

SECTION 6

TRANSPORTATION

6.1 INTRODUCTION

6.1.1 General

Transportation systems form an integral part of the infrastructure required to accommodate growth in urban communities. To ensure that its transportation system is developed efficiently and effectively, the Town of Edson with the cooperation and funding assistance of Alberta Transportation, initiated a transportation study for the Edson area. This study was completed in November 1980 and provides a strategy and transportation plan for the orderly, timely and economical development of roadways in the Edson area as planned expansion occurs.

The presently developed portion of Edson is now almost entirely paved as a result of an on-going Street Improvement Program initiated in 1979. This Program will be completed in the next year to two years depending on budget constraints and will bring the Town to a relatively finished state with respect to on-site road works.

The Hamlet of Glenwood, which falls within the proposed annexation area, currently is served by gravel streets with surface drainage. The cost of upgrading the Hamlet to the same standard as the existing Town of Edson has not been addressed here.

This section of the report will therefore mainly provide an overview of the Transportation Study and include information which is considered important in undertaking future engineering and construction projects within the Town of Edson in order to serve the future development areas.

For more detailed information on specific topics, reference should be made to the Transportation Study Report.¹

6.1.2 Roadway Classification

For transportation planning and design purposes, roadways are most easily and effectively classified by function. Roadways have two principal functions: to provide mobility and to provide land access. However, from a design point of view, these functions are not always complementary. For example, for mobility, high or constant speeds are desirable and variable or low speeds are undesirable. Conversely, for land access the opposite is true.

It is important to have a functional classification for all principal roadways in the Town of Edson and fringe areas, so that design criteria can be established and applied to encourage the use of the road as intended. Design features that can convey the level of functional classification to the driver include: width of urban roadway, continuity of alignment, spacing of intersections, frequency and location of driveways, building setbacks, alignment and grade standards and finally, traffic controls.

Although numerous sub-classifications are possible, there are four generally accepted categories or classes of roadways; Highway (or Freeway, Expressway or Parkway in an urban area), Arterial, Collector, and Local.

A Highway's principal function is to provide for through traffic movement and to accommodate longer-distance-type trips within a region. Few access points to the highway are permitted and these are usually controlled by means of a grade separated interchange. In most urban and suburban areas access would be provided at one to two mile intervals. No direct access is permitted to individual developments unless these are of a sufficiently large magnitude to require an interchange. In urban areas, volumes on a highway usually exceed 20 000 vehicles per day.

1 Edson Area Transportation Study, Stanley Associates Engineering Ltd., November, 1980.

Arterials may be classified as urban or rural. Rural arterials, together with highways provide traffic movement between points in the region. An Urban Arterial's principal function is to connect the principal areas of traffic generation in a community. Ideally, only other Arterial roadways or Collector roadways should intersect with Arterials. Urban Arterial intersections are usually controlled by means of traffic signals, however in certain circumstances grade separated interchanges may be provided. Urban Arterial should desirably have no direct access to land developments. Traffic volumes on urban Arterials usually vary between 10 000 and 30 000 vehicles per day. Traffic volumes on rural Arterials usually vary between 1 000 and 12 000 vehicles per day. Parking is usually not permitted.

Collector roadways provide for both traffic movement and land access. Accordingly, equal roles are played with respect to providing access to individual properties and providing for traffic movement. This class of roadway also has rural and urban sub-classifications. In general, urban collector roadways accommodate most of the traffic movements between neighbourhoods and usually these streets serve as local bus routes. The average trip length and speed is much lower than on urban Arterials, and average traffic volumes range between 1 000 and 12 000 vehicles per day. Most residential Collectors carry less than 5 000 vehicles per day. Parking may be permitted on Collector roadways.

A Local Street's function is to supply direct access to abutting land. Through traffic is discouraged and traffic volumes are usually below 1 000 vehicles per day. Urban Local roadways should not serve as bus routes. Parking is usually permitted on local roadways. Table 6.1 summarizes some typical characteristics for each roadway class outlined above.

6.2 RECOMMENDED ROADWAY STANDARDS

The three functional classifications for which design standards should be developed are as follows:

- Arterials
 - urban cross-section
 - rural cross-section

- Collectors
 - residential
 - industrial
 - urban cross-section
 - rural cross-section

- Locals
 - residential
 - industrial
 - urban cross-section
 - rural cross-section

Collector and Local roadways are further subdivided into residential and industrial components for the development of design standards. This is due to the fact that the industrial components are intended to carry vehicles of different design characteristics. Rural and urban cross-section may be used for Arterials, Industrial Collectors and Local industrial roadways.

The following section briefly discusses some recommended roadway design standards for each of the three roadway classifications.

6.2.1 Arterial Roadways

Current standards for Arterial roadways vary widely in Alberta and across Canada. The differences between one jurisdiction and another are not usually in the roadway cross-section itself but rather in the amount of right-of-way which is required.

Wider rights-of-way are sometimes used to provide more scenic boulevards in specific areas or if sufficiently large, the wider boulevards permit the construction of noise attenuation facilities such as berms and/or acoustic walls adjacent to residential areas. Since noise levels adjacent to Arterial roadways vary widely according to the number and type of vehicles on the facility, spatial separation between the observer and nearest travel lane, type of vegetation or groundcover adjacent to the roadway and height differential between the observer and the roadway, it is almost impossible to establish a standard roadway cross-section which adequately provides for proper noise attenuation. A more desirable approach would be to establish a design noise

