Bypass. The other three alternatives incorporated two separate highways that would parallel PA 23 and US 30. Of the initial concepts, no single alignment satisfied the traffic needs without causing environmental concerns. The study determined the two roadways have different travel characteristics and require different solutions; an improvement of PA 23 would not reduce traffic on US 30, and vice versa.

In 1992, the Pennsylvania Department of Transportation initiated the Design Location and Environmental Studies for the *US Route 30 Corridor Improvement Study*, from PA 896 to PA 897 (east of PA 41). The goals of this study were to further identify the area's need and propose solutions to the area's transportation concerns. A Preliminary Alternatives Analysis was initiated in 1995. However, the Pennsylvania Department of Transportation had to put the project on hold due to statewide fiscal constraints prior to completing the alternatives analysis for the project. After a few years of inactivity, the project received funding and moved forward in 2000 with a new and more comprehensive evaluation of project termini and project needs.

C. Project Needs

A *Needs Analysis Report* was completed in April 2002. This report was prepared to identify the transportation needs of US 30, Section S01 and to assist in the development of proposed improvements during the alternatives development phase. The report documented various deficiencies in the transportation network identified through the study of the existing and future regional economy, population growth, land use changes, traffic demands, transportation safety, and roadway deficiencies.

Project Purpose Statement

Based on the identified transportation needs above, the purpose of the Route 30 Corridor Improvement Study between the PA 896/US 30 intersection to east of the PA 41/US 30 intersection in eastern Lancaster County, Pennsylvania is to:

- Improve safety within the US 30 Corridor;
- Increase capacity and reduce congestion in the corridor; and

- Accommodate the movements of pedestrians and non-motorized vehicles throughout the corridor.

Lastly, the intent of this study is to promote a transportation solution that serves the land use, preservation, agricultural, and multi-municipal partnership needs of Lancaster County and the communities within the US 30 Corridor.

D. Independent Utility

The Route 30 Corridor Improvement Study is being undertaken concurrently with the PA 23 EIS Study, whose study area is located to the north of the US 30. Due to the relative proximity of these two studies, an “independent utility” test was conducted. The purpose of this test was to determine if the PA 23 and US 30 transportation improvement alternatives would significantly influence each other (and perhaps could be combined into a single project) or if they should be developed as separate independent projects. Both field-collected data and traffic forecasting efforts confirmed the projects do not significantly influence each other and clearly serve independent utility.

III. PRELIMINARY ALTERNATIVES

In the first stages of the Preliminary Alternatives Analysis (PAA), the project needs (alleviating congestion and improving safety) are the impetus for developing conceptual improvements. Potential solutions, to be considered feasible, must first address these needs. Only after passing this test are potential improvements further developed. Roadway alignments are drawn to avoid, or minimize harm to, the area’s sensitive resources. Finally, an assessment of the alternatives effect on future traffic operators and the area’s resources is conducted.

A. Initial Concepts

During studies in the early 1990’s, a number of initial concepts for improving travel conditions in the US 30 Corridor were developed.

1. Five-Lane Free Access Concept
2. Four-Lane Controlled Access Concept
3. One-Way Pairs Concept
4. Relocation Concept A
5. Relocation Concept B

B. Preliminary Alternatives

Due to fiscal constraints, the Route 30 Corridor Improvement Study was placed on hold several times in the 1990's. When the project was resumed in 2000, traffic characteristics and traffic volumes on US 30 had changed. Specifically, the volume of traffic on US 30 west of PA 41 and on PA 41 itself had increased significantly. Consequently, the project study area was expanded east to the Lancaster/Chester County line to evaluate a larger roadway network system.

The initial concepts that had been previously developed were re-evaluated. Some were dropped from further consideration due to fatal flaws while some were further developed, evolving into the preliminary alternatives described here.

The current study has developed and examined the following set of Preliminary Alternatives:

1. No-Build Alternative

The No-Build Alternative would involve no major improvements to the existing transportation system, but does assume routine maintenance improvements and normal programmed improvements. For the purpose of this analysis, the No-Build Alternative is a baseline for the comparison of alternatives improvements. This comparative analysis will be used to evaluate the effectiveness of each improvement designed to address the problems of the study area.

