# Commercial and Industrial Network Improvement and Programming Policy 

## SUMMARY



(1)
Iowa Department of Iransportation

# Iowa Department of Transportation 

800 Lincoln Way, Ames, IA 50010<br>515-239-1661

January 3, 1992
Ref. No. 763

## Dear Report Recipient:

A copy of the Iowa Transportation Commission's recently approved Commercial and Industrial Network Improvement and Programming Policy report is enclosed.

The report provides a technical assessment of improvement needs on this network for the next 20-year period. The policy will be used as a guide in programming construction projects, it provides direction for the department, and also informs the public where and when major improvements to the network are needed from a technical analysis standpoint. Please note this is not a program of projects or schedule for construction.

I have also enclosed a 15 -page brochure entitled "Who to Contact." This brochure is organized by topic and lists phone numbers, as well as the appropriate office to contact to answer your questions or help with your concerns.

I trust these documents will be helpful to you. If you have comments or wish to discuss this material, please contact Don Ward at (515)239-1137 or myself.

Thank you for your interest in Iowa's transportation system.


CIM:DGW:SDP: rel
Enclosure

# NOVEMBER 1991 <br> COMMERCIAL AND INDUSTRIAL NETWORK IMPROVEMENT AND PROGRAMIMING POLICY SUMMARY 

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The Commercial and Industrial Network improvement and programming policy reflected in this summary report was adopted for use in future highway programming by the Transportation Commission on November 5, 1991. The lowa Department of Transportation, as directed by the Legislature, has established a 2,331-mile network of commercial and industrial highways and is directing a significant amount of primary construction funding resources toward improvements to this network.

This summary outlines the technical needs assessment for improvements on the Commercial and Industrial Network for the next 20 -year period. The portions of the network which require four-lane capacity, as well as major improvements to the twolane sections, are graphically displayed. Detailed improvement needs and costs are listed in tabular form for the first two fiveyear periods (1992-1996 and 1997-2001). It is essential to note that these improvement needs are the result of a technical assessment and do not imply any funding commitment.

The Commercial and Industrial Network improvement and programming policy will be used as a guide in programming construction projects and developing the lowa Transportation Improvement Program, which determines where federal and state highway funds will be spent across the state. This policy provides direction for the department and also informs the public where and when major improvements to the network are needed from a technical analysis standpoint.

Continuity has been incorporated into the 20-year improvement needs through the specific types of improvements and the timing of corridor improvements. The Commercial and Industrial Network improvement programming policy reflects an emphasis on the development of long corridors ( 60 to 80 miles) rather than shorter spot improvements, thereby maximizing the benefits of investment dollars.

This report identifies the expected schedule for improvements on the Commercial and Industrial Network based on a technical assessment. Naturally, as specific design work develops and a more detailed project assessment is made, adjustments to this system level planning study could occur.

When looking at the total network improvement costs and funding levels, it is important to note two items. First, the available funds for the 20-year period do not include any special federal funds (such as demonstration funds). Second, project costs could increase due to a variety of reasons: costs will increase as projects are delayed and moved back in the construction program due to time required to design major highway projects; environmental concerns can increase overall project costs and delay projects; and as projects are built, unforeseen circumstances, such as adverse weather or oil embargoes, could increase total costs.

## Commercial and Industrial Network



## Introduction

lowa is served by 112,771 miles of highways and streets under the jurisdiction of the state, municipalities, and counties. The state primary highway system comprises 9,746 miles (excludes ramps) of this total and is classified into five levels:

- Interstate Highway System
- Commercial and Industrial Network
- Area Development routes
- Access routes
- Local Service routes

This plan deals only with the second level--the Commercial and Industrial Network. In 1988 the State Legislature directed the Transportation Commission to "identify within the primary road system a network of commercial and industrial highways." In the same legislation, the department was instructed to allocate a minimum of $\$ 30$ million annually of primary road funds to the network beginning with fiscal year 1991.

During its 1989 session the lowa Legislature established a need for the department to give the Commercial and Industrial Network a high priority in programming future improvements. This legislation clearly states the purpose for developing the Commercial and Industrial Network is "to enhance opportunities for the development and diversification of the state's economy." The 1989 legislation further states, "The purpose of this highway network shall be to improve the flow of commerce; to make travel more convenient, safe, and efficient; and to better connect lowa
with regional, national, and international markets. The Commission shall concentrate a major portion of its annual construction budget on this network of commercial and industrial highways."

