



**RULES AND REGULATIONS  
FOR  
STATE AID OPERATIONS  
UNDER  
CHAPTER 943 LAWS OF 1957**

**MINNESOTA DEPARTMENT OF HIGHWAYS  
JANUARY 9, 1959**



A public hearing pursuant to Chapter 943 of the Laws of 1957, has been duly held by me at the Auditor's Office, State Capitol Building, St. Paul, Minnesota at 10:00 o'clock on the 8th day of January, 1959, now then:

Pursuant to authority vested in me by the Constitution of the State of Minnesota, particularly by Chapter 943 of the Laws of 1957, I hereby promulgate, prescribe and adopt the following and attached rules and regulations relating to and governing for state aid operations under Chapter 943, Laws of 1957.

## **RULES AND REGULATIONS**

**FOR**

## **STATE AID OPERATIONS**

**UNDER**

## **CHAPTER 943 LAWS OF 1957**

The Attorney General, under provisions of Minnesota Statutes 1953, Section 15.042, hereby approves the following and attached rules and regulations, promulgated and adopted by the Commissioner of Highways on the 8th day of January, 1959.

MILES LORD  
Attorney General

By: *Paul A. Skervold*  
PAUL A. SKERVOLD  
Deputy Attorney General

Dated this 9th day of January, 1959

**MINNESOTA DEPARTMENT OF HIGHWAYS**  
**JANUARY 9, 1959**

CERTIFICATION

Order Number 28528

A public hearing pursuant to notice duly given, having been duly held by me at the Auditorium of the State Office Building, St. Paul, Minnesota at 10:00 o'clock a.m. on January 5th, 1959, now then:

Pursuant to authority vested in me by law and particularly by Chapter 943 of the Laws of 1957, I do hereby promulgate, prescribe and adopt the following and attached rules and regulations relating to and providing for state aid operations under Chapter 943, Laws of 1957.

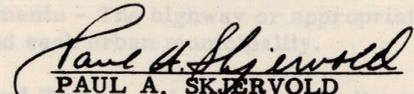
Dated at St. Paul, Minnesota, this 9th day of January, 1959

  
L. P. ZIMMERMAN  
Commissioner of Highways

The Attorney General, under provisions of Minnesota Statutes 1953, Section 15.042, hereby approves the following and attached rules and regulations, promulgated and adopted by the Commissioner of Highways on the 9th day of January, 1959.

MILES LORD  
Attorney General

By:

  
PAUL A. SKJERVOLD  
Deputy Attorney General

Dated this 12 day of January, 1959

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RULES AND REGULATIONS

Adopted on August 15, 1957  
Revised on January 9, 1959

Section 1.1 Definitions - For purposes of these Rules and Regulations the following terms shall mean:

- (1) Commissioner - The Commissioner of Highways.
- (2) State Aid Engineer - The State Aid Engineer of the Minnesota Highway Department.
- (3) District Engineer - A District Engineer of the Minnesota Highway Department.
- (4) County Engineer - The County Engineer of each respective county.
- (5) City Engineer - The City Engineer of each respective city, village, or borough.
- (6) Needs Report - A report of the estimated construction cost required to improve a State Aid system to standards adequate for future traffic on a uniform basis. Needs on the Municipal-State Aid System shall include the estimated maintenance allowance.
- (7) County Municipal Account - A separate record of that portion of the County-State Aid Highway Funds allocated for expenditure solely within cities, villages, and boroughs having less than 5,000 population.
- (8) Urban Municipality - Any city, village, or borough having 5,000 or more population determined in accordance with the provisions of Chapter 943, Laws of 1957, and Acts amendatory thereto.
- (9) Local Highway Departments - The highway or appropriate department of each county and each urban municipality.

Section 1.2 Organization and Powers of Local Highway Departments.  
Each county and each urban municipality shall establish and maintain a highway or street department having sufficient powers and adequately equipped, organized, and staffed to administer (to the satisfaction of the Commissioner) the duties required under these regulations.