2. Transportation System Management (TSM) Alternative

The TSM Alternative would involve improvements to seven major intersections within the US 30 S01 corridor and enhancements to transit service (bus and rail) in the study area. These improvements include adding signals to some intersections and changing signal timings and lane assignments to facilitate traffic flow. They may also include expansion and/or modification of bus and rail service such as the proposed Amtrak station to be located in Paradise and served by Red Rose Transit buses.

This alternative would include minor physical improvements that would add capacity to these intersections. At the PA 896 intersection, the TSM Alternative would add a second northbound left turn lane, as well as extend the westbound right turn lane. At Ronks Road it would add a northbound left turn lane and a westbound right turn lane. At PA 772 and PA 897, the TSM Alternative would add a westbound right turn lane.



3. Five-Lane Widening Alternative

This widening alternative would add two additional travel lanes to US 30, one in each direction, from PA 897 in Gap to PA 896. The preliminary alignment was designed to minimize impacts where possible by shifting the widening to the north or the south of existing US 30, rather than simply widening from the centerline of the existing roadway.

PA 41 to PA 772 Option

The PA 41 to PA 772 Option could be combined with the Five-Lane Widening Alternative. This option would realign PA 772 to connect with PA 41. Currently, northbound PA 41 traffic must make a left onto US 30 in Gap and then a right onto PA 772. This dogleg maneuver increases congestion near Gap. The new intersection of PA 41/PA 772 and US 30 could be signalized or grade-separated, which will be determined by further studies. The Transportation Equity Act for the 21st Century earmarked funding for a study of an interchange between US 30 and PA 41. That study has been incorporated into the larger corridor study.



4. Northern Relocation Alternative

This alternative would begin at the top of the hill on the eastern end of the study area, near the Chester County line. As the alignment would proceed west it would diverge to the south near the intersection with Longview Lane. It would cross under US 30 near the intersection with Hoffmier Road. The alignment then would run from 500 feet to 2000 feet north of US 30, crossing Umbletown Road and Spring Garden Road.

The alignment would continue approximately 400 feet south of Denlinger Road and cross Newport Road (PA 772), Hensel Road, Kinzer Road, and Slaymaker Hill Road. It would proceed approximately 400 feet south of Harristown Road and cross Vintage Road. It would then cross Harristown Road, Vintage Road, Pequea Lane, Leacock Road, and Soudersburg Road. It would rejoin US 30 just after crossing Ronks Road.

The alignment would continue to the east as a five-lane widened section to PA 896. There would be an interchange with PA 772 in the east and an intersection with Ronks Road in the west.

PA 41 to PA 772 Option

The PA 41 to PA 772 Option could be combined with the Northern Relocation Alternative. For more details, please see the full description of this option with the description of the Five-Lane Widening Alternative.

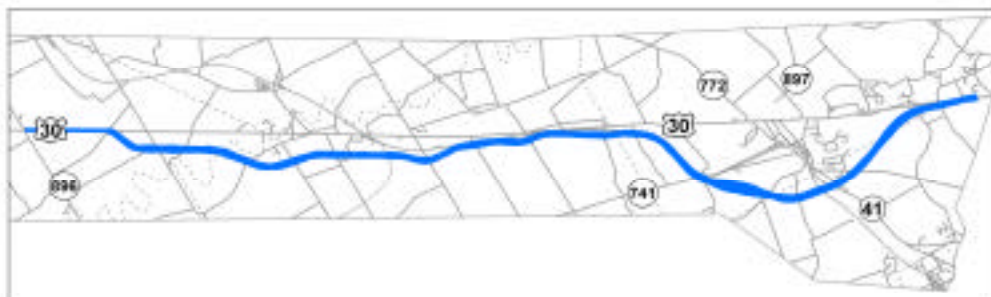


5. Southern Relocation Alternative

This alternative would begin near the Chester County line and would bypass Gap to the south, crossing Strasburg Road in Sadsbury Township. It would cross Newport Pike (PA 41) and the AMTRAK line approximately a quarter mile south of the Salisbury Township municipal boundary in Sadsbury Township.

Proceeding west, the alignment would cross Gap Road, Mine Road and Strasburg Road (PA 741). Then it would run just south of AMTRAK for approximately four miles to Belmont Road. It would continue approximately 1000 to 2300 feet south of US 30 (south of Paradise and Soudersburg). It would cross Black Horse Road, Cherry Hill Road, Paradise Lane, Soudersburg Road, and Ronks Road.