The State Transportation Commission initially designated the Commercial and Industrial Network in June 1988 and made additions to the network in October 1989 and November 1990. The map on page 2 (Figure 1) reflects the currently designated Commercial and Industrial Network. The criteria used to designate the network are:

## - Service to regional growth centers

- Continuity with major primary highways in adjacent states (see Figure 2)
- Current annual average daily traffic (ADT) and changes in ADT since 1980
- Current annual average daily large truck traffic and changes since 1980
- Area coverage

An average rural segment of the Commercial and Industrial Network carries 3,400 vehicles per day, of which 350 are large trucks. Twenty-six percent of vehicle miles of travel on the entire rural state highway system occur on the rural portion of the Commercial and Industrial Network. This system, in conjunction with the Interstate Highway System, comprises 32 percent of lowa's total state primary system but carries 60 percent of total rural primary travel.

Major Primary Highway Improvements in Adjacent States


Figure 2

## 1988 Traffic



Figure 3

## 1988 Truck Traffic



Figure 4

The Commercial and Industrial Network includes 2,331 miles: 2,082 rural miles and 249 urban miles. Legislative action in 1989 restricted the size of the Commercial and Industrial Network to 2,500 miles. The 2,331 miles comprising the Commercial and Industrial Network represent the most important non-Interstate system primary highway routes in lowa. This network complements lowa's 782 miles of Interstate Highway System and provides high quality highway access to all areas of the state to serve lowa's economy. Over 72 percent of the land area of lowa, over 80 percent of lowa's population, and over 85 percent of all 150 lowa cities with more than 2,000 residents are on or within 10 highway miles of the Commercial and Industrial Network.

The 1988 annual average daily traffic and annual average daily large truck traffic for all sections of the Commercial and Industrial Network are shown on the maps on pages 5 and 6 (Figures 3 and $4)$.


## Corridors and Segments



Figure 5

## Improvement Programming Process

For purposes of analyzing the Commercial and Industrial Network, the 2,331-mile system was subdivided into three levels:

- Route--connects major population and economic activity centers
- Corridor--portion of route between logical terminal points, such as major highway junctions
- Segment--portion of corridor used as basis for improvement needs analysis and program management

The map on page 8 (Figure 5) shows the Commercial and Industrial Network routes, corridors, and segments.

The flow chart (Chart A) outlines the process which was used in developing the improvement needs assessment on the Commercial and Industrial Network.


## FutureTraffic



Figure 6

Economic development was brought into the process through traffic forecasts which were based on demographic (population, density, and labor force), economic (employment trends in manufacturing, wholesale, retail, service, and personal income), and geographic (distance to the nearest metropolitan area and market accessibility) factors. Also considered were efforts being undertaken by cities and counties to assist the growth and diversification of local economies. The forecasted daily traffic by the year 2011 is shown on the map on page 10 (Figure 6).

Improvement needs were identified on the basis of a level of service analysis using future traffic to assess current highways. The Transportation Commission's objective was to have all rural segments of the Commercial and Industrial Network operating under conditions represented by a level of service "B." Level of service "B" represents stable traffic flow. The current level of service (current road conditions and existing traffic) and the year 2011 level of service (current road conditions and future traffic) are shown on the following maps (Figures 7 and 8).

Reconstruction/construction and resurface improvement needs were calculated using highway sufficiency rating, pavement condition rating, and accident experience criteria. These improvement needs are listed for each of the 63 corridors representing the Commercial and Industrial Network in the following tables and are also graphically displayed on the following maps. Needs are subdivided into four types:

- Capacity-improvements to the roadway which result in an increase in the number of vehicles which can pass over a given section of highway. Generally, this reflects constructing additional traffic lanes.
- Reconstruction/Construction--improvements which result in strengthening the structural integrity of the roadway. This may involve replacing the subbase or pavement, doing pavement inlay projects, or overlays of sufficient thickness to account for an equivalent pavement/roadbed condition improvement.
- Resurface-improvements consisting of an overlay of existing pavement.
- Bypass--new alignment of route around communities to alleviate capacity or congestion problems.

Detailed cost estimates were developed for each individual improvement identified during this 20 -year time period. In concert with costs, revenue forecasts were developed for both state and federal highway funding. The process evaluated needs, costs, and revenues to develop a needs assessment for improvements on the Commercial and Industrial Network.

In developing the improvement needs assessment on the Commercial and Industrial Network, action was taken to facilitate and encourage increased local involvement. Extensive demographic and economic forecasts were sent to the 16 regional planning agencies for review and revision. Interaction with the regional planning agencies provided the basis for incorporating economic development considerations into the development of the improvement and programming policy for the Commercial and Industrial Network.