Each local highway department shall employ or retain a professional engineer, registered in the State of Minnesota, to prepare plans and specifications, to supervise construction, and to make the necessary reports.

Such departments shall be adequately organized, equipped, and staffed to exercise all functions incidental to operation of the State Aid Program under the provisions of Chapter 943, Laws of 1957, and Acts amendatory thereto; and to administer for the county or urban municipality all matters relating to the operation of the State Aid Program.

Section 1.3 Selection and Designation of State Aid Systems - The state aid highways and streets designated to form the basis for a long range improvement program shall, in general, be so selected as to form an integrated network of roads and streets in accordance with the following provisions:

(1) Systems - The highway and street systems to be selected and designated in accordance with the appropriate provisions of Chapter 943, Laws of 1957, are

- (a) County-State Aid System not exceeding 30,000 miles in extent.
- (b) Municipal-State Aid System not exceeding 1,200 miles in extent within urban municipalities.

Final selection of routes to be included in the respective County-State Aid and Municipal-State Aid Systems shall be subject to the approval of the Commissioner.

(2) Criteria - Highways and streets selected and designated to form the County-State Aid and Municipal-State Aid Systems shall have sufficient width of right of way to provide for the minimum construction standards as adopted; consisting of sixty-six (66) feet in rural areas and sixty (60) feet within municipalities, except for conditions which, in the opinion of the Commissioner, would warrant modification. They shall further be selected on the basis of the following criteria:

- (a) County-State Aid Highway System; roads which
  1. Carry relatively heavier traffic volumes;
  2. And connect towns, communities, shipping points, and markets within a county or in adjacent counties;
  3. Or provide access to rural churches, schools, community meeting halls, industrial plants, state institutions, and recreational areas;
  4. Or serve as principal arteries of rural mail routes and school bus routes;
  5. Or act as collectors of major traffic from several roads of local interest;
  6. And occur at reasonable intervals consistent with the density of population;
  7. And provide an integrated and coordinated highway system, affording within practical limits a state aid highway network consistent with local traffic demands.

- (b) Municipal-State Aid System; streets which
  1. Carry relatively heavier traffic volumes;
  2. And connect the points of major traffic interest within a city;
  3. Or connect with rural roads or urban routes of community interest and carry major traffic into and through cities;
  4. And form a system of streets which will effectively serve traffic within the city.

(3) Selection - On or before August 1, 1957, a tentative system of County-State Aid Highways and Municipal-State Aid Streets shall be selected by resolution of the respective boards of county commissioners, or the respective governing bodies of urban municipalities, as the case may be. Said systems shall be reviewed by the respective district engineers, and their recommendations filed with the Commissioner for approval. Each such tentative system shall be reviewed under the direction of the Commissioner. Within three months after receipt by him of each such resolution and recommendation, the Commissioner shall approve all or such part of that tentative system of County-State Aid Highways or Municipal-State Aid Streets as complies with uniform standards, specifications, and other requirements set out in these regulations. The Commissioner shall certify to the respective boards of county commissioners or governing bodies of urban municipalities, as the case may be, the approved portion of the tentative system and deletions, if any, therefrom. Only those portions of the tentative systems that are approved by the Commissioner shall constitute the County-State Aid Highway and Municipal-State Aid Street Systems of each respective county, or urban municipality, subject to such additions or revisions as may be from time to time requested and approved.

Section 1.4 State Aid Apportionments - All state aid apportionments shall be made from the County-State Aid Highway Fund and the Municipal-State Aid Street Fund, respectively, as provided by Chapter 943, Laws of 1957, and Acts amendatory thereto. Apportionments to the respective counties and urban municipalities shall be released in accordance with Section 1.5 of these regulations.

(1) Money Needs

- (a) Construction Cost Estimates - To provide data to implement the formulas for state aid apportionment, each county highway engineer and urban municipal engineer shall prepare cost estimates of construction required to improve his County-State Aid or Municipal-State Aid System to approved standards.