Table 6.1
Typical Characteristics of Various Roadway Types

Roadway Class	Function			Characteristics			
	Sub-Classification	Traffic Service	Land Service	Range of Traffic Volume ADT	Traffic Flow Characteristics	Average Running Speed (km/h)	Vehicle Types
Freeway/ Highway	Urban	provides optimum mobility	no direct land access	more than 20 000	free flow	70-100	all types up to 20% trucks
	Rural	provides optimum mobility	no direct land access	more than 8 000	free flow	80-120	all types up to 20-30% trucks
Arterial	Urban	traffic movement primary consideration	land access secondary consideration	10 000 to 30 000	uninterrupted except at signals and cross-walks	50-70	all types up to 20% trucks
	Rural	traffic movement primary consideration	land access secondary consideration	1 000 to 12 000	uninterrupted flow except at signals	60-100	all types up to 20% trucks
Collector	Urban	traffic movement and land access of equal importance	land access secondary consideration	1 000 to 12 000	interrupted flow	30-50	all types-limited truck use
	Rural	traffic movement and land access of equal importance	land access secondary consideration	1 000 to 5 000	interrupted flow	60-80	all types up to 30% trucks
Local	Urban	traffic movement secondary consideration	land access primary consideration	less than 1 000	interrupted flow	20-50	passenger and service vehicles
	Rural	traffic movement secondary consideration	land access primary consideration	less than 1 000	interrupted flow	50-80	all types-occasional heavy trucks

level adjacent to residential areas and then to design each individual facility accordingly by taking into account traffic volume and composition, roadway grades, topography, land costs etc.

DESIGN NOISE LEVEL

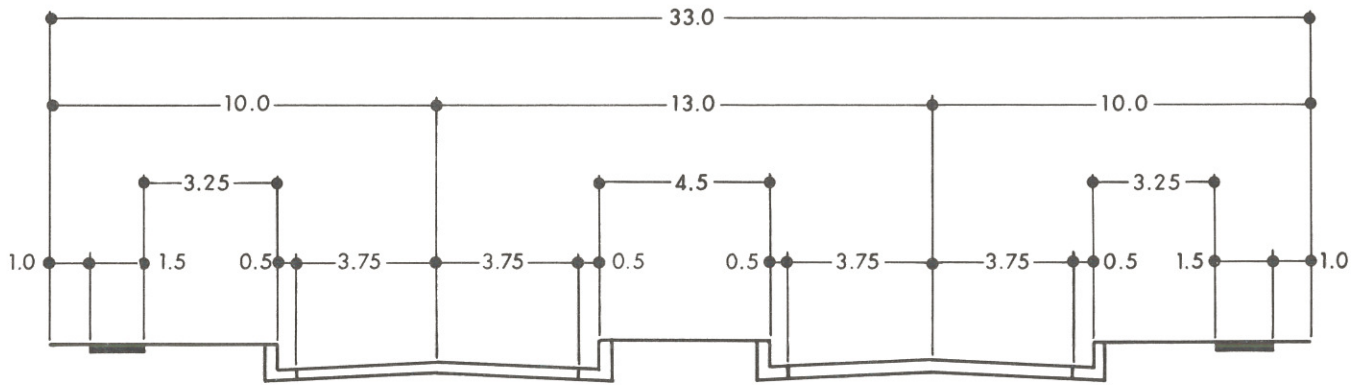
The establishment of a reasonable noise level design standard for Arterial roadways is a complex task requiring the balancing of the desire to limit traffic noise levels to an acceptable level with the very real consideration of the cost of the noise attenuation method. In Alberta at the present time, the generally accepted noise level design standard for new construction of urban Arterials ranges from 60 to approximately 68 dBA L_{dn} *. If a noise policy is to be implemented in the Edson area, it is suggested that the desirable noise design standard be established at 65dBA L_{dn} for new Arterial construction adjacent to residential areas.

BASIC ARTERIAL CROSS-SECTION

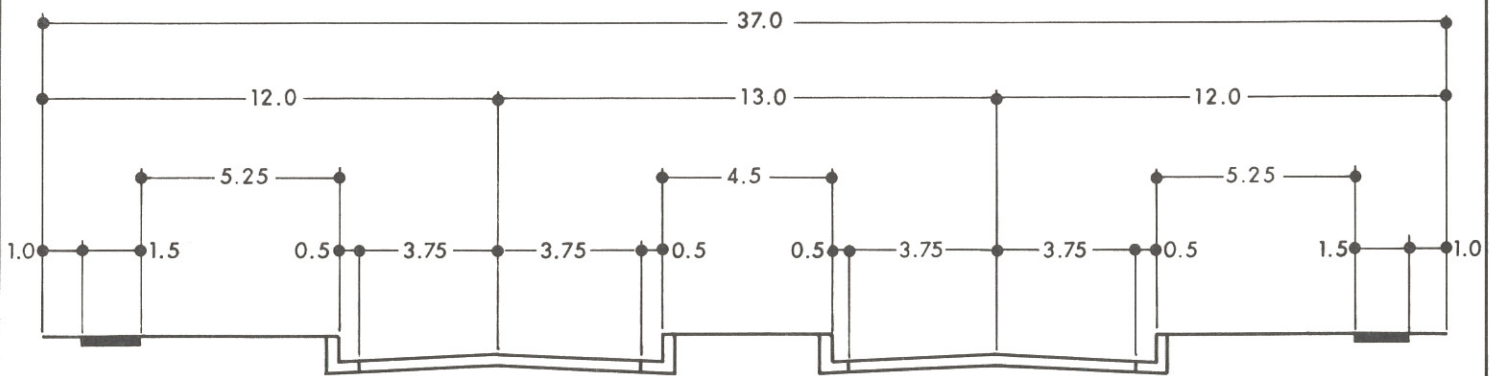
Taking the above factors into account four suggested Arterial roadway standards are described below. These standards represent minimum rights-of-way which should be considered and do not include additional right-of-way requirements for noise attenuation facilities. Noise attenuation facilities are usually required where Arterial roadways are located adjacent to residential development. Generally, travel lanes for urban Arterial roadways should desirably be 3.75 metres (12 feet) in width. As a minimum 3.5 metres can be used.

Due to the high traffic movement function of this roadway class, a centre median should be provided along with channelization (i.e. left-turn bays, right-turn bays and turning channels) at all major intersections. In order to provide adequate left-turn storage at intersections, a median width of 4.5 metres (15 feet) is required.

* dBA L_{dn} A unit of noise measurement which condenses noise levels over a 24 hour period to a single number in a manner that accounts for the additional severity of night time noise levels in land uses sensitive to sleep interference.