## Current Level of Service



Figure 7

## Future Level of Service



Figure 8


## ImprovementNeeds

The existing 2,331-mile Commercial and Industrial Network consists of the following:

| Existing four-lane sections | 380 | miles |
| :--- | ---: | :--- |
| Five-Year Program four-lane sections | 180 | miles |
| Existing two-lane sections | 1,771 | miles |

Twenty-four percent of the network is existing four-lane sections or programmed as four-lane sections in the 1991-1995 lowa Transportation Improvement Program.

The capacity analyses identified an additional 502 miles of existing two-lane highways with unacceptable levels of service for forecasted future traffic conditions. These 502 miles will need to be improved to four-lane standards within the next 20 years (Chart B). These capacity improvements would result in the following Commercial and Industrial Network configuration by the year 2011:

| Four-lane sections | 1,062 miles |
| :--- | ---: |
| Two-lane sections | 1,269 miles |

Forty-six percent of the network would become four-lane sections by the year 2011 .

## Commercial and Industrial Network

Four - lane Mileage


Total in Year 2011--1062 Miles*
*Based upon projected needs, does not imply a funding comitment.

## Summary of Bypass Needs



Figure 9

## Summary of Bypass Needs

| City | Route | Existing | Programmed | Proposed | Future | City | Route | Existing | Programmed | Proposed | Future |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | Denison | US 30 |  |  | X |  |
| Afton | US 34 | X |  |  |  | Denver | US 63 |  | X |  |  |
| Agency | US 34 |  |  | X |  | Des Moines | US 65 |  | X |  |  |
| Ainsworth | US 218 |  | X |  |  | Des Moines | IA 5 |  |  | X |  |
| Albia | US 34 |  |  |  | X | De Witt | US 30 | X |  |  |  |
| Albion | IA 330 |  |  | X |  | Dike | US 20 |  | X |  |  |
| Alden | US 20 | X |  |  |  | Donnellson | US 218 |  |  | $x$ |  |
| Algona | US 18 |  |  |  | X | Dubuque | US 61 |  | X |  |  |
| Alton | IA 60 |  |  |  | X | Dunlap | US 30 |  |  |  | X |
| Ames | US 30 | X |  |  |  | Dyersville | US 20 | X |  |  |  |
| Atlantic | US 71 |  |  |  | $X$ $X$ | Early | US 20 |  |  |  | X |
| Auburn | US 71 |  |  |  | X | Eddyville | IA 23/137 |  | $x$ |  |  |
| Audubon | US 71 |  |  |  | X | Eldridge | US 61 | $x$ |  |  |  |
| Batavia | US 34 |  |  | X |  | Emmetsburg | US 18 |  |  |  | $x$ |
| Blairsburg | US 20 | X |  |  |  | Epworth | US 20 | X |  |  |  |
| Bloomfield | US 63 |  |  |  | $x$ | Fairfield | US 34 |  |  | X |  |
| Blue Grass | US 61 |  | X |  |  | Farley | US 20 | $x$ |  |  |  |
| Bondurant | US 65 | x |  |  |  | Floyd | US 218 | $x$ |  |  |  |
| Boone | US 30 | X |  |  |  | Fort Dodge | US 169 | X |  |  |  |
| Burlington | US 34 | X |  |  |  | Fort Madison | US 61 |  |  | X |  |
| Carroll | US 30 |  |  | X |  | Fredericksburg | US 18 |  |  |  | $x$ |
| Cascade | US 151 |  |  | X |  | Garner | US 18 |  |  |  | X |
| Cedar Falls | US 218 |  | X |  |  | Glenwood | US 34 | X |  |  |  |
| Cedar Rapids | US 30 | $x$ $x$ |  |  |  | Glidden | US 30 |  |  |  | X |
| Chariton | US 34 | X |  |  |  | Grand Junction | US 30 |  |  |  | X |
| Charles City | US 218 |  | X |  |  | Granger | IA141 | X |  |  |  |
| Chester | US 63 |  |  |  | X | Grant | US 71 | X |  |  |  |
| Clarence | US 30 |  |  |  | X | Grundy Center | IA 14 |  |  | X |  |
| Clarinda | US 71 | X |  |  |  | Guttenberg | US 52 | X |  |  |  |
| Clear Lake | US 18 |  |  |  | X | Hartley | US 18 |  |  |  | X |
| Colo | US 30 | X |  |  |  | Hinton | US 75 |  |  |  | X |
| Corning | US 34 | X |  |  | X | Hospers | IA 60 |  |  |  | X |
| Correctionville | US 20 |  | X |  | X | Independerice | US 20 | X |  |  |  |
| Crawfordsville | US 218 |  | X |  |  | lowa City | US 218 | X |  |  |  |
| Creston | US 34 |  |  |  | X | lowa Falls | US 20 |  |  | X |  |
| Cylinder | US 18 |  |  |  | X | Janesville | US 218 |  | X |  |  |
| Danville | US 34 |  |  | X |  | Jefferson | US 30 |  |  |  | X |
| Davenport | US 61 | $x$ |  |  |  | Jesup | US 20 | X |  |  |  |
| Decorah | US 52 | $x$ |  |  |  | Keokuk | US 61 | X |  |  |  |
| Delaware | US 20 | X |  |  |  | Le Grand | US 30 |  |  | X |  |