This alignment would tie back into US 30 beyond Ronks Road and become a five-lane widened section to PA 896. Interchanges would be included at PA 41 and Ronks Road.



6. North of Gap/South of Paradise Relocation Alternative

This alternative would be on the same alignment as the northern relocation in the eastern section and the same alignment as the southern relocation in the western section. However, it would include a link over US 30 and the AMTRAK rail line between McIlvane and Belmont Roads.

PA 41 to PA 772 Option

The PA 41 to PA 772 Option could be combined with the North of Gap/South of Paradise Relocation Alternative. For more details, please see the full description of this option with the description of the Five-Lane Widening Alternative.



7. South of Gap/North of Paradise Relocation Alternative

This alternative would be on the same alignment as the southern relocation in the eastern section and the same alignment as the northern relocation in the western section. It would include a link crossing over AMTRAK and US 30. The link would be located east of Kinzers, between Hensel and Hoover Roads.



IV. POTENTIAL ENVIRONMENTAL IMPACTS

Information concerning impacts is preliminary, with the results of detailed investigations to be included in subsequent reports. The findings are summarized in *Table 1*, which describes the potential resource impacts for each alternative.

VI. PUBLIC INVOLVEMENT

Throughout the preliminary alternatives analysis, different types of project meetings were held to guide project development: public meetings, community outreach meetings, and Project Team meetings with the state and federal regulatory and resource agencies. These meetings were held to disseminate information and gather feedback from the community and are part of the National Environmental Policy Act (NEPA) process.

Public comments are encouraged at the public meetings. At the March 26, 2003 public meeting, a survey concerning alternative preferences was distributed. This survey was also available on the project website. The public who responded to the surveys seemed to favor the Southern Relocation Alternative; however, there were divided views regarding the Five-Lane Widening

Alternative. The general and overwhelming concerns were the loss of farmland with the relocation alternatives and loss of homes and businesses with the Five-Lane Widening Alternative. A brief summary of the preliminary alternatives rankings, accompanied by the top reasons they used to explain their preference follows:

Alternative liked the **BEST**:

1. 35% Southern Relocation Alternative
 - Reasons: Fewest homes will be affected, least effect on farms, avoids Gap.
2. 21% Five-Lane Widening Alternative
 - Reasons: Does not affect farms, least impact on Pequea Creek.
3. 18% No-Build – Do Nothing
 - Reasons: Does not affect farms or historic properties, affects fewest people.
4. 9% Transportation System Management
 - Reasons: Least damaging to area towns; does not affect farmland.
5. 8% Northern Relocation Alternative
 - Reasons: Smallest number of homes to be affected, it does not affect my property.
6. 6% North of Gap/South of Paradise Relocation
 - Reasons: Least impact on homeowners.
7. 3% South of Gap/North of Paradise Relocation
 - Reasons: Fewest homes to be affected.

Alternative liked the **LEAST**:

1. 28% Five-Lane Widening Alternative
 - Reasons: Would take too many homes, businesses, and historic properties.
2. 25% Northern Relocation Alternative
 - Reasons: Destroys too much farmland, affects my property.
3. 14% Southern Relocation Alternative
 - Reasons: Splits up farmland, affects my property.
4. 11% North of Gap/South of Paradise Relocation
 - Reasons: Destroys too much farmland, affects my property.
5. 11% South of Gap/North of Paradise Relocation
 - Reasons: Destroys too many farms.
6. 12% No-Build – Do Nothing
 - Reasons: With population and traffic are increasing, action must be taken.
7. 0% Transportation System Management

Public comments and opinions assist the Project Team in the development of alternatives by emphasizing important community issues and concerns.