TYPICAL CROSS-SECTION
 (3.25 metre boulevard)



TYPICAL CROSS-SECTION
 (5.25 metre boulevard)

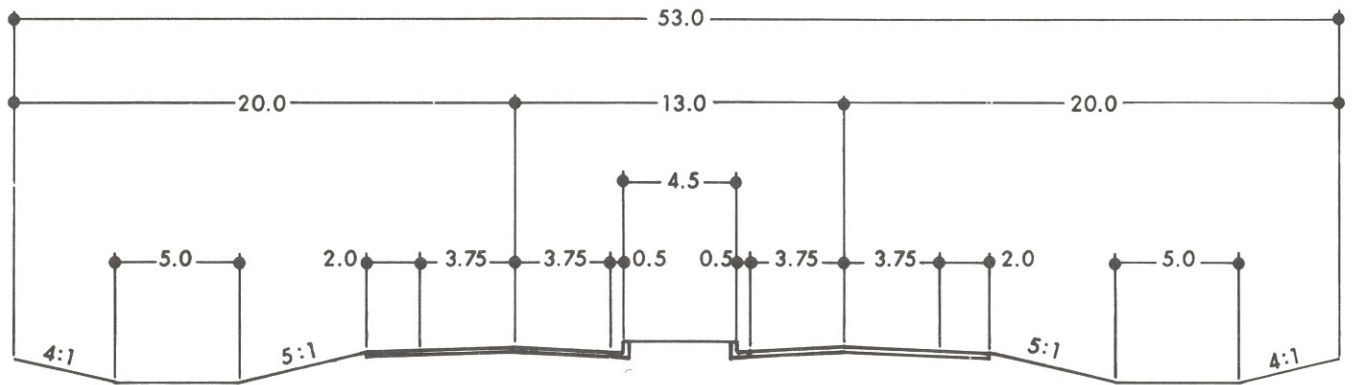
Note : Boulevard width can be reduced by 2.5 m where sidewalks are not required.

Figure 6.1
RECOMMENDED URBAN ARTERIAL
ROADWAY STANDARDS

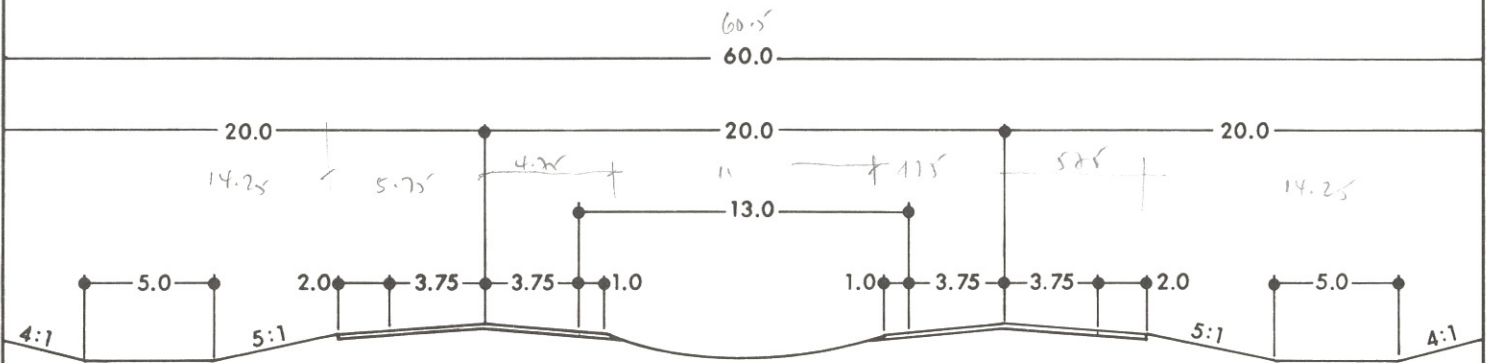


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TYPICAL CROSS - SECTION
 Raised Median



TYPICAL CROSS - SECTION
 Narrow Depressed Median

Figure 6.2
 RECOMMENDED RURAL ARTERIAL
 ROADWAY STANDARDS

The right-of-way width additional to that needed for the actual roadway is dependent upon the requirement for utilities and sidewalks and the type of cross-section desired. For urban cross-sections, the additional width may vary from 5.75 metres (19 feet) to 7.75 metres (25 feet). This gives a total right-of-way requirement of between 33 metres (108 feet) and 37 metres (121 feet) for a 4-lane divided Arterial. The additional width can be reduced by 2.5 metres (8 feet) if a sidewalk is not required.

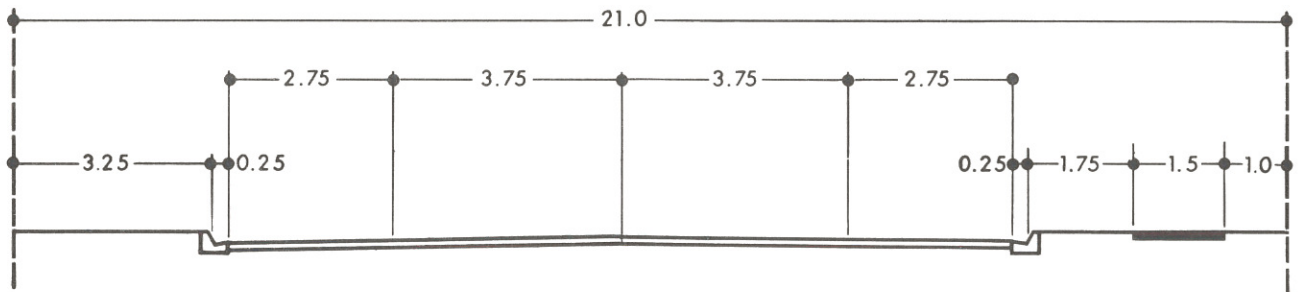
For rural cross-sections, the additional right-of-way width is dependent upon the depth and width of ditch necessary to provide adequate drainage, the shoulder width and the type of median. In general, depending on the provision of a raised or depressed median, the total right-of-way requirements are 53 metres (174 feet) and 60 metres (197 feet) respectively for 4-lane divided Arterials.