| Clty | Route | Existing | Progr'ammed | Proposed | Future | City | Route | Existing | Programmed | Proposed | Future |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Le Mars | IA 60 |  |  | $x$ |  | Red Oak | US 34 | x |  |  |  |
| Lisbon | US 30 |  |  | x |  | Rockwell City | US 20 |  |  |  | $x$ |
| Logan | US 30 |  |  |  | $x$ | Rudd | US 18 |  | x |  |  |
| Manchester | US 20 | $\frac{x}{x}$ |  |  |  | Sac City | US 20 |  |  |  | $x$ |
| Maquoketa | US 61 | $x$ |  |  |  | Sanborn | US 18 |  |  |  | X |
| Marion | US 151 | $x$ |  |  |  | Sheldon | IA 60 |  |  |  | X |
| Marshalltown | US 30 |  | $x$ |  |  | Sibley | 1460 |  |  |  | $x$ |
| Mason City | US 18 |  | $x$ |  |  | Sioux City | US 75 |  | x |  |  |
| McGregor | US 18 | $x$ |  |  |  | Sioux City | US 20 | x |  |  |  |
| Mediapolis | US 61 |  |  |  | $x$ $\times$ | Spencer | US 18 |  | $x$ |  |  |
| Merrill | US 75 |  |  |  | X | Springville | US 151 |  | $x$ |  |  |
| Middletown | US 34 |  |  | X |  | State Center | US 30 | x |  |  |  |
| Missouri Valley | US 30 |  | X |  |  | Storm Lake | US 71 |  | x |  |  |
| Monona | US 18 | x |  |  |  | Swedesburg | US 218 |  | x |  |  |
| Monroe | IA 163 |  | X |  |  | Tama | US 30 |  | x |  |  |
| Monticello | US 151 |  |  | X |  | Toledo | US 30 |  | X |  |  |
| Mount Pleasant | US 218 |  | x |  |  | Vail | US 30 |  |  |  | $x$ |
| Mount Pleasant | US 34 |  | X |  |  | Ventura | US 18 |  |  |  | x |
| Mount Vernon | US 30 |  |  | $x$ |  | Wapelio | US 61 |  |  |  | x |
| Muscatine | US 61 | $x$ |  |  |  | Waterloo | US 218 | x |  |  |  |
| Nashua | US 218 |  |  | $x$ |  | Waterloo | US 20 | x |  |  |  |
| Nevada | US 30 | X |  |  |  | Waverly | US 218 |  | x |  |  |
| New Hampton | US 63 |  |  | $\underset{x}{x}$ |  | Wever | US 61 |  | x |  |  |
| New London | US 34 |  |  | X |  | Webster City | US 20 | $x$ |  |  |  |
| New Vienna | IA 136 |  |  |  | $x$ | Welton | US 61 |  | x |  |  |
| Nora Springs | US 18 |  | X |  |  | West Burlington | US 34 | x |  |  |  |
| Ogden | US 30 | X |  |  |  | West Union | US 18 |  |  |  | X |
| Okoboji | US 71 |  |  | X |  | Westside | US 30 |  |  |  | x |
| Olds | US 218 |  | x |  |  | Williams | US 20 | $x$ |  |  |  |
| Osceola | US 34 |  |  |  | X | Winthrop | US 20 | x |  |  |  |
| Oskaloosa | IA 163 |  | $x$ |  |  | Zwingle | US 61 | X |  |  |  |
| Otley | IA 163 |  | X |  |  |  |  |  |  |  |  |
| Ottumwa | US 34 |  |  |  | X |  |  |  |  |  |  |
| Pella | IA 163 |  | X |  |  |  |  |  |  |  |  |
| Plainfield | US 218 |  |  | X |  |  |  |  |  |  |  |
| Postville | US 18 |  |  |  | X |  |  |  |  |  |  |
| Prairie City | IA 163 |  | $x$ |  |  |  |  |  |  |  |  |
| Raymond | US 20 | X |  |  |  |  |  |  |  |  |  |

Commercial and Industrial Network routes through communities were evaluated for alternatives to make travel more efficient by decreasing travel time, congestion, and delay. A summary of community bypass needs during the 20-year period is shown on the map on page 16 (Figure 9). A list of each community currently bypassed and those with an identified need for a future bypass during the 20-year period is detailed on pages 17 and 18.