(b) Incidental Costs - In addition to the direct construction or maintenance costs permitted under law, the cost of the following incidental items will be considered as eligible for inclusion in the total estimate of needs;

- (i) County-State Aid Highways
  - Automatic traffic control signals
  - Lighting of intersections and bridges within approved standards
  - Proportional share of all drainage costs within municipalities to reflect the responsibility of the state aid highway.
- (ii) Municipal-State Aid Streets
  - Right of way
  - Automatic traffic control signals
  - Lighting of intersections and bridges within approved standards
  - Proportional share of all drainage costs to reflect the responsibility of the state aid street.

(2) Screening Committees - Such cost estimates shall be tabulated and referred to screening committees appointed pursuant to law. These committees shall investigate and review such cost estimates and file their report as required therein.

(3) Compilation of Data by Commissioner - The Commissioner shall determine the apportionment percentage due each county and municipality in accordance with the formulas established by law.

(4) Notice of Annual Apportionment - Not later than January 25 of each year, the Commissioner shall certify the annual apportionment to each respective county or urban municipality.

(5) Semi-Annual Statements - Within 30 days after the close of each six month period, the Commissioner shall certify to each county or urban municipality, semi-annual statements as to the status of the respective state aid accounts.

Section 1.5 State Aid Payments - Annual apportionments to the respective counties and to urban municipalities under Chapter 943, Laws of 1957, and Acts amendatory thereto shall be released in the following manner:

(1) For Maintenance - As soon as the annual County and Urban Municipal State Aid Allotments have been determined, the Commissioner shall apportion and set aside the following amounts:

- (a) Forty percent of the regular County-State Aid allotment for the general maintenance of County-State Aid highways.
- (b) Forty percent of the County Municipal account allotment for the maintenance of County-State Aid highways within municipalities of less than 5,000 population.

(c) The Commissioner will, upon receipt of a resolution from the County Board, and for good cause shown, increase or decrease the proportion to be used for maintenance under either subsection (a) or (b) above.

(d) Twenty-five percent of the Municipal-State Aid Street Allotment to each urban municipality shall be initially set aside for the maintenance of the Municipal State Aid Streets. Such maintenance apportionment shall be deemed to have been made as a joint determination of the Commissioner and the governing body of each urban municipality unless an adjustment in such maintenance apportionment is requested by resolution of the governing body.

(e) Any unobligated balance remaining in the State Aid Maintenance Account to the credit of any county or urban municipality, after final settlement has been made for the annual maintenance expenditures, shall be automatically transferred to the construction account of said county or municipality.

At the earliest practical date, after the allotments have been determined, the Commissioner shall release an amount not to exceed 50 percent of each such maintenance apportionment to the respective counties and urban municipalities, as an advance for the necessary maintenance operations. On or about July 1 each year, he shall release an additional advance in an amount not to exceed 40 percent of the total of each said maintenance allotment. The Commissioner shall retain the remaining amounts of said apportionments pending the determination of the final amount due, based on a report of actual maintenance expenditures and receipt of the District Engineer's certification of acceptable maintenance performance.

(2) For Construction Projects - Funds credited to the county or urban municipality for construction of approved projects shall to the extent available be promptly paid in accordance with the following schedule:

(a) Contract - The Commissioner shall promptly, upon receipt of an Abstract of Bids and a Certification as to the Contract and Bond executed therein, release up to 90 percent of the contract amount to said county or municipality. The Commissioner shall retain the remaining percentage of the contract cost of said project until the same has been completed, the final cost determined and the project accepted by the District Engineer.

(b) Force Account - Monthly estimates will be accepted on all projects approved for construction by local forces, using the agreed unit prices for arriving at the value of the completed work. The Commissioner shall promptly release ninety (90) percent of the cost of the accomplishment represented by each such monthly estimate. The Commissioner shall retain the remaining percentage of the cost of the project until the final cost has been determined and the project accepted by the District Engineer.