Figures 6.1 and 6.2 show the recommended Arterial roadway cross-sections for the urban and rural alternatives. The decision to design to urban or rural standards is largely an economic one. In general, where land costs are high it is more feasible to reduce right-of-way requirements by constructing an urban cross-section. Urban cross-sections are highly desirable adjacent to residential developments.

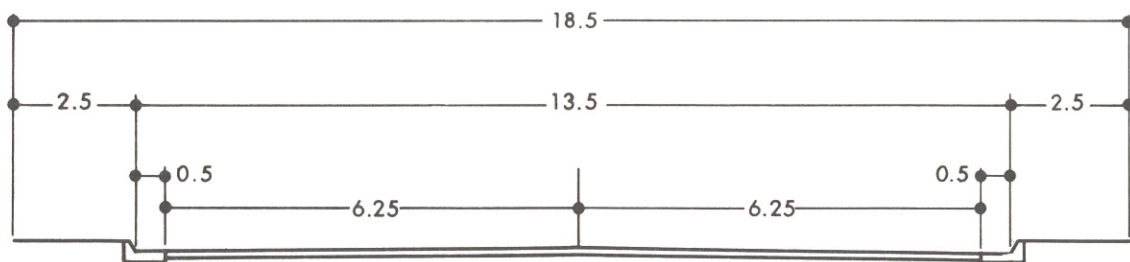
6.2.2 Collector Roadways

Design standards for residential Collector streets should invariably consist of an urban cross-section. Although the need for a transit system will not likely materialize until the population reaches 15 000 - 20 000 people, design standards for collectors should accommodate bus movements for such an eventuality. Hence, travel lanes should be 3.75 metres (12 feet) in width.

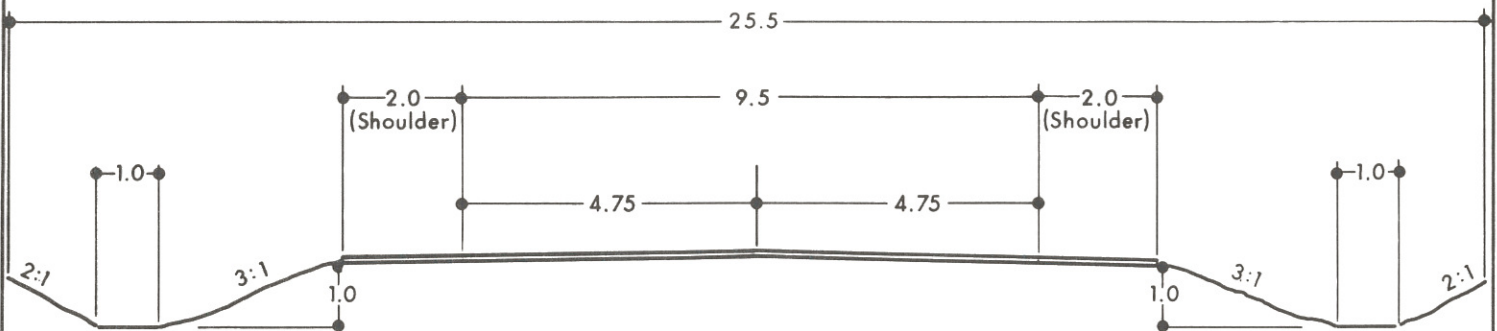
Since residential Collectors also function to provide limited land access and parking, a 2.75 metre (9 feet) parking lane should be provided. The additional right-of-way requirement with a sidewalk on one side is 7.5 metres. The recommended cross-section contains a total right-of-way of 21 metres (69 feet), (See Figure 6.3).



TYPICAL CROSS-SECTION
 Residential Collector



TYPICAL CROSS-SECTION
 Urban Industrial Collector



TYPICAL CROSS-SECTION
 Rural Industrial Collector
 (1 metre ditch)

Figure 6.3
 RECOMMENDED COLLECTOR
 ROADWAY STANDARDS

Industrial Collector roadways must be designed to accommodate heavy truck movements. Travel lane widths of 3.75 metres (12 feet) are not adequate for truck turning movements due to the large turning radii required for trucks. In order to permit turning movements to be made with a minimum of interference to opposing traffic, a travel width (curb face to curb face) of 13.5 metres (44 feet) is required. However, the total travel portion of the roadway can be reduced to as much as 8.0 metres (26 feet) in situations where little or no turning movements are expected to occur.

Parking should not be permitted on industrial Collector roadways as this will hinder vehicular turning movements. Industrial lots should be designed to provide sufficient off-street parking.

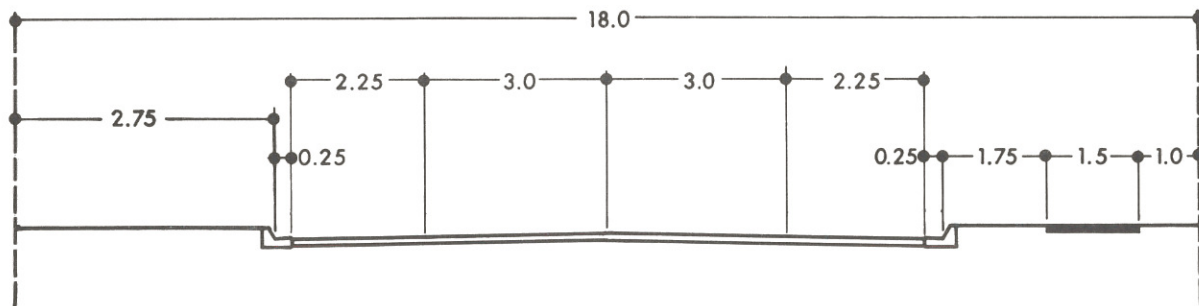
The total roadway right-of-way for industrial collectors will depend on the type of cross-section chosen (rural or urban), utility requirements and adjacent land uses. For urban cross-sections, a minimum boulevard width of 2.5 metres (4 feet) should be provided. The total right-of-way would therefore be 18.5 metres (61 feet). For rural cross-sections, the drainage requirements will dictate the necessary right-of-way. For a 1.0 metre (3 foot) ditch, a right-of-way requirement of 25.5 metres is necessary.