In addition to capacity improvements, significant amounts of reconstruction/ construction and resurfacing work will need to be completed. For the 20 -year period, this work includes:

| Reconstruction/construction | 570 miles |
| :--- | ---: |
| Resurfacing | 1,480 miles |

The proposed schedule for improvements involved a thorough evaluation of traffic volume-to-capacity relationships using level of service criteria, as well as an assessment of pavement history/ condition and accident experience. For analyzing reconstruction projects, a roadbed life of 60 years was used. Resurfacing projects were forecasted as needed every 15 years for highways with a low pavement condition rating. Capacity improvement projects were listed whenever an unacceptable level of service was forecasted in concert with appropriate traffic volumes for that time period. These projects were coordinated so that improvements would not be duplicative or inefficient. For example, if a resurfacing improvement was needed more than five years prior to a capacity improvement, the resurface and capacity improvements were scheduled independently. However, if a resurface and capacity improvement were needed within five years of one another, the improvements were coordinated to occur simultaneously.

Commercial and Industrial Network
Improvement Needs 1992-2001
Costs of these improvements to the year 2011 would be $\$ 2,580$ million or approximately $\$ 129$ million per year. These costs (represented in 1992 constant dollars) are summarized in the following table.

Commercial \& Industrial Network
Cost Summary

|  |  |  |  | 20-Year |
| :---: | :---: | :---: | :---: | :---: |
|  | 1992-1996 | 1997-2001 | 2002-2011 | Total |
| Capacity/ |  |  |  |  |
|  | \$ 880 | \$ 440 |  |  |
| Reconstruction/ |  |  | , |  |
| Construction | 409 | 131 | \$580 | \$2,580 |
| Resurface | 102 | 38 |  |  |
| Total | \$1,391 | \$ 609 | \$580 | \$ 2,580 million |

The Commercial and Industrial Network technical assessment improvement needs for the first 10-year period (1992-1996 and 1997-2001) are listed by work type for each of the 63 corridors in the following pages. Costs are totaled for each corridor. Costs by improvement type are shown in Chart C for the first two fiveyear periods (1992-1996 and 1997-2001). Improvement needs for the entire 20 -year period are graphically shown on the map on page 21 (Figure 10). State and federal revenue projections (in constant 1992 dollars) resulted in $\$ 2,752$ million being available for improvement projects on the Commercial and Industrial Network for the 20 -year period.


Legend
Capacity/Bypass
Reconst/Const
Resurfacing
Total Needs
Chart C

## 20-Year Improvements



|  |  |  |  | 20-Year |
| :---: | :---: | :---: | :---: | :---: |
| Available Funds | 1992-1996 | 1997-2001 | 2002-2011 | Total |
|  | $\$ 688$ | $\$ 688$ | $\$ 1,376$ | $\$ 2,752$ million |

Approximately $\$ 688$ million in federal and state funding would be available over each five-year period. The total $\$ 2,752$ million or $\$ 138$ million per year that would be available for Commercial and Industrial Network improvements assumes state highway construction purchasing power continues at the current level (Chart D).

Implementation of these Commercial and Industrial Network improvements over the next 20-year period is realistic and reasonable. By incorporating these improvement priorities in the department's highway programming efforts, financially responsible decisions can be made. This schedule of 20 -year improvements is achievable based on this comparison of total costs and programming funds available.

|  | 1992-1996 | 1997-2001 | 2002-2011 | 20-Year <br> Total |
| :--- | :---: | :---: | :---: | :---: |
| Total Improvement <br> Costs | $\$ 1,391$ | $\$ 609$ | $\$ 580$ | $\$ 2,580$ million |