Table 1
Preliminary Impact Evaluation

	Property		Displacements			
	Right-of-Way Acreage Required	Parcels Affected	Total Displacements	Total Business Displacements	Total Residential Displacements	Total Other Displacements
No-Build Alternative	0	0	0	0	0	0
Transportation Systems Management Alternative (TSM)	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹
Five-Lane Widening Alternative	40-75	410-480	150-175	35-45	105-115	10-15
Northern Relocation Alternative	385-455	125-165	65-90	10-20	40-50	15-20
Southern Relocation Alternative	435-505	160-200	60-85	10-20	40-50	10-15
North of Gap/South of Paradise Alternative	420-495	145-185	60-85	0-10	50-60	10-15
South of Gap/North of Paradise Alternative	410-480	145-185	80-100	25-30	40-50	15-20
PA 41 to PA 772 Option	10-30	4-30	2-15	1-5	1-5	0-5

¹ Minimal impacts, if any, which have not been determined

Table 1 (continued)
Preliminary Impact Evaluation

	Natural Features			Agricultural Features		
	Floodplain Acreage	Wetland Acreage	Woodland Acreage	Number of Farms	Acreage in Agricultural Production	Acreage in Agricultural Security Areas
No-Build Alternative	0	0	0	0	0	0
Transportation Systems Management Alternative (TSM)	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹	N/A ¹
Five-Lane Widening Alternative	1-5	0-5	0-5	35-45	10-15	1-5
Northern Relocation Alternative	10-20	0-5	35-45	45-55	285-305	55-65
Southern Relocation Alternative	15-25	1-10	65-80	50-60	265-285	0
North of Gap/South of Paradise Alternative	15-25	0-5	35-45	50-60	305-325	55-65
South of Gap/North of Paradise Alternative	10-20	1-10	65-80	45-55	265-285	0
PA 41 to PA 772 Option	1-5	0	0	1-10	5-15	1-5

¹ Minimal impacts, if any, which have not been determined

Table 1 (continued)
Preliminary Impact Evaluation

	Historic Features			Public Input	
	Individually Eligible Historic Properties	Contributing Elements w/in Village Historic Districts	Contributing Elements w/in Rural Historic Districts	Alternatives Liked Best	Alternatives Liked Least
No-Build Alternative	0	0	0	18%	12%
Transportation Systems Management Alternative (TSM)	N/A ¹	N/A ¹	N/A ¹	9%	0%
Five-Lane Widening Alternative	20-28	140-150	15-25	21%	28%
Northern Relocation Alternative	4-6	1-2	50-60	8%	25%
Southern Relocation Alternative	4-6	0	30-40	35%	14%
North of Gap/South of Paradise Alternative	4-6	0	40-50	6%	11%
South of Gap/North of Paradise Alternative	2-4	1-2	40-50	3%	11%
PA 41 to PA 772 Option	0	0	1-5	N/A	N/A

Minimal impacts, if any, which have not been determined

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VII. CONCLUSIONS AND RECOMMENDATIONS

The following is a summary of analysis for each of the Preliminary Alternatives, along with recommendations for further study.

A. Alternatives Recommended for Dismissal

The following Preliminary Alternatives should be dropped from further consideration:

Northern Relocation Alternative

Except for the No-Build and Transportation System Management Alternatives, neither of which fully meets project needs, the Northern Relocation Alternative would affect the fewest number of properties. However, this alternative would bisect a large number of farms, require land within an ASA and land under conservation easements. Shifts in the Northern Relocation Alternative to avoid these resources would require more farmland and cause more significant impacts on farm operations in the area. More farms would be bisected and complexes of farm buildings would likely need to be taken.

The Northern Relocation Alternative would affect a larger number of historic resources than any other relocation alternative. Additionally, this alternative has little support from the public and local governments.

North of Gap/South of Paradise Relocation Alternative

Of all the alternatives, the North of Gap/South of Paradise Relocation Alternative would have the greatest impact on agricultural resources. It would require the largest amount of right-of-way from productive farmland, land within an ASA, and land under conservation easements. Additionally it would bisect a large number of farms. A shift of this alternative was considered that would move the point at which the alternative crossed from the south to the north of existing US 30 to the east. This shift avoids an agricultural easement impact and reduces the ASA impacts in the same vicinity. It also provides an alternative to a southern bypass of Gap, which would use a wooded ridge. While this shift would require fewer displacements and less impact to the ASA, it would potentially impact more acreage in agricultural production than the North of Gap/South of Paradise Relocation Alternative. It is not evident that these shifts represent an improvement over an original alignment.

To cross over US 30 would require a major structure, which is a large expense.

This alternative has little support from the public or local governments.

