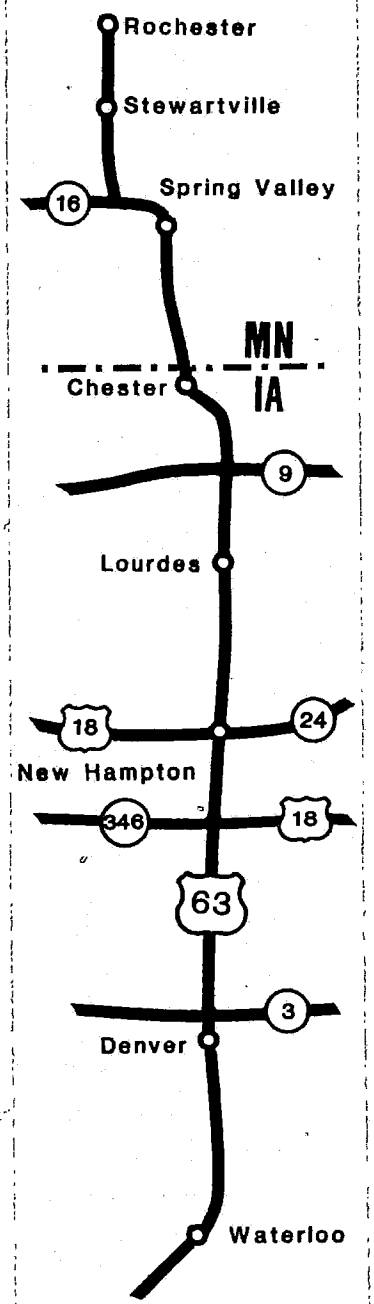


U.S. 63 CORRIDOR STUDY

EXECUTIVE SUMMARY

submitted to:

IOWA DEPARTMENT OF TRANSPORTATION

in cooperation with:

MINNESOTA DEPARTMENT OF TRANSPORTATION

FEDERAL HIGHWAY ADMINISTRATION

submitted by:

WILBUR SMITH ASSOCIATES and
BRICE, PETRIDES-DONOHUE

1992

WILBUR
SMITH
ASSOCIATES
ENGINEERS • ARCHITECTS • ECONOMISTS • PLANNERS

NCNB TOWER • P.O. BOX 92 • COLUMBIA, SC 29202 • (803) 738-0580 • CABLE WILSMITH • FAX (803) 251-2064 • TELEX 573439 • WILSMITH CLB

March 6, 1992

Mr. Scott Dockstader
Iowa Department of Transportation
Office of Project Planning
800 Lincoln Way
Ames IA 50010

RE: U.S. 63 Corridor Study - 272800
Executive Summary Report

Dear Mr. Dockstader:

Wilbur Smith Associates is pleased to submit this Executive Summary Report which summarizes our assessment of the U.S. 63 Corridor between Rochester, Minnesota and Waterloo, Iowa. Our analysis of the corridor is more thoroughly discussed in the study's Final Report.

In this report, the suitability of U.S. 63 is summarized. Also, the various improvement alternatives are described and evaluated. These evaluations consider the traffic needs in the time period up to the year 2010, the travel benefits that would derive from alternative improvements to U.S. 63 and the economic development benefits that would be stimulated by such improvements. These benefits are related to the costs of the improvements and various indicators of economic feasibility are provided.

While this study does indicate differences between alternative improvement strategies, we have not recommended a particular alternative. Instead, the study provides information from which decisions can be made.

We appreciate the opportunity to provide our services on this study and to work with the Advisory Committee, the two Departments of Transportation and the Federal Highway Administration on this very interesting assignment.

Respectfully submitted,

WILBUR SMITH ASSOCIATES

James L. Covil, P.E.
Senior Vice President
Transportation Policy and Planning

cc: Mr. Merritt Linzie, Minnesota DOT
Dr. Martha A. Maxon, Brice Petrides-Donohue
Dr. C. Phillip Baumel, Iowa State University
Dr. David J. Forkenbrock, University of Iowa
Dr. Dan Otto, Iowa State University

EXECUTIVE SUMMARY

The U.S. 63 Corridor Study is a joint effort of the Iowa and Minnesota Departments of Transportation and the Federal Highway Administration to study the warrants for improvements in this corridor and their feasibility. The study is a macro-level investigation which has included a broad analysis of the major justifications for upgrading U.S. 63.

STUDY RATIONALE

The reasons for this study are very clear, when one understands the history of this corridor and the perspectives of those involved in making highway corridor investment decisions. The corridor's residents and business community feel that they need a four-lane highway. On the other hand, there are insufficient funds currently available to build all desired highway projects in the two states, and rational and prudent allocation of fund use is therefore requisite. This study was needed to provide information upon which investment decisions for U.S. 63 can be made within the context of other highway needs in the States of Minnesota and Iowa.

SUITABILITY

The suitability of the existing U.S. 63 facility may be characterized as follows:

- **Standards.** Throughout much of its length, the study section of U.S. 63 comprises a high quality two-lane facility. Nevertheless, some sections have narrow shoulders which are a matter of both safety and operational concern. Additionally, passing sight distance restrictions due to alignment limitations result in a significant number of "no passing" zones.