Figure 6.3 shows typical cross-sections for Collector roadways. The decision to design to urban or rural standards will often hinge on economic reasons which may or may not be site specific. In any given industrial area, only one cross-section should be chosen for consistency in design.

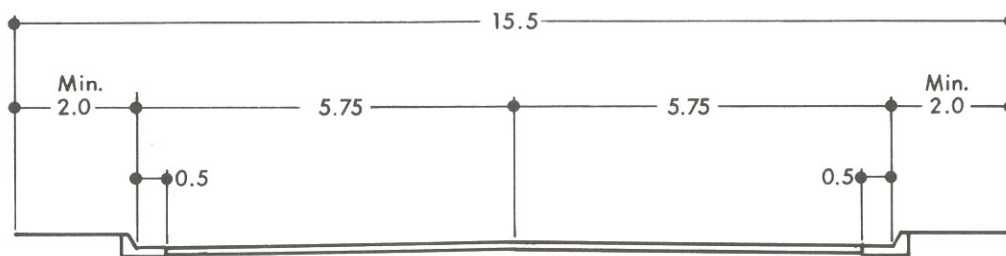
6.2.3 Local Roadways

For Residential Local roadways is 3.0 metres (10 feet). In addition, parking lanes of 2.25 metres (7 feet) should be provided.

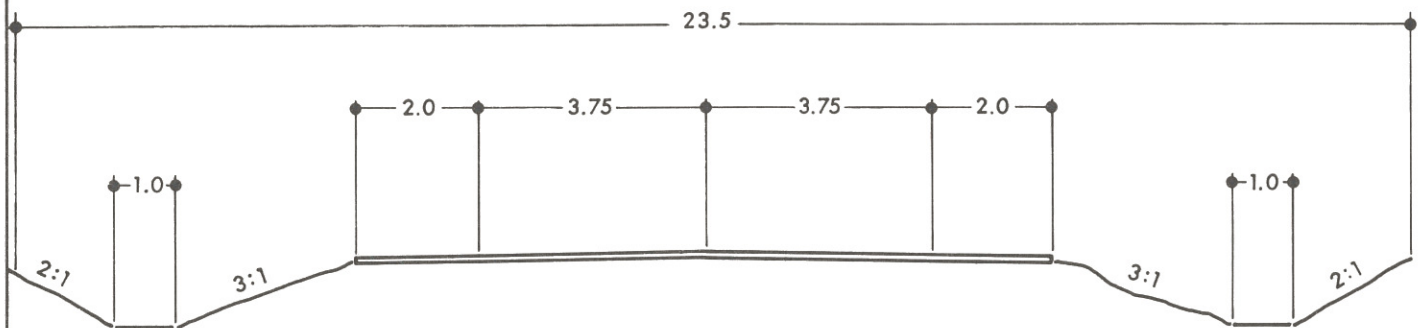
A boulevard area of 2.75 metres (9 feet) is required in areas where sidewalks are not provided. An additional right-of-way width (including boulevard) of 3.25 metres (11 feet) is necessary where a sidewalk is provided.



TYPICAL CROSS-SECTION
 Residential Local



TYPICAL CROSS-SECTION
 Urban Industrial Local



TYPICAL CROSS-SECTION
 Rural Industrial Local

Figure 6.4
RECOMENDED LOCAL
ROADWAY STANDARDS

The maximum right-of-way width for a cross-section with one sidewalk and parking lanes on both sides is 18 metres (57 feet), (see Figure 6.4).

Industrial Local roadways should have a minimum travel width, including shoulders, of 11.5 metres (38 feet). This is based on the minimum turning requirements for large trucks.

Rural or urban cross-section alternatives can be used for Local Industrial roadways. The urban cross-section should have a minimum boulevard area of 2.0 metres. This cross-section requires a total right-of-way of 15.5 metres (51 feet). A typical rural cross-section with a 1 metre ditch will require a cross-section of 23.5 metres (77 feet).

Typical cross-sections for Local roadways are shown in Figure 6.4. In general, travel lane requirements and boulevard areas are reduced from those of Collector and Arterial roadways. This has the effect of portraying to the driver that high speeds are not safely attained on these streets. As well, in the case of Loc I Industrial roadways, less emphasis is placed on minimizing the disruption to traffic caused by truck turning maneuvers.

6.3 RECOMMENDED FUTURE ROADWAY NETWORK

6.3.1 General

The recommended future roadway network was developed in the Edson Area Transportation Study. The plan is based on a number of assumptions regarding future trip demands and population and employment growth within the Town of Edson and surrounding areas. Reference should be made to the Transportation Report for further information. Any significant change in assumptions regarding land use allocation within the Town, development staging and trip demands may necessitate changes in the recommended plan.

Briefly, the future roadway plan was developed to meet the following objectives.

- Accommodate traffic demands generated by population levels of 11 500 and 20 000 within the Edson area. In achieving these population levels, it was assumed that residential growth would tend primarily to occur in a northwesterly direction from east to west.
- Accommodate the safe movement of trucks and hazardous goods within the Town through the provision of Arterial standard roadways and designation of these roadways as truck and hazardous goods routes.
- Alleviate existing traffic concerns within the Town including the perceived safety problems at the intersection of Bear Lake Road with Highway 16 and the heavy truck traffic (including hazardous goods) movements on Residential Collector standard roadways.