South of Gap/North of Paradise Relocation Alternative

This shift would cause more significant impacts on farm operations in the area. More farms would be bisected and complexes of farm buildings would likely need to be taken.

The South of Gap/North of Paradise Alternative would also require structures to cross the Amtrak line three times. The other relocation alternatives would only require one crossing of the railroad.

Even though this alternative shares half of its alignment with the most widely supported alternative, the South of Gap/North of Paradise Alternative has garnered the least amount of support of any preliminary alternative, according to the public meeting survey.

B. Alternatives Recommended for Detailed Study

Five-Lane Widening Alternative with the PA 41 to PA 772 Option

This alternative would affect the largest number of both commercial and residential properties, and therefore cause the greatest number of displacements. It would, in public opinion, “destroy” the small historic villages along US 30. Certainly a widening would have a significant effect on the viability of the residential community and could lead to a further decline in building stock. This would likely be offset by changes to the business community. Businesses such as small shops catering to tourists may be harmed while others could thrive from the additional traffic. New and possibly larger businesses, such as mass retailers and warehousing, would likely locate to the corridor.

This alternative would impact the largest number of historic properties and properties within the village historic districts. The historic character and setting of these communities would thus be harmed.

On the other hand, the Five-Lane Widening Alternative would require less acreage in productive farmland than the relocation alternatives. It would, nonetheless, have an impact on a small amount of farmland within an ASA.

The alternative would not bisect any farms, trimming only the edges of farm fields. Farms that currently span US 30 would be more severely affected by a widened roadway; it would be more difficult for farmers to get their teams across. A widened US 30 in general would present greater difficulties for horse and buggy travel and pedestrian crossings.

This alternative prompts strong reactions. Many local citizens favor this alternative because it saves farmland. Others are opposed to it because of its potential effects on the villages. Local officials and other members of the Community Advisory Committee are also opposed to it.

Because there is strong support for this alternative and it would have less of an impact on the agricultural community, it is recommended this alternative be further evaluated. It is further recommended that the PA 41 to PA 772 Option be considered for the Five-Lane Widening Alternative. More detailed traffic studies will determine whether the intersection of US 30 and PA 41 should be grade-separated.

Transportation Systems Management (TSM) Alternative

There has been strong support expressed for the No-Build Alternative. Yet there is overwhelming acceptance of the need to improve current traffic conditions. Therefore, support for the No-Build is believed to be a “protest” against the possible impacts of the alternatives that have been developed.

Further development of the TSM Alternative would provide for an evaluation of the costs and benefits of minimal improvements to US 30 and improvements to transit service (bus and rail) in the study area. A detailed analysis of the TSM Alternative can determine what interim improvements can be made to US 30. It can also determine what improvements to US 30 should be packaged with a relocation alternative. Thus, the TSM Alternative can be thought of as a downscaled version of the Five-Lane Widening Alternative, improving only intersections, or as a more realistic baseline than the No-Build Alternative for the comparison of impacts.

Southern Relocation Alternative

Among the relocation alignments, the Southern Relocation Alternative stands out. While in general the relocation alternatives would require large amounts of right-of-way from productive farmland, this alternative relocation would require less. Additionally, there would be no impact to ASA's or lands under conservation easements with this alternative. Furthermore, in following the AMTRAK right-of-way for an extended length, this alternative would take farmland at the edge of fields, thereby avoiding the bisecting of farms.

Additionally, this alternative would have the lowest number of potential residential and commercial displacements of any major improvement alternative. The Southern Relocation Alternative would also have the least impact on historic resources of any major improvement alternative.

This alternative would impact the largest amount of acreage from woodlands, and potentially could have larger impacts on other natural resources, such as wetlands and floodplains.

Among the relocation alternatives, the public perceives that the Southern Relocation Alternative is a better “fit” for the area. There is strong support for this alternative because of the relocation alternatives; it would have less impact on residences and businesses, agricultural resources, and historic resources. Furthermore, because of the traffic advantages it offers, we recommend that this alternative be further evaluated.

Based on concerns about potential impacts to the wooded ridge located southwest of Gap, the study will also investigate a modification to the Southern Relocation Alternative that avoids the ridge by transitioning from its existing alignment to a five-lane section just west of Gap. This five-lane section would then continue to the intersection with PA 897.