- **Traffic Control.** U.S. 63 passes through some towns where traffic signals are an impedance to through trips. Additionally, four-way stops exist at three major rural intersections, constituting additional impedances.

- **Traffic Safety.** When a long term perspective is taken, U.S. 63 may be characterized as a reasonably safe facility. Long term accident rates and accident severity rates generally are consistent with accident experience on comparable facilities. However, in the period June - December 1991, six tragic accidents occurred which resulted in the loss of 13 lives. These accidents occurred on rural sections of the route.

- **Level of Service.** U.S. 63 provides an acceptable level of service under existing traffic conditions. Congestion is not a major problem at present. However, traffic volumes are forecast to increase in the future to the point where several segments will operate under congested conditions during peak travel periods of the day.

- **Truck Route.** U.S. 63 is a very important truck route today. Also, truck volumes are increasing significantly each year. Given the commercial and economic important of truck travel, it is important to ensure that U.S. 63 provides a high quality of service.

- **Service to Agribusinesses and Industrial Activities.** The economy of the U.S. 63 corridor is highly dependent upon U.S. 63. Again, it will be important for regional economic development that U.S. 63 continue to provide a high level of traffic services.

CONGRESSIONAL SUPPORT FOR IMPROVEMENTS

The Intermodal Surface Transportation Efficiency Act of 1991 was passed by Congress on November 27, 1991 and was signed by the President on December 18, 1991.

Included in this Act is a significant recognition of the importance of U.S. 63. The Act specifically identifies U.S. 63 as an "innovative project" and provides special assistance for its upgrading. The Act authorizes $15.1 million for U.S. 63 improvements between Waterloo and New Hampton, Iowa.

The special funding provided for U.S. 63 is attributable, in large measure, to efforts by Iowa's Congressional delegation to have this project included in the new federal legislation. It also is attributable, in part, to the concerned citizens and public officials who have created significant awareness of the importance of U.S. 63 and its needs. This study is a further step in the process of considering the special needs of U.S. 63 and determining an appropriate improvement program for it.

CORRIDOR DEFINITION

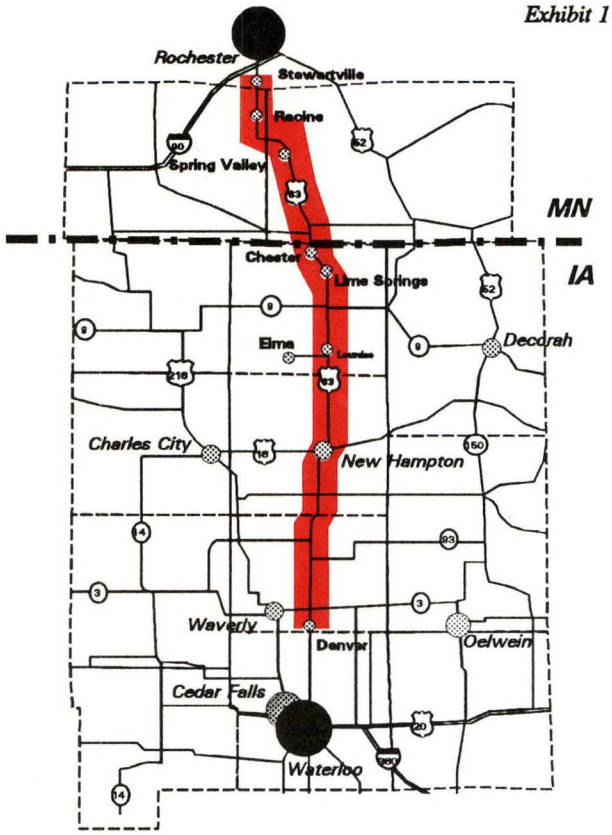
The U.S. 63 Corridor Study focused on the mainly two-lane section from south of Denver to north of Stewartville, with a length of 93 miles. For analysis purposes, the study also included the four-lane section between Stewartville and Rochester, making a total length of 100 miles. (See Exhibit 1).

TRAFFIC CHARACTERISTICS

Depicted in Exhibit 2 are the 1990 annual average daily traffic volumes along the U.S. 63 corridor. The display is based upon traffic counts at the locations indicated and does not reflect the traffic volume at each individual location along the route. For instance, the display does not indicate traffic volumes within New Hampton or the other towns along U.S. 63. Instead, it presents traffic volumes on rural segments.