- (c) **Engineering Costs** - Upon receipt of an Abstract of Bids and a Certification as to the Contract and Bonds, or upon receipt of monthly estimates on approved Force Account projects, the Commissioner shall upon request release additional amounts to cover the actual cost of preliminary engineering, not to exceed 5 percent of the total estimated cost. Upon final acceptance of a construction project completed pursuant to contract or on a force account basis, the Commissioner shall upon request release additional amounts to cover the actual cost of construction engineering not to exceed 7 percent of the total construction cost.
- (d) **Right of Way** - State Aid payments on right of way costs shall be limited to 90 percent of the approved claims until the acquisition of all right of way required for that project is actually completed.
- (e) **For County Federal Aid Projects** - The Commissioner, under authority of an agency agreement with a county board, and acting as its agent in Federal Aid operations, will release ninety (90) percent of the county share of the entire contract obligation for immediate redeposit in an agency account for use in paying the county share of the partial estimates and for advancing the federal share of such estimate payments.
- (3) **Other Authorized Payments** - In accordance with Chapter 943, Laws of 1957, and Acts amendatory thereto; local governments may request authorization to use part of their state aid allotments for improvement or maintenance of roads and streets off the state aid system.
- (a) The county board or governing body of any urban municipality desiring to use a part of its state aid funds for this purpose shall certify to the Commissioner either that all of its existing State Aid routes are improved to State Aid standards, or that it is experiencing a hardship condition in regard to financing its local roads or streets while holding its current road and bridge levy equal to or greater than said levy for previous years. Where a hardship transfer is requested, the Commissioner may require fiscal information showing the extent of the financial deficiency. Within 30 days of the receipt of a request for transfer, the Commissioner shall act to authorize or deny the transfer of State Aid funds for use outside of the approved State Aid system.
- (b) Upon approval of the requested transfer, the Commissioner without requiring any progress reports, shall within 30 days, authorize immediate payment of not less than 50 percent of the total amount, with the balance to be paid within 90 days, or schedule immediate payment of the entire amount authorized if the Commissioner determines there are sufficient funds available.

**Section 1.6 State Aid Standards** - Subject to approval by the Commissioner, geometric design standards shall be cooperatively determined for use on all state aid roads and streets.

(1) **Geometric Design Standards** - The Commissioner, in cooperation with representatives of the Minnesota County Highway Engineers Association or the Minnesota City and Village Engineers Association, as the case may be, shall establish desirable minimum geometric design standards for use in improving County-State Aid and Municipal-State Aid Routes. Copies of these current standards shall be furnished with these Rules and Regulations.

(a) **Revisions** - When need for revision of state aid standards arises, the Commissioner shall confer with representatives of the county or city engineers associations and determine such change as might be necessary or desirable, and cause such change to be made in the same manner as outlined above.

(2) **Specifications** - Specifications for construction shall be the latest approved Minnesota Department of Highways specifications, except as modified by special provisions which set forth conditions or requirements for work or materials not covered by the approved specifications, or which set forth conditions or requirements to meet exigencies of construction peculiar to the approved project.

**Section 1.7 State Aid Operations** - State Aid funds allotted to counties and urban municipalities under Chapter 943, Laws of 1957, and Acts amendatory thereto, shall be expended in accordance with the following provisions:

(1) **Maintenance** - The Commissioner shall require a reasonable standard of maintenance effort and operation on all state aid routes within the county or urban municipality consistent with available funds, the existing street or road condition, and the traffic being served.

(a) **Unsatisfactory Maintenance** - When, in the opinion of the Commissioner, any county or municipal state aid route is determined to be in an unsatisfactory or neglected condition, he shall retain 10 percent of the current annual maintenance apportionment to the responsible county or municipality. Funds so retained shall be held to the credit of that county or municipality until the Commissioner is satisfied that the unsatisfactory condition has been corrected and that a reasonable standard of maintenance has been accomplished.

(b) **Biennial Report** - The Commissioner's Biennial Report to the Legislature shall enumerate all such funds retained more than 90 days subsequent to January 1 of each year, together with an explanation for this action.