Commercial and Industrial Network Improvement Costs and Funding Comparison


Chart D

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# ImprovementPrioritizationSummary 

|  | $1992 \$($ in 1000's) |
| :--- | :--- |
| Work Type Code: | Programming Status Code: |
| 1-Capacity | 1-In 1991-1995 Program |
| 2-Construction/Reconstruction | 2-In Planning Section of 1991-1995 Program |
| 3-Resurface | 3-In Recommended 1992-1996 Program |
| 4-Bypass | 4-In Planning Section of Recommended 1992-1996 Program |
|  | 5-Not Programmed |



```
Technical need assessment.
Does not imply funding commitment.
```

|  | 1992 \$ (in 1000's) |
| :--- | :--- |
| Work Type Code: | Programming Status Code: |
| 1-Capacity | 1-In 1991-1995 Program |
| 2-Construction/Reconstruction | 2-In Planning Section of 1991-1995 Program |
| 3-Resurface | 3-In Recommended 1992-1996 Program |
| 4-Bypass | 4-In Planning Section of Recommended 1992-1996 Program |
|  | 5-Not Programmed |



| Technical need assessment. Does not imply funding commitment. |  |  1992 \$ (in 1000's) <br>   <br> Programming Status Code:  <br> Type Code: 1-In 1991-1995 Program <br> apacity 2-In Planning Section of 1991-1995 Program <br> onstruction/Reconstruction  <br> esurface 3-In Recommended 1992-1996 Program <br> ypass <br>  4-In Planning Section of Recommended 1992-1996 Program <br>  5-Not Programmed |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Roadway Segment $\quad \begin{aligned} & \text { Corridor } \\ & \text { Number }\end{aligned}$ |  | Route | Mileage | $\begin{gathered} 1992-96 \\ \text { Cost } \\ \hline \end{gathered}$ | $\begin{gathered} \text { 1992-96 } \\ \text { Total } \end{gathered}$ | Work <br> Type | $\begin{gathered} 1997-2001 \\ \text { Cost } \end{gathered}$ | $\begin{gathered} \text { 1997-2001 } \\ \text { Total } \end{gathered}$ | Work Type | Program 10-Year Status Total |  |
| US 30 to E Jct IA 175 | 11 | US 169 | 16.10 |  |  |  |  |  |  | 1 |  |
| E Jct IA 175 to W Jct IA 175 | 11 | US 169 | 3.82 | \$2,800 |  | 2 |  |  |  | 1 |  |
| W Jct IA 175 to US 20 | 11 | US 169 | 11.02 | \$10,600 |  | 2 |  |  |  | 1 |  |
| US 20 to Ft. Dodge | 11 | US 169 | 3.71 |  |  |  |  |  |  | 5 |  |
|  |  |  |  |  | \$13,400 |  |  |  |  |  | \$13,400 |
| Ft. Dodge to US 18 | 12 | US 169 | 42.77 |  |  |  |  |  |  | 1 |  |
| MO State Line to E Jct IA 2 | 13 | US 63 | 15.18 |  |  |  |  |  |  | 5 |  |
| E Jct IA 2 to US 34 | 13 | US 63 | 18.58 |  |  |  | \$13,500 |  | 1 | 2 |  |
|  |  |  |  |  |  |  |  | \$13,500 |  |  | \$13,500 |
| Relocated US 65 to IA 316 | 14 | IA 163 | 6.18 |  |  |  |  |  |  | 5 |  |
| IA 316 to Prairie City Bypass | 14 | IA 163 | 4.41 | \$6,700 |  | 1 |  |  |  | 1 |  |
| IA 316 to Prairie City Bypass | 14 | IA 163 | 4.41 | \$3,300 |  | 2 |  |  |  | 1 |  |
| Prairie City Bypass | 14 | IA 163 | 3.48 | \$9,000 |  | 4 |  |  |  | 1 |  |
| Prairie City to Monroe Bypass | 14 | IA 163 | 4.70 | \$3,600 |  | 1 |  |  |  | 1 |  |
| Prairie City to Monroe Bypass | 14 | IA163 | 4.70 | \$3,500 |  | 2 |  |  |  | 1 |  |
| Monroe Bypass | 14 | IA 163 | 3.96 | \$9,200 |  | 4 |  |  |  | 3 |  |
| Monroe Bypass to Otley Bypass | 14 | IA 163 | 2.62 | \$3,100 |  | 1 |  |  |  | 1 |  |
| Monroe Bypass to Otley Bypass | 14 | IA 163 | 2.62 | \$1,900 |  | 2 |  |  |  | 1 |  |
| Otley Bypass | 14 | IA 163 | 2.14 | \$3,700 |  | 4 |  |  |  | 3 |  |
| Otley Bypass to Pella Bypass | 14 | IA 163 | 4.81 | \$5,600 |  | 1 |  |  |  | 1 |  |
| Otley Bypass to Pella Bypass | 14 | IA 163 | 4.81 | \$3,400 |  | 2 |  |  |  | 1 |  |
| Pella Bypass | 14 | 1A163 | 3.84 | \$9,300 |  | 4 |  |  |  | 1 |  |
| \$62,300 |  |  |  |  |  |  |  |  |  |  | \$62,300 |

```
Technical need assessment.
Does not imply funding commitment.
```