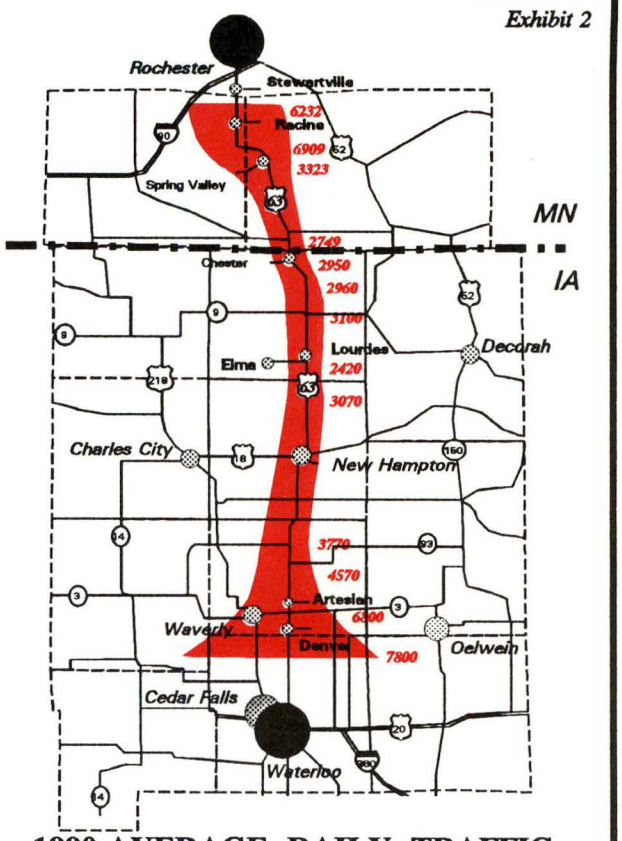
As noted, there is a distinctive pattern of increasing volumes at the northern and southern extremities of U.S. 63 as the route approaches Rochester and Waterloo. Traffic volumes drop to a low of just over 2400 vehicles per day near the Howard/Chickasaw county line.

Exhibit 1



THE U.S. 63 STUDY SECTION

Exhibit 2



1990 AVERAGE DAILY TRAFFIC ALONG U.S. 63 CORRIDOR

A significant proportion of traffic along U.S. 63 is comprised of trucks. Unlike the pattern for total traffic, truck traffic is relatively constant throughout the corridor. The highest volumes occur near the Chickasaw/Bremer county line rather than on the segments approaching Waterloo and Rochester as is the case with total traffic.

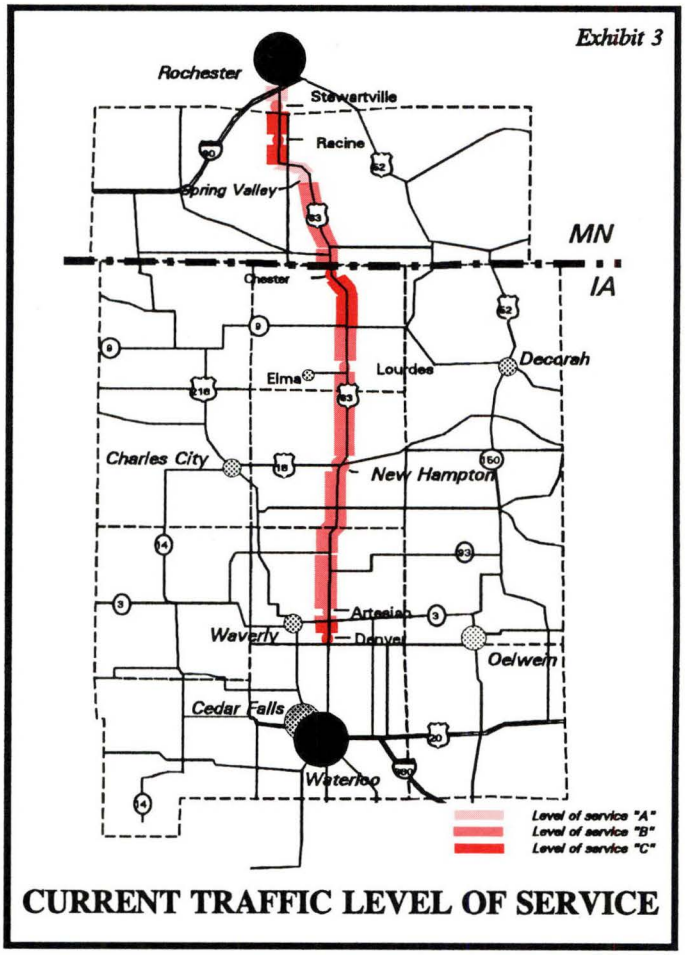
Another feature of traffic in the U.S. 63 Corridor is the high proportion of long trips. All of the stations have a high proportion of trips which are classified as through trips. The highest number of through trips occurred for northbound traffic at a station just north of Denver. At this station, 1,759 trips had neither origins or destinations within the study area. This represented just under 40 percent of all northbound trips at this location.

LEVEL OF SERVICE

Traffic level of service is a measure of the quality of the driving experience, i.e., the amount of freedom to travel without being inhibited by other vehicles. As congestion increases, the level of service (that is, the quality of the travel experience) diminishes.

Level of service is expressed as six levels, or "grades." These range from Level of Service A, which represents free flow conditions with low volumes, to Level of Service F, which represents forced flow operations at low speeds and significant stoppages.

Based upon 1990 traffic volumes, the traffic level of service on all Iowa segments is graded as "C" or better (i.e., stable flow conditions) as depicted in Exhibit 3. The most congested sections are in Denver and the road segments just north of there, in Chester and the road segments just south of there.



