

May 1992

### (612) 296-1662

To: Municipal Engineers

Subject: Municipal State Aid Screening Board Data

Enclosed is a copy of the June 1992 Municipal Sreening Board Data.

The data included in this report will be used by the Municipal Screening Board at its June 15 and 16, 1992 meeting near Brainerd to establish unit prices for the 1992 Needs Study and the resulting 1993 Apportionment. The Board will also review other recommendations of the Needs Study Subcommittee outlined in the minutes of their April meeting.

Should you have any suggestions or recommendations reguarding the data in this publication, please refer them to your district representative along with a copy to the State Aid Office, or call the above number prior to the screening board meeting.

Sincerely,

en Straws;

Kenneth Straus Municipal Needs Unit Manager

Enclosures: 1992 Municipal State Aid Screening Board Data

## 1992 MUNICIPALSCREENING BOARD DATA

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## 1992 MUNICIPAL SCREENING BOARD

## <u>OFFICERS</u>

Chairman Vice Chair Secretary	man	Dan Edwards Alan Gray Kenneth Larson	Fergus Falls Eden Prairie Duluth	(218) 739–2251 (612) 937–2262 (218) 723–3278
MEMBER	<u>s</u>			
<u>District</u>	<u>Served</u>	<b>Representative</b>		
1	1	Jim Prusak	Cloquet	(218) 879–6758
2	2	David Kildahl	Crookston	(218) 281–6522
3	2	Sidney Williamson	Sartell	(612) 251–4553
4	1	Herb Reimer	Moorhead	(218) 299-5390
5	3	Michael Eastling	Richfield	(612) 861–9700
6	1	Arnold Putnam	Owatonna	(507) 451–4541
7	3	Pete McClurg	New Ulm	(507) 359-8245
8	2	Dale Swanson	Willmar	(612) 235-4202
9	3	Ken Haider	Maplewood	(612) 770-4552
(Three Citi	es	Kenneth Larson	Duluth	(218) 723-3278
of the		Marvin Hoshaw	Minneapolis	(612) 673–2476
First Class	s)	Thomas Kuhfeld	St. Paul	(612) 292-6276
<u>District</u>		Alternates		
1		Bill Bennett	Hermantown	(218) 727-8456
2		Don Boell	Bemidji	(218) 751–5610
3		Curt Kreklau	Buffalo	(612) 253-1000
4		Gary Nanson	Detroit Lakes	(218) 847-5607
5		Larry Anderson	Prior Lake	(612) 447-4230
6		William Malin	Winona	(507) 457-8269
7		Ken Saffert	Mankato	(507) 625-3161
8		Rich Victor	Marshall	(507) 537-6774
9		Brian Bachmeier	Oakdale	(612) 739-5086

### **1992 SUBCOMMITTEES**

NEEDS STUDY SUBCOMMITTEE	UNENCUMBERED CONSTRUCTION FUNDS SUBCOMMITTEE
Charles Siggerud – Chairman	Ron Rudrud – Chairman
Burnsville	Bloomington
(612) 895–4400	(612) 881–5811
Expires in 1992	Expires in 1992
Joe Bettendorf	Bruce Bullert
Litchfield	Savage
(612) 252–4740	(612) 890–1045
Expires in 1993	Expires in 1993
Tom Drake	Jim Grube
Red Wing	St. Louis Park
(612) 227–6220	(612) 924–2551
Expires in 1994	Expires in 1994

ALLOCATION STUDY SUBCOMMITTEE (Presently Not Appointed by the Commissioner)			
Jim Grube-St.Louis Park-Chairman	(612) 924–2551		
Larry Anderson – Prior Lake	(612) 447–4230		
Bruce Bullert – Savage	(612) 890-1045		
Gerald Butcher – Maple Grove	(612) 420-4000		
Tom Drake – Red Wing	(612) 227–6220		
John Flora – Fridley	(612) 571–3450		
Ramankutty Kannankutty – Minneapolis	(612) 673–2456		
Tom Kuhfeld – St Paul	(612) 292–6276		
Ken Larson – Duluth	(218) 723-3278		
Bill Ottensmann – Coon Rapids	(612) 755–2880		
Herb Reimer – Moorhead	(218) 299-5390		
Chuck Siggerud – Burnsville	(612) 895-4400		

### MINUTES FALL MUNICIPAL SCREENING BOARD OCTOBER 29-30, 1991

#### I. SESSION 1

The fall meeting of the Municipal Screening Board was called to order by Chairman Jim Grube at 1:10 P.M., Tuesday, October 29, 1991. Roll call was taken by the Secretary.

#### Present were:

Officers and Municipal Screening	Board Members:	
Chairman -	Jim Grube	St. Louis Park
Vice-Chairman -	Dan Edwards	Fergus Falls
Secretary -	Alan Gray	Eden Prairie
District 1 -	Jim Prusak	Cloquet
District 2 -	Don Boell	Bemidji
District 3 -	Sidney Williamson	Sauk Rapids
District 4 -	Alvin Moen	Alexandria
District Metro West	Mike Eastling	Richfield
District 6 -	Tom Drake	Red Wing
District 7 -	Pete McClurg	New Ulm
District 8 -	Dale Swanson	Willmar
District Metro East	Kenneth Haider	Maplewood
First Class City -	Kenneth Larson	Duluth
First Class City -	Marv Hoshaw	Minneapolis
First Class City -	Thomas Kuhfeld	St. Paul
Chairman Needs Study Subcommittee	Clyde Busby	Hibbing
Chairman Unencumbered Construction Fund	Fred Moore	Plymouth
Othera		
Others: Dennis Carlson Julie Skallman		Director, Office of State Aid Asst. State Aid Engineer
District 4 Alternate	Herb Reimer	Moornead
District 6 Alternate	Arnold Putnam	Owatonna
Ken Straus		Manager, Municipal State Aid Needs
Ren Hoeschen		Manager, County State Aid Needs
		District I State Aid Engineer
Jack Isaacson		District 2 State Aid Engineer
Dave Keed		District 3 State Ald Engineer
		District 4 State Aid Engineer
Elliott Ruhland		Acting Metro West State Aid Engineer

Mike Pinsonneault Doug Haeder Ben Sieck Elmer Morris Romankutty Kannankutty Dan Sabin Dave Kreager Greg Peterson Dan Dunford Bo Spurrier Don Aluni Gary Brown District 6 State Aid Engineer District 7 State Aid Engineer Acting District 8 State Aid Engineer Metro East State Aid Engineer Minneapolis Minneapolis Duluth St. Paul St. Paul Minneapolis Minneapolis Brooklyn Center

#### A. Consideration of Minutes

Chairman Grube called for consideration of the minutes of the spring Municipal Screen Board meeting on Pages 6 through 29 of the 1991 Municipal State Aid Needs Report. Secretary Gray directed board members to a minor change on Page 23 of the minutes for their consideration. The modification of the first sentence of the excess unencumbered construction balance resolution should read as follows: "Whenever a municipalities construction fund balance available as of February 1 of the current year exceeds \$500,000 of 1.125 times their total apportionment (whichever is greater), it shall be considered excess balance."

Motion: By Tom Drake, Second by Pete McClurg to approve minutes as amended. Discussion: None Action: Motion approved

### B. Population Apportionment

Chairman Grube introduced Mr. Ken Straus, Manager, Municipal State Aid Needs. Mr. Straus presented the 1991 Municipal State Aid Needs Report, dated October 1991. Straus began by directing the group's attention to population apportionment beginning on Page 29 of the Needs Report.

The population apportionment for 1992 is based on 1990 census data.

Straus pointed out that based on the 1990 census data four new cities with populations exceeding 5,000 will receive allocations beginning in 1992. These cities are Cambridge, Mahtomedi, Sartell, and Waite Park. Monticello which is currently working to resolve a boundary dispute with the Federal Census Bureau may also exceed 5,000. The State Demographer will certify the final population data on December 31, 1991. Final population apportionment will be available in January 1992.

The theoretical population apportionment is shown on Pages 38 through 40. The estimated population apportionment is \$41 million. The total population of all State Aid cities is 2,802,545. The apportionment per person is \$14.63.

C. Needs Study Update

Straus referred board members to the Needs Study update on Pages 41 through 45 of the Needs Report.

The Needs Study update is reported in two steps. Column 2 of the spreadsheet on Pages 42 through 45 tabulates the adjustment to needs for each community based on accomplishment and system revisions. Accomplishments consist of constructed improvements to a city's MSA system. Improvements result in a reduction in needs. Revisions consist of needs calculated for newly designed segments of a city's MSA system. Revisions result in an increase in needs. The cumulative affect of accomplishments and system revisions is shown for each city in Column 2 of the spreadsheet. Most cities show an increase in needs based on accomplishments and system revisions. The total adjustment to needs for all cities based on accomplishments and system revisions is \$49,351,710. This total includes system revisions for Sartell and Mahtomedi, two of the new State Aid cities. It does not reflect system revisions for Waite Park and Cambridge.

The third column of the spreadsheet shows revisions to needs for each city based on unit cost updates. Unit cost revisions approved by the Municipal Screening Board in June, 1991 are summarized on Page 41. All cities show an increase in needs based on the unit cost update except Cambridge, one of the new State Aid cities for which no value is indicated. The cumulative affect of unit price changes is to increase the total needs for all cities by \$30,885,250.

Column 4 shows the 1991 needs for each State Aid city. The cumulative total for all cities is \$1,364,817,385. The fifth column reports the net change in needs for each State Aid city from 1992 to 1991. All cities show an increase in needs for 1991. The cumulative total for all cities shows that 1991 needs are \$80,236,960 greater than 1990 needs. This reflects a 6.5% increase in needs from 1990 to 1991 for all MSA cities.

#### D. Itemized Tabulation of Needs

An itemized tabulation of needs for each MSA city is shown in spreadsheet form on Page 47 of the 1991 Needs Report. The spreadsheet is a tabulation of all construction items except after the fact needs. The last three columns of the spreadsheet report for each city's total needs, total mileage and cost per mile respectively. The cost per mile ranges from a low of \$147,604 in East Bethel to a high of \$1,030,920 in Farmington. The average cost per mile for all MSA cities is \$577,217.

#### E. Needs Comparison 1990 vs 1991

Ken Straus directed board members to the Table on Page 41 which shows a Comparison of Needs in the years 1990 and 1991 for each component. Straus pointed out an error in the lower right hand corner of the Table in the column entitled "Overall Apportionment Needs" and distributed a corrected Table to board members. The corrected Table shows that overall apportionment needs for 1991 are \$1,406,533,965. The increase in needs from 1990 to 1991 is \$84,269,493 (5.99%). Included on this Table are after-the-fact needs for right-of-way and bridges.

1990 needs shown on the Table include Eveleth and Red Wood Falls. 1991 needs exclude Eveleth and Redwood Falls but add Mahtomedi and Sartell.

The single largest increase in needs is for traffic signal construction. Signal needs increased \$23,728,370 (29.51%) from 1990 to 1991. This is primarily due to the revised unit prices approved by the Screening Board in June, 1991.

#### F. 1991 Money Needs Recommendations

Ken Straus directed board members to Pages 49 through 51 of the Needs Report. The Table on Pages 50 and 51 comprises the 1991 money needs recommendations to be adopted by the board. Page 49 is the letter transmitting the 1991 money needs recommendations to the Commissioner of Transportation. Upon adoption by the board of the 1991 money needs recommendations the transmittal letter will be signed by each board officer and board member.

G. Tentative 1992 Construction Needs Apportionment

Ken Straus directed board members to Page 53 of the Needs Report. The spreadsheet on Page 53 shows the tentative determination of 1992 construction needs apportionment. The tentative 1992 apportionment is based on the 1991 25-year construction needs from Pages 50 and 51. These amounts are shown in Column 1 of the Table. Column 2 of the Table shows an adjustment to needs for cities with an excess unencumbered construction fund balance. Brooklyn Center, Fridley, Maplewood, Mounds View, Orono, Robbinsdale, St. Paul, Stillwater, and Worthington are shown with excess unencumbered construction fund balance deductions. Other adjustments are made for unencumbered construction fund balance, off system expenditures, bond account, non-existing bridges, right of way acquisition, bituminous overlay/concrete joint repair, and variances. The total affect of adjustments is shown in the 10th column of the Table.

The 11th column shows the adjusted 25-year construction needs for each city. The 12th column shows the estimated needs apportionment for each city. The money needs apportionment calculation is based on the assumption that 41 million dollars will be available for distribution for state aid cities based on needs.

In 1991 each \$1,000 of money needs resulted in \$32.11 in apportionment. Based on the tentative determination of 1992 construction needs apportionment, each \$1,000 of needs will receive \$31.68 in apportionment.

H. Excess Unencumbered Construction Balance Adjustment

Ken Straus brought the board members to the Table on Page 4. This Table shows the calculation of needs adjustment and estimated loss of 1992 apportionment for the nine cities with an excess unencumbered construction balance as of September 1, 1991. The number of cities receiving an adjustment to needs is reduced by changes to the excess unencumbered construction fund balance resolution adopted by the Board in June 1991. The estimated loss of 1992 apportionment for the nine cities receiving the adjustment ranges from the low of \$33,096 for Worthington to a high of \$378,225 for St. Paul.

I. Unencumbered Construction Fund Balance Adjustment

Ken Straus referred board members to the Table on Pages 55 through 57 showing the calculation of the unencumbered construction fund balance adjustment for each city. In June 1991, the Board considered a subcommittee recommendation to change the formula for computing the unencumbered construction fund balance adjustment. This change was not adopted by the Board and was referred back to the subcommittee for their study. The adjustment shown on Pages 55 through 57 are determined by the same formula as in previous years.

### J. Off System Needs Adjustment

Straus referred board members to the Tables on Pages 58 through 61 of the Needs Report dealing with off system expenditures and needs adjustments. The first Table on Page 58 and 59 lists the 1990 municipal state aid expenditures on County State Aid or Trunk Highway projects. The total off system expenditures for all cities in 1990 is \$4,666,350.

The Table on Pages 60 and 61 shows the 1992 apportionment adjustment calculation for all cities. The total 1992 apportionment adjustment for all cities is \$30,506,743. Straus noted that if the Board were to adopt a recommendation of the Metro West District this apportionment adjustment would be eliminated.

### K. Unamortized Bond Account Balance

Ken Straus directed board members to the Table on Pages 62 and 63 showing the unamortized bond account balance for all cities. Straus noted that four cities, Anoka, Cottage Grove, North Mankato and Red Wood Falls show a zero balance in the column entitled Total Disbursements and Obligations. This indicates that these cities have not indicating the amount of the bond applied toward a state aid project.

Straus noted that while the unencumbered construction fund balance is high considering all cities, some cities are forced to bond for needed projects because construction funds are inadequate. It has been suggested that cities wishing to accelerate the improvement of their state aid system be allowed to borrow from the unencumbered construction fund thus reducing its balance.

For each city with an unamortized bond balance, the bond account adjustment is shown on the far right hand column of the Table. The computation is a two-step process. The first step is to compute the unencumbered balance which is the amount of the bond issued minus disbursements applied to a state aid project. For cities that have not submitted reports showing the disbursements to a state aid project the unencumbered balance equals the original bond amount. The second step is to compute the bond account adjustment which is the unamortized bond balance minus the unencumbered balance. For cities that have not reported disbursements to state aid projects, the bond account adjustment will be a negative number.

### L. Non-Existing Bridges

Ken Straus referred board members to the Table on Page 64 showing the needs adjustment for non-existing bridges. Currently 13 cities are receiving a needs adjustment for bridges. No new bridges were added this year. The total needs adjustment for all 13 cities is \$13,438,470.

### M. Right-of-Way

Ken Straus referred board members to the Tables on Pages 65 through 67 of the needs report. The Table on Page 65 shows the right-of-way acquisition expenditure in 1990. In 1990 16 cities expended a total of \$2,023,410 for right-of-way acquisition on state aid projects. Right-of-way acquisition for off system expenditures is not eligible. The Table on Pages 67 and 68 shows the needs adjustment for all cities for the 1992 apportionment. This Table includes eligible right-of-way expenditures for all cities since 1979.

### N. Bituminous Overlays/Concrete Joint Repair

Ken Straus directed board members to the Tables on Pages 68 and 69 of the needs report dealing with bituminous overlays and concrete joint repair. The first Table on Page 68 lists bituminous overlays and joint repair projects accomplished in 1990. Ten cities performed bituminous overlays or concrete joint repairs on segments of their state aid system with a total construction value of \$910,198. The Table on Page 69 shows the needs adjustment which is based on the total construction in years 1989 and 1990. A total of 16 cities will receive a needs adjustment based on accomplishments in one or both of those years. The total adjustment for all cities is \$2,219,742.

#### O. Variance Adjustments

Ken Straus directed board members to Pages 70 through 77 showing needs adjustments for variances granted for projects constructed in 1991. The tabulation includes all variances granted between September 1990 and July 1991. All the variances are to the old State Aid Standards.

Straus referred board members to a letter from the City of Owatonna dated October 28, 1991 regarding the proposed needs adjustment for a variance granted April 4, 1991. In this situation the City of Owatonna applied for an received a variance to the old State Aid Standards to construct a four-lane street at a width of 48 feet. The city ordered a construction contract for the project May 7, 1991. In June, 1991, new state aid standards were adopted. Based on the new standards, the city would not require a variance to construct the proposed project. Owatonna is requesting that the needs adjustment based on the variance not be implemented. Straus indicated there may be other proposed variance adjustments with similar circumstances.

All projects receiving variances shown on Pages 70 through 77 have a hold-harmless resolution on file in the state office. Some cities have projects receiving variances in 1991 but have not forwarded the hold-harmless resolution to the State Aid Office. These projects are not included for a variance adjustment.

#### P. Trunk Highway Turnbacks

Ken Straus referred board members to the Table on Page 78 and 79 of the needs report. Included here are former trunk highway segments that have been turned back to cities, have become part of the MSA system and remain eligible for construction funding from the municipal turnback account. Based on a resolution first adopted by the board in 1967 and revised in 1989 these segments are not eligible for construction needs as long as they remain eligible for funding from the municipal turnback account. They are, however, eligible for a maintenance allowance. The maintenance allowance is calculated at \$7,200 per mile. Cities eligible for this maintenance allowance receive a needs adjustment sufficient to produce an apportionment equal to the maintenance allowance for the turnback segments. Nine cities will receive maintenance allowance totalling \$92,366.

#### Q. Total Apportionment

Ken Straus referred board members to two Tables on Pages 80 through 85 of the needs report. The first Table lists the theoretical 1992 population apportionment, needs apportionment, and total apportionment. These apportionments are based on the assumption that revenues will be \$82,000,000. The actual revenues will be announced in January 1992. Both population and needs apportionments are subject to change.

The second Table compares total 1991 apportionment to total 1992 apportionment for each city. The increase or decrease is shown on the table as a dollar value and as a percent of 1991 apportionment. Many cities are receiving significant increases or decreases in apportionment primarily due to the impact of new census data. Cities receiving a reduced 1992 apportionment will be more likely to have an excess unencumbered construction fund balance in September 1992 if account balances are not reduced.

#### R. 1994 Excess Unencumbered Balances

Ken Straus directed board members to the Table on Page 86 through 88 of the needs report and to a similar Table on a separate handout. The handout should substitute for the Table bound in the report. The purpose of the Table is to demonstrate the impact of changes adopted by the Screening Board to the excess unencumbered construction fund balance resolution. A revision adopted by the Board in June, 1991, to be effective September 1, 1994 will change the allowable balance from 2.0 times construction allotment to 1.125 times total allotment. The handout in the Table shows excess balances using construction balances of September 1, 1994. If the change adopted by the Board in June 1991, were in effect today, 53 cities would have excess balances.

#### S. Research Account

Ken Straus referred board members to Page 89 of the needs report. At the top of Page 89 is the proposed research account motion which would allocate \$199,434 of 1991 MSAS apportionment to the research account. Below the research account motion is a Table showing the past history of the research account.

### T. Administration Account

Ken Straus referred board members to Page 90 of the needs report. The Table on Page 90 shows the past history of the MSA administration account. Straus noted that the significantly larger expenditure level in 1990 was due to MSA participation in the acquisition of computer hardware and software for cities to assist in the administration of their MSA account. The administration account paid for 60% of computer hardware and software costs for the cities individual systems.

President Grube noted that in 1989 approximately 50% of the funds allocated to the administrative account were spent. He asked if we should expect about the same relative level of expenditure for 1991 and if salaries for the state aid engineers were allocated out of this account. Straus replied that state aid engineers salary and screen board expenses were allocated out of the account. Straus also anticipates that there will be a significant unspent balance in the administrative account in 1991 as there was in years prior to 1990. President Grube indicated that board members may wish to reflect on these numbers in future discussion.

### U. Unencumbered Construction Funds Subcommittee Report

Board Chairman Grube introduced Fred Moore, Chairman of the Unencumbered Construction Fund Subcommittee. Moore presented the board with written recommendations regarding nine cities that have excess unencumbered construction fund balances as of September 1, 1991 in accordance with the Excess Unencumbered Construction Fund Balance Resolution as revised June 1991. Moore thanked board members for the change in resolution language requesting the Subcommittee to make recommendations to the board. Previously the resolution had directed the Unencumbered Construction Fund Subcommittee to meet with cities having an excess balance, but did not provide for the Subcommittee to make recommendations to the board.

Moore proceeded to review the Subcommittee's recommendations as presented to the Board. He noted that nine cities were notified by the State Aid Office of an excess unencumbered construction fund balance. The Subcommittee met with cities on October 11, 1991. The cities of Mounds View and Worthington did not appear before the Subcommittee and no written information was presented to the Subcommittee. The cities of Brooklyn Park, Fridley, Maplewood, Orono, Robbinsdale, St. Paul and Stillwater met with the Subcommittee on October 11, 1991 and presented justifications for their construction fund balances. Moore advised board members that the Subcommittee recommends that the cities of Brooklyn Park and Stillwater not receive a needs adjustment in 1991 based on their excess unencumbered construction fund balances. The Subcommittee further recommends that the remaining seven cities receive needs adjustments in accordance with the Excess Unencumbered Construction Fund Balance Resolution.

Moore continued by outlining the Subcommittee's consideration of Brooklyn Park. The Subcommittee felt that there were unusual circumstances which delayed the award of a construction contract and the submittal of a report to the State Aid Office. The project was delayed by complexities in cooperative construction agreements within an adjacent city and a school district. As of October 1, Brooklyn Park's construction fund balance has been reduced. The Subcommittee also noted that Brooklyn Park has several completed projects for which a final state aid report has not been submitted. The Subcommittee recommends the city not receive an adjustment of needs provided that final state aid reports are received for a minimum of three completed projects by December 15, 1991.

Moore continued by outlining the Subcommittee's recommendation regarding the City of Stillwater. In April, 1991, Stillwater authorized a project in their historic district. The existing buildings were at the current right-of-way line and a right-of-way with variance would be required for the project. The variance was denied in July but later approved in September. This delay in variance approval did not provide for a reduction in their construction fund balance by September 1, 1991. The city also received a variance to allow solicitation of bids prior to the approval of plans by the State Aid Office. The city has awarded a contract and construction is expected to begin approximately November 1. Final plan approval is also expected about November 1. The Subcommittee recommends that board make no adjustment to needs for Stillwater provided that the award of contract is approved by the State Aid Office prior to December 15, 1991. Moore noted the Subcommittee report summarizes discussion with five other cities having excess balances. Those cities are Fridley, Maplewood, Orono, Robinsdale and St. Paul. Materials presented by cities to the Subcommittee are also attached to the report. Moore noted that in each of the cases presented by the other five cities the Subcommittee did not find extenuating or unusual circumstances justifying a variance from a needs adjustment. For each of these five cities the Subcommittee recommendation is to make an adjustment in needs in accordance with the Excess Unencumbered Construction Fund Balance Resolution.

Daniel Dunford, Associate City Engineer, spoke to the board on behalf of the City of St. Paul. St. Paul is planning to undertake two major regional road improvement projects within the next three years; Shepard Road improvements will utilize approximately \$15.5 million of MSA funds and Warner Road improvements will utilize \$4.0 million of MSA funds. These project will also utilize approximately \$14.1 million of Federal Aid Urban funding. The city has been trying to maintain a construction fund balance to be allocated to these projects without having an excess balance. A combination of circumstances beyond the city's control has resulted in a current construction balance of approximately \$378,000 larger than the allowable balance. The city's 1989 construction allotment was almost \$1 million less than in 1990. This had the effect of reducing the city's allowable balance by almost \$2 million. Secondly a misunderstanding with the State Aid Office regarding a bridge design and an unexpected wetland issue have delayed the award of Phase 1 of Shepard Road. Award of this project would have reduced the construction balance by \$1.5 million.

Dunford also pointed out that the city has spent over \$2 million on the two programmed projects for engineering design and environmental reviews. While these expenses are MSA eligible, the city may not draw funds from their construction account until the projects are awarded. Based on these circumstances Dunford requested the board consider exempting St. Paul from a needs adjustment based on their excess unencumbered construction fund balance as of September 1, 1991.

#### V. Needs Adjustments For Variances

Chairman Grube recognized Arnold Putnam, City Engineer of Owatonna. Putnam addressed the board regarding the city's request to appeal a needs adjustment based on a variance. He referred board members to the city's letter of October 28, 1991 which outlines the city's request. The City of Owatonna received a variance to construct a MSA project 48 feet in width as opposed to the 52-foot width required under the old standard. A contract for the project was awarded May 7, 1991. Under the new standard adopted in June, this project would not require a variance.

Mike Eastling asked if other variance adjustments might be based on circumstances similar to Owatonna's. Ken Straus indicated that he had made a review of the variances that produced needs adjustments for five cities as outlined on Pages 70 through 72 of the needs study. Crystal, Fairmont, Hopkins and Owatonna are proposed for needs adjustments based on variances that were required under the old standard but would not

be required under the new standards. Based on the new standards adopted June 15, 1991, only Falcon Heights would still require a variance.

Dennis Carlson pointed out that each of the cities with a proposed needs adjustment based on a variance drew needs on those segments at a wider width. Marv Hoshaw suggested the board consider rescinding the variance needs adjustment entirely. He pointed out that many communities construct MSA segments at narrow sections than which their needs were based, but only those cities requiring a variance received a needs adjustment. Ken Straus pointed out that most variances were for width reduction of 2-4 feet and that the needs adjustments based on those variances were not significant anyway.

### W. Correspondence From Metro West District

Chairman Grube recognized Mike Eastling, Metro West representative, to present correspondence from three Metro West cities. Eastling began by summarizing correspondence from Charles Honchell, Director of Public Works, Bloomington. Honchell's letter is skeptical of board action decreasing allowable construction fund balances. He states that this action will have little affect on decreasing the aggregate construction fund balances of all cities. Honchell suggests that a more effective methods of reducing the construction fund balance would be to remove impediments to the expenditures of funds. He suggested that rules be more liberal in allowing reimbursement of engineering fees, that more allowances for reimbursement of fees related to right-of-way acquisition such as legal and appraisal fees be considered, and that cities be allowed more latitude in spending MSA funds off system on county and state projects. Eastling further noted that engineers attending the Metro West District meeting favored utilizing similar multipliers as used by consultants in determining the value of in-house engineering on MSA projects.

Eastling proceeded to outline a letter from John Flora, Director of Public Works, Fridley. Flora suggests that the current system of reducing a city's needs based on their excess unencumbered construction fund balance will not be effective in encouraging the completion of projects. He suggested that while cities would continue to designate 20% of their system as MSAS, they would be allowed to expend those funds on as much as 50% of their local street system. This would result in a similar needs allocation, but would provide cities more flexibility in selecting street segments to construction with MSA funds.

Eastling then briefly outlined a letter from David Hutton, Public Works Director, Shakopee. Hutton suggests that rules be relaxed to make it easier for cities to implement projects that would reduce their balances or that stiffer penalties be implemented to encourage cities to reduce balances. He suggests that lessening or eliminating penalties for excess construction fund balances would result in larger unencumbered fund balances in the future. Eastling then presented board members with an alternative proposal for reducing a city's needs based on its unencumbered construction fund balance. The adjustment to a city's needs based on its unencumbered construction fund balance would be calculated by multiplying the current year construction allocation by 1.0 and adding the previous year's remaining allotment multiplied by 1.2, allotment remaining from the third year multiplied by 1.4 plus any remaining allotment from the four year multiplied by 1.6, etc. The longer the funds have accumulated in a city's account, the larger the multiplier used to determine the current year's adjustment to needs.

Tom Drake noted that the current calculation of excess unencumbered construction fund balance excludes the current year's allocation. Drake feels that the needs adjustment for apportionment purposes should reflect a city's total construction fund balance including its current year's allocation.