|  | 1992 $\$$ (in 1000's) |
| :--- | :--- |
| Work Type Code: | Programming Status Code: |
| 1-Capacity | 1-In 1991-1995 Program |
| 2-Construction/Reconstruction | 2-In Planning Section of 1991-1995 Program <br> 3-Resurface |
| 3-In Recommended 1992-1996 Program <br> 4-Bypass | 4-ln Planning Section of Recommended 1992-1996 Program |
|  | 5-Not Programmed |


| Roadway Segment $\quad \begin{aligned} & \text { Corridor } \\ & \text { Number }\end{aligned}$ |  | Route | Mileage | $\begin{gathered} \text { 1992-96 } \\ \text { Cost } \end{gathered}$ | $\begin{gathered} \text { 1992-96 } \\ \text { Total } \end{gathered}$ | Work Type | $\begin{aligned} & 1997-2001 \\ & \text { Cost } \end{aligned}$ | $\begin{gathered} \text { 1997-2001 } \\ \text { Total } \end{gathered}$ | Work Type | Program Status | 10-Year Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Pella Bypass to Oskaloosa Bypass | 15 | IA 163 | 14.05 | \$20,100 |  | 1 |  |  |  | 1 |  |
| Pella Bypass to Oskaloosa BypassOskaloosa Bypass | 15 | IA 163 | 14.05 | \$10,500 |  | 2 |  |  |  | 1 |  |
|  | 15 | IA 163 | 6.50 | \$7,900 |  | 4 |  |  |  | 1 |  |
| Oskaloosa Bypass to Eddyville | 15 | IA 137 | 5.60 | \$6,500 |  | 1 |  |  |  | 1 |  |
| Oskaloosa Bypass to Eddyville | 15 | IA 137 | 5.60 | \$4,200 |  | 2 |  |  |  | 1 |  |
| Eddyville Bypass | 15 | IA 137 | 3.20 | \$5,300 |  | 4 |  |  |  | 1 |  |
| Eddyville Bypass to Relocated IA 23 | 15 | IA 23 | 5.20 | \$5,900 |  | 1 |  |  |  | 1 |  |
| Eddyville Bypass to Relocated IA 23 | 15 | IA 23 | 5.20 | \$3,900 |  | 2 |  |  |  | 1 |  |
| Relocated IA 23 to IA 389/US 63 | 15 | IA 23 | 5.70 | \$7,500 |  | 1 |  |  |  | 1 |  |
| Relocated IA 23 to IA 389/US 63 | 15 | IA 23 | 1.25 | \$4,200 |  | 2 |  |  |  | 1 |  |
| IA 389/US 63 to Ottumwa (US 34) | 15 | US 63 | 5.91 |  |  |  |  |  |  | 5 |  |
|  |  |  |  | \$76,000 |  |  |  |  |  |  | \$76,000 |
| 1-80 to End Existing 4 -lane | 16 | US 65 | 4.41 | \$3,400 |  | 2 |  |  |  | 5 |  |
| Begin 2-lane - IA 931 | 16 | US 65 | 2.11 | \$3,600 |  | 1 |  |  |  | 5 |  |
| IA 931 to IA 117/330 | 16 | US 65 | 7.28 | \$6,400 |  | 1 |  |  |  | 5 |  |
| IA 931 to IA 117/330 | 16 | US 65 | 7.28 | \$4,200 |  | 2 |  |  |  | 5 |  |
| IA 330 to US 30 | 16 | IA 330 | 20.31 |  |  |  |  |  |  | 5 |  |
|  |  |  |  | \$17,600 |  |  |  |  |  |  | \$17,600 |
| US 30 to Albion Bypass | 17 | 14330 | 6.89 |  |  |  | \$5,800 |  | 2 | 2 |  |
| Albion Bypass | 17 | IA330 | 1.80 |  |  |  | \$2,100 |  | 4 | 2 |  |
| Albion Bypass to IA 14 | 17 | IA330 | 4.44 |  |  |  | \$3,600 |  | 2 | 2 |  |
| IA 330 to Grundy Center Bypass | 17 | IA14 | 22.12 |  |  |  | \$6,500 |  | 2 | 5 |  |
| Grundy Center Bypass | 17 | IA14 | 1.75 |  |  |  | \$2,500 |  | 4 | 5 |  |
| Grundy Center Bypass to US 20 | 17 | IA 14 | 6.63 |  |  |  |  |  |  | 5 |  |
|  |  |  |  |  |  |  | \$20,500 |  |  |  | \$20,500 |