CURRENT TRAFFIC LEVEL OF SERVICE

Congestion is more of a problem on the Minnesota portion of U.S. 63 than is the case in Iowa. Three segments currently operate at Level of Service D during the peak period of the day, with better levels of service at other times. Level of Service D represents conditions approaching unstable flow.

PROGRAMMED IMPROVEMENTS

Improvements are already planned for the existing facility as follows:

- **Minnesota Route 30 to North Limits of Stewartville** - Replace pavement and widen existing short section of 2-lane roadway to four lanes
- **Stewartville** - Widen existing section through town to a 4-lane section with no parking
- **Spring Valley to Minnesota/Iowa State Line** - Reconstruct existing substandard 2-lane section to high quality 2-lane design, including wide paved shoulders and alignment improvements
- **Minnesota/Iowa State Line to State Route 9** - Resurface and reconstruct the 2-lane section in areas of poor vertical and horizontal alignment and provide 10-foot wide granular shoulders
- **State Route 3 to Denver** - Widen existing 2-lane section to four lanes
- **Denver Bypass** - Construct a 4-lane roadway with depressed median

For purposes of the study's analyses, the existing facility with programmed improvements constituted the Base Case. That is, the improvement alternatives consist of additional improvements beyond those already programmed, as identified above.

RANGE OF IMPROVEMENT ALTERNATIVES

The following improvement alternatives were identified for initial consideration:

- Improved Existing Facility
- Improved Existing Facility with Bypasses
- Four Lane Highway
- Four Lane Highway with Bypasses
- Freeway

Each of these alternatives was subjected to a series of evaluations to determine how each would perform regarding:

- Traffic Capacity
- Travel Speeds
- Safety
- Environmental Impacts
- Economic Impacts
- Phasing Opportunities
- Capital Costs

Based on these evaluations, the least promising of the improvement alternatives were identified and eliminated from further study. The reasons for eliminating options are indicated below along with the justifications for retaining the preferred alternatives.

Freeway

The freeway alternative was not considered to be a prime candidate for the following reasons:

- Traffic volumes do not justify the existing facility plus a freeway on new alignment. This option would provide considerable excess capacity.
- Additionally, it is the most expensive alternative in terms of capital costs.
- Further, there could be significant environmental impacts because of constructing a facility on new alignment.
- This alternative also would be disruptive to existing farming activities.
- The improvements in travel operations that a freeway would provide are not likely to compensate for the negative factors mentioned above.

Four-Lane Highway (Without Bypasses)

A very substantial portion of travel on U.S. 63 is long distance, through traffic. A major impediment to such traffic is caused by traveling through the center of the cities and towns on U.S. 63. It would make little sense to improve operations in the rural areas (which now are operating at a reasonable service level) without also providing improvements in the vicinity of cities and towns. Therefore, this alternative was eliminated from further consideration.

Alternatives Retained for Further Study

The three improvement alternatives retained for more detailed study were as follows:

- **Alternative #1: Improved Existing Facility** - Widening of narrow shoulders, provision of passing lanes at selected locations and revision of traffic control measures to give priority to U.S. 63 traffic would provide relatively low cost improvements throughout the corridor segment. Improvements also could include additional turn lanes at major intersections.
- **Alternative #2: Improved Existing Facility with Bypasses** - Improving the existing facility as noted above would primarily affect the rural sections of U.S. 63. Because of the high volume of through traffic, particularly trucks, there may be justification for considering the provision of bypasses around some or all of the cities and towns. Also, benefits to local traffic in towns along the corridor would accompany diversion of through traffic to a bypass.

- **Alternative #3: Four-Lane Highway with Bypasses** - Widening the existing two-lane sections to four lanes and providing bypasses around cities and towns would give this section of Iowa and Minnesota a high quality highway facility. This, in turn, would provide a catalyst for economic development along the route.

These three improvement alternatives were analyzed in greater detail and the results of these analyses are presented below.

FUTURE LEVELS OF SERVICE

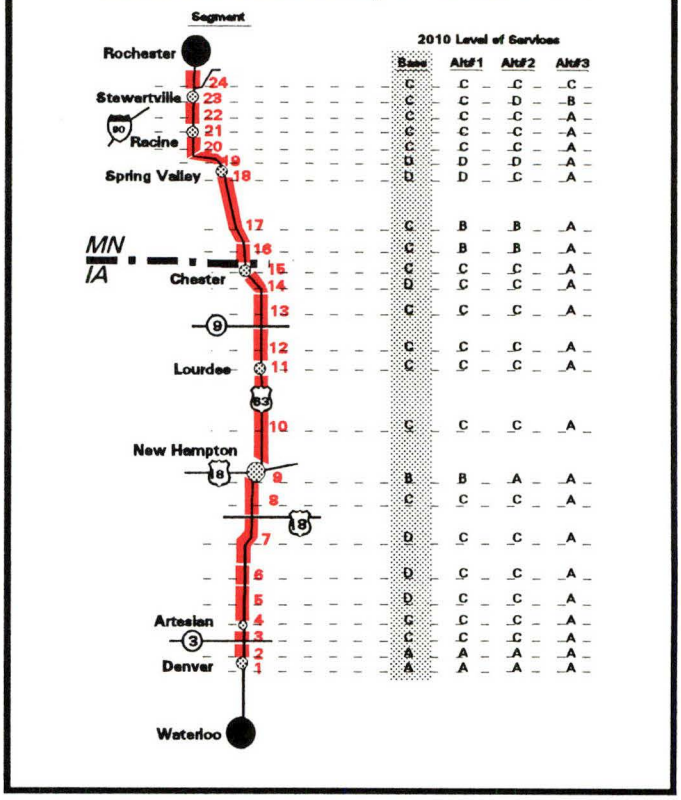
Although congestion is not a major concern at present, the Study included analyses to determine the extent to which congestion would develop in the year 2010. These analyses were performed for the Base Case (i.e., the existing facility with just the currently programmed improvements) and for each of the three finalist improvement alternatives.