Mike Eastling noted that the cumulative excess construction fund balance for the nine cities listed on Page 54 was \$1,456,378. The cumulative estimated loss of apportionment in 1992 for those nine cities based on their excess unencumbered construction fund balance is \$871,278. Eastling feels the policy is punitive in that the loss of apportionment is a significant percentage of a city's excess balance.

Marv Hoshaw reminded board members that when the excess encumbered construction fund balance adjustment was first established, a number of cities had not spent their funds for ten years. The current list of cities with excess balances are all new. None of these cities had excess balances a year ago. Hoshaw stated the most important task for the Screening Board is to ensure that needs are accurately reported and that impediments to spending allocations are removed.

#### X. Rules Interpretation Committee

Chairman Grube introduced the concept of a Rules Interpretation Committee for consideration by the Screening Board. The concept of a committee to review rules interpretations by the State Aid Office emerged from the West Metro District meeting. Mike Eastling provided additional background on discussion with West Metro City Engineers. The City of Fridley had presented a issue regarding the proposed termination of a state aid segment that might be reviewed by a Rules Interpretation Committee. The City of Blaine had discussed in issue regarding the eligibility of channelization transitions at an intersection of a state aid segment with a non-state aid segment.

Dennis Carlson did not feel that a committee of this type was necessary. The number of issues arising each year based on rules interpretations made by the State Aid Office was small and a designated committee to review disputed decisions would not be necessary. Mike Eastling asked what the current administrative process was for review of a rules interpretation. Dennis Carlson indicated that a request for review could be made to the Commissioner of Transportation. Marv Hoshaw suggested that if the city engineers are having problems with the current rules that they form a committee to study rules changes to be proposed to state aid. Ken Larson suggested that rules interpretation issues might be forwarded to the Screening Board for consideration and discussion. Tom Drake feels the current rules are clear and should not be subject to a wide range of interpretation.

Dennis Carlson stated that his office is willing to discuss rules interpretations with the Screening Board or with a separate Rules Interpretation Committee if city engineers believe there is a need for this step in the process.

Y. Prevailing Wage

Chairman Grube recognized Ken Larson who introduced the topic of prevailing wage determinations for state aid projects. Larson noted that the prevailing wage packet provided by the State Aid Office did not adequately consider the local wage levels and did not contain sufficient job classifications to cover the work performed by the contracts performed in the City of Duluth. The City of Duluth has its own wage package which is tied to its Charter. There are difficulties in using both the prevailing wage package provided by the State Aid Office and the current prevailing wage package used by the City of Duluth.

Dennis Carlson noted that in 1974 the State Legislature enacted a prevailing wage requirement for all State contracts. Recently the State Attorney General has interpreted this law to apply to state aid funds spent by cities and counties. The extension of wage determinations to state aid contracts by cities and counties was appealed to the court system. A recent decision of the State Supreme Court confirms that the legislation applies to these contracts. In general, board members from outside the metropolitan area felt that wage determinations were not reflective of the prevailing wage in their local areas, but were more reflective of the prevailing wage in the metropolitan area.

Z. Bonding Requirements

Chairman Grube introduced the topic of new bonding requirements as outlined on the new report of state aid contract issued this year. The new requirements for a performance bond and a payment bond appear to result in a total bonding amount of 200% of the contract amount. Chairman Grube asked if board members have had any feedback from contractors regarding this bonding requirement. Dave Reed stated he believes the current bonding requirements of the State Aid Office are very conservative and go beyond what is required by State Statute.

Chairman Grube adjourned the afternoon session at 4:10 p.m.

### II. EVENING SESSION

Chairman Grube called the informal session to order at 8:10 p.m. He noted that no action be taken tonight on the issues discussed. This session is for gathering facts, hearing ideas, and encouraging all members to express their opinion on issues before the Screening Board.

#### A. Administrative Fund Expenditures

Each year 1.5% of total available MSA funds are set aside to the administrative account. The account pays for State Aid Office expenses and screening board expenses. At the end of the year any unexpended balance in the account is transferred back to the construction account. In the last ten years there has always been a fairly significant balance left in the account at the end of the year. In 1989 the balance left at the end of the year was \$582,918. In 1990 the remaining balance was \$218,586. The balance would have been significantly higher in 1990 except for a significant expenditure on computer equipment for cities' use in demonstrating the state aid system.

Board members discussed the possibility of utilizing administrative account funds for technician certification expenses. The State Aid Office believes such an expenditure is allowed under current law. There is definitely a variation of opinion among board members on this issue. Some board members indicated a desire to have access to administrative funds to assist in the training costs for their inspectors. Other board members felt that broadening the use of the administrative funds was not a wise decision. It was pointed out that unexpended administrative funds were not lost. Unexpended funds are returned to the construction account and distributed to all cities in proportion to their needs and population. Some board members felt that for the amount of reimbursement involved, the effort to set up a reimbursement system that would be fair to all cities would not be significantly beneficial. Some cities may have already accomplished a significant amount of training at their own expense. Cities that have delayed training for technicians may receive most of the benefit.

#### B. Unencumbered Construction Fund Balance

Board members discussed the significance of the current unencumbered construction fund balance and the effectiveness of current resolutions designed to encourage cities to reduce their construction fund balances. It was generally agreed that cities with small annual allotments must accumulate several years to fund a project of practical size to be competitively bid. The current resolution allows for a fund balance of up to \$500,000 without penalty. This seems to be a practical solution for small cities.

Board members generally agree that the aggregate amount of the unencumbered construction fund balance presents a problem as it is viewed by the State Legislature. The Legislature tends to see the accumulation of funds in the account as a lack of true need by cities for street construction funding. It will continue to be extremely difficult for cities to convince the State Legislature to increase or even maintain the current level of state aid funding when large unexpended balances are left in the account.

There is a general consensus among board members that the current method of reducing needs for cities with excess unencumbered fund balances is unfair and ineffective in significantly reducing the aggregate balance for all cities. Some members caution, however, that without these "penalties" cities unencumbered construction fund balances would be higher than they are today. Also, board members would prefer working toward removing impediments to the expenditures of funds. Some board members suggest the encumbrance of preliminary costs prior to letting of a construction contract as one method of reducing balances. Minneapolis has found it effective to advance more projects through the preliminary and design phase than necessary to meet spending goals so that projects that are delayed by political or environmental problems may be postponed without a reduction in their annual spending goal. It was generally recognized that many roadblocks to project schedules are not resolvable by changes in state aid rules. Projects may often be delayed due to environmental issues or the availability of other funding sources.

Most board members believe that the new rules issued in June 1991 will have little or no impact on reducing the aggregate construction fund balance. It was also noted that there was actually a disincentive to a city to spend its current year's allocation. A current year's allocation can be carried forward to the next year without any reduction in needs. If a current year's allotment is encumbered the city receives a reduction in needs based on completion of the project for which the funds are encumbered. It was noted that a city pursuing this policy may not actually benefit. While this procedure may result in a annual construction allotment that may be 2-3% higher on an annual basis, the retained funds lose their purchasing power in a market where construction costs are increasing on an annual basis.

#### C. Rule Changes

It was noted by the State Aid Office that natural preservation route standards must be developed in the next year. With the rule changes adopted in June 1991, however, there does not appear to be an immediate need to consider additional rule changes in the near future. Chairman Grube adjourned the evening session at 11:10 p.m.

#### III. SESSION II

The fall session of the Municipal Screening Board was called back to order at 8:35 a.m., October 30, 1991, by Chairman Jim Grube. Roll Call was taken and the list of attendees was the same as the October 29, 1991 session.

Chairman Grube called for consideration of the 1991 25-year construction needs. The needs are shown for each city on Pages 50 and 51 of the needs report. Chairman Grube pointed out that these are construction needs prior to adjustments for appropriation purposes. If adopted, the transmittal letter shown on Page 49 will be signed by each of the officers and board members and forwarded to the Commissioner of Transportation.

Motion by:Dale Swanson, seconded by Al Moen to approve the 25-year construction<br/>needs as shown on Pages 50 and 51 of the Needs Report.Discussion:None<br/>Motion approved

#### B. Research Account

Chairman Grube directed board members to Page 89 of the Needs Report and called for consideration of the recommended appropriation of \$199,434 from total MSA apportionment to the research account.

Motion by:Tom Drake, seconded by Mike Eastling to make recommended<br/>apportionment to the research account.Discussion:NoneAction:Motion approved

C. Expenditures Off State Aid System

Chairman Grube called for consideration of off system expenditures. Grube indicated that based on informal discussions, he anticipated a motion from the floor regarding the resolution found on Page 99 of the Needs Report.

- Motion by: Marv Hoshaw, seconded by Ken Larson to repeal the current resolution regarding expenditures off state aid system.
- Discussion: Dale Swanson indicated his preference to keep the current resolution. He feels that while the intent of the resolution is to preserve the integrity of the state aid system, it already provides incentives to cities to spend their money off system since the needs adjustment, based on those expenditures, is carried for a ten-year period rather than the 20-year period if spent on system. Tom Drake noted that the current resolution was developed in 1961 to correct deficiencies in the system at that time. He believes it would be a mistake to delete the resolution today. Tom Kuhfeld believes that are advantages to spending funds off system and that they help support county and state projects. The effect of the resolution is to inaccurately state the remaining needs a city has on its system.

Mike Eastling believes that the purpose of the resolution is to assist in the fair and equitable apportionment of funds. He believes the resolution discourages cities from artificially maintaining high needs on their designated system for allocation purposes while continuing to spend money off system. Marv Hoshaw pointed out that cities are required to participate in the cost of county and state highway improvements within their communities. This local share is a true need of the city's transportation system that is not reflected in their 25-year construction needs. A city should not be penalized by a reduction in apportionment needs for spending money off system on a county or state project. Ken Larson indicated his support for appeal of the resolution and cited public benefits to local expenditures on city and county systems.

Dale Swanson indicated his opposition to appeal the resolution stating that other cities are penalized through the appropriation process when some cities are allowed to make major expenditures off system. Ken Straus noted that an incentive to off system expenditures for a city is the reduction in their account balance which then is reflected in a lower needs adjustment in the next year.

Action: Chairman Grube called for a voice vote on the motion which was indeterminate. He called for a hand vote on the motion. Grube declared the motion passed on a vote of seven in favor, five opposed.

Chairman Grube noted that the previous motion was not specific in terms of the date of the repeal of the resolution.

- Motion by: Marv Hoshaw, seconded by Ken Larson to designate January 1, 1992 the effective date for the repeal of the resolution regarding expenditures off state aid system.
- Discussion: Ken Straus referred board members to Pages 60 and 61 of the Needs Report. By making the resolution effective January 1, 1992, the apportionment adjustments shown on Pages 60 and 61 would be deleted. Action: Motion passed
- D. Unencumered Construction Fund Balance Adjustment

Chairman Grube called for a motion from the flow regarding the unencumbered construction fund balance adjustment resolution.

- Motion by: Tom Drake, seconded by Mike Eastling to delete the phrase "not including the current year construction apportionment" from the first sentence of the resolution. The first sentence of the resolution shall then read: "That for the determination of apportionment needs the amount of the unencumbered construction fund balance as of September 1 of the current year shall be deducted from the 25-year total needs of each individual municipality."
- Discussion: Chairman Grube noted that the Screening Board had considered this change to the unencumbered construction fund balance resolution in June, 1991. At that time, the change was presented to the Screening Board as a recommendation of the Unencumbered Construction Fund Subcommittee. At that time the board took action referring the recommendation back to the Subcommittee with direction to improve the incentives without reducing reported needs. Tom Drake suggested that the proposed change results in a more accurate determination of needs for apportionment purposes. For clarity, Marv Hoshaw described the process by which unencumbered construction fund balance adjustment to needs would be computed based on the motion under consideration.

Action: Chairman Grube called for a voice vote on the motion. Motion passed.

Chairman Grube called of a motion from the floor to establish an effective date for the change to the resolution.

- Motion by: Tom Drake, seconded by Sid Williamson to make the revision to the unencumbered construction fund balance resolution effective January 1, 1992.
- Discussion: Dennis Carlson referred board members to Page 55 of the needs report. He pointed out that based on the proposed revisions, Column 1 as shown on Page 55 would be the unencumbered construction fund balance adjustment for each community as opposed to Column 3 on Page 55. Ken Straus indicated that if the current motion to make the change effective January 1, 1992 is approved it will effectively lower almost every city's adjusted 25-year construction needs used for 1992 apportionment.

Motion Amended: Mike Eastling noted a willingness to amend the motion to January 1, 1993. Tom Drake indicated concurrence with that. Chairman Grube accepted the proposed change and the motion is a friendly amendment. Action: Motion approved.

E. Reconsideration of Off System Expenditures

Marv Hoshaw suggested that the board may wish to reconsider the date approved for the revocation of expenditures off state aid system resolution. As currently approved the resolution is revoked in its entirety January 1, 1992. This would affect 1992 apportionments. Ken Straus recommended the change be effective for 1993 apportionments. This would provide the opportunity for city engineers to review the impact of the change at district meetings next spring.

Motion by: Marv Hoshaw, seconded by Ken Larson to change the effective date for revocation of the expenditures off state aid system resolution to January 1, 1993.

Action: Motion approved.

F. Excess Unencumbered Construction Fund Balance

Chairman Grube called for consideration of the Excess Unencumbered Construction Fund Balance Resolution found on Page 100 of the needs report.

- Motion by: Marv Hoshaw, seconded by Ken Larson to repeal the entire Excess Unencumbered Construction Fund Balance Resolution effective January 1, 1992.
  Discussion: Tom Drake questioned the affect this action would have on the nine cities which currently have excess unencumbered construction fund balances
- which currently have excess unencumbered construction fund balances. Chairman Grube noted that if the current motion is approved and becomes effective January 1, 1992, the nine cities in question would not receive needs adjustments for their 1992 apportionment. Dale Swanson noted that the proposed motion would remove a major incentive for cities to reduce their construction balances. He also noted that the proposed action would do nothing to make it easier for cities to spend their money. Swanson

feels that the proposed motion would make it easier for cities to delay expenditures. Tom Drake noted that this proposed action is counter to the revision just approved by the board to the unencumbered construction fund balance adjustment. The Board's action regarding the unencumbered construction fund balance adjustment was to broaden the dollars in a city's construction fund. This action was designed to increase incentives to cities to reduce their construction fund balances. The action proposed now with regard to excess unencumbered construction fund balances is to remove the incentive.

Ken Larson stated that the current resolution has not proven to be affective in encouraging cities to reduce their construction fund balances. Furthermore, the Screening Board spends a disproportionate amount of time dealing with cities that are negatively affected by the resolution. Larson believes that energies will be better spent looking for creative ways to help cities reduce balances. Tom Kuhfeld noted that the state aid system has always been criticized for its complexity. Repeal of the excess unencumbered construction fund balance adjustment reduces the system complexity.

Chairman Grube indicated that the presence of the excess unencumbered construction fund balance adjustment is always caused him to be more sensitive to his city's balance. Repeal of the resolution will reduce that sensitivity. Grube also noted that repeal of the resolution will remove the 5-year plan requirements which are currently a part of the resolution. Sid Williamson noted that repeal of the resolution will reduce leverage that staffs may have with councils to advance projects.

Dennis Carlson commented on previous board discussions of this issue. He noted that while some board members saw the effects of this resolution as punitive, other board members saw it as fair. In Carlson's opinion, the board may consider removing the escalation feature in the second and subsequent concurrent years a city has an excess balance, but not repeal the resolution in its entirety. Mike Eastling believes that the resolution should be preserved. A city that consistently advances projects and maintains a low fund balance demonstrates it need for transportation improvements. A city that consistently accumulates its funds may demonstrate the lack of true needs as determined by the needs formulas. Eastling suggest that his proposal presented to board members in Session I which applied a slightly larger multiple factor to older dollars in a city's account to determine the needs adjustment was less punitive and in line with previous suggestions by Dennis Carlson. Eastling also suggested that the practice of reviewing the excess unencumbered construction fund balance adjustment by subcommittee could be deleted and the adjustment could become automatic.

Action:

Chairman Grube restated the motion on the floor and called for a voice vote. The motion was approved.

Chairman Grube noted that the effective date as contained in the motion for repeal of the excess unencumbered construction fund balance would be January 1, 1992.

Chairman Grube reminded board members of the action in June 1991, changing the formula for calculation of the needs adjustment based on an excess unencumbered construction fund balance. This June amendment by the board was to become effective September 1, 1994. Grube suggested that with repeal of the entire resolution, the board might consider repeal of the June amendment for clarification of the record.

Motion by:	Marv Hoshaw, seconded by Ken Larson to repeal revision to the Excess
	Unencumbered Construction Fund Balance Resolution, approved by the
	Screening Board June 1991 to become effective September 1, 1994.
Discussion:	None
Action:	Motion approved

G. Variance Granted - Reduction of Money Needs

Chairman Grube called for consideration of the Variance Granted - Reduction of Money Needs Resolution found on Page 101 of the Needs Report.

 Motion by: Marv Hoshaw, seconded by Ken Larson to repeal the Variance Granted -Reduction of Money Needs Resolution effective January 1, 1992.
 Discussion: None
 Action: Motion approved

H. Unencumbered Construction Fund Subcommittee

Chairman Grube called for board discussion regarding continuation of the Unencumbered Construction Fund Subcommittee. Grube suggested that in consideration of repeal of the

Excess Unencumbered Construction Fund Resolution, the need for continuance of the Subcommittee may be diminished.

Eastling recommended the Board continue to review the problem of excess unencumbered construction fund balance. He felt that if the Subcommittee is to continue it needs direction from the Board to work effectively. Marv Hoshaw and Dale Swanson indicated their support for continuance of the Subcommittee.

Tom Drake predicted that the aggregate unencumbered construction fund balance will decrease in the near future with major expenditures by Minneapolis and St. Paul. He also observed that the unencumbered balance adjustment remains in effect and has been enhanced as an incentive to cities to reduce the fund balance.

Dennis Carlson concurs with the estimate of a reduced aggregate unencumbered construction fund balance in the near future but predicts that the number of cities with excess balances will increase in the long run. Carlson observed that the board action to repeal the Excess Unencumbered Construction Fund Balance Resolution was counter to

their discussions in the earlier session. Ken Straus observed that the Excess Unencumbered Construction Fund Balance Resolution had been in effect for many years and served a significant purpose.

Jim Prusak expressed concern for the impression people may derive from the Board action. Prusak recommends continuing the Subcommittee. Prusak further believes that there will be cities that will not spend their money and that the Board will needs to direct action toward those cities.

Chairman Grube suggested that board members ask themselves if the Excess Unencumbered Construction Fund Balance Resolution has motivated them to advance projects to construction. Mike Eastling noted that it was a major motivator for his city in the last two years. Grube concluded that a significant incentive for cities to spend money may have been removed by Board action repealing the resolution.

Marv Hoshaw noted that only nine cities would be impacted by the Excess Unencumbered Fund Balance Resolution this year. Chairman Grube observed that the Needs Study does not necessarily document the total impact of the resolution. Cities motivated by the potential effect of the resolution to reduce their balances by letting construction contracts are not reflected in the report. Ken Straus noted that early in 1991 the State Aid Office issued notices to more than 40 cities that their construction balances were in excess and they may be subject to a needs adjustment if they are not reduced. By June, the number of cities with excess balances was reduced to 24. By September the number was reduced to the nine cities now shown in the Needs Report.

Dave Reed noted that the most frequently asked question by cities in his district is, "how much money may I accumulate in my account without penalty". Reed believes that the Excess Unencumbered Construction Fund Balance Resolution motivated cities to spend money.

Mike Eastling stated that the majority of West Metro cities had indicated, at their district meeting, that they believed the resolution to be unfair. He believes that the majority of West Metro cities would concur with the Board's action.

Chairman Grube noted that unless the Board felt there was value in continuing to discuss the Excess Unencumbered Construction Fund Balance Resolution, it was time to move on to other agenda items. Ordinarily, the Board would consider recommendations of the Unencumbered Construction Fund Balance Subcommittee regarding their review of cities with excess balances. The report of the Subcommittee had been presented to the Board in Session I by Chairman Fred Moore. Considering the board action to repeal the Excess Unencumbered Construction Fund Balance Resolution effective January 1, 1992, it seemed unnecessary to continue discussions regarding individual cities. Needs adjustments for the nine cities currently having excess unencumbered fund balance are eliminated by repeal of the resolution. Furthermore, there was no necessity for the board to discuss variance needs adjustments for any individual city considering the boards action to repeal that resolution effective January 1, 1992.

### I. Fridley Correspondence

Chairman Grube recognized Mike Eastling who introduced correspondence from John Flora, Director of Public Works, City of Fridley, for Board consideration. Eastling noted that the essence of Flora's letter is a recommendation that the board consider provisions to allow cities to expend State Aid Funds off system on local streets in hardship situations. Dennis Carlson outlined current provisions in the rules which allow for off system expenditures on other local roads in hardship situations.

- Motion by: Tom Kuhfeld, seconded by Tom Drake that considering this request involves a rules change outside the jurisdiction of the Screening Board, no action be taken.
- Discussion: Dennis Carlson noted that the determination of hardship is a judgement call, and that the rules defer that determination to the Commissioner of Transportation.
- Action: Motion withdrawn
- Motion by: Marv Hoshaw, seconded by Tom Drake to refer correspondence from Fridley to the State Aid Office.
- Discussion: Dennis Carlson noted that his discussions, over several years, with State Legislatures lead him to believe that the Legislature would not support significant use of the hardship provision by cities to expend state aid funds on local streets.
- Action: Motion approved
- J. Bloomington Correspondence

Chairman Grube acknowledged Mike Eastling who introduced correspondence from Charles Honchell, Director of Public Works, City of Bloomington, for Board consideration. Eastling noted Honchell's comments regarding reimbursement for engineering fees based on a city's use of a consultant as opposed its own staff. When cities request reimbursement for engineering based on in-house staff they are allowed smaller multiple of salary cost then for similar services provided by a consultant. Dennis Carlson noted that he is not opposed to consideration of this issue and values Board input. His basic principal is to apply dollars to construction of transportation improvements. If the Board feels that additional dollars should be allowable for administrative expenses, he is willing to consider that.

Tom Kuhfeld noted that job titles have caused problems with eligibility of in-house staff hours. In one case secretarial hours applied to production of specifications were disallowed because the person's job title was administrative assistant. Ken Larson observed that allowable salary multipliers should be increased to more accurately reflect a city's overhead cost for employees. Overhead cost allowed consultants should be allowed for city staff.

#### K. Other Business

Chairman Grube called for other business to be considered by the board. Julie Skallman, Assistant State Aid Engineer, requested committee members to participate in a quality improvement project regarding state aid rules. Dennis Carlson outlined the mission of the quality improvement project as developing procedures to accelerate the encumbrance of construction funds. Chairman Grube accepted Tom Kuhfeld, St. Paul, Dale Swanson, Willmar, and Alan Gray, Eden Prairie, as committee members to work with the State Aid Office.

#### L. State Aid Office Report

Chairman Grube introduced Dennis Carlson, Director, Office of State Aid. Carlson began by recognizing Ken Straus for his diligent efforts in preparation of the Needs Report and affective communication with city engineers through their district meetings. Carlson then proceeded to summarize the current status of the Federal Highway Act. The House and Senate have each passed their own versions. It is expected that a Conference Committee will draft an entire new Bill and that the new Act will have approximately 50% increase in funds compared to the previous act. The new Act will target projects in congested areas and should result in a shift of expenditures from rural to urban areas. This should help cities. It is also expected that new Act will have an increased emphasis on mass transit. There may not be obligation authority until April 1992. A portion of \$11.3 billion of current obligation authority held back for deficit reduction may be spent. Carlson emphasized the benefits to having completed plans on the shelf to take advantage of funding when it becomes available.

Carlson outlined the plan for staffing the Metro District of State Aid. The plan is to provide a staff of six people; an administrative engineer, three principal engineers, and two engineering specialists. Plans would be approved at the principal engineer level. The three principal engineers would share a balanced workload based on a functional division. The preliminary concept is to assign one engineer cooperative agreements, bridge applications, and traffic safety. A second engineer would be assigned construction review, supplemental agreements, work zone safety, staging of traffic, the CARS program, and maintenance review. The third engineer would be assigned federal projects, turnbacks, needs, research training, and system revisions. The two engineering specialists would be available to support each of the three principal engineers. The administrative engineer would report to Bill Crawford. The office location would likely be in Roseville or Bandanna Square. These decisions are not finalized at this time and the State Aid Office would appreciate comments from Metro District City Engineers regarding the proposed organization. It is proposed to classify the administrative engineer as Administrative Engineer (Management). This is a step up from the current classification of District State Aid Engineers.

The State Aid Office is also looking at alternatives to improve the level of service in District 8. The current proposal being evaluated would relocate the District State Aid Engineer's Office to Marshall and add an Engineering Specialists to the staff.

The State Aid Office continues to work on the time delay in distributing traffic counts. The 1989 traffic counts for cities and counties have not been distributed to date. The State Aid Office has met twice with the MnDOT section responsible for producing this data, but results remain unsatisfactory. The State Aid Office will continue to work for more timely preparation of traffic count data.

Dennis Carlson noted that one of the significant delays with producing traffic counts is adjusting counts for day-of-the-week, week-of-the-month, and month-of-the-year. The section that does this work has only a few year-around counters operating in the State to provide data on which to base these adjustments. They do not have sufficient data to develop adjustment factors for the various types of routes such as truck routes, commuter routes, or farm to market routes.

Romankutty Kannankutty suggested that with the emphasis of the new Federal Transportation Act on urban areas and in particular bridges, city engineers and the State Aid Office resolve some previous differences over bridge railing designs. Kannankutty observed that in the past, bridge railings which are often about 1% of a bridge cost, produce about 90% of the design issues. He suggested that aesthetics are as important to the public today as function. Dennis Carlson noted that aesthetics can be considered, but some reasonable limits need to be considered in terms of cost.

Mike Eastling asked the rational for the Metro District Engineer to report to Bill Crawford rather than to Dennis Carlson in the State Aid Office. Chairman Grube noted that from a functional standpoint the former District 5 State Aid Engineer had been reporting to Bill Crawford. Since that seemed to be working well in the past, it is reasonable to continue that relationship in the future. Dennis Carlson noted that the District State Aid Engineer is typically a liaison between State Aid and Operations and it has worked well for that individual to report to the District Engineer. Dale Swanson asked if the Metro Organization might become a model for Out-State Districts. Dennis

Carlson indicated that was not likely. He felt that the Metro District was unique compared to Out-State Districts and its organizational structure did not necessarily apply to the characteristics of the other districts. Marv Hoshaw indicated his support for the proposed Metro District organization.

### M. Computer Trade Show

Chairman Grube introduced Brad Larson, Scott County Engineer, who outlined an upcoming computer trade show designed for engineers in the public sector. The trade show and conference is scheduled December 12-13 at the Radisson South in Bloomington. It will feature the newest in computer hardware and software designed for applications of interest to engineers employed in the public sector.

#### N. Chairman's Closing Remarks

Chairman Grube noted that in closing it would be appropriate for the Screening Board to recognize the special efforts of a number of members and support personnel. He began by noting the special efforts of Alvin Moen, Alexandria, Tom Drake, Red Wing, who are completing their board terms from District 4 and District 6 respectively. The board has been especially benefitted by the contributions of these two individuals.

Chairman Grube noted a special thanks to Dennis Carlson, Director, Office of State Aid. Carlson's efforts have been especially helpful to the board in completing their tasks.

Chairman Grube acknowledged the boards appreciation to Clyde Busby, Chairman of Needs Subcommittee and to Fred Moore, Chairman of the Unencumbered Construction Fund Subcommittee. The dilegent work of these two subcommittees has been particularly helpful to the Screening Board in considering needs and construction fund issues.

Chairman Grube then acknowledged the boards appreciation to Jack Issacson, District 2 State Aid Engineer, and Dave Reed, District 3 State Aid Engineer. Grube noted that both individuals had served their districts and the Screening Board for many years. This will be their last Screening Board meeting in their official capacities as both men are planning retirement in the near future.

Marv Hoshaw, on behalf of the Screening Board, thanked Jim Grube for his three years of service and acknowledged his special efforts this year in chairing the Screening Board meetings through some difficult discussions.

Jim Grube concluded with special thanks to Ken Straus, Manager, Municipal State Aid Needs section for his continuing efforts in preparation of the Needs Report and communications with city engineers regarding state aid issues. Ken has been particularly helpful at Screening Board meetings in clarifying rules and resolutions.

0. Adjournment

Chairman Grube declared the Fall 1991 session of the Municipal Screening Board officially adjourned at 11:15 a.m.