(2) Construction - Surveys, plans, and estimates for all state aid projects shall be prepared by or under the immediate direction of the county or city engineer in accordance with standards as to form and arrangement prescribed by the Commissioner.

(a) Plans and Estimates - Plans and estimates must be submitted for each state aid construction project. Only those projects for which plans and estimates are approved by the state aid engineer shall be eligible for state aid construction funds.

(b) Project Numbers - Approved projects will be assigned state aid project numbers and shall be so identified in records of the state highway department and the local governmental unit.

(c) Contract Information - Upon award of a state aid contract by any county or urban municipality, the engineer thereof shall furnish the Commissioner with an abstract of bids and a certification as to the specific contract and bond executed for said approved construction work.

(d) Force Account - Any county or urban municipality desiring to use funds credited to it under the State Aid Act shall have its engineer file a request with the Commissioner for each construction project to be built by the county or urban municipality at agreed unit prices, which shall be based upon estimated prices for contract work, less a reasonable percentage to compensate for move-in, move-out, taxes, and contractor's profit. Such requests shall contain a complete list of pay items and the unit prices at which it is proposed to do the work. Prior to the approval by the Commissioner, the District Engineer shall file his recommendations as to approval of the request and the cost estimate. Items of work other than those listed as a pay item or approved by supplemental agreements shall be considered incidental work not eligible for state aid payment.

(e) Project Reports - Prior to final acceptance of each construction project by the Commissioner, the county engineer or the city engineer shall submit to the Commissioner such final project records as the Commissioner may deem necessary or desirable.

(f) Retained Percentages - On all state aid construction projects, the Commissioner shall retain 10 percent of the contract amount, or of each partial estimate in the case of force account agreements, until final acceptance by him of the work under consideration. Upon receipt of required reports and data and a recommendation of final acceptance by the District Engineer, the Commissioner shall, within the limit of funds available therefor, authorize payment to the county or urban municipality, such additional amount as is required to cover the total costs shown in the approved final estimate, plus the eligible allowance for construction engineering.

Section 1.8 General Rules and Regulations - In addition to those heretofore mentioned, expenditures of state aid funds by any county or urban municipality also shall conform to the following rules and regulations.

(1) State aid construction projects shall comply with all Federal, State, and local laws, together with all ordinances and regulations applicable to the work. Responsibility for compliance with this requirement shall rest entirely with the local unit of government.

(2) Plans for all bridge construction or bridge reconstruction projects shall be approved by the Bridge Engineer of the Minnesota Department of Highways prior to the approval of the State Aid Engineer.

(3) Annual reports, status maps, and all maintenance and construction reports and records shall be filed at the time and in the form specifically requested by the Commissioner or his authorized representatives.

(4) The Commissioner, upon determination that a county or urban municipality has failed to comply with the established state aid requirements, shall determine the extent of the nonconformance, the amount of its apportionment to be retained, and he shall withhold payment of same until suitable compliance is obtained. The amount withheld shall reasonably approximate the extent of the noncompliance.

(5) The Commissioner may, if otherwise authorized by law, execute agreements with any county or urban municipality for technical assistance from the Department of Highways. These services, if furnished, shall be paid for by the governmental subdivision at the established rates.

(6) After the enactment of enabling legislation and upon request by the governing body, the Commissioner may authorize construction of an approved project requiring funds in excess of the State Aid funds currently available. Any money paid out of other funds by the county or urban municipality for the construction of all eligible items on such approved state aid project will be eligible for payment from such state aid funds subsequently credited to said governmental subdivision, within the limits of the next year's construction allocation account. Any payments so due at the end of the year will be paid by the Commissioner as soon as practical after the next year's allocation has been made.

Section 1.9 General State Aid Limitations - The extent of state aid participation on special items shall be limited as follows:

(1) Lighting

The lighting of hazardous or accident-prone locations where concurred in by the Traffic and Planning Engineer of the Minnesota Department of Highways, shall be considered an eligible expense to the following extent:

(a) New Construction

Cost of complete lighting at approved locations only on multiple lanes.