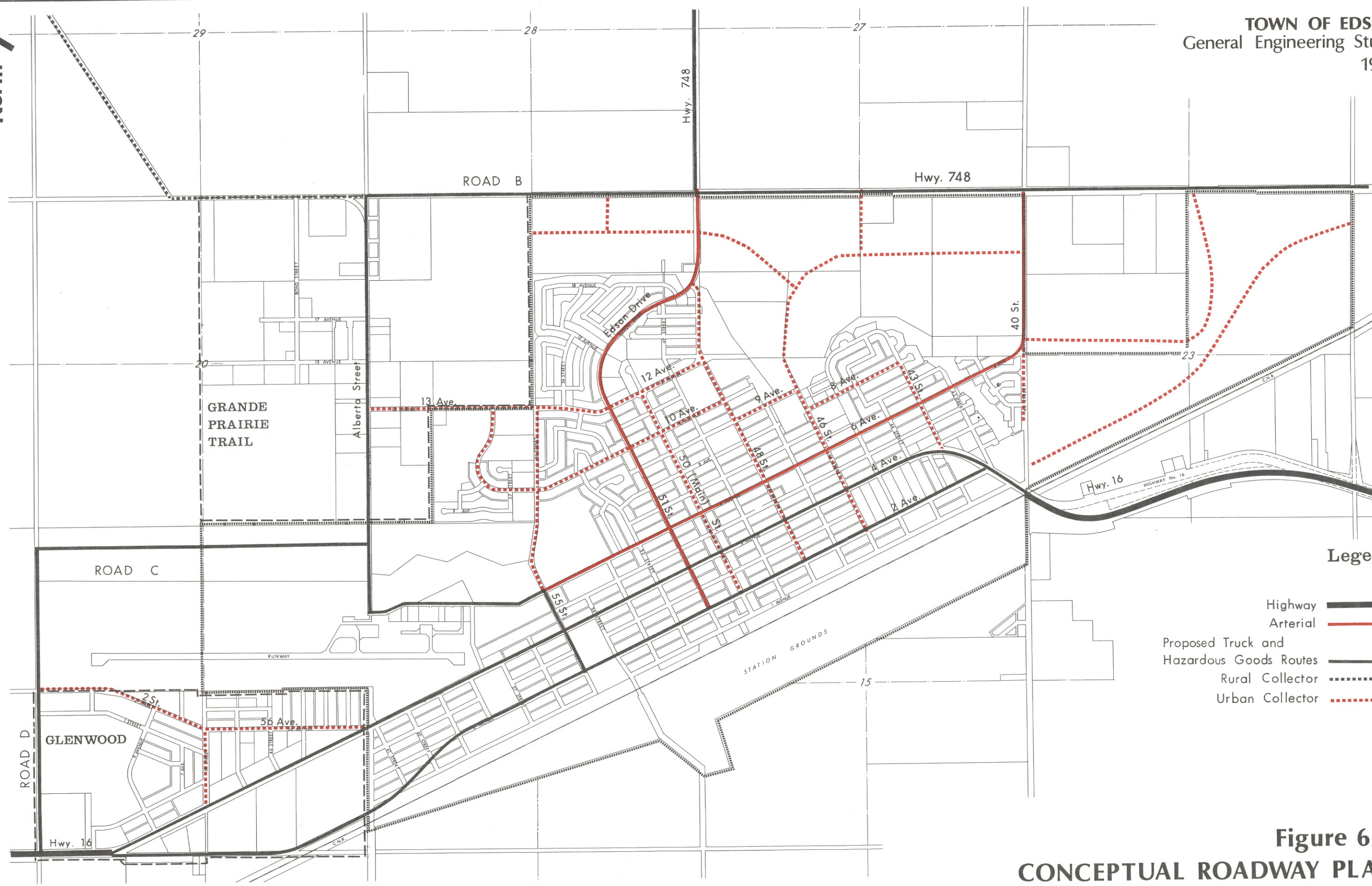
6.3.2 Conceptual Future Roadway Network

Figures 6.5 and 6.6 show the recommended future roadway plan developed for the 11 500 and 20 000 population levels respectively. The figures show existing and proposed future roadways by their design classification and hence, their intended function. The alignment shown for new roadways are conceptual in nature and subject to more detailed functional planning work, the availability of right-of-way and land use and subdivision constraints. Generally speaking, however, the alignment indicated for Arterial facilities should not be altered greatly while the alignments for Collectors are much more flexible and can be more sensitive to subdivision design.

6.4 ROADWAY CONSTRUCTION

6.4.1 Estimated Arterial Roadway Construction Costs

Table 6.2 shows estimated generalized construction costs per kilometre of Arterial roadway. These costs are based on recent roadway construction contracts awarded in central Alberta and in the Town of Edson and they are presented in 1981 dollars.



Legend:

- Highway ———
- Arterial ———
- Proposed Truck and Hazardous Goods Routes ———
- Rural Collector - - - - -
- Urban Collector ·····

Figure 6.5
CONCEPTUAL ROADWAY PLAN
-INTERMEDIATE LEVEL (11,500 POPULATION)