Respectfully submitted,

Alan Gray, Secretary

### MEMO

### CITY OF PLYMOUTH

3400 PLYMOUTH BOULEVARD, PLYMOUTH, MINNESOTA 55447

DATE: October 28, 1991

TO: Municipal Screening Board

FROM: Unencumbered Construction Funds Subcommittee

SUBJECT: SUBCOMMITTEE MEETING OCTOBER 11, 1991

The "Unencumbered Construction Funds Subcommittee" met on October 11, 1991 at the State Aid Office to provide an opportunity for cities which exceeded their Unencumbered Construction Fund balance to explain the excess balance. In accordance with the current resolution of the screening board (revised June, 1991) the subcommittee is to make a recommendation to the screening board.

Cities exceeding their balance are as follows:

Brooklyn Park Fridley Maplewood Moundsview Orono Robbinsdale St. Paul Stillwater Worthington

The following committee members were in attendance:

Fred Moore, Chairman	-	Plymouth
Ron Rudrud	-	Bloomington
Bruce Bullert	-	Savage -

Also in attendance was Ken Straus - MnDOT, Municipal State Aid Needs Unit

The cities of Moundsview and Worthington did not appear before the subcommittee and no written information was provided by the City Engineer.

A summary of the information presented to the subcommittee will be presented in this report. The subcommittee is recommending to the screening board that of the nine cities exceeding their balance, seven cities receive the adjustment and the other two cities not receive an adjustment.

The cities which are recommended for no adjustment, subject to a condition for each city, is as follows:

SUBJECT: SUBCOMMITTEE MEETING October 28, 1991 Page Two

#### Brooklyn Park:

A report was submitted to the State Aid Engineer on October 1. This report of State Aid contract reduces the balance below the allowable limit. There were extenuating circumstances in the award of this contract since it involved another city. Brooklyn Park has several projects which have been completed, but no final report submitted to the State Aid Office. The recommendation of no adjustment is subject to the Brooklyn Park City Engineer submitting final reports on a minimum of three completed projects by December 15, 1991.

#### <u>Stillwater</u>:

Stillwater has awarded a contract for a project which reduces their excess balance. This project required a variance since it was on a historic street and did not meet the minimum right-of-way requirements. A variance was also approved regarding plan approval and awarding a contract prior to the plan approval from the State Aid Office. It is the committee recommendation that no adjustment be made if the report of State Aid contract on this project is submitted prior to December 15, 1991.

The following is a summary of the information presented from all seven cities to the subcommittee. Also attached is any written information which was presented to the subcommittee:

#### Brooklyn Park:

Gary Brown, City Engineer, appeared representing the city. He presented the following information:

- 1. The position of City Engineer in Brooklyn Park was unfilled from approximately February to June.
- 2. Brooklyn Park was working on a State Aid project in conjunction with the City of Champlin. This project would provide access to the new Champlin Park High School. The project required agreements between Brooklyn Park, Champlin, and the school district.
- 3. All agreements were finalized on September 9 and the City of Brooklyn Park awarded a contract on that same date.
- 4. The award of State Aid contract was submitted on October 1 after receiving the necessary resolutions from the City of Champlin.
- 5. It was noted by the Subcommittee that Brooklyn Park has several projects which have been completed but no final State Aid report submitted. Mr. Brown stated that he would give this high priority to review the projects and submit final State Aid reports as soon as possible.

A motion was made by Bullert, seconded by Rudrud that the adjustment be waived based upon the unusual circumstances of the multi-governmental agreement, the contract has been awarded, and the State Aid Report has been submitted. This waiver is contingent on Brooklyn Park submitting final reports on at least three of the open projects by December 15.

Motion carried unanimously.

#### Fridley:

John Flora, Director of Public Works, appeared before the subcommittee representing the City. Mr. Flora submitted information on a joint City/County project for street intersection/traffic signal system upgrading. This project would be an off system expenditure for the city. Plans were submitted to MnDOT in March, but the city was not informed until August that MnDOT was placing the plans on hold since they would also be upgrading the signal system on State Trunk Highway 47 which was one of the intersections on the County road. Although this was a County project, it was initiated by the City.

Mr. Flora also stated that the City was retaining construction funds for a road improvement project which would be necessary if a large commercial development is undertaken. This project has been on hold by the developer for approximately three years.

A motion was made by Bullert, seconded by Moore that the adjustment not be waived. Motion carried, Rudrud voting "no."

#### Maplewood:

Ken Haider, City Engineer, appeared representing the City. Mr. Haider stated that they had let contracts since September 1.

Maplewood has had a history of exceeding their balance and had received an adjustment previously.

Motion was made by Bullert, seconded by Rudrud that because of the past history and no unusual circumstances this year, that the adjustment be made in accordance with the screening board resolution. Motion carried unanimously.

#### Orono:

Shane Gustafson of Bonestroo, Rosene, Anderlik and Associates, Inc. appeared representing the City of Orono. He stated that Glen Cook, City Engineer, was unable to attend the subcommittee meeting. Mr. Gustafson stated that the City has four projects under consideration. The City also made the decision not to spend the excess balance on off-system projects.

Motion by Rudrud, seconded by Bullert that the adjustment be made in accordance with the screening board resolution. Motion carried unanimously.

SUBJECT: SUBCOMMITTEE MEETING October 28, 1991 Page Four

#### Robbinsdale:

Fran Hagen, City Engineer, appeared representing the City. Mr. Hagen stated that the City had two projects in 1991 which would have reduced their balance. The bids came in much slower than the engineer's estimate, and therefore, the balance was not completely reduced. The City is also proposing two projects in 1992 which will reduce the balance.

Motion by Bullert, seconded by Rudrud to make the adjustment in accordance with the screening board resolution. Motion carried unanimously.

#### St. Paul:

Dan Dunford, Associate City Engineer, and Tom Kuhfeld appeared representing the City. The following information was presented to the subcommittee:

- 1. The City has approximately \$19,000,000 of State Aid funds committed in the City budget.
- There are two projects which have an estimated cost of approximately \$20,000,000.
- 3. The entire balance will be depleted within three years.
- 4. The balance has purposely been kept high for these projects.
- 5. The Sheppard Road project did not move forward as expected because of differences of opinion in the bridge design between the City and State Aid. These differences required years to resolve, but a letting date is scheduled for this December.
- 6. Another project, Warner Road, had to be delayed because of wetland issues. This project will now be awarded in April, 1992.
- 7. On another project, Lexington Parkway, the City requested a variance in February. The variance committee made a recommendation for denial, but the City has not been informed by the Commissioner on his decision.
- 8. Another reason for the excess balance was that from 1990 to-1991 their allocation decreased by approximately \$1,000,000. Since the excess is determined by a multiplier times the current allotment, this had a much larger affect on their balance. If their allotment had not decreased, there would be no excess balance.
- 9. They are asking for a six month extension in which to reduce their balance.

Motion was made by Bullert, seconded by Moore that the adjustment be made in accordance with the screening board resolution. Motion carried unanimously.

SUBJECT: SUBCOMMITTEE MEETING October 28, 1991 Page Five

#### Stillwater:

Dick Moore of Short-Elliott-Hendrickson, Inc., the City Engineer for Stillwater appeared representing the City. Mr. Moore stated that he had presented alternatives to the City Council in April on how to reduce the excess balance. The Council went with a project which would require a variance on right-of-way width.

The right-of-way width variance was required since this street is in a historic district and the existing buildings are at the current right-of-way line. The request for variance was denied in July. The City reapplied for the variance and it was approved in September. The acting commissioner has also approved a variance with regard to receiving bids and awarding a contract before the approval of State Aid plans. The plans had been submitted to the State, but because of the right-of-way width they were not approved.

The City has awarded a contract and construction is expected to begin in November. The final plans have been submitted to the State for approval. Plan approval is expected about November 1.

Motion by Moore, seconded by Rudrud to recommend to the screening board that there be no adjustment for excess balance if the previously awarded contract has been approved by the State Aid Office prior to December 15, 1991.

Respectively Submitted

Fred G. Moore, Chairman Unencumbered Construction Fund Subcommittee
## UNIT PRICE STUDY

The Unit Price Study is done annually by the State Aid Needs Unit by compiling the quantities and unit prices of items from the prior years Abstract of Bids received in the State Aid Office. The results were obtained from the 1991 bids and are found next to the applicable graphs. These averages and past averages are used by the Needs Study Subcommittee and June Screening Board to determine the prices to be used in the 1992 Needs Study. These prices are then applied against the quantity table located in the State Aid Manual Fig. D & F 5-892.810 to compute the needs of each segment. The needs eventually will be used to compute the 1993 money needs allocation.

Both Mn/Dot and State Aid bridges are used so that more bridges determine the unit price. Generally State Aid contracts do not include many bridges 150 feet and over. In 1991, Neither Mn/Dot and State Aid had a contract for bridges 500 feet and over. Arriving at a reasonable bridge widening cost is difficult, due to the variation of work involved. Bridge widening can include removing the superstructure with the replacement of new beams or it can involve leaving the existing deck inplace.

Mn/Dot's hydraulic office furnished a recommendation of costs for storm sewer construction and adjustment based on 1991 construction costs.

Mn/Dot Railroad Office furnished a letter detailing railroad cost from 1991 construction projects.

Due to the lack of data, a study is not done for traffic signals, special drainage, maintenance, lighting and engineering. Every segment, except those elegible for Turnback Funding, receive needs for traffic signals, lighting, engineering, and maintenance. All the past year's need prices are found in the Screening Board's resolutions included in this booklet.

## MUNICIPAL STATE AID NEEDS STUDY SUBCOMMITTEE

## - MINUTES -

## TUESDAY, APRIL 28, 1992

### MEMBERS:

Chuck Siggerud/Burnsville, Joe Bettendorf/Litchfield, Tom Drake/Red Wing, and Ken Straus/MnDOT State Aid.

**1992 UNIT PRICE RECOMMENDATIONS** 

RECOMMENDED UNIT PRICES

### GRADING (EXCAVATION) #2105:

There was considerable variation by District, but there appears to be no justification for making an adjustment.

### AGGREGATE SHOULDERS #2221:

Quantities placed in 1991 were small, and there appears to be no justification for making an adjustment.

CURB AND GUTTER REMOVAL #2104:

This price remains close to the five year average.

### SIDEWALK REMOVAL #2104:

There was considerable variation in the prices studied, and the average has risen the past two years. This price was adjusted to reflect the upward trend.

### CONCRETE PAVEMENT REMOVAL #2104:

This price remains close to the five year average. No adjustment was made.

### TREE REMOVAL #2101:

This item involves both Clearing and Grubbing, and again generated much discussion. Prices varied widely and quantities were relatively small. The Subcommittee adjusted the unit price to \$150.00 per unit and felt this price would be representative of the typical project absent more consistent data.

\$4.00 / Sq. Yd.

\$1.60 / Lin. Ft.

\$4.50 / Sq. Yd.

\$3.00 / Cu. Yd.

\$150.00 / Unit

\$7.00 / Ton

## STORM SEWER:

This price was raised based on a memo dated February 13, 1992, from David Halvorson, Mn/DOT's Hydraulics Engineer.

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## CLASS 4 SUBBASE #2211:

The five year average has been dropping, and the unit price was adjusted downward to reflect this trend.

### <u>CLASS 5 BASE #2211:</u>

Since the unit prices and five year averages have been consistently below the \$6.00 unit price used last year, the unit price was adjusted downward.

### **BITUMINOUS BASE OR SURFACE #2331:**

Prices have been depressed for the past few years, and appear to be rising. The unit price was adjusted to reflect this trend. There was some discussion about recommending changes to the nomenclature to reflect the new designation for bituminous surfacing (e.g. Type etc.), since the existing computer program is old and 31 cumbersome, and will not easily accommodate the change. The Subcommittee agreed to wait until State Aid staff determines there is a need for a program upgrade.

### **BITUMINOUS SURFACE #2341:**

The unit price was adjusted upward to reflect the rising trend in prices.

### **BITUMINOUS SURFACE #2361:**

This unit price was also adjusted upward to reflect the rising trend in prices.

#### CURB AND GUTTER CONSTRUCTION #2531: \$5.50 / Lin. Ft.

Though there is a slight upward trend in the Needs Study prices, the current price appears to be adequate.

### SIDEWALK CONSTRUCTION #2521:

This unit price was adjusted upward to reflect a noticeable trend in rising prices over the past three years.

### STORM SEWER ADJUSTMENT:

This unit price was is the same as in previous years and is based on a memo dated February 13, 1992, from David Halvorson, Mn/DOT's Hydraulics Engineer.

### \$199,500 / Mile

\$5.75 / Ton

\$22.00 / Ton

\$24.50 / Ton

\$32.00 / Ton

\$62,000 / Mile

\$14.50 / Sq. Yd.

### SPECIAL DRAINAGE RURAL:

Since the storm sewer adjustment price did not change, the Subcommittee felt there was no justification for change in this item.

#### STREET LIGHTING:

This price was adjusted based on an estimated cost of \$2,500 per unit, two units per intersection, eight intersections per mile, and a 50% State Aid share at each intersection.

#### TRAFFIC SIGNALS:

This price was adjusted upward to reflect the Subcommittee's estimate of a typical signal installation.

Using the ADT ranges and signal-to-mile ratio from last year's report, the needs per mile is calculated as follows:

ADT	Signals <u>Per Mile</u>	x	State Aid <u>Portion</u> x	Unit <u>Price</u> =	Needs <u>Per Mile</u>
0 - 4,999	0.5		50%	\$80,000	\$20,000
5,000 - 9,999	1.0		50%	\$80,000	\$40,000
10,000 +	2.0		50%	\$80,000	\$80,000

### RIGHT-OF-WAY (NEEDS ONLY):

This price is based on an estimated cost of \$1.25 to \$1.50 per square foot for right-of-way and is the same as that used last year.

### ENGINEERING:

This value is the same as that used last year. There appeared to be no justification for change.

### RAILROAD GRADE CROSSING:

Based on a letter from Robert G. Swanson, Director, Railroad Administration, dated March 20, 1992, the unit prices remain the same except that Rubber Crossing Surfaces went up, and the "signs" item was amended to include pavement markings.

Signs and Pavement Markings (paint)	\$1,350 / unit
Signals (Single Track - Low Speed)	\$80,000 / unit
Signals \$ Gate (Multiple Track - Both	\$110,000 / unit
High and Low Speed)	
Rubber Crossing Surface (Per Track)	\$900 / Lin. Ft.

### \$60,000 / Acre

18% of Total Needs Cost

## \$80,000 / Signal

\$25,000 / Mile

\$20,000 / Mile

#### BRIDGES:

The recommended prices for bridge construction are the same as those for last year. There appeared to be no justification for an adjustment. There were no bridges constructed which were over 500 feet in length. The recommended prices in \$ per square foot of deck area are:

0 -	149	feet	in	length	\$55.00	1	Sq.	Ft.
150 -	499	feet	in	length	\$60.00	1	Sa.	Ft.
Over	500	feet	in	length	\$65.00	1	Sa.	Ft.
Bridge	e Wid	lening	J	-	\$150.00		Sq.	Ft.

#### RAILROAD BRIDGES OVER HIGHWAYS:

Since there was only one bridge of this type constructed last year, the Subcommittee felt that the recommended prices for construction of railroad bridges over highways should remain the same as those used last year:

	Number of Tracks	-	1	\$4,000	/	Lin.	Ft.
Each	Additional Track	-		\$3,000	/	Lin.	Ft.

### ANNUAL MAINTENANCE NEEDS:

No changes are recommended until there is sufficient historical data to justify an adjustment.

#### OFF-SYSTEM EXPENDITURES:

There was considerable discussion among Subcommittee members regarding the recent Screening Committee resolution eliminating the needs adjustment for off-system expenditures. Though we agree that off-system expenditures still go into a City's major transportation network, the City choosing to spend off-system is not satisfying or "spending down" its 25-year construction needs. With no adjustment, this City continues to receive an apportionment based on a needs level that should have been reduced by the amount of the off-system expenditure. Conversely, a City spending its apportionment on an MSA route sees a parallel reduction in its following year's needs. Taken to the extreme, continued spending off-system artificially inflates a City's apportionment, while MSA construction needs go unsatisfied.

State Aid staff members are already receiving inquiries from Mn/DOT and County Engineers regarding the impact of off-system expenditures on a City's apportionment. The obvious implication is that if spending off-system increases a City's annual apportionment, Mn/DOT and County Engineers should encourage use of MSA funds on their projects. The Subcommittee recommends that the needs adjustment for offsystem expenditures be reinstated.

#### DESIGN QUANTITY TABLES:

The Subcommittee reviewed the quantity tables used to determine needs and discussed the need to adjust to the new standards. Currently, the quantities used are based on the old standards. While the new standards were enacted to give City's more flexibility in constructing MSA streets where right-of-way is limited and/or public sentiment overwhelmingly favors a narrower section, the new standards are "minimums" and do not necessarily represent "desirable" lane and shoulder widths. City's may want to build to the old standards where right-of-way is available and public opposition is not a factor.

After much discussion, it was felt that leaving the quantity tables as they are is not appropriate, and that an adjustment is in order. The Subcommittee recommends that the quantity tables be adjusted to reflect the new standards where there is no existing street, and that quantity tables reflect the existing width or the old standard, whichever is smaller, where there is an in-place roadway.

Respectfully submitted,

Joseph R. Bettendorf, P.E.

City of Litchfield Secretary, Needs Subcommittee

djg (53403MY.A12-9205)

Attachment: Table 1992 Unit Price Recommendations

## 1992 UNIT PRICE RECOMMENDATIONS

		1991 Need	Sub- committee Suggested Prices For	Screening Board Recommended Prices
Needs Item		Prices	1992	For 1992
Grading (Excavation)	Cu. Yd.	\$3.00	\$3.00	
Aggregate Shoulders #2221	Ton	7.00	7.00	
Curb and Gutter Bemoval	Lin.Ft.	1.60	1.60	
Sidewalk Removal	Sq. Yd.	4.00	4.50	
Concrete Pavement Removal	Sq. Yd.	4.00	4.00	
Tree Removal	Unit	140.00	150.00	
Class 4 Subbase #2211	Ton	4.75	4.50	
Class 5 Base #2211	Ton	6.00	5.75	
Bituminous Base #2331	Ton	20.00	22.00	
Bituminous Surface #2331	Ton	20.00	22.00	
Bituminous Surface #2341	Ton	23.50	24.50	
Bituminous Surface #2361	Ton	30.00	32.00	
Curb and Gutter Construction	Lin.Ft.	5.50	5.50	
Sidewalk Construction	Sq. Yd.	14.00	14.50	
Storm Sewer Adjustment	Mile	62,000	62,000	
Storm Sewer	Mile	196,000	199,500	<b></b>
Special Drainage – Rural	Mile	25,000	25,000	
Street Lighting	Mile	16,000	20,000	
I raffic Signals	Per Sig	75,000	80,000	
Signal Needs Based On Projecte	<u>u Trainc</u> Init Price -	- Noode Por Milo		
-1000	\$75 000	= \$18750		
5 000 - 9999 50	75,000	= $37.500$		
10 000 & Over 1.00	75,000	= 75.000		
(PROPOSED)	Init Price -	- Needs Per Mile		
$\int -4999 \qquad 25$		= \$20.000		
5 000 - 9,999 .50	80.000	= 40.000		
10.000 & Over 1.00	80,000	= 80,000		
Right of Way (Needs Only)	Acre	60,000	60,000	
Engineering	Percent	18	18	
Bailroad Grade Crossing				
Signs & Pymt. Marking	Unit	500	1,350	
Signals (Single Track-Low Speed)	Unit	80,000	80,000	
Signals & Gate (Multiple			·	
Track - High & Low Speed)	Unit	110,000	110,000	
Rubberized Material (Per Track)	Lin.Ft.	850	900	
Bridges			<b>FF</b> 00	
0 to 149 Ft.	Sq. Ft.	55.00	55.00	
150 to 499 Ft.	Sq. Ft.	60.00	60.00	e
SUU FI. and over	SQ. FL	150.00	150.00	
Dridge widening Reilroad Bridges over Highwove	оч. гι.	150.00	150.00	
Number of Tracks - 1	l in Ft	4 000	4 000	
Additional Track (each)	Lin Ft	3,000	3.000	
		5,000	-,	······

	EXCAVATION							
NEEDS YEAR	NO. OF CITIES	QUANTITY	COST	UNIT PRICE STUDY PER CU.YD.	PRICE USED IN NEEDS			
1988	62	796,486	\$2,113,700	\$2.65	\$3.00			
1989	70	1,406,108	3,024,233	2.15	3.00			
1990	65	1,263,652	2,733,063	2.16	3.00			
1991	67	1,260,768	3,303,493	2.62	3.00			
1992	70	1,369,656	3,764,822	2.75				

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1992 NEEDS STUDY IS \$3.00 PER CU. YD.

	AGGREGATESHOULDERS							
NEEDS	NO. OF CITIES	QUANTITY	COST	UNIT PRICE STUDY PER TON	PRICE USED IN NEEDS			
1988	4	1,247	\$8,437	\$6.77	\$4.25			
1989	7	3,485	21,554	6.18	4.25			
1990	6	3,714	24,444	6.58	6.50			
1991	3	2,334	18,624	7.98	7.00			
1992	7	6,285	39,992	6.36				

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1992 NEEDS STUDY IS \$7.00 PER TON.

## M.S.A.S. UNIT PRICE STUDY EXCAVATION – CUBIC YARD

MUNICIPALITY	TOTAL COST	TOTAL QUANTITY	AVG UNIT PRICE	TOTAL LENGTH
DISTRICT 1				
CHISHOLM	\$8,805	2,229	\$ 3.95	.30
CLOQUET	57,109	17,572	3.25	.71
DULUTH	161,188	35,742	4.51	1.16
HIBBING	63,910	19,881	3.21	1.54
HERMANTOWN	102,974	44,894	2.29	1.33
IOTAL	393,986	120,318	3.27	5.04
DISTRICT 2				
CROOKSTON	59,276	14,819	4.00	.42
THIEF RIVER FALLS	120	24	5.00	.26
TOTAL	59,396	14,843	4.00	.68
DISTRICT 3				
LITTLE FALLS	27,658	14,257	1.94	.96
ST CLOUD	107,627	31,571	3.41	2.05
SAUK RAPIDS	29,477	7,210	4.09	.32
ELK RIVER	15,373	5,991	2.57	.86
BUFFALO	30,001	19,298	1.55	1.28
TOTAL	210,136	78,327	2.68	5.47
DISTRICT 4				
ALEXANDRIA	10,313	3,496	2.95	.28
DETROIT LAKES	68,242	20,330	3.36	1.40
FERGUS FALLS	29,739	8,225	3.62	1.04
MOORHEAD	18,752	4,688	4.00	.71
MORRIS	41,070	10,952	3.75	.80
TOTAL	168,116	47,691	3.53	4.23
METRO-WEST				
BROOKLYN CENTER	130,469	39,211	3.33	.19
BROOKLYN PARK	58,068	50,748	1.14	1.51
COLUMBIA HEIGHTS	13,615	2,581	5.28	.69
COON RAPIDS	5,210	1,510	3.45	.23
CRYSTAL	45,412	11,353	4.00	.42
FRIDLEY	18,250	6,750	2.70	1.13
GOLDEN VALLEY	22,042	4,322	5.10	.38
MINNEAPOLIS	180,097	27,751	6.49	1.31
MINNETONKA	88,731	31,230	2.84	1.63
MOUND	250	50	5.00	.57
PLYMOUTH	176,092	13,609	12.94	.50
ST ANTHONY	9,244	1,493	6.19	.25
ST LOUIS PARK	185,021	55,734	3.32	1.97
SHAKOPEE	7,650	3,400	2.25	.25
EDEN PRAIRIE	243,668	108,478	2.25	1.90
NEW HOPE	4,800	950	5.05	.52
SPRING LAKE PARK	28,925	8,900	3.25	.45
MAPLE GROVE	88,282	42,026	2.10	.98
CHAMPLIN	36,446	10,550	3.45	1.24
CHASKA	18,890	8,700	2.17	.90
ANDOVER	10,280	3,738	2.75	.35
SAVAGE	10,787	4,604	2.34	.81
TOTAL	1,382,229	437,688	3.16	18.18

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## M.S.A.S. UNIT PRICE STUDY EXCAVATION – CUBIC YARD

	TOTAL	TOTAL	AVG UNIT	TOTAL
MUNICIPALITY	COST	QUANTITY	PRICE	LENGTH
DISTRICT 6				
ALBERT LEA	\$8,700	3,000	\$ 2.90	.53
AUSTIN	24,416	9,722	2.51	1.26
NORTHFIELD	28,050	5,610	5.00	.56
OWATONNA	62,552	133,145	.47	.77
RED WING	9,550	2,350	4.06	.62
ROCHESTER	128,838	59,306	2.17	6.26
TOTAL	262,106	213,133	1.23	10.00
DISTRICT 7				
FAIRMONT	75,161	12,882	5.83	.70
MANKATO	40,104	13,829	2.90	.80
NEW ULM	48,674	33,959	1.43	.70
NORTH MANKATO	39,884	9,971	4.00	.74
WORTHINGTON	33,040	23,770	1.39	.76
TOTAL	236,863	94,411	2.51	3.70
DISTRICT 8				
LITCHFIELD	38,046	14,106	2.70	1.13
WILLMAR	315,759	77,382	4.08	3.81
REDWOOD FALLS	4,800	1,200	4.00	.52
TOTAL	358,605	92,688	3.87	5.46
METRO-EAST			( 00	
FALCON HEIGHTS	66,829	13,935	4.80	00.
HASTINGS	31,388	13,160	2.39	1.01
MAPLEWOOD	9,405	3,060	3.07	.14
NEW BRIGHTON	480	120	4.00	.06
NORTH ST PAUL	26,688	7,998	3.34	.29
ST PAUL	107,783	40,832	2.64	3.14
SOUTH ST PAUL	11,700	2,600	4.50	.24
STILLWATER	41,940	16,110	2.60	.47
WEST ST PAUL	51,691	13,010	3.97	.98
WHITE BEAR LAKE	40,118	10,778	3.72	.49
INVER GROVE HEIGHTS	39,001	45,470	.86	.31
OAKDALE	61,188	14,744	4.15	.48
APPLE VALLEY	76,899	16,218	4.74	1.53
ARDEN HILLS	20,829	5,410	3.85	.54
WOODBURY	45,826	17,932	2.56	.49
LITTLE CANADA	21,630	6,180	3.50	.42
ROSEMOUNT	39,990	43,000	.93	.78
TOTAL	693,385	270,557	2.56	12.03

	DIS	TRICTTOTALS		
DISTRICT 1	\$393,986	120,318	\$ 3.27	5.04
DISTRICT 2	59,396	14,843	4.00	.68
DISTRICT 3	210,136	78,327	2.68	5.47
DISTRICT 4	168,116	47,691	3.53	4.23
METRO-WEST	1,382,229	437,688	3.16	18.18
DISTRICT 6	262,106	213,133	1.23	10.00
DISTRICT 7	236,863	94,411	2.51	3.70
DISTRICT 8	358,605	92,688	3.87	5.46
METRO-EAST	693,385	270,557	2.56	12.03
STATE TOTAL	\$3,764,822	1,369,656	\$ 2.75	64.79

M.S.A.S. UNIT PRICE STUDY					
	AGGREGATE	SHOULDERS – TO	NS		
	TOTAL			TOTAL	
DISTRICT 1	<u></u>				
	¢2 950	770	\$ 5.00	99	
	3 850	770	5 00	99.	
IUIAL	3,830	776	0.00	.00	
DISTRICT 3					
FI K RIVER	4,410	630	7.00	.86	
TOTAL	4 410	630	7.00	.86	
	-,				
METRO-WEST					
EDEN PRAIRIE	744	62	12.00	.43	
CHASKA	9,000	1,200	7.50	.90	
TOTAL	9,744	1,262	7.72	1.33	
DISTRICT 6			7.00	00	
ROCHESTER	1,260	159	7.92	.33	
WINONA	3,762	418	9.00	.03	
TOTAL	5,022	5//	8.70	.90	
DISTRICT 7					
WORTHINGTON	16,966	3.046	5.57	.76	
TOTAL	16,000	3.046	5 57	76	
IUIAL	10,300	0,070			
STATE TOTAL	\$39,992	6,285	\$ 6.36	4.90	

## M.S.A.S. UNIT PRICE STUDY

Addreame Shouldend Toko							
	TOTAL	TOTAL	AVG. UNIT	TOTAL			
MUNICIPALITY	COST	QUANTITY	PRICE	LENGTH			
	DIS	TRICT TOTALS					
DISTRICT 1	\$3,850	770	\$ 5.00	.99			
DISTRICT 3	4,410	630	7.00	.86			
METRO-WEST	9,744	1,262	7.72	1.33			
DISTRICT 6	5,022	577	8.70	.96			
DISTRICT 7	16,966	3,046	5.57	.76			
STATE TOTAL	\$39,992	6,285	\$ 6.36	4.90			

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## CURB & GUTTER REMOVAL #2104



XX NEEDS STUDY PRICE USED 7 - YEAR AVG

NEEDS YEAR	NO.OF CITIES	QUANTITY	COST	NEEDS STUDY PER LIN. FT.	PRICE USED IN NEEDS	5-YEAR AVERAGE OF STUDY
1981	26	83,672	\$93,360	\$1.12	\$1.75	\$1.21
1982	24	41,852	58,030	1.39	1.50	1.31
1983	45	77,339	86,596	1.12	1.50	1.35
1984	33	42,589	66,635	1.56	1.50	1.37
1985	43	106,678	176,974	1.66	1.50	1.37
1986	50	145,294	208,971	1.44	1.50	1.43
1987	46	119,913	216,648	1.81	1.75	1.52
1988	35	83,232	139,029	1.67	1.75	1.63
1989	64	211,446	290,721	1.37	1.75	1.59
1990	38	215,935	301,389	1.40	1.60	1.54
1991	59	207,105	355,996	1.72	1.60	1.59
1992	58	152,992	239,845	1.57		1.55

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1992 NEEDS STUDY IS \$1.60 PER LIN. FT. BASED UPON 1991 CONSTUCTION COSTS.