Cost of lighting approved intersections on single-lane design. Locations where the municipality would normally install lighting units are not considered as an eligible expense. The county or urban municipality shall furnish traffic information or other needed data to support its request.

(b) Reconstruction

All costs incidental to the necessary revision or relocation of existing lighting facilities, up to and including the cost of completing the new base.

(2) Traffic Control Signals

Signals for the control of traffic shall be considered an eligible expense wherever the need of said signals is concurred in by the Traffic and Planning Engineer of the Minnesota Department of Highways.

(3) Right of Way

Only the cost of those lands and properties required to accommodate the design width of the street or highway as governed by the state aid standards, including necessary width for sidewalks, shall be considered as eligible expense.

(4) Sidewalks

Sidewalks shall be considered as an eligible expense only where the proposed construction necessitates the alteration of existing walks.

Section 2.0 Disaster Fund - Any disaster appropriation approved by the Commissioner for a county or municipality in accordance with law, shall be promptly paid to the county or urban municipality for which such appropriation was authorized. The funds so allotted and paid to the county or urban municipality can only be spent for the purposes for which it was authorized, and within a reasonable time period specified by the Commissioner. Forthwith upon completion of the work for which the disaster payment was made, or the time specified for doing such work, whichever occurs first, the county or urban municipality shall file a report certifying the extent of the authorized work completed, and showing the total expenditure made therein. In the event the total disaster allotment was not required or used for the purpose specified, the remainder shall be promptly returned to the Commissioner for redeposit in the disaster fund from which it was obtained.

Section 2.1 Personal Expenses of Authorized Board or Committee Members - The personal expenses of all authorized board or committee members incurred for travel and other necessary expenses on authorized business may be submitted to the Commissioner for payment from the State Aid Administrative Fund. Claims for these expenses shall be submitted on forms furnished by the Commissioner.

## MINIMUM GEOMETRIC DESIGN STANDARDS

These minimum geometric design standards are not a part of the State Aid Rules and Regulations promulgated by the Commissioner of Highways.

The following standards for the County-State Aid and Municipal-State Aid Systems herein described, adopted August 15, 1957, and referred to in Section 1.6 of the Rules and Regulations shall be established as the minimum for the geometric design on construction or reconstruction of the State Aid roads and streets and for the computation of needs on these systems. Any deviation below these minimum standards, or as subsequently amended, because of topographic or economic considerations must be adequately justified to the satisfaction of the Commissioner.

### (1) County-State Aid Highways

#### A. Rural Design

Rural Design as hereafter described shall be used on all roads in undeveloped areas including undeveloped areas within corporate limits.

#### (a) Roadway Widths and Surface (in feet)

Estimated 1975 Average Daily Traffic Volume	Base Design	Surface Type	Subgrade	Width	
				Finished Roadway	Surface
Under 100	-	Aggregate	24	24	22
100 - 399	5 ton	Road Mix	30	26	22
400 - 999	7 ton	Plant Mix	32-34	28-30	24
1000 and over	7-ult. 9 ton	Plant Mix	36-38	30-32	24

Wherever economically justified, the design may include Portland Cement concrete pavement.

#### (b) Design Speed (in miles per hour)

Estimated 1975 Average Daily Traffic Volume	Terrain		
	Flat	Rolling	Mountainous
Under 100	45	40	30
100 - 399	50	50	40
400 - 999	60	50	45
1000 and over	60	50	45

### (c) Maximum Degree of Curve (in degrees)

Estimated 1975 Average Daily Traffic Volume	Terrain		
	Flat	Rolling	Mountainous
Under 100	10	12	22
100 - 399	8	10	14
400 - 999	5	8	10
1000 and over	4	5	8

### (d) Maximum Gradient (in percent)

Estimated 1975 Average Daily Traffic Volume	Terrain		
	Flat	Rolling	Mountainous
Under 100	5	7	10
100 - 399	4	5	8
400 - 999	3	5	7
1000 and over	3	4	6