As shown in Exhibit 4, if no improvements other than those already committed are undertaken (i.e., the Base Case), 2010 traffic volumes will result in Level of Service D on six segments. With Alternatives #1 and #2, only two segments would operate at Level of Service D.

Exhibit 4

LEVEL OF SERVICE ANALYSIS BY HIGHWAY SEGMENT

2010 Base Case and Three Improvement Alternatives



Alternative #3 would result in a substantial improvement in traffic level of service throughout the corridor. With the exceptions of the two northernmost segments (Numbers 23 and 24), all segments would operate at Level of Service A.

CAPITAL COSTS

The study's evaluations included estimation of the extra costs associated with each of the three finalist improvement alternatives. The cost estimates establish the rough order-of-magnitude of requirements for each alternative which is adequate for purposes of these feasibility analyses. However, detailed design analyses would be expected to produce more refined cost estimates.

Due to the significant difference in the three improvement alternatives, there is a very wide range in estimated construction costs:

- Alternative #1: $28.4 million
- Alternative #2: $52.9 million
- Alternative #3: $128.9 million

These values include a 15 percent allowance for planning and engineering expenses.

INCREMENTAL MAINTENANCE AND RESURFACING COSTS

From time to time, certain maintenance and repair activities are required which are independent of the alternative being considered. These costs, effectively, are common costs which apply equally to all alternatives. They are excluded from the feasibility analyses.

On the other hand, adding lanes and bypasses increases the surface area to be maintained. Therefore, maintenance costs are expected to be higher in Alternatives #1, #2 and #3 than in the Base Case. The additional annual maintenance costs for the improvement alternatives are estimated to be:

- Alternative #1: $17,500
- Alternative #2: $90,625
- Alternative #3: $191,850

Additional costs also will be incurred to resurface the additional lane miles. Resurfacing costs are assumed to occur every 15 years and total:

- Alternative #1: $665,000
- Alternative #2: $2,897,000
- Alternative #3: $10,587,000

ENGINEERING FEASIBILITY

One "test of feasibility" which any improvement alternative must pass is the ability to physically improve an existing highway through adding lanes or widening shoulders, or alternatively widening the route from two to four lanes, or alternatively constructing bypasses of communities on new alignments. "Ability to physically construct" implies that conditions are such that the proposed construction is practical, at reasonable cost, within a reasonable time span, and without unreasonable adverse implications.

Final determination of engineering feasibility will require detailed alignment investigations and design which are beyond the scope of this planning study. Nevertheless, it was possible to make some general observations as follows:

- **Alternative #1:** The improvements proposed as part of Alternative #1 are constructible, at a relatively low cost, and can be accomplished quickly.

- **Alternative #2:** This alternative provides bypasses of the communities of New Hampton and Chester, Iowa and of Spring Valley, Racine and Stewartville, Minnesota, thereby decreasing delays to traffic passing through such communities. these preliminary analyses indicate that there are options concerning how these communities would be bypassed and that, within the range of options, some could be more easily constructed than others.

- **Alternative #3:** As part of this alternative, 4-lane bypasses will be provided for all communities that would be bypassed as part of Alternative # 2. Between such bypasses, the existing two-lane roadway is proposed to remain in service but as a two-lane, one-way roadway, while a new, two-lane, one-way roadway on additional right-of-way would be constructed either to the east or the west of the existing roadway. Grade separations or interchanges may be needed at some locations. This alternative is physically feasible although it would cause some impacts on existing development alongside the existing facility.

ENVIRONMENTAL FEASIBILITY

Several state and federally protected environmental resources have been identified in the U.S. 63 project corridor between Denver, Iowa and Stewartville, Minnesota which may be impacted by highway development. These resources include wetlands, rivers and streams, protected plant and animal species, parks and recreation areas, state scientific areas, cemeteries, and agricultural and archeological resources.

- **Alternative #1:** This alternative would have the least impact on farmland, wetlands and other environmental resources by avoiding most of the new terrain development of the other

alternatives. It also would have the least impact on farming operations by avoiding diagonal severance of agricultural land.

- **Alternative #2:** The bypasses included in this alternative would increase the potential for impacts to wetlands, stream and river crossings, cultural and agricultural resources by crossing new terrain. For purposes of this feasibility study, alternatives on both sides of each community were considered. In most cases, evaluation of which bypass alternative would have the least impact to wetlands is highly dependent on the specific location and, therefore, not possible to evaluate until further design investigations are undertaken.