## M.S.A.S. UNIT PRICE STUDY CURB AND GUTTER REMOVAL – LINEAR FEET

MUNICIPALITY	TOTAL COST	TOTAL QUANTITY	AVG. UNIT PRICE	TOTAL LENGTH
DISTRICT 1				
CHISHOI M	\$551	367	\$ 1.50	.30
CLOQUET	2.046	682	3.00	.71
DULUTH	408	272	1.50	.52
HIBBING	8 038	3 615	2 22	.02
ΤΟΤΑΙ	11 043	4 936	2 24	2.08
TOTAL	11,040	7,000	<i>L L</i> . T	2.00
DISTRICT 2	- · · -		4.00	
CROOKSTON	340	283	1.20	.29
THIEF RIVER FALLS	1,188	594	2.00	.98
TOTAL	1,528	877	1.74	1.27
DISTRICT 3				
LITTLE FALLS	4,806	3,204	1.50	.74
SAUK RAPIDS	3,900	3,545	1.10	.32
BUFFALO	447	213	2.10	1.28
TOTAL	9,153	6,962	1.31	2.34
DISTRICT 4				
	503	201	2.50	.28
DETROIT LAKES	10 710	4,299	2.49	1.88
FEBGUS FALLS	8 093	3 597	2 25	71
MOOBHEAD	7 5 27	2 352	3 20	71
MORRIS	2 3 2 2	774	3.00	80
TOTAL	2,022	11 222	2 60	.00 1 38
	29,155	11,223	2.00	4.00
METRO-WEST				
BROOKLYN PARK	10,237	2,443	4.19	1.51
COLUMBIA HEIGHTS	3,816	2,544	1.50	.69
CRYSTAL	3,061	1,913	1.60	.42
FRIDLEY	3,160	1,150	2.75	.75
HOPKINS	2,700	450	6.00	.76
MINNEAPOLIS	11,713	6,333	1.85	1.31
MINNETONKA	215	290	.74	1.98
MOUND	500	50	10.00	.57
PLYMOUTH	313	50	6.26	.50
ST LOUIS PARK	4,915	2,740	1.79	.39
SHAKOPEE	720	360	2.00	.25
EDEN PRAIRIE	4,425	2,950	1.50	1.47
SPRING LAKE PARK	800	200	4.00	.45
MAPLE GROVE	2,530	990	2.56	.98
CHAMPLIN	488	122	4.00	.37
CHASKA	630	210	3.00	.65
ANDOVER	60	20	3.00	.35
SAVAGE	5,554	2,286	2.43	.93
TOTAL	55,837	25,101	2.22	14.33
DISTRICT 6				
ALBERT LEA	2.392	3.509	.68	1.27
AUSTIN	2.665	5.152	.52	1.26
NORTHEIELD	6,130	6.130	1.00	.56
OWATONNA	12.303	8.202	1.50	.77
RED WING	4,426	2,001	2.21	.67
BOCHESTER	4 562	4,205	1.08	5.90
TOTAL	32,478	29,199	1.11	10.43

### M.S.A.S. UNIT PRICE STUDY CURB AND GUTTER REMOVAL – LINEAR FEET

	TOTAL	TOTAL	AVG. UNIT	TOTAL
MUNICIPALITY	COST	QUANTITY	PRICE	LENGTH
DISTRICT 7				
FAIRMONT	\$18,267	7,596	\$ 2.40	.70
MANKATO	9,021	9,021	1.00	.80
NEW ULM	7,100	3,162	2.25	.70
NORTH MANKATO	11,035	8,174	1.35	.74
TOTAL	45,423	27,953	1.62	2.94
DISTRICT 8				
LITCHFIELD	1,125	720	1.56	1.13
WILLMAR	3,360	1,344	2.50	2.59
REDWOOD FALLS	1,800	900	2.00	.52
TOTAL	6,285	2,964	2.12	4.24
METRO-EAST				
FALCON HEIGHTS	1,180	295	4.00	.66
HASTINGS	5,492	6,780	.81	1.01
MAPLEWOOD	1,002	208	4.82	1.40
NORTH ST PAUL	899	470	1.91	.43
ST PAUL	13,442	17,969	.75	2.90
SOUTH ST PAUL	1,435	1,435	1.00	.12
STILLWATER	1,121	1,121	1.00	.34
WEST ST PAUL	4,300	4,300	1.00	.98
INVER GROVE HEIGHTS	240	120	2.00	.31
OAKDALE	1,931	614	3.14	.48
APPLE VALLEY	17,321	10,230	1.69	1.22
WOODBURY	405	135	3.00	.13
LITTLE CANADA	175	100	1.75	.42
TOTAL	48,943	43,777	1.12	10.40
STATE TOTAL	\$239,845	152,992	\$ 1.57	52.41

## M.S.A.S. UNIT PRICE STUDY CURB AND GUTTER REMOVAL – LINEAR FEET

	TOTAL	TOTAL	AVG. UNIT	TOTAL
MUNICIPALITY	COST	QUANTITY	PRICE	LENGTH
	DIS	<b>TRICT TOTALS</b>		
DISTRICT 1	\$11,043	4,936	\$ 2.24	2.08
DISTRICT 2	1,528	877	1.74	1.27
DISTRICT 3	9,153	6,962	1.31	2.34
DISTRICT 4	29,155	11,223	2.60	4.38
METRO-WEST	55,837	25,101	2.22	14.33
DISTRICT 6	32,478	29,199	1.11	10.43
DISTRICT 7	45,423	27,953	1.62	2.94
DISTRICT 8	6,285	2,964	2.12	4.24
METRO-EAST	48,943	43,777	1.12	10.40
STATE TOTAL	\$239,845	152,992	\$ 1.57	52.41

## SIDEWALK REMOVAL #2105



NEEDS YEAB	NO. OF	QUANTITY	COST	NEEDS STUDY PER SQ. YD.	PRICE USED IN NEEDS	5-YEAR AVERAGE OF STUDY
	17	30,387	\$95,782	\$3.15	\$4.00	\$2.79
1982	19	20,627	68,003	3.30	3.50	3.17
1983	33	61,909	98,144	1.59	2.50	2.98
1984	21	27,288	98,276	3.60	3.50	3.07
1985	30	59,315	222,584	3.75	3.50	3.08
1986	38	56,873	254,161	4.47	4.00	3.34
1987	38	44,695	159,347	3.57	4.00	3.39
1988	25	35,889	141,549	3.94	4.00	3.87
1989	46	77,633	270,831	3.49	4.00	3.84
1990	41	50,017	192,021	3.84	4.00	3.86
1991	43	71,868	301,912	4.20	4.00	3.81
1992	45	57,606	295,735	5.13		4.12

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1992 NEEDS STUDY IS \$4.50 PER SQ. YD. BASED UPON 1991 CONSTRUCTION COSTS.

## M.S.A.S. UNIT PRICE STUDY

## SIDEWALK REMOVAL – SQUARE YARD

(Two decimal places was used in the quantity column so the conversion from sq. ft. to sq. yds. would be more accurate.)

	TOTAL		AVG. UNIT PRICE	TOTAL
DISTRICT 1	0001	GOMMIN	I THOL	
CHISHOLM	\$4 223	1 876 89	\$2.25	.30
DUILITH	13 873	4 404 22	3.15	.64
HIBBING	28,936	4 606 11	6 30	.55
TOTAL	47 032	10 887 22	4 32	1 49
IUIAL	77,002	10,007.22	7.02	1.40
DISTRICT 2				
CROOKSTON	10,970	1,218.89	9.00	.18
THIEF RIVER FALLS	7,944	2,206.67	3.60	.98
TOTAL	18,914	3,425.56	5.49	1.16
DISTRICT 3				
LITTLE FALLS	938	231.44	4.05	.74
BUFFALO	48	17.78	2.70	.64
TOTAL	986	249.22	3.96	1.38
DISTRICT 4			0.00	~~~
ALEXANDRIA	49	5.44	9.00	.28
DETROIT LAKES	9,981	1,109.00	9.00	1.26
FERGUS FALLS	44,485	4,216.44	10.53	.96
MOORHEAD	5,084	1,389.89	3.69	.78
MORRIS	1,745	276.89	6.30	.80
TOTAL	61,344	6,997.67	8.73	4.08
METRO-WEST				
BBOOKI YN PARK	1 261	197.78	6.39	1.51
COLUMBIA HEIGHTS	810	270.00	2.97	.69
CRYSTAL	980	196.00	5.04	.42
HOPKINS	325	72.22	4.50	.76
MINNEAPOLIS	14 420	2 670 33	5.40	1.31
BOBBINSDALE	6 264	1 740 00	3.60	1.02
ST LOUIS PARK	2,305	369.33	6.21	1.67
SHAKOPEE	500	55.56	9.00	.25
NEW HOPE	1 700	188.89	9.00	.52
SPRING LAKE PARK	1 125	166.67	6.75	.45
MAPLE GROVE	1.015	154 44	6.57	.47
CHAMPLIN	580	58.00	9.99	.08
CHASKA	3 615	133.89	27.00	.50
SAVAGE	3 795	421 67	9.00	.35
TOTAL	38,695	6,694.78	5.76	10.00
DISTRICT 6	c	000.00		00
ALBERILEA	3,630	883.33	4.14	.99
AUSTIN	4,155	1,143.22	3.60	1.26
FARIBAULI	2,044	454.22	4.50	1.02
NORTHFIELD	3,919	3,919.00	0.99	.56
OWATONNA	16,474	3,389.44	4.86	.//
	434	97.11	4.50	.20
HUCHESTER	6,006	2,011.50	2.34	10.07
IUIAL	30,002	12,497.89	2.97	10.37

### M.S.A.S. UNIT PRICE STUDY SIDEWALK REMOVAL – SQUARE YARD

	TOTAL	TOTAL	AVG. UNIT	TOTAL
MUNICIPALITY	COST	QUANTITY	PRICE	LENGTH
DISTRICT 7				
FAIRMONT	\$20,795	2,773.78	\$7.47	.70
MANKATO	14,246	3,165.78	4.50	.80
NEW ULM	1,816	207.44	8.73	.70
NORTH MANKATO	30,228	5,597.78	5.40	.74
TOTAL	67,085	11,744.78	5.67	2.94
DISTRICT 8				
LITCHFIELD	193	20.22	9.54	.64
WILLMAR	810	180.00	4.50	2.59
TOTAL	1,003	200.22	5.04	3.23
METRO-EAST				
NORTH ST PAUL	39	39.00	0.99	.15
ST PAUL	3,700	1,176.44	3.15	2.18
SOUTH ST PAUL	115	12.78	9.00	.24
STILLWATER	9,120	2,280.00	3.96	.34
WEST ST PAUL	1,890	700.00	2.70	.98
APPLE VALLEY	9,150	700.00	13.05	.85
TOTAL	24,014	4,908.22	4.86	4.74
STATE TOTAL	\$295.735	57.605.56	\$5.13	39.39

\$295,735 57,605.56 \$5.13 STATE TOTAL

### M.S.A.S. UNIT PRICE STUDY SIDEWALK REMOVAL - SQUARE YARD

	TOTAL	TOTAL	AVG. UNIT	TOTAL
MUNICIPALITY			PRICE	
DISTRICT 1	010 ¢17 032	10 887 22	\$4 32	1 49
DISTRICT 2	18 914	3.425.56	5.49	1.16
DISTRICT 3	986	249.22	3.96	1.38
DISTRICT 4	61,344	6,997.67	8.73	4.08
METRO-WEST	38,695	6,694.78	5.76	10.00
DISTRICT 6	36,662	12,497.89	2.97	10.37
DISTRICT 7	67,085	11,744.78	5.67	2.94
DISTRICT 8	1,003	200.22	5.04	3.23
METRO-EAST	24,014	4,908.22	4.86	4.74
STATE TOTAL	\$295,735	57,605.56	\$5.13	39.39

# CONCRETE PAVEMENT REMOVAL #2106



	10.05	0000	COOT	NEEDS	PRICE	5-YEAR
NEEDS YEAR	NU.UF	QUANITIY	COSI	STODY PEH SQ. YD.	NEEDS	OF STUDY
1981	8	42,322	\$139,785	\$3.30	\$4.00	\$3.21
1982	16	83,263	345,180	4.15	4.00	3.63
1983	23	229,468	533,404	2.32	3.50	3.47
1984	18	119,864	541,569	4.52	4.50	3.76
1985	16	81,645	301,726	3.70	3.75	3.60
1986	28	134,698	494,572	3.67	3.75	3.67
1987	15	132,405	440,715	3.33	3.75	3.51
1988	25	106,550	493,029	4.63	4.00	3.97
1989	44	276,630	886,757	3.21	3.75	3.71
1990	27	88,278	339,571	3.85	4.00	3.74
1991	27	108,995	418,053	3.84	4.00	3.77
1992	23	98,752	403,278	4.08		3.92

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1992 NEEDS STUDY IS \$4.00 PER SQ. YD. BASED UPON 1991 CONSTRUCTION COSTS.

## M.S.A.S. UNIT PRICE STUDY CONCRETE PAVEMENT REMOVAL – SQUARE YARD

.

	TOTAL		AVG. UNIT PRICE	TOTAL LENGTH
DISTRICT 1				
CHISHOLM	\$19 285	5.510	\$3.51	.30
CLOQUET	315	63	5.04	.71
HIBBING	3,162	3.720	0.81	.31
TOTAL	22.762	9,293	2.43	1.32
	,	· • • •		
DISTRICT 2				
CROOKSTON	20,488	4,656	4.41	.18
TOTAL	20,488	4,656	4.41	.18
DISTRICT 3				
	1 655	662	2 52	.74
	799	170	4 68	.32
BLIEFALO	383	153	2.52	.64
TOTAL	2 837	985	2.88	1.70
	2,007		2.00	
DISTRICT 4				
DETROIT LAKES	1,115	223	5.04	.66
FERGUS FALLS	48,365	10,820	4.50	.33
MORRIS	1,076	269	3.96	.80
TOTAL	50,556	11,312	4.50	1.79
METRO-WEST				
BBOOKI YN PARK	3 575	2,862	1.26	.91
	1 260	140	9.00	.69
CRYSTAL	1,500	150	9.99	.42
MINNEAPOLIS	139,386	20.666	6.75	1.29
PLYMOUTH	566	123	4.59	.50
ST LOUIS PARK	1.920	363	5.31	.70
TOTAL	148,207	24,304	6.12	4.51
	00 209	34 007	270	1.26
	92,320	172	2.70 4.77	68
	1 020	603	3.04	.00
	27 300	7 482	3 69	5 11
TOTAL	122 384	42 264	2.88	7 20
TOTAL	122,004	42,204	2.00	1.20
DISTRICT 7				
FAIRMONT	8,055	1,140	7.11	.70
NORTH MANKATO	1,243	226	5.49	.74
TOTAL	9,298	1,366	6.84	1.44
METRO-EAST				
ST PAUL	26,746	4,572	5.85	.24
TOTAL	26,746	4,572	5.85	.24
	¢102 070	09 750	¢1 02	18 28
STATE IVIAL	₽4U3,∠10	30,1JZ	φ-τ.00	10.00

	CONCRETEPAVE	MENTREMOVAL -	SQUARE TARD	
	TOTAL	TOTAL	AVG. UNIT	TOTAL
MUNICIPALITY	COST	QUANTITY	PRICE	LENGTH
	DIS	<b>FRICT TOTALS</b>		
DISTRICT 1	\$22,762	9,293	\$2.43	1.32
DISTRICT 2	20,488	4,656	4.41	.18
DISTRICT 3	2,837	985	2.88	1.70
DISTRICT 4	50,556	11,312	4.50	1.79
METRO-WEST	148,207	24,304	6.12	4.51
DISTRICT 6	122,384	42,264	2.88	7.20
DISTRICT 7	9,298	1,366	6.84	1.44
METRO-EAST	26,746	4,572	5.85	.24
STATE TOTAL	\$403,278	98,752	\$4.08	18.38

## M.S.A.S. UNIT PRICE STUDY CONCRETE PAVEMENT REMOVAL – SQUARE YARD

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## TREE REMOVAL #2101



	NO.OF	QUANTITY	COST	NEEDS STUDY PER TREE	PRICE USED IN NEEDS	5-YEAR AVERAGE OF STUDY
	23	2.338	\$133,306	\$57.02	\$80.00	\$86.11
1982	20	1,362	100,003	73.42	80.00	84.32
1983	31	3,122	123,015	39.40	50.00	74.67
1984	17	841	78,574	93.43	90.00	68.31
1985	34	3,743	221,765	59.25	90.00	64.50
1986	30	1,442	82,586	57.27	90.00	64.56
1987	18	311	42,365	136.22	100.00	77.11
1988	19	535	71,490	133.63	135.00	95.96
1989	40	884	122,030	138.04	140.00	104.88
1990	37	1,659	135,381	81.60	140.00	109.35
1991	35	1,869	142,888	76.45	140.00	113.19
1992	39	867	169,797	195.84		125.11

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1992 NEEDS STUDY IS \$150.00 PER TREE BASED UPON 1991 CONSTRUCTION COSTS.

### M.S.A.S. UNIT PRICE STUDY CLEARING TREES

	TOTAL	TOTAL	AVG. UNIT	TOTAL
MUNICIPALITY	COST	QUANTITY	PRICE	LENGTH
DISTRICT 1				
CHISHOLM	\$500	10	\$50.00	.30
DULUTH	100	1	100.00	.52
TOTAL	600	11	54.55	.82
DISTRICT 3				
	2,150	43	50.00	.74
ST CLOUD	1 600	30	53.33	1.38
	270	6	45.00	.32
	40	2	20.00	.86
	1 100	22	50.00	1.28
TOTAL	5 160	103	50,10	4.58
TOTAL	5,100	100		
DISTRICT 4				
	5 425	55	98.64	1.29
	550	11	50.00	.96
TOTAL	5 975	66	90.53	2.25
TOTAL	5,515		•••••	
NETRO WEST				
BROOKI VN CENTER	4 400	22	200.00	.19
	1 850	37	50.00	.91
	2,250	30	75.00	.23
	3 150	21	150.00	.42
	20,700	69	300.00	.58
MINNEAPOLIS	20,700	2	150.00	.25
STANIHONY	300	10	65.00	48
ST LOUIS PARK	650	10	100.00	25
SHAKOPEE	200	2	54.24	1 90
EDEN PRAIRIE	6,400	118	54.24	1.50
SPRING LAKE PARK	270	3	90.00	.45
MAPLE GROVE	7,440	62	120.00	.01
CHAMPLIN	300	4	75.00	.07
ANDOVER	200	2	100.00	.00
TOTAL	48,110	382	125.94	0.89
DISTRICT 6		10	175.00	05
ALBERT LEA	2,800	16	175.00	.25
NORTHFIELD	1,400	4	350.00	.50
OWATONNA	1,100	11	100.00	.09
RED WING	1,140	19	60.00	.40
ROCHESTER	6,465	72	89.79 _	5.44
TOTAL	12,905	122	105.78	6.74
DISTRICT 7			400.00	17
FAIRMONT	5,060	11	460.00	.17
NEW ULM	3,500	25	140.00	.42
NORTH MANKATO	1,080	9	120.00	./4
TOTAL	9,640	45	214.22	1.33
DISTRICT 8		-	00.00	40
LITCHFIELD	240	8	30.00	.42
REDWOOD FALLS	300	2	150.00	.52
TOTAL	540	10	54.00	.94

### M.S.A.S. UNIT PRICE STUDY CLEARING TREES

	ΤΟΤΑΙ ΤΟΤΑΙ ΑΥΘΙΙΝΙΤ ΤΟΤΑΙ						
MUNICIPALITY	COST	QUANTITY	PRICE	LENGTH			
METRO-EAST							
FALCON HEIGHTS	\$400	2	\$200.00	.66			
HASTINGS	4,212	12	351.00	1.01			
NORTH ST PAUL	670	14	47.86	.29			
WHITE BEAR LAKE	3,250	65	50.00	.49			
OAKDALE	1,034	22	47.00	.48			
TOTAL	9,566	115	83.18	2.93			
STATE TOTAL	\$92,496	854	\$108.31	26.48			

	TOTAL	TOTAL	AVG. UNIT	
WONIGEALT	0031		<u>Enice</u>	<u>Rein(6188)</u>
DISTRICT 1	\$600	11	\$54.55	.82
DISTRICT 3	5,160	103	50.10	4.58
DISTRICT 4	5,975	66	90.53	2.25
METRO-WEST	48,110	382	125.94	6.89
DISTRICT 6	12,905	122	105.78	6.74
DISTRICT 7	9,640	45	214.22	1.33
DISTRICT 8	540	10	54.00	.94
METRO-EAST	9,566	115	83.18	2.93
STATE TOTAL	\$92,496	854	\$108.31	26.48

### TREE REMOVAL CLEARING AND GRUBBING ARE COMBINED TO COMPUTE TREE REMOVAL

	NUMBER	COST
CLEARING	854	\$92,496
GRUBBING	880	<u>77,301</u>
TOTAL	1734	\$169,797

1734/2 = 867 TREES AVERAGE COST PER TREE \$169,797/867 = \$195.84

## M.S.A.S. UNIT PRICE STUDY GRUBBING TREES

	TOTAL		AVG. UNIT PRICE	TOTAL LENGTH
DISTRICT 1				
CHISHOLM	\$500	10	\$50.00	.30
DULUTH	100	. 1	100.00	.52
HIBBING	3,000	20	150.00	.31
TOTAL	3,600	31	116.13	1.13
DISTRICT 3				
LITTLE FALLS	1,600	32	50.00	.63
ST CLOUD	1,850	36	51.39	1.38
SAUK RAPIDS	270	6	45.00	.32
ELK RIVER	40	2	20.00	.86
BUFFALO	680	34	20.00	1.28
TOTAL	4,440	110	40.36	4.47
DISTRICT 4				
DETROIT LAKES	1,760	31	56.77	.90
FERGUS FALLS	420	11	38.18	.96
TOTAL	2,180	42	51.90	1.86
METRO-WEST				
BROOKLYN CENTER	5,500	22	250.00	.19
BROOKLYN PARK	2,220	37	60.00	.91
COON RAPIDS	1,050	30	35.00	.23
CRYSTAL	1,260	21	60.00	.42
MINNEAPOLIS	20,700	69	300.00	.58
ST ANTHONY	300	2	150.00	.25
ST LOUIS PARK	650	10	65.00	.48
SHAKOPEE	200	2	100.00	.25
EDEN PRAIRIE	6,400	118	54.24	1.90
SPRING LAKE PARK	270	3	90.00	.45
MAPLE GROVE	3,720	62	60.00	.51
CHAMPLIN	300	4	75.00	.37
ANDOVER	100	2	50.00	.35
TOTAL	42,670	382	111.70	6.89
DISTRICT 6				
ALBERT LEA	560	16	35.00	.25
NORTHFIELD	400	4	100.00	.56
OWATONNA	7,500	43	174.42	.77
ROCHESTER	2,565	72	35.63	5.44
TOTAL	11,025	135	81.67	7.02
DISTRICT 7				
FAIRMONT	1,100	11	100.00	.17
NEW ULM	3,750	25	150.00	.42
NORTH MANKATO	945	9	105.00	.74
TOTAL	5,795	45	128.78	1.33
DISTRICT 8				
LITCHFIELD	240	8	30.00	.42
REDWOOD FALLS	300	2	150.00	.52
TOTAL	540	10	54.00	.94

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### M.S.A.S. UNIT PRICE STUDY GRUBBING TREES

	TOTAL	TOTAL	AVG. UNIT	TOTAL
MUNICIPALITY	COST	QUANTITY	PRICE	LENGTH
METRO-EAST				
FALCON HEIGHTS	\$200	2	\$100.00	.66
HASTINGS	1,539	19	81.00	1.01
NORTH ST PAUL	550	11	50.00	.15
ST PAUL	1,000	5	200.00	.48
WHITE BEAR LAKE	3,300	66	50.00	.49
OAKDALE	462	22	21.00	.48
TOTAL	7,051	125	56.41	3.27
STATE TOTAL	\$77,301	880	\$87.84	26.91

MUNICIPALITY	TOTAL COST	TOTAL QUANTITY	AVG. UNIT PRICE	TOTAL LENGTH
		DISTRICT TOTALS	3	
DISTRICT 1	\$3,600	31	\$116.13	1.13
DISTRICT 3	4,440	110	40.36	4.47
DISTRICT 4	2,180	42	51.90	1.86
DISTRICT 5	42,670	382	111.70	6.89
METRO-WEST	11,025	135	81.67	7.02
DISTRICT 7	5,795	45	128.78	1.33
DISTRICT 8	540	10	54.00	.94
METRO-EAST	7,051	125	56.41	3.27
STATE TOTAL	\$77,301	880	\$87.84	26.91

### TREE REMOVAL CLEARING AND GRUBBING ARE COMBINED TO COMPUTE TREE REMOVAL

	NUMBER	COST
CLEARING	854	\$92,496
GRUBBING	880	77,301
TOTAL	1734	\$169,797

1734/2 = 867 TREES AVERAGE COST PER TREE \$169,797/867 = \$195.84 \_

CLASS 4 SUBBASE #2211



NEEDS	NO.OF	QUANTITY	COST	NEEDS STUDY PER	PRICE USED IN	5-YEAR AVERAGE
YEAR	CITIES			TON	NEEDS	OF STUDY
19181	4	15,662	\$69,469	\$4.44	\$4.50	\$3.40
1982	5	68,562	264,587	3.86	4.00	3.70
1983	7	29,887	114,531	3.83	4.00	4.02
1984	6	30,625	125,717	4.11	4.25	4.17
1985	13	146,141	691,052	4.73	4.50	4.19
1986	4	21,968	123,871	5.64	5.00	4.43
1987	6	52.643	248,938	4.73	5.00	4.61
1988	8	60,793	239,623	3.94	4.75	4.63
1989	10	68.406	286,398	4.19	4.75	4.64
1990	5	56.590	240,949	4.26	4.75	4.55
1991	7	30,594	142.157	4.65	4.75	4.35
1992	7	69,260	284,485	4.11		4.23

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1992 NEEDS STUDY IS \$4.50 PER TON BASED UPON 1991 CONSTRUCTION COSTS.

## M.S.A.S. UNIT PRICE STUDY AGGREGATE SUBBASE 2211 – TONS

	TOTAL	TOTAL	AVG UNIT	TOTAL
MUNICIPALITY	COST	QUANTITY	PRICE	LENGTH
DISTRICT 3			<b>•</b> • • • •	
SAUK RAPIDS	\$4,830	1,911	\$ 2.53	.32
TOTAL	4,830	1,911	2.53	.32
METRO-WEST				
SAVAGE	8,070	1,048	7.70	.35
TOTAL	8,070	1,048	7.70	.35
DISTRICT 6				
ROCHESTER	16.516	5,471	3.02	.33
TOTAL	16,516	5,471	3.02	.33
DISTRICT 7				
NEW ULM	23.870	6.820	3.50	.42
TOTAL	23,870	6,820	3.50	.42
DISTRICT 8				
WILLMAR	205.643	47.824	4.30	2.59
TOTAL	205,643	47,824	4.30	2.59
METRO-FAST				
INVER GROVE HEIGHTS	17.906	4.656	3.85	.31
APPLE VALLEY	7.650	1.530	5.00	.37
TOTAL	25,556	6,186	4.13	.68
		STRICTTOTALS		
DISTRICT 3	\$4,830	1 911	\$ 2 53	
METRO_WEST	8 070	1 048	7 70	.02
DISTRICT 6	16,516	5 471	3.02	.00
	02,070	6 900	2.52	.00

STATE TOTAL	\$284,485	69,260	\$ 4.11	4.69
METRO-EAST	25,556	6,186	4.13	.68
DISTRICT 8	205,643	47,824	4.30	2.59
DISTRICT 7	23,870	6,820	3.50	.42

## CLASS 5 AGGREGATE BASE #2211



				NEEDS	PRICE	5-YEAR
NEEDS YEAR	NO. OF CITIES	QUANIIIY	COSI	STUDY PEH TON	NEEDS	OF STUDY
1931	42	397,897	\$1,753,637	\$4.41	\$4.85	\$3.57
1982	43	307,088	1,360,272	4.43	4.85	3.92
1983	48	431,148	1,984,392	4.60	4.85	4.25
1984	46	335,849	1,694,167	5.04	5.25	4.60
1985	50	444,073	2,210,475	4.98	5.25	4.69
1986	63	584,097	2,651,362	4.54	5.25	4.72
1987	61	455,259	2,768,438	6.08	6.00	5.05
1988	51	381,898	2,185,112	5.72	6.00	5.27
1989	70	648,988	3,385,938	5.22	5.75	5.31
1990	68	715,922	3,696,421	5.16	5.50	5.34
1991	70	553,874	3,368,664	6.08	6.00	5.65
1992	69	650,835	3,525,629	5.42		5.52

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1992 NEEDS STUDY IS \$5.75 PER TON BASED UPON 1991 CONSTRUCTION COSTS.