### (e) Non-Passing Sight Distance (in feet)

Estimated 1975 Average Daily Traffic Volume	Terrain		
	Flat	Rolling	Mountainous
Under 100	320	300	275
100 - 399	350	350	300
400 - 999	475	350	320
1000 and over	475	350	320

### (f) Bridge Standards

Estimated 1975 Average Daily Traffic Volume	New Bridges	
	Clear Width	Design Load (AASHO)
Under 100	24 feet	H - 20
100 - 399	* 24	H - 20
400 - 999	30	H - 20

\* Minimum of 24 feet but not less than 2 feet wider than surfaced widths on structures of 80 feet or less in length.

General Note: Consideration should be given to constructing all short span structures to full shoulder width.

(g) Bridges to Remain

Estimated 1975 Average Daily Traffic Volume	Clear Width	Safe Load (Posting Basis in Tons)
Under 100	18 feet	10 ton
100 - 399	24	15
400 - 999	24	15

B. Municipal Design

Any incorporated or unincorporated area which, in the opinion of the county engineer and the Commissioner of Highways, is sufficiently developed, shall warrant the use of the design geometrics approved for the municipal-state aid streets and shall be designed on that basis.

(2) Municipal-State Aid Streets

A. Rural Design

When, in the opinion of the municipal engineer and the Commissioner of Highways, the area served by the road is not presently, nor will it be in the foreseeable future, sufficiently developed to warrant the use of municipal design, then the rural design of the county-state aid highways shall prevail and the road shall be designed on that basis.

B. Municipal Design

The design geometrics for the construction or reconstruction of the municipal-state aid streets shall be determined by the type and volume of traffic and specific project considerations conforming to the minimum requirements within the limits of the roadway widths and other design data as described hereafter.

(a) Minimum Roadway Widths

Through Lanes	Number of lanes	Lane width, feet	Total width in feet: Out to out of pavement (s) or face to face of outer curbs				With 4' median and two parking lanes
			Undivided; no parking lanes	With median no parking lanes 4' med.	With median 14' med.	Undivided; with parking lanes One side Both sides	
2**	A*10		-	-	-	-	-
	B 11		22	-	-	-	40
	C 12		24	-	-	-	42
4	A 10		40	44	54	50	60
	B 11		44	48	58	54	64
	C 12		48	52	62	58	68
6	A 10		60	64	74	70	80
	B 11		66	70	80	76	86
	C 12		72	76	86	82	92
8	A 10		80	84	94	-	-
	B 11		88	92	102	-	-
	C 12		96	100	110	-	-

\* - Minimums.

A - Absolute minimum - to be used only under extreme conditions.

B - Acceptable minimum - where conditions warrant.

C - Desirable minimum - wherever feasible.

\*\* - Should not be considered except where continuous shoulder or parking lane is provided on each side.

Traffic warrants for all multiple lane design will be based upon currently approved A. A. S. H. O. standards.

(b) Base Design

All base requirements for municipal design shall be computed on the basis of a 7 ton, 7 ultimate 9 ton, or 9 ton design, depending upon the classification of traffic projections as either light, medium, or heavy traffic, respectively. For the purpose of classifying traffic volumes, light traffic shall be considered less than 1500 vehicles per day, medium traffic from 1500 to 3000 vehicles per day, and heavy traffic over 3000 vehicles per day based upon a 20-year projection, for two traffic lanes.

(c) Base and Surface Types

The type of construction selected is to be determined by the type and volume of traffic, comparative costs, and special requirements pertinent to the project. In general, the following relationships shall govern:

Traffic	Base Type	Surface Type
Light	Granular	Road or Plant Mix Bituminous
Medium	Granular or Concrete	Plant Mix Bituminous
Heavy	Granular or Concrete	Concrete or High Type Bituminous

The classification of traffic shall be the same as for subsection (b) Base Design.