| Technical need assessment. Does not imply funding commitment. |  |  1992 \$ (in 1000's) <br>  Programming Status Code: <br> rk Type Code: 1-In 1991-1995 Program <br> Capacity 2-In Planning Section of 1991-1995 Program <br> 3-In Recommended 1992-1996 Program  <br> lesurface 3-In Planning Section of Recommended 1992-1996 Program <br> 3pass <br>  <br> 5-Not Programmed |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |  |
| Roadway Segment | Corridor Number | Route | Mileage | $\begin{gathered} 1992-96 \\ \text { Cost } \\ \hline \end{gathered}$ | $\begin{gathered} \text { 1992-96 } \\ \text { Total } \end{gathered}$ | Work Type | $\begin{gathered} 1997-2001 \\ \text { Cost } \end{gathered}$ | $\begin{gathered} \text { 1997-2001 } \\ \text { Total } \end{gathered}$ | Work <br> Type | Program 10-Year Status Total |  |
| SCL Creston to W Jct US 169 | 32 | US34 | 10.25 | \$1,900 |  | 3 |  |  |  | 5 |  |
| W Jct US 169 to E Jct US 169 | 32 | US34 | 6.20 |  |  |  |  |  |  | 5 |  |
| E Jct US 169 to 1-35 | 32 | US34 | 15.12 | \$2,000 |  | 3 |  |  |  | 1 |  |
|  |  |  |  |  | \$3,900 |  |  |  |  |  | \$3,900 |
| 1-35 to Jct IA 14 | 33 | US34 | 26.21 |  |  |  |  |  |  | 1 |  |
| IA 14 to IA 97 | 34 | US34 | 6.05 |  |  |  |  |  |  | 1 |  |
| IA 97 to IA 68 | 34 | US34 | 7.18 | \$5,700 |  | 2 |  |  |  | 1 |  |
| IA 68 to IA 5 | 34 | US34 | 13.23 | \$1,800 |  | 3 |  |  |  | 5 |  |
| IA 5 to Wapello County | 34 | US34 | 8.87 |  |  |  | \$1,200 |  | 3 | 1 |  |
| Wapello County to W Jct US 63 | 34 | US34 | 11.58 |  |  |  |  |  |  | 5 |  |
|  |  |  |  |  | \$7,500 |  |  | \$1,200 |  |  | \$8,700 |
| W Jct US 63 to ECL Ottumwa | 35 | US34 | 3.50 |  |  |  |  |  |  | 1 |  |
| ECL Ottumwa to WCL Agency | 35 | US34 | 3.24 | \$1,000 |  | 3 |  |  |  | 1 |  |
| Agency Bypass | 35 | US34 | 2.00 |  |  |  | \$3,000 |  | 4 | 5 |  |
| ECL Agency to Jct IA 16 | 35 | US34 | 3.30 | \$2,300 |  | 1 |  |  |  | 2 |  |
| ECL Agency to Jct IA 16 | 35 | US34 | 3.30 | \$2,500 |  | 2 |  |  |  | 2 |  |
| Jct IA 16 to WCL Batavia | 35 | US34 | 3.33 | \$2,400 |  | 1 |  |  |  | 2 |  |
| Jct IA 16 to WCL Batavia | 35 | US34 | 3.33 | \$2,500 |  | 2 |  |  |  | 2 |  |
| WCL Batavia to NCL Batavia | 35 | US34 | 0.53 | \$800 |  | 1 |  |  |  | 2 |  |
| WCL Batavia to NCL Batavia | 35 | US34 | 0.53 | \$100 |  | 3 |  |  |  | 2 |  |
| NCL Batavia to Co Rd V64 | 35 | US34 | 6.54 | \$4,700 |  | 1 | \$1,400 |  | 3 | 2 |  |
| Co Rd V64 to WCL Fairfield | 35 | US34 | 2.24 | \$1,600 |  | 1 | \$500 |  | 3 | 2 |  |
| Fairfield Bypass | 35 | US34 | 10.30 |  |  |  | \$12,600 |  | 4 | 2 |  |
| ECL Fairfield to 6.85 miles east | 35 | US34 | 6.85 | \$1,400 |  | 3 |  |  |  | 1 |  |
| ECL Fairfield to 6.85 miles east | 35 | US34 | 6.85 |  |  |  | \$4,900 |  | 1 | 2 |  |
| 10.45 miles west to Co Rd W55 | 35 | US34 | 10.45 | \$2,000 |  | 3 |  |  |  | 5 |  |