## M.S.A.S. UNIT PRICE STUDY AGGREGATE BASE 2211 – TONS

	TOTAL		AVG UNIT	
DISTRICT 1	0001	GOANTITI	INCL	
CHISHOLM	\$26,200	4 952	\$ 5 29	30
	56 059	10 843	ψ 0.29 4 36	.00
	110,009	19 496	4.30	1.16
	92 71 1	16,400	5.97	1.10
	50.077	10,100	5.20	1.04
	50,977	10,142	5.03	اد. د ۱
	20,970	70,840	5.31	1.00
IUTAL	304,320	12,000	5.27	5.35
DISTRICT 2				
CROOKSTON	89,537	12,791	7.00	.42
TOTAL	89,537	12,791	7.00	.42
DISTRICT 3				
LITTLE FALLS	38,140	9,741	3.92	.96
ST CLOUD	124,588	19,477	6.40	2.05
SAUK RAPIDS	9.114	2.058	4.43	.32
ELK RIVER	35.578	7.045	5.05	.86
BUFFALO	57.454	14.030	4.10	1.28
ΤΟΤΑΙ	264.874	52.351	5.06	5 47
	201,011	012,001	0.00	0.11
DISTRICT 4				
ALEXANDRIA	26,843	5,965	4.50	.28
DETROIT LAKES	19,770	5,409	3.66	1.07
FERGUS FALLS	37,018	5,315	6.96	.33
MORRIS	82,648	19,525	4.23	.80
TOTAL	166,279	36,214	4.59	2.48
METRO-WEST				
BBOOKI YN PARK	83 016	11 939	6.95	1.51
	2 757	282	9.78	69
COON BAPIDS	19 220	3 100	6 20	39
CRYSTAL	94,500	13,500	7.00	42
FRIDIEY	32 703	4 765	6.86	1 13
GOLDEN VALLEY	10 032	1 254	8.00	38
HOPKINS	6 500	1 000	6 50	.00
MININEAPOLIS	51 672	4 832	10.60	1.31
MINNETONKA	8/ 1/2	19 380	4 34	1.63
MOUND	750	19,000	15.00	57
	95 461	13.005	7 34	.57
ST ANTHONY	2 925	10,000	6 50	.50
ST I OLUS PARK	71 740	10 704	6.30	1.46
SHAKODEE	16 571	3 035	5.46	25
	16,071	3,000	5.40	1 00
	26 020	5 200	7 10	1.90
	30,920	7,050	6.30	.52
	40,070	15 177	0.33	.40
	90,449	15,177	0.00	.90
	10,000	9,349	7.01	1.24
	10,000	2,000	5.00	.25
ANDUVEK	23,000	4,100	5.//	.35
JAVAGE	1,926		0.20	.93
IUIAL	1,076,033	105,675	0.49	17.87

## M.S.A.S. UNIT PRICE STUDY AGGREGATE BASE 2211 – TONS

	TOTAL			ΤΛΤΛΙ
	COST			IENGTH
MUNICIFALIT	0031	GOANTITI	r nice	
	¢10.000	0.400	¢ = 00	53
	\$12,000 CZ ECO	2,400	\$ 5.00 6 17	1.00
AUSTIN	67,569	10,947	0.17	1.20
NORTHFIELD	37,688	5,956	6.33	.50
OWATONNA	75,934	11,297	6.72	.//
REDWING	25,479	3,777	6.75	.67
ROCHESTER	22,608	51,554	2.38	5.93
WINONA	3,977	159	25.01	.06
TOTAL	345,255	86,090	4.01	9.78
DISTRICT 7				
FAIRMONIT	30 512	5 062	6.03	.70
MANKATO	68 832	10 841	6.35	80
	44.054	949	4 43	70
	27 676	4 303	6.30	74
	10 150	4,000	5.00	76
	102,100	2,042	5.55	3 70
	103,224	32,207	5.07	5.70
DISTRICT 8				
	69 150	12,961	5.34	1.13
WILLMAR	310,630	60,723	5.12	3.81
REDWOOD FALLS	13 920	2310	6.03	59
TOTAL	303 700	75 994	5 18	5 53
	090,700	70,004	0.10	0.00
METRO-EAST				
FALCON HEIGHTS	44,723	7,150	6.25	.66
HASTINGS	52,794	10,620	4.97	1.01
MAPLEWOOD	6,486	920	7.05	.14
NORTH ST PAUL	13,359	2,398	5.57	.29
ST PAUL	111.812	17.312	6.46	3.35
SOUTH ST PAUL	3.675	720	5.10	.24
STILLWATER	33,852	4,746	7.13	.47
WEST ST PALI	60,116	11 300	5.32	.98
WHITE BEAR I AKE	39,318	6.022	6.53	.49
INVER GROVE HEIGHTS	12 981	3 067	4 23	31
	54 644	7 190	7.60	48
	10 A10	8 320	5 10	1 53
	72,410	0,020 A 750	5.00	54
	20,700	9,750	4.50	.04
	30,224 20,405	0,000	4.50	.+0 40
	39,420		4.70	.42
KUSEMUUNI	46,830	15,700	2.98	10 00
TOTAL	622,399	116,570	5.34	12.09

DISTRICT TOTALS					
DISTRICT 1	\$384,328	72,863	\$ 5.27	5.35	
DISTRICT 2	89,537	12,791	7.00	.42	
DISTRICT 3	264,874	52,351	5.06	5.47	
DISTRICT 4	166,279	36,214	4.59	2.48	
METRO-WEST	1,076,033	165,675	6.49	17.87	
DISTRICT 6	345,255	86,090	4.01	9.78	
DISTRICT 7	183,224	32,287	5.67	3.70	
DISTRICT 8	393,700	75,994	5.18	5.53	
METRO-EAST	622,399	116,570	5.34	12.09	
STATE TOTAL	\$3,525,629	650,835	\$ 5.42	62.69	

## BITUMINOUS BASE OR SURFACE #2331



NEEDS YEAR	NO.OF CITIES	QUANTITY	COST	UNIT PRICE STUDY PER TON	PRICE USED IN NEEDS	5-YEAR AVERAGE OF STUDY
1981	39	220,016	\$3,513,820	\$15.97	\$17.00	\$12.83
1982	44	211,045	4,164,825	19.73	19.00	14.83
1983	55	211,326	4,062,409	19.22	20.00	16.52
1984	44	159,242	3,363,455	21.12	23.50	18.46
1985	54	376,525	7,922,674	21.04	23.50	19.42
1986	62	294,318	6,000,326	20.39	22.00	20.30
1987	63	261,043	5,130,552	19.65	22.00	20.29
1988	50	176,177	3,515,861	19.96	21.00	20.43
1989	71	316,333	5,793,245	18.31	21.00	19.87
1990	61	313,022	5,517,034	17.63	20.00	19.19
1991	70	349,058	6,952,316	19.92	20.00	19.09
1992	67	357,649	7,739,246	21.64		19.49

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1992 NEEDS STUDY IS \$22.00 PER TON BASED UPON 1991 CONSTRUCTION COSTS.

### M.S.A.S. UNIT PRICE STUDY BIT. BASE & SURF. 2331 – TONS

	TOTAL	TOTAL	AVG UNIT	TOTAL
DISTRICT 1	0031	QUANTITI	FRICE	
	¢60 496	0.419	¢05.81	30
		2,410	920.0 <del>4</del> 23.00	.00
	100,120	2,902	20.00	1 10
	145 905	5,920	20.09	1.15
	145,605	4,840	29.02	1.04
	02,074	3,132	20.20	1 22
		7,210	10.20	F 20
IOTAL	598,281	20,590	22.50	5.30
DISTRICT 2				
CROOKSTON	59,990	2,352	25.51	.47
THIEF RIVER FALLS	66,431	2,579	25.76	.72
TOTAL	126,421	4,931	25.64	1.19
	70.020	0 010	19 60	06
	70,930	3,013	10.00	.90
ST CLOUD	225,914	14,929	10.10	2.05
SAUK RAPIDS	41,693	2,570	10.22	.32
	51,820	2,865	18.09	00.
BUFFALO	88,576	4,251	20.84	1.28
IOIAL	478,933	28,428	10.05	<b>J.4</b> 7
DISTRICT 4				
	28.325	1.310	21.62	.28
DETROIT LAKES	73,661	3.642	20.23	1.07
FERGUS FALLS	82 185	2 595	31.67	.33
MOOBHEAD	200,952	10 114	19.87	.78
MOBBIS	102 699	3 346	30.69	.80
TOTAL	487,822	21,007	23.22	3.26
	,	·		
METRO-WEST	o ( . o o o	4 700	10.00	4 4
BROOKLYN PARK	91,233	4,738	19.26	1.51
COLUMBIA HEIGHTS	54,615	2,587	21.11	.69
COON RAPIDS	19,236	1,098	17.52	.39
CRYSTAL	55,750	2,638	21.13	.42
FRIDLEY	128,620	5,107	25.19	1.57
GOLDEN VALLEY	80,425	3,306	24.33	.38
MINNEAPOLIS	502,449	20,071	25.03	1.31
MINNETONKA	175,650	8,237	21.32	1.63
MOUND	15,600	400	39.00	.57
ORONO	8,449	325	26.00	.09
PLYMOUTH	182,352	7,516	24.26	.50
ST LOUIS PARK	282,804	13,403	21.10	2.01
SHAKOPEE	13,478	50	69.56	.25
EDEN PRAIRIE	167,696	9,128	18.37	1.90
NEW HOPE	95,910	4,850	19.78	.52
SPRING LAKE PARK	85,785	4,300	19.95	.45
MAPLE GROVE	70,515	2,939	23.99	.98
CHAMPLIN	71,884	3,895	18.46	1.24
CHASKA	25,595	1,160	22.06	.90
ANDOVER	40,018	1,500	26.68	.35
SAVAGE	74,555	3,929	18.98	.93
TOTAL	2,242,619	101,177	22.17	18.59

## M.S.A.S. UNIT PRICE STUDY BIT. BASE & SURF. 2331 – TONS

			AVGUNIT	ΤΟΤΑΙ
MUNICIPALITY	COST	QUANTITY	PRICE	I FNGTH
DISTRICT 6		Gomenny	TROL	
	\$117.018	4 225	\$27 70	1 27
	114 299	5 312	21 52	48
NORTHEIELD	63 457	3,312	19.16	.40
OWATONNA	8 020	313	25.62	.00
	20 557	1 310	20.02	
BOCHESTER	181 / 30	8,578	20.00	6.26
WINONA	701,409	10,520	21.20	1 15
	200,000	10,000	20.10	10.64
TOTAL	760,858	33,305	25.20	10.04
DISTRICT 7				
	262,800	11 905	20 77	52
	50,029	0.008		.00
	53,000	2,008	20.74	.70
WORTHINGTON	164,644	8,610	19.12	07. 1 00
IOTAL	582,161	22,443	25.94	1.99
DISTRICT 8			/ /	
LITCHFIELD	109,901	4,970	22.11	1.13
WILLMAR	805,377	36,524	22.05	3.81
REDWOOD FALLS	98,160	3,780	25.97	.59
TOTAL	1,013,438	45,274	22.38	5.53
METRO-EAST				
FALCON HEIGHTS	31,800	1,620	19.63	.66
HASTINGS	122,698	6,430	19.08	1.01
MAPLEWOOD	102,138	5,005	20.41	1.12
NORTH ST PAUL	26,576	1,262	21.06	.29
ST PAUL	380,037	20,368	18.66	3.35
SOUTH ST PAUL	24,367	1,357	17.96	.24
STILLWATER	34,645	1,783	19.43	.47
WEST ST PAUL	167.979	8,390	20.02	.98
WHITE BEAR LAKE	63,605	2,798	22.73	.49
	151,955	6,513	23.33	.48
APPLE VALLEY	94,569	4.930	19.18	1.53
ABDEN HILLS	59 332	3 400	17.45	.54
WOODBUBY	43 933	2 408	18 24	62
	36 108	1 700	21 24	.02
POSEMOLINIT	88 971	6 270	14 19	.12
TOTAL	1 428 713	74 234	19.25	12 98
IOTAL	1,420,710	17,207	10.20	12.00
	Die			
	010 000 001	26 500		5.28
		20,590	φ <u>22</u> .50	1 10
	120,421	4,931	20.04	1.13
	478,933	28,428		0.47
	487,822		23.22	3.20
	2,242,619	101,177	22.17	18.59
	780,858	33,565	23.26	10.64
DISTRICT 7	582,161	22,443	25.94	1.99
DISTRICT 8	1,013,438	45,274	22.38	5.53
METRO-EAST	1,428,713	74,234	19.25	12.98
			_	
STATE TOTAL	\$7,739,246	357,649	\$21.64	65.03

## BITUMINOUS SURFACE #2341



				NEEDS	PRICE	5-YEAR
NEEDS	NO.OF	QUANTITY	COST	STUDY PER	USED IN	AVERAGE
YEAR	CITIES			TON	NEEDS	OF STUDY
1931	39	164,346	\$2,928,915	\$17.82	\$20.00	\$14.12
1982	38	123,479	2,595,032	21.02	20.50	15.98
1983	43	139,280	2,846,138	20.43	21.50	17.65
1984	42	113,894	2,551,729	22.40	25.00	19.47
1985	47	144,567	3,295,718	22.80	<b>25.00</b> <sup>-</sup>	20.89
1986	50	154,773	3,876,447	25.05	25.00	22.34
1987	55	122,701	2,851,035	23.24	25.00	22.78
1988	47	101,894	2,352,539	23.09	24.00	23.31
1989	58	144,986	3,119,592	21.52	24.00	23.14
1990	44	127.267	2,707,906	21.28	23.50	22.83
1991	48	125,102	2,804,228	22.42	23.50	22.31
1992	31	77,113	1,873,836	24.30		22.52

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1992 NEEDS STUDY IS \$24.50 PER TON BASED UPON 1991 CONSTRUCTION COSTS.

## M.S.A.S. UNIT PRICE STUDY BIT. SURF. 2341 – TONS

MUNICIPALITY	TOTAL COST	TOTAL QUANTITY	AVG UNIT PRICE	TOTAL LENGTH
DISTRICT 1	•		<b>.</b>	
CLOQUET	\$31,404	1,297	\$24.21	.71
IOTAL	31,404	1,297	24.21	./1
DISTRICT 3				
LITTLE FALLS	29,477	1,460	\$20.19	.74
ELK RIVER	46,178	2,200	20.99	.86
TOTAL	75,655	3,660	20.67	1.60
DISTRICT 4				
DETROIT LAKES	23,186	1,204	19.26	.53
MOORHEAD	17,580	736	23.89	.46
TOTAL	40,766	1,940	21.01	.99
METRO-WEST				
BROOKLYN PARK	71,368	3,234	22.07	1.51
COLUMBIA HEIGHTS	50,007	2,031	24.62	.69
COON RAPIDS	17,593	819	21.48	.39
CRYSTAL	29,233	1,118	26.15	.42
MINNEAPOLIS	333,758	10,811	30.87	1.31
MINNETONKA	71,729	2,634	27.23	1.63
MOUND	34,813	1,405	24.78	.57
ST LOUIS PARK	56,915	2,708	21.02	.48
SHAKOPEE	16,934	53	319.51	.25
EDEN PRAIRIE	84,603	4,865	17.39	1.90
SPRING LAKE PARK	111,135	4,650	23.90	.45
MAPLE GROVE	105,232	3.838	27.42	.98
CHAMPLIN	67.809	2,100	32.29	.79
CHASKA	64.886	3,020	21.49	.90
SAVAGE	107.351	4,695	22.86	.93
TOTAL	1,223,366	47,981	25.50	13.20
DISTRICT 6				
OWATONNA	1.852	78	23.74	.68
TOTAL	1,852	78	23.74	.68
DISTRICT 7				
MANKATO	106 044	4 289	24.72	.80
TOTAL	106,044	4,289	24.72	.80
DISTRICT 8				
WILLMAR	101 701	5 390	22.58	3 81
TOTAL	121,721	5,390	22.58	3.81
METRO-FAST				
FALCON HEIGHTS	37 154	1 623	22.89	66
SOUTH ST PALI	10 556	501	20.26	.00
STILLWATER	11 905	550	21 65	13
	32 624	1 700	18 23	.10
	20 260	1 800	22 14	02 02
	45 156	1 954	23 11	.52 40
	40 188	1 700	23 64	.40
BOSEMOUNT	55 585	2 540	21.88	78
TOTAL	273,028	12,478	21.88	3.86

### M.S.A.S. UNIT PRICE STUDY BIT SUBF 2341 - TONS

	BII. SURF. 2341 - TUNS						
	TOTAL	TOTAL	AVG UNIT	TOTAL			
MUNICIPALITY	COST	QUANTITY	PRICE	LENGIH			
	DIS	<b>FRICT TOTALS</b>					
DISTRICT 1	\$31,404	1,297	\$24.21	.71			
DISTRICT 3	75,655	3,660	20.67	1.60			
DISTRICT 4	40,766	1,940	21.01	.99			
METRO-WEST	1,223,366	47,981	25.50	13.20			
DISTRICT 6	1,852	78	23.74	.68			
DISTRICT 7	106,044	4,289	24.72	.80			
DISTRICT 8	121,721	5,390	22.58	3.81			
METRO-EAST	273,028	12,478	21.88	3.86			
STATE TOTAL	\$1,873,836	77,113	\$24.30	25.65			

## M.S.A.S. UNIT PRICE STUDY

BIT. SURF. 2361 – TONS					
	TOTAL	TOTAL AVG. UNIT		TOTAL	
MUNICIPALITY	COST	QUANTITY	PRICE	LENGTH	
DISTRICT 1					
HERMANTOWN	\$25,150	973	\$25.85	1.33	
TOTAL	25,150	973	25.85	1.33	
DISTRICT 4					
MOORHEAD	16,300	460	35.43	.32	
TOTAL	16,300	460	35.43	.32	
DISTRICT 8					
WILLMAR	157,135	4,753	33.06	2.59	
TOTAL	157,135	4,753	33.06	2.59	

## M.S.A.S. UNIT PRICE STUDY BIT. SURF. 2361 – TONS

TOTAL TOTAL AVG. UNIT TOTAL						
MUNICIPALITY	COST	QUANTITY	PRICE	LENGTH		
	DIS	TRICT TOTALS				
DISTRICT 1	\$25,150	973	\$25.85	1.33		
DISTRICT 4	16.300	460	35.43	.32		
DISTRICT 8	157,135	4,753	33.06	2.59		
STATE TOTAL	\$198,585	6,186	\$32.10	4.24		

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# BITUMINOUS SURFACE #2361



				UNIT 2310=	PRICE	5-YEAR
NEEDS	NO.OF	QUANTITY	COSI	SIUDY PER	USEDIN	AVEHAGE
YEAR	OTTES			TON	NEEDS	OFSIUDY
1981	16	17,695	\$469,842	\$26.55	\$27.00	\$22.63
1982	17	24,336	780,247	32.06	30.00	25.09
1983	18	26,628	725,878	27.26	30.00	26.55
1984	17	21,339	707,320	33.15	35.50	29.24
1985	16	38,723	1,212,779	31.32	35.50	30.07
1986	18	36,507	1,213,006	33.23	35.50	31.40
1987	14	25,213	855,500	33.93	35.50	31.78
1988	11	23,776	713,311	30.00	35.50	32.33
1989	17	25,201	770,369	30.57	34.00	31.81
1990	14	31,527	888,370	28.18	33.00	31.18
1991	13	13,901	364,419	26.22	30.00	29.78
1992	3	6,186	198,585	32.10		29.41

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1992 NEEDS STUDY IS \$32.00 PER TON BASED UPON 1991 CONSTRUCTION COSTS.

# CURB & GUTTER CONSTRUCTION #2531



NEEDS	NO.OF	QUANTITY	COST	NEEDS STUDY PER	PRICE USED IN	5-YEAR AVERAGE
YEAR	CITIES			LIN. FT.	Needs	OFSIUDY
13(2)	41	433,513	\$2,085,243	\$4.81	\$6.50	\$4.33
1982	48	332,455	1,651,673	4.97	5.50	4.65
1983	58	450,590	2,124,634	4.72	5.50	4.83
1984	47	354,529	1,826,990	5.15	5.50	4.98
1985	58	554,327	2,907,985	5.25	6.50	4.98
1986	61	469,258	2,498,655	5.32	6.00	5.08
1987	67	434,124	2,243,498	5.17	6.00	5.12
1988	51	359,952	1,868,721	5.19	6.00	5.22
1989	73	606,413	3,002,995	4.95	5.50	5.18
1990	57	603.356	2,954,409	4.90	5.50	5.11
1991	67	559.342	2,952,849	5.28	5.50	5.10
1992	68	523,717	2,783,163	5.31		5.13

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1992 NEEDS STUDY IS \$5.50 PER LIN. FT. BASED UPON 1991 CONSTRUCTION COSTS.

# M.S.A.S. UNIT PRICE STUDY CURB AND GUTTER CONSTRUCTION – LIN. FT.

MUNICIPALITY	TOTAL COST	TOTAL QUANTITY	AVG. UNIT PRICE	TOTAL LENGTH
DISTRICT 1				
CHISHOLM	\$20,790	3.274	\$6.35	.30
CLOQUET	29.319	3 989	7.35	71
	52 301	6,449	8 1 2	261
	36,531	5 715	6.12	2.01
	30,594	5,715	0.40	1 00
HERMANTOWN	85,889	13,853	6.20	1.33
IOTAL	224,983	33,280	6.76	5.50
DISTRICT 2				
CROOKSTON	31,369	4,365	7.19	.47
THIEF RIVER FALLS	16,840	2,768	6.08	1.19
TOTAL	48,209	7,133	6.76	1.66
DISTRICT 3				
LITTLE FALLS	44.587	10,183	4.38	.96
ST CLOUD	72,787	17,790	4.09	1.51
SAUK BAPIDS	14 553	3 465	4.20	.32
BLIEFALO	52 309	12 025	4.35	1.28
TOTAL	184 226	12,020	A 2A	4.07
IUIAL	104,230	40,400	4.24	4.07
DISTRICT 4				
ALEXANDRIA	17,001	2,867	5.93	.28
DETROIT LAKES	56,200	9,905	5.67	1.88
FERGUS FALLS	44 769	7.048	6.35	1.04
MOOBHEAD	22 928	2 892	7.93	78
MORRIS	50,952	8 402	6.00	80
TOTAL	101 950	21 204	6 15	1 78
TOTAL	191,000	51,204	0.15	4.70
METRO-WEST				
BROOKLYN PARK	52,935	11,994	4.41	1.51
COLUMBIA HEIGHTS	14,130	2,624	5.38	.69
COON RAPIDS	17,229	3,970	4.34	.39
CRYSTAL	23,112	4.320	5.35	.42
FRIDLEY	20,958	4 775	4.39	.75
GOLDEN VALLEY	16,316	3 5 4 7	4 60	38
MININEADOLIS	96.842	13 787	7.02	1.31
	50,0 <del>1</del> 2	16,707	/ 31	1.01
	09,012	5 010	4.01	1.00
	26,004	5,910	4.40	.57
ORONO	7,200	1,000	7.20	.09
PLYMOUTH	64,390	14,059	4.58	.50
RICHFIELD	4,266	449	9.50	
ST LOUIS PARK	94,949	16,378	5.80	2.01
SHAKOPEE	11,481	2,580	4.45	.25
EDEN PRAIRIE	113,763	19,814	5.74	1.90
NEW HOPE	10,153	1,100	9.23	.52
SPRING LAKE PARK	55.055	12,100	4.55	.45
MAPLE GROVE	40,270	7.570	5.32	.98
CHAMPLIN	59 437	13 158	4 52	1 24
CHASKA	1/ 071	1 7/5	8 1 R	1 15
	14,271	2750	4 00	1.15
	10,040 61 005	10 504	4.04	.00
TOTAL	01,020	172 204	4.34 5 10	دو. ۱۹ ۵۵
IUIAL	009,040	173,304	5,13	10.02

# M.S.A.S. UNIT PRICE STUDY CURB AND GUTTER CONSTRUCTION – LIN. FT.

	TOTAL		AVG UNI	ΤΟΤΑΙ
MUNICIPALITY	COST	QUANTITY	PRICE	LENGTH
DISTRICT 6				
ALBERT LEA	\$40.287	6.224	\$ 6.47	1.27
AUSTIN	28,480	5 164	5.52	1.26
	31 876	6 130	5.02	56
OWATONNIA	54 715	9,100	5.60	.00
	15 955	3,010	7.69	.77
DOCUESTED	10,000	2,001	7.09	.07
NUCHESTER	7 000	29,970	5.54	0.20
	7,828	970	8.07	.30
IOTAL	344,998	60,135	5.74	11.15
DISTRICT 7				
	61 794	7 209	9.45	70
	47.047	7,500	0.40 5.60	.70
	47,947	0,002	5.60	.00.
	23,898	3,670	6.51	.70
NORTHMANKATO	4,254	595	7.15	.74
TOTAL	137,883	20,135	6.85	2.94
	0E 740	4 505	E 60	4 40
	20,740	4,525	5.09	1.13
WILLMAR	154,955	29,692	5.22	3.81
REDWOOD FALLS	38,670	6,330	6.11	.59
TOTAL	219,365	40,547	5.41	5.53
METRO FAST				
	07 500	0.700	4.05	66
FALCON HEIGHIS	27,532	6,798	4.05	
HASTINGS	40,940	8,355	4.90	1.01
MAPLEWOOD	7,159	1,132	6.32	1.12
NORTH ST PAUL	14,537	2,832	5.13	.29
ST PAUL	123,956	24,207	5.12	3.14
SOUTH ST PAUL	15,476	2,715	5.70	.24
STILLWATER	19,702	3.646	5.40	.47
WEST ST PAUL	44,497	10,090	4.41	.98
WHITE BEAR LAKE	23 490	5 400	4 35	49
INVER GROVE HEIGHTS	19 414	3 454	5.62	31
	207 700	6 740	0.02 // 10	.01
	79.745	16 500	4.12	1.52
	70,740	6,000	4.77	1.55
	27,000	6,000	4.60	.54
WOODBURY	18,293	4,187	4.37	.62
LITTLE CANADA	17,840	4,460	4.00	.42
ROSEMOUNT	35,120	8,000	4.39	.78
IUIAL	542,093	114,516	4./3	13.08
	<u> </u>		<u> </u>	
	\$224,983	33,280	\$ 0.70 6 76	5.50
	40,209	7,133	0./0	
	184,236	43,463	4.24	4.07
DISTRICT 4	191,850	31,204	6.15	4.78
METRO-WEST	889,546	173,304	5.13	18.02
DISTRICT 6	344,998	60,135	5.74	11.15
DISTRICT 7	137,883	20,135	6.85	2.94
DISTRICT 8	219,365	40,547	5.41	5.53
METRO-EAST	542,093	114,516	4.73	13.08
	_			
STATE TOTAL	\$2,783,163	523,717	\$ 5.31	66.73

# SIDEWALK CONSTRUCTION #2521



NEEDS YFAB	NO.OF	QUANTITY	COST	NEEDS STUDY PER SQ. YD.	PRICE USED IN NEEDS	5-YEAR AVERAGE OF STUDY
1981	32	71,946	\$937,803	\$13.03	\$14.00	\$10.76
1982	31	46,222	577,293	12.49	13.50	11.45
1983	44	91,266	1,112,414	12.19	13.50	12.40
1984	35	69,630	940,122	13.50	14.00	13.01
1985	44	96,059	1,277,135	13.30	14.00	12.90
1986	48	103,377	1,446,980	14.00	14.00	13.09
1987	51	79,756	1,126,616	14.13	14.50	13.42
1988	40	94,423	1,376,749	14.58	14.50	13.90
1989	62	159,205	2,150,360	13.51	14.00	13.90
1990	54	125,748	1,639,735	13.04	14.00	13.85
1991	60	179,115	2,514,996	14.04	14.00	13.86
1992	62	141,946	2,097,863	14.78		13.99

SUBCOMMITTEE'S RECOMMENDED PRICE FOR THE 1992 NEEDS STUDY IS \$14.50 PER SQ. YD. BASED UPON 1991 CONSTRUCTION COSTS.