- **Alternative #3:** This alternative would have the greatest overall impact on environmental resources because of the amount of land required for construction of additional lanes along the existing alignment and the new terrain alignment of bypasses that would be built around each community.

ECONOMIC FEASIBILITY

A primary issue addressed in this study is whether any of the U.S. 63 improvement alternatives are "economically feasible." A major investment such as a U.S. 63 improvement is "economically feasible" if the economy is better off with the highway improvement than without it. Without question, a well planned U.S. 63 investment will be a significant asset to the U.S. 63 region, and will be of help to the economic future of communities and activities located in proximity to the highway. Ample evidence exists to support the contention that the corridor's economy will benefit from the highway.

Definition of Economic Benefits

Economic benefits are defined as "an increase in the prosperity and incomes of people and institutions." Economic benefits of this nature in a given area occurs when the incomes and product generated in the area are caused to increase. Such increases occur as a result of a highway investment in either of two ways:

1. **More Resources** - If output increases in the area, the increased output will require more resources (land, labor, materials, capital) which means that more people are employed, more incomes are earned and more profits are made. If the highway enables the attraction of additional business in the corridor (new firms, or expanded firms), then the highway has aided the economic development process, to the benefit of the corridor area.

2. **Efficiency** - Even if the highway does not help to create increased output, it can still help economic development by causing the area's output to be achieved at less total cost. Reduced transportation costs due to the highway improvement yield increased prosperity and income.

Analyses were undertaken to estimate the extent to which the three improvement alternatives would generate these two broad types of economic benefits as summarized below.

TRAVEL EFFICIENCY ECONOMIC BENEFITS

The travel efficiency benefits of the highway improvements are of three types: vehicle operating cost savings, accident cost savings, and value of travel time savings.

- **Vehicle Operating Cost Savings** - These cost savings were developed using "consumers surplus analysis techniques," so the cost savings accurately depict savings not only to common traffic (traffic on the route both before and after the highway improvements) but also to diverted traffic (traffic diverted from other regional highways). The vehicle operating cost changes reflect differences in vehicle miles of travel, travel speed changes, curvature and gradient changes, reduced numbers of speed change cycles, and other changes that affect vehicle operations.

- **Accident Cost Savings** - Road improvements of the types evaluated in this study, including bypasses around towns, will reduce accident potentials. Accident analyses were conducted for three accident types (fatal, injury, property damage).

- **Travel Time Savings** - All of the improvement alternatives will save car and truck travel time. Consumers surplus techniques were used to develop estimates of travel time savings, with the result that the travel time saved includes both common and diverted traffic. Based on analyses for each of these benefit categories, estimates were derived for the year 2010 as shown in Exhibit 5.

Travel Efficiency Feasibility

The benefits from improved travel efficiency were related to the extra costs incurred to build and maintain the three improvement alternatives. Results of these analyses are shown in Exhibit 6. These statistics suggest a number of conclusions, from the travel efficiency perspective.

- **Alternative #1**, comprising rural passing lanes and turning lanes, does not appear to be a sufficient solution. These improvements yield only 3.2% in economic return.

- **Alternative #2**, comprising the Alternative #1 passing lanes and turning lanes, plus bypasses built around all towns, is economically feasible, yielding a 9% return on the investment. The town bypasses yield considerable operating cost and time savings and some accident savings.

Exhibit 5

ESTIMATED TRAVEL EFFICIENCY ECONOMIC BENEFITS
- YEAR 2010 -

Annual Economic Benefit Types	Alternative #1: Improved Two-Lane	Alternative #2: With Bypasses	Alternative #3: Four-Lane
	ANNUAL HIGHWAY USER EFFICIENCIES ($000)		
Vehicle Operating Cost Savings:			
Automobile	$(17.4)	$334.8	$410.1
Light Truck	(3.1)	61.3	90.1
Heavy Truck	(15.2)	385.9	577.8
Total	$(35.7)	$782.0	$1,078.0
Accident Cost Savings	$824.9	$1,681.3	$6,930.8
Value of Time Savings			
Automobile	$638.5	$2,952.3	$4,523.1
Light Truck	36.6	123.9	201.7
Heavy Truck	210.1	704.9	1,200.7
Total	885.2	$3,781.1	$5,925.5
Total 2010 Road User Benefits	$1,674.4	$6,244.4	$13,934.3

Exhibit 6

TRAVEL EFFICIENCY FEASIBILITY
U.S. 63

ECONOMIC INDICATORS [a]	Alternative #1: Improved Two-Lane	Alternative #2: With Bypasses	Alternative #3: Four-Lane
Net Present Value ($000)	($8,960.3)	$21,151.6	$36,592.4
Internal Rate of Return	3.2%	9.0%	8.1%
Discounted Benefit/Cost	0.69	1.38	1.27

(a) 6% discount rate

- **Alternative #3**, comprising the construction of a four-lane highway all the way from Waterloo to Rochester, is also feasible at the selected discount rate of 6%, yielding a return of 8.1%.