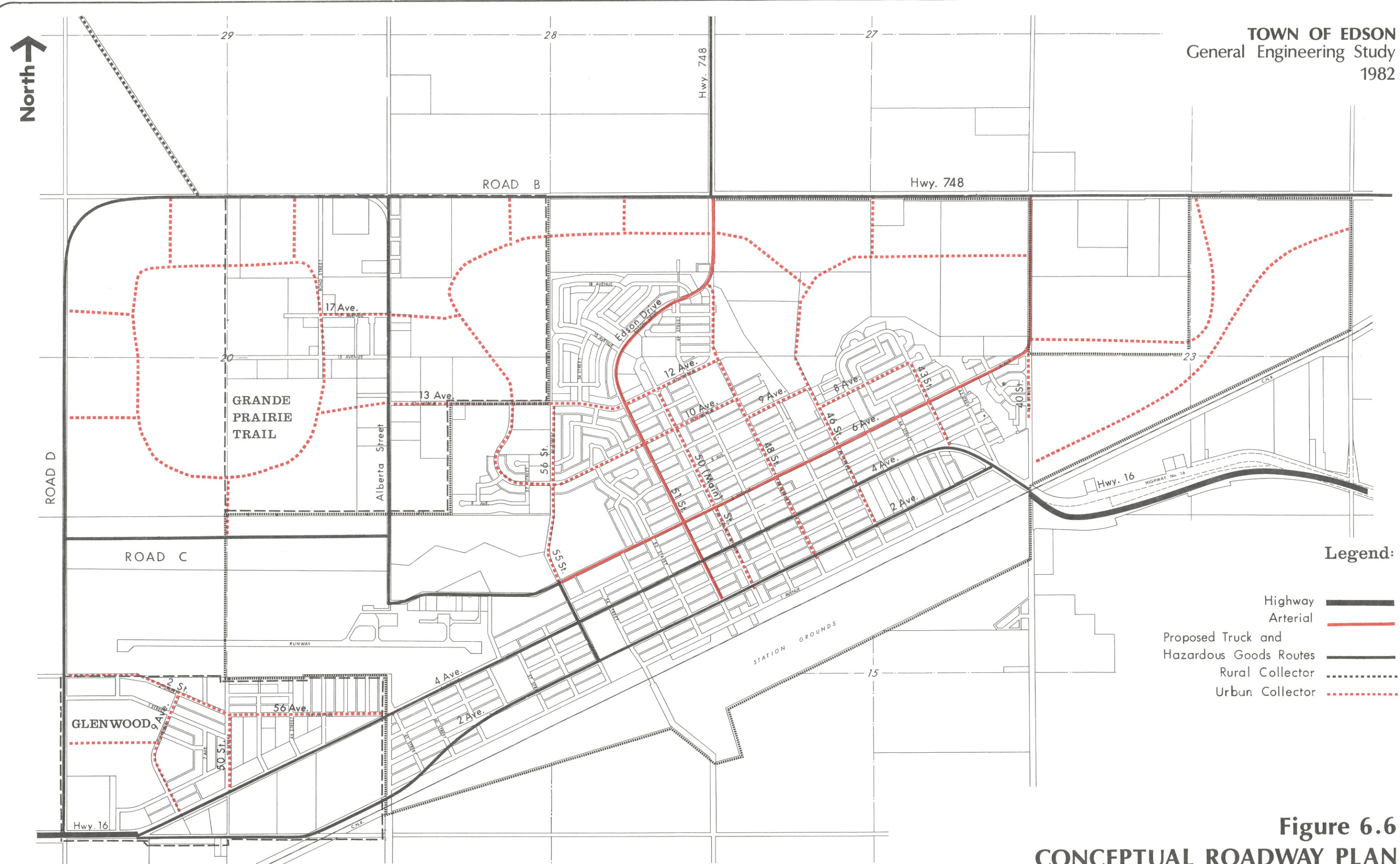


Figure 6.6
CONCEPTUAL ROADWAY PLAN
-ULTIMATE LEVEL (20,000 POPULATION)

Costs have been estimated for a typical 4-lane divided urban cross-section with a total right-of-way of 33 metres as shown in Figure 6.1. For comparison purposes, it is estimated that costs for the typical rural raised median cross-section shown in Figure 6.2 is about 80 percent of the total per kilometre cost shown in Table 6.2.

Table 6.3 shows the estimated costs of constructing the ultimate four-lane divided cross-section for roadways recommended for construction within the planning period. The costs for constructing sections of new urban standard roadways on the general alignment of existing rural gravel roadways have been adjusted to reflect the reduced clearing and grubbing and earthwork costs.

Practically speaking, the full four-lane divided roadway cross-section will not always be constructed immediately. Rather, the roadways will be staged over a period of time based on travel demands and financial constraints. The following section presents a recommended roadway staging plan based on projected growth to the 20 000 population level.

6.4.2 Roadway Staging

The recommended roadway staging plan is sensitive to the need to re-route heavy truck traffic and hazardous goods traffic away from existing residential Collector roadways. As well, the staging plan was developed to be sensitive to the expected sequence of growth within the Town as outlined in the Transportation Study Report.

Table 6.4 illustrates the desirable roadway staging program. The first priority in the 1980 Transportation Report was the construction of Road 'A', a new north/south Arterial from Hwy 16 to Secondary Road 748. This link has now been deleted from the plan.

The priority is now the construction of Road 'B' from Secondary Road 748 North to Alberta Street. Completion of this link will provide an interim westerly truck bypass route from Secondary Road 748.

TABLE 6.2

GENERALIZED CONSTRUCTION COSTS FOR ARTERIAL ROADWAYS

Item	Estimated Cost per Kilometre of Roadway (1)
Clearing and Grubbing	\$ 11 500
Earthwork	120 000
Subgrade Preparation	37 000
Embankment Construction	110 000
Subbase	60 000
Base Course	145 000
Surfacing	87 000
Sidewalk	60 000
Supply and Install Storm Sewer	168 000
Supply and Install Curb, Gutter	120 000
Landscaping	30 000
<u>Miscellaneous and Incidental Items</u>	<u>111 000</u>
Sub-Total	1 059 500
<u>30% Contingency and Engineering</u>	<u>318 500</u>
TOTAL	\$1 378 000

- (1) - All costs are in 1981 dollars
- Costs do not include provisions for lighting or railway grade crossings.
 - Costs are based on the recommended urban 4-lane divided Arterial cross-section. Assumed right-of-way is 33 metres.

TABLE 6.3

SUMMARY OF ARTERIAL ROADWAY CONSTRUCTION COSTS

	Approximately Length (Kilometres)	Total Estimated Cost (1)
B	6.44	\$ 8 874 000
C	1.61	\$ 2 219 000
D	3.22	\$ 4 437 000
Alberta Street	3.34	\$ 4 603 000
TOTAL	16.31	\$20 133 000

- (1) - All costs in 1981 dollars
 - Costs do not include provisions for lighting
 - Costs are based on the recommended urban 4-lane divided cross-section with a right-of-way of 33 metres.
- (2) - Based on most recent alignment proposal.
- (3) - Refer to Figure 6.6

Roadway construction priorities 3 and 4 will depend to some extent on the development of residential areas within the Edson area. However, the priority for upgrading these roadway links may be influenced by the ability of the existing roadway base to withstand additional truck traffic.

The completion of Road C and southern section of Road D will form the second interim stage in the development of a western peripheral truck route bypass from Secondary Road 748 to Hwy. 16. These roadways will also provide services to developing residential lands in the western portion of the Study Area.

The completion of all roadway links to two-lane urban Arterial standards is required for the 20 000 population level if the direction of growth within the Edson area continues as assumed in the Transportation Study Report. At this time the ultimate western peripheral truck route bypass from Secondary Road 748 to Hwy. 16 will be complete. The full 4-lane divided cross-section for new arterial roadways will not be required from a roadway capacity perspective within the planning period.