# M.S.A.S. UNIT PRICE STUDY SIDEWALK CONSTRUCTION -- SQUARE YARD (Two decimal places was used in the quantity column so the conversion from sq. ft. to sq. vds. would be more accurate.)

	<u> </u>	q. yus. would be more at		
	TOTAL	TOTAL	AVG. UNIT	TOTAL
MUNICIPALITY	COST	QUANTITY	PRICE	LENGTH
DISTRICT 1				
CHISHOLM	\$20,268	1,340.44	\$15.12	.30
DULUTH	48,008	3,395.56	14.13	1.16
HIBBING	65,087	3,872.33	16.83	.55
HERMANTOWN	38,502	2,852.00	13.50	1.33
TOTAL	171,865	11,460.33	15.03	3.34
DISTRICT 2				
CROOKSTON	27,894	1,359.33	20.52	.42
THIEF RIVER FALLS	34,723	2,294.44	15.12	.98
TOTAL	62,617	3,653.78	17.10	1.40
DISTRICT 3				
LITTLE FALLS	23,694	1,906.11	12.42	.85
ST CLOUD	85,997	9,896.11	8.73	1.73
SAUK RAPIDS	90	5.56	16.20	.32
ELK RIVER	32,930	3,174.44	10.35	.45
BUFFALO	41,031	3,427.78	11.97	1.28
TOTAL	183,742	18,410.00	9.99	4.63
DISTRICT 4				
ALEXANDRIA	5,619	356.78	15.75	.28
DETROIT LAKES	154,085	8,721.56	17.64	2.27
FERGUS FALLS	169,298	8,727.56	19.44	1.04
MOORHEAD	23,154	1,493.33	15.48	.78
MORRIS	9,340	546.22	17.10	.80
TOTAL	361,496	19,845.44	18.18	5.17
METRO-WEST				
BROOKLYN PARK	44,020	3,598.33	12.24	1.51
COLUMBIA HEIGHTS	7,639	485.00	15.75	.69
COON RAPIDS	11,841	875.00	13.50	.39
CRYSTAL	28,087	2,152.22	13.05	.42
HOPKINS	1,688	83.33	20.25	.76
MINNEAPOLIS	128,440	7,473.44	17.19	1.31
MINNETONKA	45,779	4,423.11	10.35	.99
MOUND	12,833	1,296.33	9.90	.57
PLYMOUTH	6,658	548.00	12.15	.50
RICHFIELD	4,281	221.22	19.35	
ROBBINSDALE	40,748	3,018.33	13.50	1.02
ST LOUIS PARK	56,728	3,472.11	16.38	1.22
SHAKOPEE	10,050	744.44	13.50	.25
EDEN PRAIRIE	61.020	3.356.11	18.18	1.90
NEW HOPE	2.560	177.78	14.40	.52
SPRING LAKE PARK	4,680	400.00	11.70	.45
MAPLE GROVE	27,168	1,959.56	13.86	.86
CHAMPLIN	31,979	2.871.56	11.16	1.16
CHASKA	39,917	2,534,44	15.75	.75
ANDOVER	13,932	1 200.00	11.61	.35
SAVAGE	38 016	2671.11	14.22	.50
TOTAL	618,064	43.561.44	14.22	16.43

# M.S.A.S. UNIT PRICE STUDY SIDEWALK CONSTRUCTION - SQUARE YARD

	TOTAL	TOTAL	AVG. UNIT	TOTAL
MUNICIPALITY	COST	QUANTITY	PRICE	LENGTH
DISTRICT 6				
ALBERT LEA	\$12,685	811.11	\$15.66	.99
AUSTIN	24,198	1,485.89	16.29	1.26
FARIBAULT	4,877	444.11	10.98	1.02
NORTHFIELD	44,597	3,610.33	12.33	.56
OWATONNA	67,349	4,899.67	13.77	.//
RED WING	33,069	1,963.89	16.83	.07
ROCHESTER	72,840	5,177.44	14.04	5.93 11 00
TOTAL	259,615	18,392.44	14.13	11.20
DISTRICT 7				
FAIRMONT	65,590	3,111.22	21.06	.70
MANKATO	45,402	2,587.00	17.55	.80
NEW ULM	12,863	616.89	20.88	.70
NORTH MANKATO	59,679	4,018.78	14.85	.74
TOTAL	183,534	10,333.89	17.73	2.94
DISTRICT 8			00.00	00
LITCHFIELD	1,397	52.11	26.82	.03
WILLMAR	3,237	258.78	12.51	2.59
REDWOOD FALLS	3,510	200.00	17.00	2C. 8 0 2
TOTAL	8,144	510.89	15.95	0.34
METRO-EAST				
FALCON HEIGHTS	3,283	253.33	12.96	· .66
HASTINGS	56,340	3,477.78	16.20	1.01
MAPLEWOOD	2,980	165.56	18.00	.14
NORTH ST PAUL	4,036	236.67	17.01	.29
ST PAUL	36,418	2,280.33	15.93	2.39
SOUTH ST PAUL	230	12.78	18.00	.24
STILLWATER	48,978	2,795.44	17.55	.47
WEST ST PAUL	11,529	700.00	16.47	.98
WHITE BEAR LAKE	16,654	1,471.67	11.34	.49
OAKDALE	12,813	995.56	12.87	.48
APPLE VALLEY	55,525	3,388.89	16.38	.85
TOTAL	248,786	15,778.00	15.75	8.00

STATE TOTAL \$2,097,863

141,946.22

57.05 \$14.78

	TOTAL	TOTAL	AVG. UNIT	TOTAL
MUNICIPALITY	COST	QUANTITY	PRICE	LENGTH
	DIS	STRICT TOTALS		
DISTRICT 1	\$171.865	11,460.33	\$15.03	3.34
DISTRICT 2	62.617	3,653.78	17.10	1.40
DISTRICT 3	183.742	18,410.00	9.99	4.63
DISTRICT 4	361,496	19.845.44	18.18	5.17
METRO-WEST	618.064	43,561.44	14.22	16.43
DISTRICT	259.615	18.392.44	14.13	11.20
DISTRICT 7	183,534	10.333.89	17.73	2.94
DISTRICT	8 1 4 4	510.89	15.93	3.94
METRO-EAST	248,786	15,778.00	15.75	8.00
STATE TOTAL	\$2,097,863	141,946.22	\$14.78	57.05

S	TORM SEWER	R, LIGHTING AND	SIGNAL NEEDS	S COSTS						
	STORM SEWER	STORM SEWER								
NEEDS	ADJUSTMENT	CONSTRUCTION	LIGHTING	SIGNALS						
YEAR	(Per Mile)	(Per Mile)	(Per Mile)	(Per Mile)						
1980	\$54,000	\$172,000	\$2,000	\$10,000						
198 <b>1</b>	54,000	172,000	2,000	10,000						
1982	62,000	196,000	2,000	10,000						
1983	62,000	196,000	2,000	10,000						
1984	62,000	98,000 *	2,000	10,000						
1985	62,000	0 *	2,000	10,000						
1986	62,000	196,000 *	2,000	10,000						
1987	62,000	196,000 *	2,000	12,000						
1988	62,000	196,000 *	16,000	15,000						
1989	62,000	196,000 *	16,000	15,000–45,000						
1990	62,000	196,000	16,000	15,000-45,000						
1991	62,000	196,000	16,000	18,750-75,000						
1992		,	·							
Years that "Afte	er the Fact Needs"	were in effect. 1986 t	o 1989 price was us	ed only for needs						
purposes.			·	•						
IN\DOT'S HYDI	RAULIC OFFICE R	ECOMMENDED PRIC	CES FOR 1992:							
	Stm Swr.	Stm Swr.								
	Adj.	Const.								
1992	\$62,000	\$199,500								
			D 1000							
SOBCOMMITTE	EE'S RECOMME	NUED PRICES FU	M 1992.							
		Sim Swr.	Lichting	Signals						
4000	Adj.	¢100 500	¢20.000	900 000 to \$80 000						
1992	\$62,000	\$199,500	\$20,000	\$20,000 10 \$00,000						
	BAIL BO		SNEEDS COST	S						
			RAILRUAD CRUSSINGS NEEDS CUSTS							
			VIGINALO	a na						
		SIGNALS	& GATES	RUBBERIZED						
NEEDS	SIGNS	SIGNALS (Low Speed)	& GATES (High Speed)	RUBBERIZED MATERIAL						
NEEDS	SIGNS (Per Unit)	SIGNALS (Low Speed) (Per Unit)	& GATES (High Speed) (Per Unit)	RUBBERIZED MATERIAL (Per Ft.)						
NEEDS YEAR	SIGNS (Per Unit) \$300	SIGNALS (Low Speed) (Per Unit) \$50,000	& GATES (High Speed) (Per Unit) \$90.000	RUBBERIZED MATERIAL (Per Ft.)						
NEEDS YEAR 1980	SIGNS (Per Unit) \$300 300	SIGNALS (Low Speed) (Per Unit) \$50,000 55,000	& GATES (High Speed) (Per Unit) \$90,000 90.000	RUBBERIZED MATERIAL (Per Ft.)						
NEEDS YEAR 1980 1981 1982	SIGNS (Per Unit) \$300 300 300	SIGNALS (Low Speed) (Per Unit) \$50,000 55,000 60,000	& GATES (High Speed) (Per Unit) \$90,000 90,000 95,000	RUBBERIZED MATERIAL (Per Ft.)						
NEEDS YEAR 1980 1981 1982 1983	SIGNS (Per Unit) \$300 300 300 300	SIGNALS (Low Speed) (Per Unit) \$50,000 55,000 60,000 65,000	& GATES (High Speed) (Per Unit) \$90,000 90,000 95,000 95,000	RUBBERIZED MATERIAL (Per Ft.)						
NEEDS YEAR 1980 1981 1982 1983 1983	SIGNS (Per Unit) \$300 300 300 300 300	SIGNALS (Low Speed) (Per Unit) \$50,000 55,000 60,000 65,000 65,000	& GATES (High Speed) (Per Unit) \$90,000 90,000 95,000 95,000 95,000	RUBBERIZED MATERIAL (Per Ft.)						
NEEDS YEAR 1980 1981 1982 1983 1983 1984	SIGNS (Per Unit) \$300 300 300 300 300 300	SIGNALS (Low Speed) (Per Unit) \$50,000 55,000 60,000 65,000 65,000 65,000	& GATES (High Speed) (Per Unit) \$90,000 90,000 95,000 95,000 95,000 95,000 95,000	RUBBERIZED MATERIAL (Per Ft.)						
NEEDS YEAR 1980 1981 1982 1983 1984 1985	SIGNS (Per Unit) \$300 300 300 300 300 300 300	SIGNALS (Low Speed) (Per Unit) \$50,000 55,000 60,000 65,000 65,000 65,000 65,000	& GATES (High Speed) (Per Unit) \$90,000 90,000 95,000 95,000 95,000 95,000 95,000 95,000	RUBBERIZED MATERIAL (Per Ft.)						
NEEDS YEAR 1980 1981 1982 1983 1983 1984 1985 1986	SIGNS (Per Unit) \$300 300 300 300 300 300 300 300	SIGNALS (Low Speed) (Per Unit) \$50,000 55,000 60,000 65,000 65,000 65,000 65,000 65,000 65,000	& GATES (High Speed) (Per Unit) \$90,000 90,000 95,000 95,000 95,000 95,000 95,000 95,000 95,000	RUBBERIZED MATERIAL (Per Ft.)						
NEEDS YEAR 1980 1981 1982 1983 1984 1985 1986 1987	SIGNS (Per Unit) \$300 300 300 300 300 300 300 300 300 30	SIGNALS (Low Speed) (Per Unit) \$50,000 55,000 60,000 65,000 65,000 65,000 65,000 65,000 65,000 65,000	& GATES (High Speed) (Per Unit) \$90,000 90,000 95,000 95,000 95,000 95,000 95,000 95,000 95,000 95,000 95,000	RUBBERIZED MATERIAL (Per Ft.)						
NEEDS YEAR 1980 1981 1982 1983 1983 1984 1985 1986 1987 1988	SIGNS (Per Unit) \$300 300 300 300 300 300 300 300 300 30	SIGNALS (Low Speed) (Per Unit) \$50,000 55,000 60,000 65,000 65,000 65,000 65,000 65,000 65,000 65,000 70,000	& GATES (High Speed) (Per Unit) \$90,000 90,000 95,000 95,000 95,000 95,000 95,000 95,000 95,000 95,000 95,000	RUBBERIZED MATERIAL (Per Ft.) \$700 700						
NEEDS YEAR 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989	SIGNS (Per Unit) \$300 300 300 300 300 300 300 300 300 30	SIGNALS (Low Speed) (Per Unit) \$50,000 55,000 65,000 65,000 65,000 65,000 65,000 65,000 65,000 70,000 75,000	& GATES (High Speed) (Per Unit) \$90,000 90,000 95,000 95,000 95,000 95,000 95,000 95,000 95,000 95,000 95,000 95,000	RUBBERIZED MATERIAL (Per Ft.) \$700 700 700						
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NEEDS YEAR 1980 1981 1982 1983 1984 1985 1986 1987 1988 1987 1988 1989 1990 1990	SIGNS (Per Unit) \$300 300 300 300 300 300 300 300 300 30	SIGNALS (Low Speed) (Per Unit) \$50,000 55,000 65,000 65,000 65,000 65,000 65,000 65,000 70,000 75,000 80,000	& GATES (High Speed) (Per Unit) \$90,000 95,000 95,000 95,000 95,000 95,000 95,000 95,000 95,000 95,000 95,000 95,000 110,000	RUBBERIZED MATERIAL (Per Ft.) \$700 700 750 850						
NEEDS YEAR 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1989 1990 1991 1992	SIGNS (Per Unit) \$300 300 300 300 300 300 300 300 300 30	SIGNALS (Low Speed) (Per Unit) \$50,000 55,000 65,000 65,000 65,000 65,000 65,000 65,000 70,000 75,000 80,000	& GATES (High Speed) (Per Unit) \$90,000 90,000 95,000 95,000 95,000 95,000 95,000 95,000 95,000 95,000 95,000 95,000 110,000	RUBBERIZED MATERIAL (Per Ft.) \$700 700 750 850						
NEEDS YEAR 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1989 1990 1991 1992	SIGNS (Per Unit) \$300 300 300 300 300 300 300 300 300 30	SIGNALS (Low Speed) (Per Unit) \$50,000 55,000 65,000 65,000 65,000 65,000 65,000 65,000 70,000 75,000 80,000	& GATES (High Speed) (Per Unit) \$90,000 90,000 95,000 95,000 95,000 95,000 95,000 95,000 95,000 95,000 95,000 95,000 95,000 95,000 95,000 95,000	RUBBERIZED MATERIAL (Per Ft.) \$700 700 750 850						
NEEDS YEAR 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1989 1990 1991 1992 MN\DOT'S RAIL	SIGNS (Per Unit) \$300 300 300 300 300 300 300 300 300 30	SIGNALS (Low Speed) (Per Unit) \$50,000 55,000 65,000 65,000 65,000 65,000 65,000 65,000 70,000 75,000 80,000	& GATES (High Speed) (Per Unit) \$90,000 95,000 95,000 95,000 95,000 95,000 95,000 95,000 95,000 95,000 95,000 95,000 95,000 95,000 95,000 95,000 95,000	RUBBERIZED MATERIAL (Per Ft.) \$700 700 750 850						
NEEDS YEAR 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1989 1990 1991 1992 MN\DOT'S RAIL	SIGNS (Per Unit) \$300 300 300 300 300 300 300 300 300 30	SIGNALS (Low Speed) (Per Unit) \$50,000 55,000 65,000 65,000 65,000 65,000 65,000 65,000 70,000 75,000 80,000 COMMENDED PRIC	& GATES (High Speed) (Per Unit) \$90,000 90,000 95,000 95,000 95,000 95,000 95,000 95,000 95,000 95,000 95,000 95,000 110,000 110,000	RUBBERIZED MATERIAL (Per Ft.) \$700 700 750 850 Bub Mat						
NEEDS YEAR 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 MN\DOT'S RAIL	SIGNS (Per Unit) \$300 300 300 300 300 300 300 300 300 30	SIGNALS (Low Speed) (Per Unit) \$50,000 55,000 65,000 65,000 65,000 65,000 65,000 65,000 70,000 75,000 80,000 COMMENDED PRIC	& GATES (High Speed) (Per Unit) \$90,000 90,000 95,000 95,000 95,000 95,000 95,000 95,000 95,000 95,000 95,000 95,000 110,000 110,000	RUBBERIZED MATERIAL (Per Ft.) \$700 700 750 850 850						

DEPARTMENT : Transportation Room 618 Office of Bridges & Structures

# STATE OF MINNESOTA Office Memorandum

DATE : February 13, 1992

TO: K. E. Straus State Aid Needs Unit

David Davidion

FROM : D. V. Halvorson  $\int dr'$  Hydraulics Engineer

PHONE : 296-0822

SUBJECT : State Aid Storm Sewer Construction Costs for 1991

We have analyzed the State Aid storm sewer construction costs for 1991 and find that for planning and needs purposes, a figure of \$199,500 per mile can be used. For storm sewer adjustments we suggest \$62,000 per mile.

The above amounts are based on the average cost per mile of State Aid storm sewer using highway unit prices on approximately 150 plans over the 1991 year period.

cc: D. V. Halvorson E. H. Aswegan

Date: March 20, 1992 TO: Kenneth Straus Highway Needs Unit PHONE: 296-2472 FROM: Robert G. Swanson, Directy Railroad Administration SUBJECT: Projected Railroad Grade Crossing Improvements - Cost for 1992 We have projected 1992 costs for railroad-highway work at grade crossing improvements. For planning purposes, we recommend using the following figures: Railroad Grade Crossings: Signals (Single Track - Low Speed) \* Unit \$60-80,000.00 (Average Price) Signals and Gates: (Multiple Track - High & Low Speed) \*\* Unit \$90-110,000.00 (Average Price) Unit \$ 600.00 Signs Only 4500.00 Pavement Markings (Tape) 750.00 (Paint) Crossing Surfaces: per Track Ft \$900.00 (Rubber Crossing Surface) Complete reconstruction of the crossing. Labor and Materials Modern signals with motion sensors - signals are activated when train enters electrical circuit - deactivated if train stops before reaching crossing. \*\* Modern signals with grade crossing predictors - has capabilities in (\*) above, plus ability to gauge speed and distance of train from crossing to give constant 20-25

second warning of approaching trains traveling from 5 to 80 MPH.

As part of any project in the vicinity of railroad crossings, a review of advance warning signs should be conducted. In addition, pavement markings (RxR, STOP BAR, and NO PASSING STRIPE), if required, should be installed.

We also recommend that projects are not designed so that they start or end at railroad crossings. A project should be carried through the crossing area so that the crossing does net become the transition zone between two different roadway sections or widths.

# **1991 BRIDGE CONSTRUCTION COSTS**

# Bridges 0-149 Feet

BRIDGE	PROJECT	DECK	BRIDGE	COST	
NUMBER	NUMBER	AREA	COST	SQ. FT.	LENGTH
18513	18-598-01	2,995	\$174,337	\$58.21	93.33
19526	19-598-03	2,809	126,582	45.06	79.50
20544	20-599-57	3,922	165,765	42.27	125.17
23014	*2302-23014	5,725	274,677	47.98	124.00
23017	*2304-23017	5,025	245,379	48.83	100.00
23019	*2305-23019	3,682	296,003	80.39	87.31
25001	*2510-25001	6,143	245,379	39.94	133.03
25002	*2510-25002	3,747	175,707	46.89	81.17
27039	*2755-27039	3,543	197,006	55.60	80.72
27040	*2755-99146	2,270	151,172	66.60	61.92
31528	31-672-01	3,714	184,598	49.70	109.25
32542	32-599-48	2,128	96,854	45.51	70.94
32548	32-598-06	4,464	165,761	37.13	124.00
39514	39-598-15	3,296	170,003	51.58	103.00
42546	42-608-14	3,133	142,097	45.35	88.67
46561	123-080-01	1,900	103,886	54.68	47.50
48032	* 4812-48032	4,350	225,601	51.86	98.48
48523	48-599-13	3,554	155,361	43.71	109.92
49537	49-598-11	3,344	145,241	43.43	88.00
51522	51-599-43	3,060	153,254	50.08	102.00
58523	58-598-06	2,520	118,640	47.08	84.00
59520	59-598-03	2,040	99,218	48.64	68.00
62880	*6282-62880	5,612	711,476	126.78	128.83
67529	67-601-06	2,312	103,299	44.68	68.00
67530	67-601-08	2,448	106,777	43.62	72.00
67531	67-601-07	3,226	144,797	44.88	94.87
68523	68-620-02	2,976	164,252	55.19	84.00
69548	69-598-14	5,317	259,172	48.74	142.41
70517	70-621-06	7,070	541,620	76.61	103.44
72011	*7201-72011	5,423	267,358	49.30	85.85
76518	76-622-16	4,752	180,549	37.99	120.81
78508	78-609-13	4,713	211,178	44.81	119.83
80007	*8001-80007	4,621	232,596	50.33	104.64
80008	*8001-80008	4,901	248,620	50.73	110.96
80520	80-599-04	2,880	143,065	49.68	96.00
81524	81-598-06	3,128	164,531	52.60	92.00
84003	*8402-84003	3,435	170,724	49.70	90.00
86509	86-612-04	5,034	231,261	45.94	116.17
99141	*8210-99141	2,101	235,454	112.07	133.08
Total	39	147,313	\$7,929,250	53.83	Average
STATE AID I	PROJECTS	86,735	\$4,252,098	49.02	Average
* MN/DOT F	ROJECTS	60,578	\$3,677,152	60.70	Average

# Railroad Bridges

BRIDGE	PROJECT	DECK	BRIDGE COST	LENGTH
NUMBER	NUMBER	AREA	COST LIN. FT.	
82013	*8210-82013	2,470	\$869,974 \$7,618.65	114.19

# BRIDGE COST COMPARISONS 0-149 FOOT BRIDGES



# **1991 BRIDGE CONSTRUCTION COSTS**

# Bridges 150-499 Feet

BRIDGE	PROJECT	DECK	BRIDGE	COST	
NUMBER	NUMBER	AREA	COST	SQ. FT.	LENGTH
04517	04-608-05	10,488	\$410,044	\$39.10	221.58
19041	*1928-19041	34,847	1,250,558	35.89	334.00
19085	*1928-19085	18,652	667,854	35.81	322.67
23013	*2304-23013	18,350	697,384	38.00	365.17
25566	25-605-08	8,273	374,933	45.32	210.33
27037	*2707-27037	21,360	1,497,636	70.11	285.44
27798	*2789-27798	8,320	427,489	51.38	316.57
48004	*4812-48004	8,267	360,460	43.60	187.18
55003	*5508-55003	21,179	872,576	41.20	206.96
55547	55-599-51	6,107	237,094	38.82	172.54
56806	*5680-56806	13,903	875,896	63.00	277.12
58006	*5801-58006	9,491	467,661	49.27	205.58
62559	62-626-03	8,514	438,339	51.48	161.02
62877	*6282-62877	17,565	709,825	40.41	245.72
62878	*6282-62878	33,115	2,772,277	83.72	346.23
62879	*6282-62879	11,846	1,131,588	95.52	291.53
65002	*6510-65002	8,213	309,642	37.70	164.00
67512	67-598-01	12,510	453,283	36.23	399.25
69578	98-080-01	16,469	1,036,679	62.95	347.94
70006	*7005-70006	9,361	483,581	51.66	206.93
70009	*7005-70009	14,003	1,107,604	79.10	317.01
76514	76-614-02	5,347	222,624	41.64	151.33
77015	*4903-0033	7,895	385,831	48.87	178.70
77016	*4903-0033	7,901	391,684	49.57	178.80
Total	24	331,976	\$17,582,542	52.96	AVERAGE
STATE AID	PROJECTS	67,708	\$3,172,996	46.86	AVERAGE
* MN/DOT I	PROJECTS	264,268	\$14,409,546	54.53	AVERAGE

NOTE: There were no bridges in the "500 Feet and Over" category constructed in 1991.

# **BRIDGE WIDENING**

BRIDO	GE	WIDENED DECK	WIDENED	BRIDGE	COST	LENGTH
NUND			17.00	CO37		1 076 00
6000	(3)	18,308	17.00	JU 40,473,323	\$109.7Z	1,070.92
6894	(3)	6,683	17.00	1,435,550	214.80	393.13
7146	(1)	816	16.00	103,904	127.33	51.00
9668	(1)	4,665	22.83	371,894	79.72	204.33
9687	(2)	2,990	14.67	403,726	135.02	203.83
27831*	(1)	1,963	13.89	101,609	51.76	132.25
5		35,425	101.39	\$5,890,006	\$166.27	AVERAGE

\* State Aid Bridges

Bridge Widening + Substructure Work (1)

(2) (3)

Bridge Widening + Substructure Work + Replace Deck Bridge Widening + Substructure Work + Replace Superstructure

# BRIDGE COST COMPARISONS 150-499 FOOT BRIDGES



# BRIDGE COSTS

# Price Per Sq. Ft.

	Brid Prie	ge & Stru ce Averag	ictures ges			Sx R(	creening ecomenc	Board ations	
Const. Year	0' to 149'	150' to 499'	500' and over	Wide- ning	0' to 149'	150' to 499'	500' and over	Wide- ning	Needs Year
1980	39.00	43.00	62.00	75.00	39.00	43.00	62.00	75.00	81
1981	36.00	43.00	62.00	75.00	36.00	43.00	62.00	75.00	82
1982	36.00	41.00	62.00	70.00	36.00	43.00	62.00	75.00	83
1983	38.00	44.00	50.00	65.00	38.00	44.00	50.00	65.00	84
1984	45.00	51.00	48.00	57.00	45.00	51.00	50.00	65.00	85
1985	45.00	46.00	61.00	49.00	49.00	51.00	55.00	65.00	86
1986	36.40	39.66	54.12	116.67	37.00	40.00	54.00	100.00	87
1987	41.50	47.30	56.04	147.46	41.50	47.00	56.00	120.00	88
1988	55.02	58.40	120.94	199.88	55.00	60.00	70.00	200.00	89
1989	65.27	63.30	58.67	137.73	55.00	60.00	65.00	150.00	90
1990	54.09	61.33		182.21	55.00	60.00	65.00	150.00	91
1 <b>991</b>	53.83	52.96		166.27					92

149'	499'	over	ning
0' to	150' to	500' and	Wide-

# ANNUAL MAINTENANCE NEEDS COST

Used only for needs purposes.

These are the current maintenance prices used in the M.S.A.S. needs study. The total maintenance needs cost for 1991 is \$13,318,092 and is used only in the money needs allocation. The average cost per mile in needs is \$5,603.

		1991 NEEDS PRICES		SUBCOM SUGGI PRIC	IMITTEE ESTED CES	SCREENING BOARD RECOMMENDE PRICES	
		Under 1000 VPD	Over 1000 VPD	Under 1000 VPD	Over 1000 VPD	Under 1000 VPD	Over 1000 VPD
Traffic Lane Per Mile	1	\$1,200	\$2,000	\$1,200	\$2,000		
Parking Lane Per Mile	2	1,200	1,200	1,200	1,200		
Median Strip Per Mile		400	800	400	800		
Storm Sewer Per Mlle		400	400	400	400		
Per Traffic Signal		400	400	400	400		
Minimum Allowance Pe Unlimited Segments: Normal M.S.A.S. Street	r Mile s	\$4,000	\$4,000	\$4,000	\$4,000		
Minimum Allowance Pe Limited Segments: Combination Routes	r Mile	\$2,000	\$2,000	\$2,000	\$2,000		

# **EXISTING FACILITIESONLY**

① "Traffic Lane Per Mile" is obtained from needs reporting.

Parking Lane Per Mile" shall never exceed two lanes, and is obtained from the following formula:
(Existing surface width minus the # of traffic lanes x 12) / 8 = # of parking lanes.