- These statistics suggest that, if the two states have sufficient funds that can be allocated to U.S. 63, that Alternative #3 (four-lane) should be built.

- However, the greatest return on investment (the biggest "bang for the buck") is yielded in Alternative #2. Therefore, if funds are limited, or if there are other worthwhile projects in the two states which yield over 8.1%, then Alternative #2 would be best.

- If funds are limited, implementation of Alternative #2 makes sense, because it would involve a phased construction program which, as funding comes available, could still ultimately lead to an eventual four-lane highway.

ECONOMIC DEVELOPMENT IMPACTS

The U.S. 63 improvements could cause a number of events to occur that will be beneficial to the local and state economies. These events are categorized into four types, and economic development impacts were estimated for each.

- **Act of Highway Construction** - The act of spending money in the corridor to build the improved highway will be of immediate economic benefit to the corridor area. These impacts are temporary in nature, since they exist only during the construction activity and terminate when the road construction is complete (when the highway is open to traffic). These "direct" impacts of highway construction are important but should not be used as evidence that the highway improvements are feasible.

- **Corridor Competitive Position** - An improved highway reduces the cost of transportation. Reductions in trucking time and cost lead to reduced costs of production, which in turn lead to marginally reduced prices and/or increased profits, which can lead to increased production (expansion of existing firm production and/or attraction of new firms), which in turn generates economic impact value. These "competitive position" impacts are calculated.

- **Roadside Service Industries** - A more efficient north-south highway will lead to revised travel patterns involving greater traffic density on U.S. 63. Greater traffic density causes increased sales for roadside businesses (motels, restaurants, gasoline stations, tourist visitation places, others that cater to highway users). These "roadside service industry" impacts are calculated; they are valuable to the route's primary impact

area, although they are largely transfers from other Iowa and Minnesota routes and therefore are less significant net impacts to the two states at the statewide level.

- **Agriculture** - The agriculture sector will benefit from reduced trucking and auto costs. It will also benefit from improved competitive position. In addition, agriculture could benefit if livestock are not damaged during transportation and other beneficial agricultural changes are made.

TOTAL ECONOMIC BENEFITS

Total annual economic benefits of the alternative highway improvements include both the travel efficiency gains as well as the "Personal Income" portion of the economic development benefits. These two are additive because care was taken in the analysis to avoid any type of double counting.

Total Benefits to the Corridor Region

The seven-county primary impact area consists of Olmstead, Mower and Fillmore counties in Minnesota and Howard, Chickasaw, Bremer and Black Hawk Counties in Iowa. Benefits to this area comprise the entire travel efficiency gain plus the full competitive position, roadside business and additional agriculture benefits. These total impacts on the corridor's counties for the three improvement alternatives are presented in Exhibits 7.

In every case the travel efficiency economic gains are greater than the economic development gains. This is not unexpected given the nature of the U.S. 63 improvements being considered.

Total Benefits to the Two States

Exhibit 7 also presents the annual economic benefits accruing to the two states, statewide. In every case the total statewide benefits are less than the benefits to the corridor area. This is because some benefits to the corridor (some competitive position and some roadside business benefits) represent transfers to the corridor region from elsewhere in Iowa and Minnesota. These transfers do not represent net gains to the states; they are only benefits to the corridor region. Nevertheless, the calculations suggest that there are positive statewide impacts from all benefit types.

ECONOMIC DEVELOPMENT FEASIBILITY

The economic development feasibility calculations include the same stream of costs and the same travel efficiency benefits as used in the travel efficiency feasibility assessment; to these are added the economic development impacts. The resulting feasibility indicators are summarized in Exhibit 8.

Exhibit 7

TOTAL ANNUAL ECONOMIC BENEFITS
Alternative #1: Improved Two-Lane
($000)

	IMPACT ON CORRIDOR		IMPACT ON THE TWO STATES	
	1990	2010	1990	2010
TRAVEL EFFICIENCY GAINS				
Vehicle Operating Cost Savings	$(21)	$(36)	$(21)	$(36)
Accident Cost Savings	$532	826	532	826
Value of Time Savings	$501	885	501	885
Total Road User Benefits	$1,012	$1,674	$1,012	$1,674
ECONOMIC DEVELOPMENT GAINS (a)				
Competitive Position	$70	$319	$50	$200
Roadside Business	$330	596	53	95
Additional Agriculture	$20	25	50	56
Total Economic Development	$420	$940	$163	$361
TOTAL ECONOMIC BENEFITS	$1,432	$2,614	$1,165	$2,035

(a) The personal income economic development benefit.

TOTAL ANNUAL ECONOMIC BENEFITS
Alternative #2: With Bypasses
($000)

	IMPACT ON CORRIDOR		IMPACT ON THE TWO STATES	
	1990	2010	1990	2010
TRAVEL EFFICIENCY GAINS				
Vehicle Operating Cost Savings	$518	$782	$518	$782
Accident Cost Savings	$1,102	1,681	1,102	1,681
Value of Time Savings	$2,488	3,781	2,488	3,781
Total Road User Benefits	$4,108	$6,244	$4,108	$6,244
ECONOMIC DEVELOPMENT GAINS (a)				
Competitive Position	$390	$1,776	$273	$1,149
Roadside Business	$819	1,485	124	234
Additional Agriculture	$40	145	100	350
Total Economic Development	$1,249	$3,406	$497	$1,733
TOTAL ECONOMIC BENEFITS	$5,357	$9,650	$4,605	$7,977

(a) The personal income economic development benefit.