	Existing	# of Parking Lanes
Existing # of	Surface	for Maintenance
I raffic lanes	less than 32'	0
2 Lanes	32' - 39'	1
	40' & over	2
	less than 56'	0
4 Lanes	56' – 63'	1
	64' & over	2

# 25 YEAR CONSTRUCTION NEEDS FOR EACH INDIVIDUAL CONSTRUCTION ITEM

ITEM	1990 APPORTIONMENT NEEDS COST	1991 F APPORTIONMENT NEEDS COST	ہ DIFFERENCE	1991 5 OF TH TOTAL
GRADING SPECIAL DRAINAGE STORM SEWER ADJUSTMENT STORM SEWER CONSTRUCTION CURB & GUTTER REMOVAL SIDEWALK REMOVAL PAVEMENT REMOVAL TREE REMOVAL	\$93,666,135 3,204,253 15,412,580 147,457,326 11,944,133 9,839,320 29,912,595 3,980,060	\$97,626,188 2,939,433 17,164,080 150,306,520 12,499,423 10,712,236 30,114,978 3,994,760	\$3,960,053 (264,820) 1,751,500 2,849,194 555,290 872,916 202,383 14,700	7.10 0.21 1.25 10.94 0.91 0.78 2.19 0.29
SUBTOTAL GRADING	\$315,416,402	\$325,357,618	\$9,941,216	23.68
GRAVEL SUBBASE #2211 Gravel Base #2211 Bituminous Base #2331	64,631,157 48,794,648 82,594,977	66,094,732 55,088,335 85,435,758	1,463,575 6,293,687 2,840,781	4.819 4.019 6.229
SUBTOTAL BASE	\$196,020,782	\$206,618,825	\$10,598,043	15.04
BITUMINOUS SURFACE #2331 BITUMINOUS SURFACE #2341 BITUMINOUS SURFACE #2361 Surface Widening	2,300,060 176,657,577 48,342,817 2,623,499	2,285,080 182,321,048 44,959,484 2,906,016	(14,980) 5,663,471 (3,383,333) 282,517	0.17 13.27 3.27 0.21
SUBTOTAL SURFACE	\$229,923,953	\$232,471,628	\$2,547,675	16.92
GRAVEL SHOULDERS #2221	861,848	934,129	72,281	0.07
SUBTOTAL SHOULDERS	\$861,848	\$934,129	\$72,281	0.07
Curb and Gutter Sidewalk Traffic Signals Street Lighting Retaining Walls	73,386,785 69,349,462 56,854,950 37,191,520 3,254,283	76,013,821 80,266,312 80,830,565 37,912,960 7,070,385	2,627,036 10,916,850 23,975,615 721,440 3,816,102	5.53 5.84 5.88 2.76 0.51
SUBTOTAL MISCELLANEOUS	\$240,037,000	\$282,094,043	\$42,057,043	20.53
TOTAL ROADWAY	\$982,259,985	\$1,047,476,243	\$65,216,258	76.23 <sup>9</sup>
Bridge Railroad Crossings Maintenance Engineering	75,378,327 24,359,750 13,041,620 194,761,749	75,494,432 30,227,450 13,318,092 207,575,813	116,105 5,867,700 276,472 12,814,064	5.49 2.20 0.97 15.11
SUBTOTAL OTHERS	\$307,541,446	\$326,615,787	\$19,074,341	23.77

# OFF-SYSTEM EXPENDITURES

THE 1991 SCREENING BOARD APPROVED A MOTION TO ELIMINATE THE OFF-SYSTEM RESOLUTION EFFECTIVE JANUARY 1993. THIS DATE ALLOWS THE CITY ENGINEERS THE OPPORTUNITY TO REVIEW THE IMPACT ON EACH CITY'S APPORTIONMENT.

CONSIDERATIONS:

- 1. AN OFF-SYSTEM EXPENDITURE LOWERS THE BALANCE IN THE CITY'S MSAS ACCOUNT WHICH REDUCES THE UNENCUMBERED BALANCE ADJUSTMENT ON NEEDS. THIS INCREASES THE CITY'S ALLOCATION IN FUTURE YEARS.
- 2. SOME CITIES COUNTY STATE OR TRUNK HIGHWAYS MILEAGE IS LOW SO MOST OR ALL OF THEIR MSAS FUNDS ARE SPENT ON THE MSA SYSTEM.
- 3. CITIES THAT SPEND MSAS FUNDS FOR OFF-SYSTEM PROJECTS DO NOT REDUCE NEEDS ON THE MSA SYSTEM FOR 20 YEARS. THIS GENERATES A HIGHER ALLOCATION IN FUTURE YEARS. THE ADJUSTMENTS ON RECORD SHOW THAT IN 10 YEARS SOME CITIES HAVE SPENT MORE THAN 3 YEARS ALLOCATION.
- 4. SOME CITIES USED LOCAL FUNDS IN THE PAST TO AVOID A 10 YEAR ADJUSTMENT ON THEIR NEEDS WOULD GIVE UP PORTION OF THEIR ALLOCATION TO CITIES THAT MADE THE CHOICE TO SPENT MSAS FUNDS ON OFF-SYSTEM PROJECTS.
- 5. CITIES THAT HAVE TRUNK AND COUNTY STATE AID HIGHWAY GET THE BENEFIT OF REDUCING TRAFFIC ON MSAS ROUTES.
- 6. RESOLUTION FOR AN OFF-SYSTEM ADJUSTMENT EXPENDITURE WAS IN AFFECT SINCE 1961 TO EQUALIZE NEEDS.
- 7. CITIES MIGHT BE PRESSURED TO PARTICIPATE IN THE COST OF MORE ITEMS ON OFF-SYSTEM PROJECTS.

A comparison between an expenditure of M.S.A. funds on a M.S.A.S. syste and an off-system expenditure. (T.H. or C.S.A.H.) A comparison is made assuming that a needs loss per year is equally the same as constructing the street. In this example, an expenditure of \$50,000 is used for a period of 20 years. This is the amount of time it takes before complete needs can be reinstated.

# ON-SYSTEM EXPENDITURE

A. IF STATE AID FUNDS WERE USED TO CONSTRUCT A M.S.A. STREET, COMPLETE NEEDS WOULD BE LOST FOR 20 YEARS AND RESULT IN A \$1,000,000 LOSS OF NEEDS.

\$50,000 Expenditure X 20 years = a \$1,000,000 loss in needs.

B. AN STATE AID EXPENDITURE LOWERS THE UNENCUMBERED CONSTRUCTION BALANC. FOR 20 YEARS SO THAT A BENEFIT IS RECEIVED FROM A SMALLER NEGATIVE NEEDS ADJUSTMENT. THE UNENCUMBERED BALANCE ADJUSTMENT IS MADE FOR THE TOTAL AMOUNT IN THE CONSTRUCTION ACCOUNT.

\$50,000 Expenditure X 20 years = a 1,000,000 positive gain in needs adjustment for reducing the unencumbered construction balance.

ON-SYSTEM - TOTAL AFFECT A. - \$1,000,000 B. + 1,000,000 Total \$ 0 gain in needs and apportionment.

**OFF-SYSTEM EXPENDITURE** 

A. IF STATE AID FUNDS ARE USED ON A C.S.A.H. OR T.H., COMPLETE NEEDS ARE NOT LOST FOR 20 YEARS AND RESULT IN A \$1,000,000 GAIN IN NEEDS. \$50,000 EXPENDITURE X 20 YEARS = A \$1,000,000 POSITIVE CAIN IN NEEDS

\$50,000 Expenditure X 20 years = a 1,000,000 positive gain in needs for not reducing needs on an M.S.A. route.

B. Spending M.S.A. funds on a C.S.A.H. or T.H. lowers the unencumbered construction fund balance so that a benefit is received from a smaller negative needs adjustment.

50,000 Expenditure X 20 years = a 1,000,000 positive gain in needs adjustment for reducing the unencumbered construction balance.

OFF-SYSTEM - TOTAL AFFECT A. + \$1,000,000 B. + \$1,000,000 Total \$ 2,000,000 gain in needs.

SINCE \$1,000 OF NEEDS EARNED APPROXIMATELY \$30.00 IN THE 1992 APPORTIONMENT, THEN

A \$60,000 APPORTIONMENT GAIN IN 20 YEARS FOR AN \$50,000 OFF-SYSTEM EXPENDITURE.

# AUTHORIZED MUNICIPAL STATE AID EXPENDITURES ON COUNTY STATE AID OR TRUNK HIGHWAY

(For Reference, See Offsystem Resolution)

MUNICIPALITY	1990 EXPEN- DITURES	(+)	1980 - 1989 EXPENDITURE ADJUSTMENT	(-)	EXPIRED ADJUSTMENT	= ,	APPORTION- MENT ADJUSTMENT
ALBERT LEA	\$160		\$279,803				\$279,963
							$\frac{101}{112}, \frac{5}{155}$
ANOKA			106,096		(\$53 713)		113,933 52,383
APPLE VALLEY			230,701		(+55)// ±5/		230.701
ARDEN HILLS			80,983				80,983
AUSTIN	9,798		675,387		(59,981)		625,204
BEMIDJI	04-050		152,964				152,964
BLAINE	84,050		250,2/9		(33, 92/)		300,402
BRAINERD	24,305		3,030,039		(308,424)		3,293,940
BROOKLYN CENTER			40,000		(40,000)		
BROOKLYN PARK	15.054		13,156				28,210
BUFFALO							
BURNSVILLE	872,867		13,763				886,630
CHAMPLIN			15,512				15,512
	21-212		209 012				122 126
	24,213		3/ 01/				423,120
			30,745				30, 745
COLUMBIA HEIGHTS	23.711						23.711
COON RAPIDS			19,436				19,436
CORCORAN							
COTTAGE GROVE	122 - 665						water water
	01 501		21 124				112 710
URYSTAL Detroit Laves	01,504		51,154				112,/18
DETROIT LAKES	126 600		437 866				564 466
Eagan	220,000						
EAST BETHEL							
EAST GRAND FORKS	33,750						33,750
Eden Prairie	400 1 50		155,330		(106 651)		155,330
	430,152		645,157		(100,051)		968,658
ELK RIVER							
FALCON HETCHTS							
FARIBAULT			40,753		(3,041)		37,712
FARMINGTON							
EERGUS FALLS			128,635		(128,635)		
FOREST LAKE	17 010		100 100				126 000
FRIDLEY Golden Valley	2/7 /019		128,100				120,999
GULDEN VALLET GDAND PARTOS	347,401		120,001				4/3,402
HAM LAKE							
HASTINGS	63,381		251,582				314,963
HERMANTOWN	35,039						35,039
HIBBING			107,535				107,535
HOPKINS	48,514		232,192				280,/06
HUTCHINSON			2/3,4/3				2/3,4/3
INIERNAIIUNAL FALLS Taved Grove Hetchts	38 212		100 852				148 165
LAKE FIMO			10370JZ				
			1,035.360				1,035,360
LINO LAKES	800 990)		_,,,_,				

MUNICIPALITY	1990 EXPEN- DITURES (+	1980 - 1989 EXPENDITURE ) ADJUSTMENT	EXPIRED (-) ADJUSTMENT =	1992 APPORTIO MENT = ADJUSTME
LITCHFIELD	\$23,442	\$152,509		\$175,9
LITTLE CANADA				
LITTLE FALLS		7/15 865		745 0
MAPLE GROVE		745,805		745,0
MAPLEWOOD		26,978		26,9
MARSHALL		11,775	(\$11,775)	
MENDOTA HEIGHTS MINNEADOLIS	448 641	2 366 696		2 915'2
MINNETONKA		3,447,811	(177.026)	3,270,78
MONTEVIDO			(2) / / 020/	
MOORHEAD	201,250	,81,325		282,57
MOURNIS		10/,/41		18/,/4
Mounds View		260,896		260,80
NEW BRIGHTON	701,890	1,158,418	(503,396)	1,356,9
NEW HOPE	248,981	259,468	(55,968)	452,48
NORTHETELD		237 837		144,30
NORTH MANKATO		22,792		22.7
NORTH ST. PAUL	198,833	215,237		414,0
		101 624	(1 694)	100-0
		955, 390	(1, 024)	190,00 793 9/
PLYMOUTH		37,837		37.8
PRIOR LAKE				
RAMSEY				
RED WING		69 354	(3 161)	66 10
ROBBINSDALE		73,487	(3,101)	73.48
ROCHESTER		43, 384		43,38
ROSEMOUNT		46,989		46,98
KOSEVILLE St ANTHONY		223 780	(39 /60)	18/ 33
ST. CLOUD		317,406	(149,718)	167.68
ST. LOUIS PARK	133,676	1,440,449		1,574,12
ST. PAUL	147,284	3,634,432	(85,566)	3,696,1
ST. PETER	91,853	125,025	(54 561)	102,60
SAVAGE		133,920	(34,301)	01,30
SHAKOPEE		106,906		106,90
SHOREVIEW	33,079	122,675		155,75
SHOREWOOD		2 130		2 13
SPRING LAKE PARK		7, 532		7/5
STILLWATER		843		82
THIEF RIVER FALLS		418,993	(36,131)	382,86
VADNAIS HEIGHTS		38 103		38 10
WASECA		50,405		
WEST ST. PAUL				
WHITE BEAR LAKE	37,406	76,382	(150 070)	113,78
WILLMAR	123,224	391,721	(153,9/2)	360,9/
WINDNA		71 559		71_54
WORTHINGTON		56,959		56,9
TUTAL	\$4,666,350	\$28,269,373	(\$2,428,980)	\$30,506,74

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#### AFFECT ON APPORTIONMENT DELETING OFF-SYSTEM ADJUSTMENT

Since the off-system adjustment was a 10 year adjustment, the one year difference in allocation should be multiplied by 10. The actual affect for future years cannot be computed because the adjustments change annually depending on each city's expenditure on a County State Highway or Trunk Highway.

	1991	1991	1992	1992	
	Adjusted	Adjusted	Money Needs	Money Needs	One Year
	Const. Needs	Const. Needs	Apportionment	Apport	Difference
	With	Without	With	Without	in
	Off-System	Off-System	Off-System	Off-System	Allocation
Municipality	Adjustment	Adjustment	Adjustment	Adjustment	(See Note)
Albert Lea	\$9,265,781	\$9,545,744	\$281,818	\$283,825	\$2,007
Alexandria	6,547,176	6,708,747	199,132	199,472	340
Andover	13,376,915	13,490,870	406,858	401,126	(5,732)
Inoka	5.013.097	5,065,480	152,473	150,613	(1,860)
Anole Valley	13 500,086	13,730,787	410,604	408,259	(2,345)
Arden Wills	2 219 333	2,300,316	67.501	68,396	895
Arden arris	2,219,333	2,000,010	.,	,	
Austin	15,367,466	15,992,670	467,401	475,512	8,111
Bemidji	8,258,746	8,411,710	251,189	250,106	(1,083)
Blaine	11,326,195	11,626,597	344,486	345,695	1,209
Bloomington	56.178.543	59.472,483	1,708,668	1,768,303	59,635
Brainerd	5 634 713	5,634,713	171.380	167,538	(3,842)
Brooklyn Center	12 929 216	12,929,216	393,242	384,426	(8,816)
Brookiyn center	12, 727, 210	11//2//210		,	(-,,
Brooklyn Park	13,650,583	13,678,793	426,198	417,729	(8,469)
Buffalo	4,422,719	4,422,719	134,517	131,501	(3,016)
Burnsville	17,785,367	18,671,997	540,941	555,177	14,236
Combridge	4 331 285	4.331.285	131,736	128,783	(2,953)
	4,331,203	4 796 295	149,295	146.497	(2,798)
	4,700,703 E 006 E11	5 926 511	177 213	173,240	(3,973)
Channassen	3,626,311	5,820,511	111,213	1.0,210	(0,7,0)
Chaska	4,384,768	4,807,894	133,362	142,954	9,592
Chisholm	3,852,686	3,887,600	117,179	115,591	(1,588)
Cloquet	11,048,209	11,078,954	336,031	329,412	(6,619)
Columbia Moighte	6 050 927	6.074.638	184.039	180,618	(3,421)
Columbia Heights	15 717 545	15 736 981	478,048	467,910	(10,138)
Coon Rapids	5 /01 000	5 / 91 099	166 707	162,970	(3,737)
Corcoran	3,401,000	5,481,000	100,107	202,770	(•,,
Cottage Grove	12,238,381	12,238,381	372,230	363,885	(8,345)
Crookston	6,544,734	6,544,734	210,434	205,971	(4,463)
Crystal	12,292,095	12,404,813	373,863	368,834	(5,029)
Detroit Takos	3 984 855	3.984.855	121.199	118,482	(2,717)
Detroit Lakes	60 766 583	61 331 049	1.850.510	1,825,861	(24,649)
Duluth	17 000 070	17 920 272	542,003	529,853	(12,150)
Eagan	1/,020,2/2	11,020,212	542,005		(,,
East Bethel	3,224,656	3,224,656	98,078	95,879	(2,199)
East Grand Forks	3,338,091	3,371,841	101,528	100,255	(1,273)
Eden Prairie	22,655,800	22,811,130	689,075	678,246	(10,829)
mdian	17 000 724	18 068 397	520.088	537,230	17,142
	1110771134 0 E1C 001	Q E14 001	259,017	253.210	(5,807)
EIK KIVET	L, 0/010/071	10 521 /07	381 145	372.601	(8,544)
rairmont	14,331,47/	12,001,401			,

	1991	1991	1992	1992	
	Adjusted	Adjusted	Money Needs	Money Needs	One Year
	Const. Needs	Const. Needs	Apportionment	Apport	Difference
	With	Without	With	Without	in
	Off-System	Off-System	Off-System	Off-System	Allocation
Municipality	Adjustment	Adjustment	Adjustment	Adjustment	(See Note)
Falcon Heights	 \$669_806	\$669.806	\$20 372	 ¢19 915	
Faribault	10,493,554	10.531.266	319 161	313 128	(9437)
Farmington	7 1/9 996	7 1/9 996	217 464	313,120	(0,033)
raimington	7,147,870	/,149,090	21/,404	212,589	(4,8/5)
Fergus Falls	7,781,343	7,781,343	236,669	231,364	(5,305)
Forest Lake	2,578,709	2,578,709	78,431	76,673	(1,758)
Fridley	8,478,498	8,605,497	257,873	255,868	(2,005)
Golden Valley	14,469,872	14,945,354	440,100	444,372	4,272
Grand Rapids	5,318,652	5,318,652	161,767	158,140	(3,627)
Ham Lake	3,135,893	3,135,893	95,378	93,240	(2,138)
Hastings	4,664,643	4,979,606	141,875	148,059	6,184
Hermantown	6,056,994	6,092,033	184,223	181,135	(3,088)
Hibbing	21,235,046	21,342,581	656,804	645,523	(11,281)
Hopkins	5,298,128	5.578.834	161.142	165 876	4 734
Hutchinson	4,964,126	5,237,599	150 984	155 730	4 746
International Falls	4,603,190	4,603,190	140,006	136,867	(3,139)
Inver Grove Reichte	0 706 177	0 07/ 700	267 220		(1 505)
Lake Elmo	0,700,133 7 E70 001	0,554,250 7 579 994	207,230	205,045	(1, 565)
Lakeville	19,042,862	20,078,222	579,188	596,988	17,800
Time Teles	< F01 717	< F01 717	107 740	102 214	
Lino Lakes	6,501,717	6,501,717	197,749	193,316	(4,433)
Litchileld	3,363,074	3,539,025	102,288	105,226	2,938
Little Canada	2,610,992	2,610,992	79,413	77,633	(1,780)
Little Falls	6,628,652	6,628,652	201,610	197,091	(4,519)
Mahtomedi	1,835,453	1,835,453	55,825	54,574	(1,251)
Mankato	15,243,323	15,989,188	468,953	480,737	11,784
Maple Grove	20,598,133	20,599,029	630,091	616,074	(14,017)
Maplewood	8,658,229	8,685,207	263,340	258,238	(5,102)
Marshall	2,897,458	2,897,458	88,126	86,151	(1,975)
Mendota Heights	3.814.147	3,821,863	116.007	113.636	(2.371)
Minneapolis	160.726.023	163.541.360	4.888.475	4.862.597	(25,878)
Minnetonka	21,496,851	24,767,636	653,826	736,419	82,593
Montevideo	2 621 664	2 621 664	70 779	77 950	(1 788)
Monticollo	2,021,004	2,021,004	17,130 00 176	00 110	(1,700)
Moorhead	11,646,630	11,929,205	354,232	354,693	461
Morris Mound	2,380,278	2,568,019	72,396 81,816	76,355 89,586	3,959
Mounds View	1,345 501	1.606 397	40 923	47,763	6.840
MOUTIND ATEM	T1343130T	T'000'331	40,723	<del>1</del> 11103	0,040
New Brighton	5,370,294	6,727,206	163,337	200,021	36,684
New Hope	7,725,837	8,178,318	234,981	243,167	8,186
New Ulm	7,429,663	7,573,989	225,973	225,198	(775)
Northfield	6,314,719	6,552,556	192,062	194,828	2,766
North Mankato	3,426,659	3,449,451	104,222	102,563	(1,659)
North St. Paul	2,292,998	2,707,068	69,741	80,490	10,749

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	1991	1991	1992	1992	
	Adjusted	Adjusted	Money Needs	Money Needs	One Year
	Const. Needs	Const. Needs	Apportionment	Apport	Difference
	With	Without	With	Without	in
	Off-System	Off-System	Off-System	Off-System	Allocation
Municipality	Adjustment	Adjustment	Adjustment	Adjustment	(See Note)
Oakdale	\$7,073,948	\$7,073,948	\$215,154	\$210,331	(\$4,823)
Orono	5,4/0,625	5,000,025	100,309	100,308	1,919
Utsego	8,090,104	8,090,104	240,000	240,544	(2,210)
Owatonna	10,774,557	11,568,503	327,708	343,968	16,260
Plymouth	20,740,055	20,777,892	630,808	617,792	(13,016)
Prior Lake	6,027,391	6,027,391	183,323	179,213	(4,110)
Ramsey	8,196,674	8,196,674	249,301	243,713	(5,588)
Red Wing	13,586,144	13,586,144	413,222	403,959	(9,263)
Richfield	16,079,567	16,145,760	489,059	480,064	(8,995)
Robbinsdale	4,220,249	4,293,736	128,359	127,666	(693)
Rochester	33,036,451	33,079,835	1,004,802	983,567	(21, 235)
Rosemount	8,717,058	8,764,047	265,129	260,583	(4,546)
1.00000000	0,,2,,000	-,,	,		(-//
Roseville	11,729,198	11,729,198	356,743	348,746	(7,997)
St. Anthony	851,976	1,036,305	25,913	30,813	4,900
St. Cloud	19,726,500	19,894,188	616,253	607,789	(8,464)
St. Louis Park	12,716,210	14,290,335	386,763	424,896	38,133
St. Paul	134,676,395	138,372,545	4,096,176	4,114,249	18,073
St. Peter	3,145,609	3,248,291	95,674	96,582	908
Sartell	1,902,723	1,902,723	57,871	56,574	(1,297)
Sauk Rapids	3,892,308	3,973,673	118,384	118,150	(234)
Savage	9,640,319	9,640,319	293,210	286,637	(6,573)
Shakopee	7,924,406	8,031,312	241,020	238,796	(2,224)
Shoreview	3,386,785	3,542,539	103,009	105,331	2,322
Shorewood	5,468,848	5,468,848	166,335	162,606	(3,729)
South St Baul	7 260 400	7 262 539	220 825	215,938	(4 887)
South St. Paul	1 691 660	1 699 197	51 148	50 225	(923)
Spring Lake Fark	6,485,306	6,486,149	197,250	192,854	(4,396)
	-,	-,,	•		
Thief River Falls	6,827,766	7,210,628	207,666	214,395	6,729
Vadnais Heights	1,769,145	1,769,145	53,808	52,602	(1,206)
Virginia	5,539,761	5,578,164	168,492	165,856	(2,636)
Waite Park	3,092,924	3,092,924	94,071	91,962	(2,109)
Waseca	1,337,818	1,337,818	40,690	39,778	(912)
West St. Paul	4,847,943	4,847,943	147,450	144,145	(3,305)
White Bear Lake	9 004 644	9,118.432	273.876	271,120	(2,756)
Willmar	8 736 739	9,097.705	293.375	298.151	4.776
Winons	10 200 854	10.200.856	310,259	303,303	(6,956)
m L II O II G	10,200,000	10,200,030	520,207		(-,,
Woodbury	15,634,054	15,705,613	475,509	466,977	(8,532)
Worthington	4,993,165	5,050,124	151,867	150,156	(1,711)
STATE TOTAL	\$1,330,349,165	\$1,360,855,908	\$40,554,876	\$40,554,876	\$0

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# March 20, 1990

STATE AID MANUAL

Fig. D 5-892.8

#### Municipal State Aid Needs Study RURAL DESIGN QUANTITY TABLE (Quantities Based For A One Mile Section)

£ No. 2211 No. 2211 No. 2211 No. 2221 No. 2221 Class - 4 Class - 4 Class - 6 No. 2331 Gravel Additional Gravel Soil Gravel Base Gravel Base Bit. Base Gravel Base Initial Shidra. Bit, Surface **Design Date** Reshoulder Туре (Tons) Depth (Tons) (Tons) Surface (Tons) (Toni) (Tons) Proj. ADT 0-749 0 0" 50 24' Surface 4499 4" 75 No. 2331 No. 2331 32' Roadbed 9339 8'' 100 3271 1210 1-1/2" Bit. 1-1/2" Bit. 2 Lane 7 Ult. 9 Ton 15857 13" 130 (3'') (1-1/2'')1162 Tons 631 1162 Tons 394 Proj. ADT 750-999 50 0" 0 24' Surface 75 4" 4925 No. 2331 No. 2331 36' Roadbed 100 10189 8" 3601 1210 1 1/2" Bit. 1-1/2" Bit. 2 Lane 7 Ult. 9 Ton 130 17240 13" (3'')  $(1 \cdot 1/2'')$ 1162 Tons 778 1162 Tons 579 Proj. ADT 1000-1999 50 0 0" 24' Surface 3" 75 4107 No. 2341 No. 2341 40' Roadbed 100 11375 8" 6663 1210 3" Bit. 1 1/2" Bit. 2 Lane 9 Ton 14" 130 20791 (5'')  $(1 \cdot 1/2'')$ 2323 Tons 1628 1162 Tons 370 Proj. ADT 2,000 & Over 50 0 0" 24' Surface 75 8531 6" No. 2341 No. 2341 40' Roadbed 100 16500 12" 8060 1210 3" Bit. 1-1/2" Bit 2 Lane 9 Ton 130 29615 19" (6'') (1-1/2") 2323 Tons 1628 1162 Tons 370 Proj. ADT 5,000 & Over 4" 50 10776 48' Surface 75 9" 25198 No. 2341 No. 2341 15" 72' Roadbed 100 43893 15455 5647 3-1/2" Bit. 1-1/2" Bit, 23" 4 Lane 9 Ton 130 71180 (6") (3-1/2") 5421 Tons 4817 2323 Tons 554

This table is for needs study reference only and is not to be construed as a guide for rigid or flexible design determination.

Quantities of approved street widths will be prorated.

# STATE AID MANUAL

# Ξġ m 5-892.810

# Municipal State Aid Street Needs Study URBAN DESIGN QUANTITY TABLE (Quantities Based On A One Mile Section)

t' Design Data	Soil Type	Grading Cubic Yards	Grading Depth Inches	No. 2211 CL. 4 Subbase (Tons)	Subbase Depth Inches	No. 2211 CL. 5 Grevel Base (Tons)	No, 2331 Bit. Base (Tons)	No. 2341 Bit. Surf. (Tons)	Additional Surface (Tons)	No. 2361 Second Surface (Tons)
Proj. ADT 1-1999	50	15990	20.5"	0	0''					
44 Feet	75	18378	23.5"	4288	3"				No. 2741	
2 Traffic Lane - 9 Ton	100	22386	28.5"	11485	8''	5790	1936	3872	2581	
2 Parking Lanes	130	23998	30.5"	14379	10"	(4'')	(1-1/2'')	(3'')	(2")	
Proj. ADT 2000-4999	50	16388	21''	0	0''					
44 Feet	75	18778	24"	4288	3''				No. 2341	
2 Traffic Lane - 9 Ton	100	22788	29''	11485	8''	5790	2581	3872	2581	
2 Parking Lanes	130	24402	31"	14379	10''	(4")	(2'')	(3'')	(2'')	
Proj. ADT 5000 & Over	50	19048	22.5"	0	0''					
48 Feet	75	21640	25.5"	4644	3′′				No 2361	
2 Traffic Lane - 9 Ton	100	26860	31.5"	14000	9''	6283	3550	4259	1420	1420
2 Parking Lanes	130	29488	34.5"	18711	12''	(4'')	(2-1/2")	(3")	(1")	(1")
Proj. ADT 7,000-9,999	50	28762	24,5"	0	0''					
68 Feet	75	32340	27.5"	6426	3"				No 2361	
4 Traffic Lane - 9 Ton	100	41940	35.5"	23673	- 11"	10935	6196	7228	2065	204 5
2 Parking Lanes	130	45562	38.5"	30181	14''	(5'')	(3'')	(3-1/2")	(1")	(1'')
Proj. ADT 10,000 & Over	50	34133	27.5"	0	0''					
72 Feet	- 75	37919	30.5"	6783	3''				No 2361	
4 Traffic Lane - 9 Ton	100	46799	37.5"	22695	10"	16169	8777	7680	2194	2194
2 Parking Lanes	130	53184	42.5"	34136	15''	(7'')	(4'')	(3-1/2'')	(1")	(1")

This table is for needs study reference only and is not to be construed as a guide for rigid or flexible design determination.

Quantitites of approved street widths will be prorated. When the quantities from the table do not apply, use an estimated amount.

# 8820.9935 GEOMETRIC DESIGN STANDARDS: URBAN; 30 TO 35 M.P.H. DESIGN SPEED; NEW OR RECONSTRUCTION

In the following tables, total width is in feet, face-to-face of curbs. When a median is included in the design of the two-way roadway, add two feet to the dimension shown. This provides a one-foot reaction area on either side of the median. Minimum median width is four feet.

Number of Through Lanes	Density	No Parking Both Sides	Parking One Side	Parking Both Sides
2-Lane Collector	Low or	26'	32'	38'
	High	(2-11-11-2)	(8-11-11-2)	(8-11-11-8)
4-Lane Collector	Low or	48'	54'	60'
	High	(2-11-11-11-11-2)	(8-11-11-11-11-2)	(8-11-11-11-11-8)
2-Lane Arterial	Low	30' (4-11-11-4)	36+ (4-11-11-10)	42+ (10-11-11-10)
4-Lane Arterial	Low or	48'	56'	64'
	High	(2-11-11-11-11-2)	(10-11-11-11-11-2)	(10-11-11-11-11-10)
6-Lane Arterial	High	70' (2-11-11-11-11-11-2)	None	None

# **TWO-WAY STREETS**

# **ONE-WAY STREETS**

Number of	Density	No Parking	Perking	Perking
Through Lanes		Both Sides	One Side	Both Sides
1-Lane Collector	Low or High	None	None	None
2-Lane Collector	Low or "	26 <b>'</b>	32'	38'
	High	(2-11-11-2)	(2-11-11-8)	(8-11-11-8)
1-Lane Arterial	Low	None	None	None
2-Lane Arterial	Low or	26 <b>'</b>	34'	421
	High	(2-11-11-2)	(2-11-11-10)	(10-11-11-10)
3-Lane Arterial	High	37' (2-11-11-11-2)	45' (2-11-11-11-10)	53* (10-11-11-11-10)

Urban design roadways must be a minmum nine-ton structural design. A new or rehabilitated bridge must have a curb-to-curb width equal to the required street width. HS-25 loading is required. Design speed is based on stopping sight distance. Wherever possible, lane widths of 12 feet, rather than 11 feet, should be used. Refer to table 8820.9950 for classification, capacity, and peak-hour relationships.

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# 8820.9940 GEOMETRIC DESIGN STANDARDS: URBAN; GREATER THAN 35 M.P.H. DESIGN SPEED; NEW OR RECONSTRUCTION

In the following tables, total width is in feet, face-to-face of curbs. When a median is included in the design of the two-way roadway, add two feet to the dimension shown. This provides a one-foot reaction area on either side of the median. Minimum median width is four feet.

# **TWO-WAY STREETS**

Number of Through Lanes	Density	No Parking Both Sides	Parking One Side*	Parking Both Sides
2-Lane Collector	Low or	28'	36'	44
	High	(2-12-12-2)	(10-12-12-2)	(10-12-12-10)
4-Lane Collector	Low or	52'	60'	68'
	High	(2-12-12-12-2)	(10-12-12-12-12-2)	(10-12-12-12-12)
2-Lane Arterial	Low	32' (4-12-12-4)	38' (4-12-12-10)	44 <b>'</b> (10-12-12-10)
4-Lane Arterial	Low or	52'	60'	68 •
	High	(2-12-12-12-2)	(10-12-12-12-2)	(10-12-12-12-12-10)
ó-Lane Arterial	High	76' (2-12-12-12-12-12-2)	None	None

## **ONE-WAY STREETS**

Kalber of	Density	No Parking	Parking	Parking
Through: Lanes		Both Sides	One Side*	Both Sides*
1-Lans Collector	Low or High	None	None	None
2-Lane Collector	Low or	<b>28'</b>	36'	441
	High	(2-12-12-2)	(2-12-12-8)	(10-12-12-10)
1-Lane Arterial	Low	None	None	None
2-Lane Arterial	Low or	<b>28</b> •	37'	461
	High	(2-12-12-2)	(2-12-12-11)	(11-12-12-11)
3-Lane Arterial	High	40' (2-12-12-12-2)	49' (2-12-12-11)	58' (11-12-12-12-11)

\* No parking is allowed when the posted speed exceeds 45 miles per hour.

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Urban design roadways must be a minmum nine-ton structural design. A new or rehabilitated bridge must have a curb-to-curb width equal to the required street width. HS-25 loading is required. Provide one and onehalf feet of clearance from the face of the curb to fixed objects when the posted speed is 40 to 45 miles per hour. Provide a ten-foot clearance from the driving lane when the posted speed exceeds 45 miles per hour. Design speed is based on stopping sight distance. Refer to table 8820.9950 for classification, capacity, and peak-hour relationship.

Refer to table 8820.9950 for classification, capacity, and peak-hour relationships.

# 8820.9910 GEOMETRIC DESIGN STANDARDS; RURAL UNDIVIDED (9); NEW OR RECONSTRUCTION

(6) Proj. <b>Ad</b> t	Lane Width	Shidr. Width	(1) Instope	(2) Rec. Arem	(3) Design Speed.	Structural Design Surfacing Strength		(4) New E Rehab. Bridges, Width Curb- Curb	Sridges to Remain Width Curb- Curb	Bridges to: Remain (8) Structural Cepecity
0-49	11'	11	3:1	71	30-60	Aggregate		281	22 '	H-15
50- 14 <b>9</b>	11+	31	4:1	91	40-60 (7)	Aggregate		32+	22'	H-15
150- 399	12'	41) (5)	4:1	15 '	40-60	Paved	7 Ult. 9 Ton	361	28*	H-15
400- 749	12 '	41	4:1	20•	40-60	Paved	9-Ton	361	281	N-15
750- 1499	12 '	61	4:1	251	40-60	Paved	9-Ton	40'	281	H-15
1500 and Over	121	8'	-4:1	301	40-60	Paved	10-Ton	44 1	30+	H-15

(1) Applies to slope within recovery area only.

(2) Obstacle-free area (measured from edge of traffic lane). Culverts with less than 27<sup>nd</sup> vertical height allowed without protection in the recovery area.

(3) Subject to terrain. Based on stopping sight distance.

(4) HS-25 loading is required.

(5) Initial roadbed width must be adequate to provide a finished roadbed width for nine-ton design.

(6) Use the existing traffic for highways not on the state-aid or FAS systems.

(7) Design speed of 30 miles per hour allowed off of the state-aid or FAS systems.

(8) Inventory design rating.

(9) Use the geometric design standards of the Mn/DOT Road Design Manual for rural divided roadways. Minimum ten-ton structural design and 40 miles per hour design speed are required.

FLEXIBLE OR RIGID PAVEMENT. The use of state-aid construction funds to finance the initial surfacing of rural roadways with aggregate base, in excess of six inches, and flexible or rigid pavement materials is limited to the following cost participation:

 Projected ADT*	Percent of Pacticipation
100 & Over	100
75 to 99	80
50 to 74	40
0 to 49	0

\* If the next traffic count scheduled by the Minnesota Department of Transportation shows an increase in traffic, the percentage participation on an approved project must be adjusted to reflect the revised projected ADT if the county requests reimbursement at the increased percentage rate.

# STATUS OF MUNICIPAL TRAFFIC COUNTING

(Most out-state traffic counts are done by state forces)

# 1. Seven County Metropolitan Traffic Area

Cities in the seven county metropolitan area count cooperatively with Mn/Dot on a two year cycle and are scheduled to be counted in 1992. Minneapolis and St. Paul count one half each year.

<u>2. Out-State Municipalities</u> The out-state cities will be counted on a four-year cycle.

# 3. Municipalities that have a count annually

Duluth counts 1/4 of the city each year.

	TRAFFIC TO BE COUNTED I	N 1992	
Austin	International Falls	Otsego	
Buffalo	Montevideo		
Detroit Lakes	Monticello		

	TIRA HEICH (O'BEICOUNTED	IN 1993
Albert Lea	Faribault	Moorhead
Brainerd	Grand Rapids	Morris
Crookston	Little Falls	New Ulm
East Grand Forks	Mankato	Northfield
Fairmont	Marshall	

	TRAFFIC TO BE COUNTE	D IN 1994
Alexandria	Rochester	Worthington
Cloquet	Willmar	

	TRAFFIC TO BE COUNTED	IN 1995
Bemidii	Hutchinson	Sartell
Cambridge	Litchfield	Sauk Rapids
Chisholm	North Mankato	Thief River Falls
Elk River	Owatonna	Virginia
Ferous Falls	Red Wina	Waite Park
Hermantown	St. Cloud	Waseca
Hibbing	St. Peter	Winona

The State Aid Needs unit updates the needs traffic counts when they are received from the Mn/Dot traffic counting office.

# CURRENT RESOLUTIONS OF THE MUNICIPAL SCREENING BOARD

# OCTOBER 1991

**BE IT RESOLVED:** 

# ADMINISTRATION

Appointments to Screening Board - Oct. 1961 (Revised June 1981)

That annually the Commissioner of Mn/DOT will be requested to appoint three (3) new members, upon recommendation of the City Engineers Association of Minnesota, to serve three (3) year terms as voting members of the Municipal Screening Board. These appointees are selected from the Nine Construction Districts together with one representative from each of the three (3) major cities of the first class.

# Screening Board Chairman and Vice Chairman - June 1987

That the Chairman and Vice Chairman, nominated annually at the annual meeting of the City Engineers association of Minnesota and subsequently appointed by the Commissioner of the Minnesota Department of Transportation shall not have a vote in matters before the Screening Board unless they are also the duly appointed Screening Board Representative of a construction District or of a City of the first class.

# Screening Board Secretary - Oct. 1961

That annually, the Commissioner of the Minnesota Department of Transportation (Mn/DOT) may be requested to appoint a secretary, upon recommendation of the City Engineers' Association of Minnesota, as a non-voting member of the Municipal Screening Board for the purpose of recording all Screening Board actions.

# Appointment to the Needs Study Subcommittee - June 1987

The Screening Board Chairman shall annually appoint one city engineer, who has served on the Screening Board, to serve a three year term on the Needs Study Subcommittee. The appointment shall be made after the annual Spring meeting of the Municipal Screening Board. The appointed subcommittee person shall serve as chairman of the subcommittee in the third year of the appointment.

# Appointment to Unencumbered Construction Funds Subcommittee - Revised June 1979

The Screening Board past Chairman be appointed to serve a three-year term on the Unencumbered Construction Fund Subcommittee. This will continue to maintain an experienced group to follow a program of accomplishments.

The alternate to a third year member be invited to attend the final meeting. A formal request to the alternates governing body would request that he attend the meetings and the municipality pay for its expenses.

# Appearance Screening Board - Oct. 1962 (Revised Oct. 1982)

That any individual or delegation having items of concern regarding the study of State Aid Needs or State Aid Apportionment amounts, and wishing to have consideration given to these items, shall, in a written report, communicate with the State Aid Engineer. The State Aid Engineer with concurrence of the Chairman of the Screening Board shall determine which requests are to be referred to the Screening Board for their consideration. This resolution does not abrogate the right of the Screening Board to call any person or persons before the Board for discussion purposes.

Research Account - Oct. 1961

That an annual resolution be considered for setting aside a reasonable amount of money for the Research Account to continue municipal street research activity.

Soil Type - Oct. 1961

That the soil type classification as approved by the 1961 Municipal Screening Board, for all municipalities under Municipal State Aid be adopted for the 1962 Needs Study and 1963 apportionment on all streets in the respective municipalities. Said classifications are to be continued in use until subsequently amended or revised by Municipal Screening Board action.

Improper Needs Report - Oct. 1961

That the Office of State Aid and the District State Aid Engineer is requested to recommend an adjustment of the Needs Reporting whenever there is a reason to believe that said reports have deviated from accepted standards and to submit their recommendations to the Screening Board, with a copy to the municipality involved, or its engineer.

New Cities Needs - Oct. 1983

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Any new city which has determined their eligible mileage, but does not have an approved State Aid System, their money needs will be determined at the cost per mile of the lowest other city. Construction Cut Off Date - Oct. 1962 (Revised 1967)

That for the purpose of measuring the Needs of the Municipal State Aid Highway System, the annual cut off date for recording construction accomplishments based upon the project award date shall be December 31st of the preceding year.

#### Construction Accomplishments - (Oct. 1988)

When a Municipal State Aid Street is constructed to State Aid Standards, said street shall be considered adequate for a period of 20 years from the date of project letting or encumbrance of force account funds.

If, during the period that complete needs are being received the street is improved with a bituminous overlay or concrete joint repair the municipality will continue to receive complete needs but shall have the non-local cost of the bituminous resurfacing or concrete joint repair construction project deducted from its total needs for a period of ten (10) years.

If the construction of the Municipal State Aid Street is accomplished with local funds, only the construction needs necessary to bring the roadway up to State Aid Standards will be permitted in subsequent needs for 20 years from the date of the letting or encumbrance of force account funds. At the end of the 20 year period, reinstatement for complete construction needs shall be initiated by the Municipality.

Needs for resurfacing, lighting, and traffic signals shall be allowed on all Municipal State Aid Streets at all times.

That any bridge construction project shall cause the needs of the affected bridge to be removed for a period of 35 years from the project letting date or date of force account agreement. At the end of the 35 year period, needs for complete reconstruction of the bridge will be reinstated in the needs study at the initiative of the Municipal Engineer. If, during the period that complete bridge needs are being received the bridge is improved with a bituminous overlay, the municipality will continue to receive complete needs but shall have the non-local cost of the overlay deducted from its total needs for a period of ten (10) years.

The adjustments above will apply regardless of the source of funding for the road or bridge project. Needs may be granted as an exception to this resolution upon request by the Municipal Engineer and justification to the satisfaction of the State Aid Engineer (e.g., a deficiency due to changing standards, projected traffic, or other verifiable causes).

In the event that a M.S.A.S route earning "After the Fact" needs is removed from the M.S.A. system, then, the "After the Fact" needs shall be removed from the needs study, except if transferred to another state system. No adjustment will be required on needs earned prior to the revocation.

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# (Nov. 1965 - Revised 1969)

However, the maximum mileage for State Aid designation may be exceeded to the extent necessary to designate trunk highway tumbacks, only if sufficient mileage is not available as determined by the Annual Certification of Mileage.

# (Jan. 1969)

Any mileage for designation prior to the trunk highway turnback shall be used for the turnback before exceeding the maximum mileage.

In the event the maximum mileage is exceeded by a trunk highway tumback, no additional designation other than trunk highway tumbacks can be considered until allowed by the computations of the Annual Certification of Mileage within which the maximum mileage for State Aid designation is determined.

# Oct. 1961 (Revised May 1980, Oct. 1982 and Oct. 1983)

All requests for additional mileage or revisions to the Municipal State Aid System must be received by the District State Aid Engineer by March first. The District State Aid Engineer will forward the request to the State Aid Engineer for review. A City Council resolution of approved mileage and the Needs Study reporting data must be received by the State Aid Engineer by May first, to be included in the current year's Needs Study. Any requests for additional mileage or revisions to the Municipal State Aid Systems received by the District State Aid Engineer after March first will be included in the following year's Needs Study.

One Way Street Mileage - June 1983 (Revised Oct. 1984)

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That any one-way streets added to the Municipal State Aid Street system must be reviewed by the Needs Study Sub-Committee, and approved by the Screening Board before any one-way street can be treated as one-half mileage in the Needs Study.

A one-way street will be treated as one-half of a full four-lane width divided street of either 56 feet or 72 feet (72 feet when the projected ADT is over 8,000) for needs, and that the roadway system must be operating as one-way streets prior to the time of designation.

## DESIGN

# Design Limitation on Non-Existing Streets - Oct. 1965

That non-existing streets shall not have their needs computed on the basis of urban design unless justified to the satisfaction of the Commissioner.

# Less Than Minimum Width - Oct. 1961 (Revised 1986)

That in the event that a Municipal State Aid Street is constructed with State Aid Funds to a width less than the standard design width as reported in the Needs Study, the total needs shall be taken off such constructed street other than the surface replacement need. Surface replacement and other future needs shall be limited to the constructed width unless exception is justified to the satisfaction of the Commissioner.

## Greater Than Minimum Width

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If a Municipal State Aid Street is constructed to a width wider than required, only the width required by rules will be allowed for future resurfacing needs.

## Miscellaneous Limitations - Oct. 1961

That miscellaneous items such as fence removal, bituminous surface removal, manhole adjustment, and relocation of street lights are not permitted in the Municipal State Aid Street Needs Study. The item of retaining walls, however, shall be included in the Needs Study.

#### MILEAGE

#### (Feb. 1959)

The maximum mileage for Municipal State Aid Street designation shall be 20 percent of the municipality's basic mileage - which is comprised of the total improved streets less Trunk Highway and County State Aid Highways.

(Nov. 1965 - Revised 1972)

The maximum mileage for Municipal State Aid Street designation shall be based on the Annual Certification of Mileage current as of December 31st of the preceding year. Submittal of a supplementary certification during the year shall not be permitted.

# <u>St. Paul</u>

MSA	TP					4	PPROVA	T.		NEEDS
<u>NO.</u>	Ľ		TERMI	NI			DATE	MILEAC	<u>BE</u>	WIDTH
134 198	EB Fifth WB Six	n St. th St.	- Fort R to Bro	.d. (V adw	W. 7th St.) ay St.		6/89	0.85 Miles 0.86 Miles	s 2 s	28' & 36' 36'
235 236	NB Wał SB St. F	oasha St. Peter St.	St Kellogg Blvd. St. to Twelfth St.				6/89	0.61 Miles 0.62 Miles	S S	36' 36'
165 117	NB Min SB Ceda	nesota St. ar St.	- Kellog to Ten	g Bl ith S	lvd. t.		6/89	0.47 Miles 0.46 Miles	S S	36' 36'
196	NB Sibl SB Jack	ey St. son St.	- Shepar to Sev	rd Re renth	oad St.		6/89	0.34 Miles <u>CSAH</u> 4.21 Miles	s  s	36'
<u>COST</u>										
<u>Co</u>	onstructio	n Item Unit	Prices - (	Rev	ised Annua	lly)				
	Right of	Way (Needs	only) \$	5 <b>6</b> 0,	,000.00 Acr	e				
	Grading (Excavation)						9	3.00	Cu. Y	ď.
	Base:	ise:								
		Class 4	S	Spec	. #2211		5	5 <b>4.75</b>	Ton	
		Class 5	S	Spec	. #2211			6.00	Ton	
		Bituminous	8	Spec	. #2331			20.00	Ton	
	Surface.									
	Guillett.	Bituminous	S	Spec	. #2331		S	20.00	Ton	
		Bituminous	S	Spec	. #2341			23.50	Ton	
		Bituminous	S	Spec	. #2361			30.00	Ton	
	Shoulde	rs:				•				
		Gravel	S	Spec	. #2221		S	5 7.00	Ton	
	Miscella	neous:								
	Storm Sewer Construction						\$	196,000.00	Mile	
	Storm Sewer Adjustment							62,000.00	Mile	
	Special Drainage-Rural						25,000.00 Mile			
		Traffic Signa	als				18,750 to	75,000.00	Mile	
Signal	Needs B	ased On Proj	ected Tra	affic						
Project	ed Traffi	c Pe	ercentage	Х	Unit Price	=		Ne	eds Pe	r Mile
<b>0</b> -	4,999	<u>.</u>	.25		\$75,000	=	\$	5 18,750.00	Mile	
5,000	- 9,999		.50		75,000	=		37,500.00	Mile	
10,000	& Over		1.00		75,000	=		75,000.00	Mile	
	Street Lighting	16,000.00 Mile								
------	-------------------	----------------	---------------							
	Curb & Gutter		5.50 Lin. Ft.							
	Sidewalk		14.00 Sq. Yd.							
	Engineering		18%							
Remo	val Items:									
	Curb & Gutter	\$	1.60 Lin. Ft.							
	Sidewalk		4.00 Sq. Yd.							
	Concrete Pavement		4.00 Sq. Yd.							
	Tree Removal	1	40.00 Unit							

#### **STRUCTURES**

Bridge Costs - Oct. 1961 (Revised Annually)

That for the study of needs on the Municipal State Aid Street System, bridge costs shall be computed as follows:

Bridges 0 to 149 Ft.	\$ 55.00 Sq. Ft.
Bridges 150 to 499 Ft.	60.00 Sq. Ft.
Bridges 500 & Over	65.00 Sq. Ft.
Bridge Widening	150.00 Sg. Ft.

"The money needs for all "non-existing" bridges and grade separations be removed from the Needs Study until such time that a construction project is awarded. At that time a money needs adjustment shall be made by annually adding the total amount of the structure cost that is eligible for State Aid reimbursement for a 15-year period." This directive to exclude all Federal or State grants.

Bridge Width & Costs - (Revised Annually)

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That after conferring with the Bridge Section of Mn/DOT and using the criteria as set forth by this Department as to the standard design for railroad structures, that the following costs based on number of tracks be used for the Needs Study:

### Railroad Over Highway

Number of Tracks - 1	\$4,000 ]	Lin.	Ft.
Each Additional Track	\$3,000 ]	Lin.	Ft.

## RAILROAD CROSSINGS

Railroad Crossing Costs - (Revised Annually)

That for the study of needs on the Municipal State Aid Street System, the following costs shall be used in computing the needs of the proposed Railroad Protection Devices:

# Railroad Grade Crossings

Signals - (Single track - low speed) Signals and Gates(Multiple Track - high Signs Only & low speed) Rubberized Railroad Crossings (Per Track) \$ 80,000 Unit
\$110,000 Unit
\$ 500 Unit
\$ 850 Lin. Ft.

# Maintenance Needs Costs - June 1990

That for the study of needs on the Municipal State Aid Street System, the following costs shall be used in determining the maintenance apportionment needs cost for existing facilities only.

	Cost For Under 1000 Vehicles Per Day	Cost For Over 1000 Vehicles Per Day	
Traffic Lanes:	\$1,200	\$2,000	
Segment length times number of traffic lanes times cost per mile.	(Per Mile)	(Per Mile)	
Parking Lanes:	\$1,200	\$1,200	
Segment length times number of parking lanes times cost per mile.	(Per Mile)	(Per Mile)	
Median Strip:	\$ 400	\$ 800	
Segment length times cost per mile.	(Per Mile)	(Per Mile)	
Storm Sewer:	\$ 400	\$ 400	
Segment length times cost per mile.	(Per Mile)	(Per Mile)	
Traffic Signals:	\$ 400	\$ 400	
Number of traffic signals times cost for each signal.	(Per Each)	(Per Each)	
Unlimited Segments: Normal M.S.A.S. Streets.			
Minimum allowance for mile is determined	\$4,000	\$4,000	
by segment length times cost per mile.	(Per Mile)	(Per Mile)	

Limited Segments: Combination Routes.

Minimum allowance for mile is determined\$2,000\$2,000by segment length times cost per mile.(Per Mile)(Per Mile)

## NEEDS ADJUSTMENTS

Expenditures Off State Aid System - Oct. 1961

That any authorized Municipal State Aid expenditure on County State Aid or State Trunk Highway projects shall be compensated for by annually deducting the full amount thereof from the Money Needs for a period of ten years.

Bond Adjustment - Oct. 1961 (Revised 1976, 1979)

That a separate annual adjustment shall be made in total money Needs of a municipality that has sold and issued bonds pursuant to Minnesota Statutes, Section 162.18, for use on State Aid projects.

That this adjustment, which covers the amortization period, and which annually reflects the net unamortized bonded debt shall be accomplished by adding said net unamortized amount to the computed money needs of the municipality.

For the purpose of this adjustment, the net unamortized bonded debt shall be the total unamortized bonded indebtedness less the unexpended bond amount as of December 31st of the preceding year.

That for the purpose of this separate annual adjustment, the unamortized balance of the St. Paul Bond Account, as authorized in 1953, 2nd United Improvement Program, and as authorized in 1946, Capital Approach Improvement Bonds, shall be considered in the same manner as those bonds sold and issued pursuant to Minnesota Statutes, Section 162.18.

"Bond account money spent off State Aid System would not be eligible for Bond Account Adjustment. This action would not be retroactive, but would be in effect for the remaining term of the Bond issue."

#### Unencumbered Construction Fund Balance Adjustment - Oct. 1961

(Revised June 1986)

That for the determination of Apportionment Needs, the amount of the unencumbered construction fund balance as of September 1st of the current year shall be deducted from the 25-year total Needs of each individual municipality.

Projects that have been received before September 1st by the District State Aid Engineer for payment shall be considered as being encumbered and the construction balances shall be so adjusted.

# Right of Way - Oct. 1965 (Revised June 1986)

The Right of Way needs shall be included in the apportionment needs based on the unit price per mile, until such time that the right of way is acquired and the actual cost established. At that time a money needs adjustment shall be made by annually adding the local cost (which is the total cost less county or trunk highway participation) for a 15-year period. Only right of way acquisition costs that are eligible for State-Aid reimbursement shall be included in the right-of-way money needs adjustment. This Directive to exclude all Federal or State grants. Right-of-way projects that are funded with State Aid Funds will be compiled by the State Aid Office. When "After the Fact" needs are requested for right-of-way projects that have been funded with local funds, but qualify for State Aid reimbursement, documentation (copies of warrants and description of acquisition) must be submitted to the State Aid Office.

# Trunk Highway Turnback - Oct. 1967 (Revised June 1989)

That any trunk highway turnback which reverts directly to the municipality and becomes part of the State Aid Street system shall not have its construction needs considered in the money needs apportionment determination as long as the former trunk highway is fully eligible for 100 percent construction payment from the Municipal Turnback Account. During this time of eligibility, financial aid for the additional maintenance obligation, of the municipality imposed by the turnback shall be computed on the basis of the current year's apportionment data and shall be accomplished in the following manner.

Initial Turnback Maintenance Adjustment - Fractional Year Reimbursement:

The initial turnback adjustment when for less than 12 full months shall provide partial maintenance cost reimbursement by adding said initial adjustment to the money needs which will produce approximately 1/12 of \$7,200 per mile in apportionment funds for each month or part of a month that the municipality had maintenance responsibility during the initial year.

To provide an advance payment for the coming year's additional maintenance obligation, a needs adjustment per mile shall be added to the annual money needs. This needs adjustment per mile shall produce sufficient apportionment funds so that at least \$7,200 in apportionment shall be earned for each mile of trunk highway turnback on Municipal State Aid Street System.

Turnback adjustments shall terminate at the end of the calendar year during which a construction contract has been awarded that fulfills the Municipal Turnback Account Payment provisions; and the resurfacing needs for the awarded project shall be included in the Needs Study for the next apportionment.

TRAFFIC - June 1971

## Traffic Limitation on Non-Existing Streets - Oct. 1965

That non-existing street shall not have their needs computed on a traffic count of more than 4,999 vehicles per day unless justified to the satisfaction of the Commissioner.

### Traffic Manual - Oct. 1962

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That for the 1965 and all future Municipal State Aid Street Needs Studies, the Needs Study procedure shall utilize traffic data developed according to the Traffic Estimating Manual - M.S.A.S. #5-892.700. This manual shall be prepared and kept current under the direction of the Screening Board regarding methods of counting traffic and computing average daily traffic. The manner and scope of reporting is detailed in the above mentioned manual.

Traffic Counting - Sept. 1973 (Revised June 1987)

That future traffic data for State Aid Needs Studies be developed as follows:

- 1. The municipalities in the metropolitan area cooperate with the State by agreeing to participate in counting traffic every two years.
- 2. The cities in the outstate area may have their traffic counted for a nominal fee and maps prepared by State forces every four years, or may elect to continue the present procedure of taking their own counts and preparing their own traffic maps at four year intervals.
- 3. Some deviations from the present four-year counting cycle shall be permitted during the interim period of conversion to counting by State forces in the outstate area.