TOTAL ANNUAL ECONOMIC BENEFITS
Alternative #3: Four-Lane Highway
($000)

	IMPACT ON CORRIDOR		IMPACT ON THE TWO STATES	
	1990	2010	1990	2010
TRAVEL EFFICIENCY GAINS				
Vehicle Operating Cost Savings	$701	$1,078	$701	$1,078
Accident Cost Savings	$4,549	6,931	$4,549	6,931
Value of Time Savings	$3,777	5,925	$3,777	5,925
Total Road User Benefits	$9,027	$13,934	$9,027	$13,934
ECONOMIC DEVELOPMENT GAINS (a)				
Competitive Position	$830	$2,860	$447	$1,870
Roadside Business	$1,870	3,382	296	532
Additional Agriculture	$60	193	140	451
Total Economic Development	$2,560	$6,435	$883	$2,853
TOTAL ECONOMIC BENEFITS	$11,587	$20,369	$9,910	$16,787

(a) The personal income economic development benefit.

Exhibit 8

ECONOMIC DEVELOPMENT FEASIBILITY
U.S. 63

ECONOMIC INDICATORS [a]	Alternative #1: Improved Two-Lane	Alternative #2: With Bypasses	Alternative #3: Four-Lane
FEASIBILITY FROM CORRIDOR PERSPECTIVE			
Net Present Value ($000)	$306.3	$52,868.1	$94,018.3
Internal Rate of Return	6.1%	13.1%	11.4%
Discounted Benefit/Cost	1.01	1.96	1.69
FEASIBILITY FROM STATEWIDE PERSPECTIVE			
Net Present Value ($000)	($5,970.7)	$36,073.0	$55,558.9
Internal Rate of Return	4.1%	10.9%	9.3%
Discounted Benefit/Cost	.79	1.63	1.41

(a) 6% discount rate

SOURCE: Wilbur Smith Associates

Exhibit 8 statistics suggest a number of conclusions, from the overall economic development perspective.

- From the seven-county corridor perspective, all of the three alternative improvements are economically feasible at the 6% discount rate.
- From the statewide perspective, only Alternatives #2 and #3 are feasible.
- Alternative #2, as was the case with the travel efficiency assessment, generates the greatest return on the investment (Alternative #2 generates 10.9% statewide, Alternative #3 generates 9.3% statewide).
- These statistics suggest that, if the states have sufficient funds, that Alternative #3 (four-lane) should be built. If there are competing highway projects, however, that yield between 9.3% and 10.9%, then Alternative #2 makes the most sense because it yields the greatest return.
- If the states were to select Alternative #2, it should be planned in a way that it could eventually lead to a four-lane highway because of the four-lane highway's feasibility.

THE NEXT STEP

The U.S. 63 Corridor Study was undertaken as a joint effort by the Iowa and Minnesota Departments of Transportation and the Federal Highway Administration to study the warrants for improvements in this corridor and their feasibility. The study has produced findings regarding current and future conditions, examined a range of improvement alternatives and identified three alternatives considered to be most worthy. These three "finalist" alternatives were evaluated regarding traffic operations, safety, costs, engineering feasibility, environmental feasibility, travel economic efficiency, and economic development feasibility. The study identified which alternatives provide the best return on investment as well as the economic impacts which will accompany such improvements.

It was not the purpose of the U.S. 63 Corridor Study to reach decisions about which improvement alternative should be built. Instead, the purpose was to provide information so that investment decisions can be made regarding U.S. 63 within the context of other highway needs in the States of Minnesota and Iowa. Study findings will permit public officials to make decisions on the basis of factual information concerning the need for, feasibility of and benefits from investments in this important highway corridor.

U.S. 63 CORRIDOR STUDY
ADVISORY COMMITTEE

- Mr. Herman Meyer
  New Hampton Office of Economic Development
- Mr. Rodney H. Larson
  Iowa Northland Regional Council of Governments
- Mr. Charles Reiter
  Rochester-Olmsted Council of Governments
- Mr. Tom Welch
- Mr. Scott Dockstader
- Mr. Craig O'Riley
  Iowa Department of Transportation
- Mr. Merritt H. Linzie
- Mr. Tony Hames
  Minnesota Department of Transportation
- Mr. Ed Finn
  Federal Highway Administration

CONSULTANT

- Wilbur Smith Associates

ASSISTED BY:

- Brice, Petrides - Donohue
- Specialist Consultants:
  - Dr. C. Philip Baumel
    Iowa State University
    Agriculture Transportation
  - Dr. David Forkenbrock
    University of Iowa
    Economic Principles and Analysis
  - Dr. Dan Otto
    Iowa State University
    Economic Impact Analysis
  - Dr. George Treyz
    Regional Economic Models, Inc.
    Economic Impact Models