All roadway costs have been prepared assuming that grading and installation of storm sewer systems for the full-four lane cross-section will take place prior to the construction of the first two lanes. In addition, all two-lane arterial roadways will require some flaring at intersections with other arterials in order that sufficient space is provided for developing temporary left-turn lanes. Upgrading existing roadways is assumed to consist of re-grading and rebuilding the roadway sub-base.

TABLE 6.4

DESIRABLE ROADWAY STAGING PROGRAM

Revised Priority	Roadway Link	Time Required	Estimated Cost
1	Two lanes of Road B from Secondary Road 748 North to Alberta Street	Immediately (1-5 years)	1 541 000
2	Upgrade two lanes of Road B from Secondary Road 748 North to Road A to urban standards.	11 500 population level	2 072 000
3	Upgrade two lanes of Alberta Street from Road B to 2nd Avenue to urban standards.	11 500 population level	2 956 000
4	Two lanes of Road C from Alberta Street to Road D	11 500 to 20 000 population level	1 463 000
5	Two lanes of Road D from Road C to Hwy 16	11 500 to 20 000 population level	1 205 000
6	Two lanes of Road D from Road B to Road C	11 500 to 20 000 population level	1 723 000
7	Two lanes of Road B from Alberta Street to Road D	20 000 population level	1 450 000
8	Upgrade two lanes of Road B from Sec. 23 to Secondary Road 748 North-East	20 000 population level	691 000
9	Widen all new arterial roadway links to 4 lane divided standards	beyond the 20 000 population level	7 032 000
TOTAL			\$20 133 000

6.5 IMPLEMENTATION

6.5.1 Monitoring Growth

The Town of Edson should monitor growth within the area. Of particular importance are major changes in land use and development staging from those assumed in the Transportation Study Report, upon which the roadway network has been based. Traffic growth should also be monitored each year through a limited count program at selected intersections within the Town. This information will reveal the need for updating the transportation requirements within the Town.

6.5.2 Roadway Right-of-way Requirements

The determination of right-of-way requirements for existing and new roadway should be based on the recommended standards for each roadway class. Where arterial roadways pass through or adjacent to proposed residential development, additional right-of-way requirements for noise attenuation can be determined by a noise study.

Some requirements for specific arterial roadways are presented briefly below. In existing developed areas of Town proper standards and right-of-ways cannot always realistically be achieved.

Roads B, C, and D

The minimum right-of-way requirements as outlined in Section 6.2 are recommended. In addition, where adjacent residential development is planned, adequate additional right-of-way should be provided for noise buffering purposes. This additional right-of-way will depend on the noise design standard adopted, the design of adjacent development areas, the method of noise attenuation and the final alignment and cross-section chosen for Road B.

Alberta Street (Including Portions of 6th Avenue and 55 Street).

The recommended roadway design standards should apply to this arterial. As well, noise attenuation considerations should be made where appropriate. Since the full four-lane divided section is not required until beyond the 20 000 population level, sufficient time should be available to acquire the additional right-of-way in existing developed areas.

6th Avenue (40 Street to 55 Street)

The roadway currently exists with a 13.5 metre (44 feet) carriageway and a 20 metre (66 feet) right-of-way. Although classified as a future arterial, the recommended roadway standards cannot immediately be met due to adjacent development constraints.

The existing roadway carriageway will be sufficient for four travel lanes. This is expected to accommodate traffic volumes up to the 20 000 population level. In view of the possible beneficial impacts of the Highway 16 by-pass on 6th Avenue, no extensive road widening is recommended. However, minor widening is recommended at the intersections of 51 Street and 55 Street to accommodate left-turn lanes. It is recommended that this roadway receive limited truck use.

51 Street (including Edson Drive)

The existing right-of-way on 51 Street is 20 metres (66 feet). This roadway has been recently constructed north of 13th Avenue and has the ultimate potential to accommodate 4 travel lanes. Although it would be highly desirable to obtain the recommended arterial roadway cross-section, it is expected that little opportunity for road widening will be available south of 18 Avenue for quite some time. As a result, it is recommended that minor roadway widening be provided at intersections with other arterial roadways in order to provide channelization (i.e. left-turn bays).

This roadway is recommended for limited truck use. In the event that consideration was to be given to allowing future development to occur north of the existing boundary

of the Town of Edson, the impacts of such development on right-of-way requirements for 51 Street should be defined.

It is important in new development areas that all arterial roadway alignments and right-of-ways be defined and acquired prior to adjacent development or subdivision approval.

6.5.3 Roadway Alignments and Construction Staging

Generally speaking, the alignment for collector roadways shown in Figures 6.5 and 6.6 are quite flexible. However, arterial alignments are much more rigid and, where possible, should remain as shown. It is recognized however, that the alignments shown have been based on limited contour and soils information. Detailed functional planning of these roadways will dictate the final alignments. For some cases, where roadways needs are immediate, land acquisition constraints will have an impact on the final alignment chosen.

Prior to entertaining a significant alteration in the alignment of an arterial, the potential impacts should be investigated.

As presented in Section 6.4.2, only 2 lanes of an ultimate 4-lane roadway are required initially for many new arterial roadways. Although the entire right-of-way should be obtained at the subdivision stage, often only 2 lanes need to be constructed. In this manner, more roadway can be constructed with limited funding.

6.5.4 Routes for Hazardous Goods and Large Trucks

Figures 6.5 and 6.6 also show proposed truck routes serving the Edson area. Briefly, all new arterial roadways such as Road B, Road C, Road D and Alberta Street have been designated as truck route facilities. The routes indicated will effectively accommodate all through truck traffic movements. However, locally generated truck movements especially those generated by the downtown area, will be inconvenienced somewhat by this system. In view of this, the following options are recommended to the Town of Edson.

- Allow some local truck traffic on 51 Street and/or 6th Avenue with restrictions for use during daytime hours only.
- Allow only 2 axle trucks on 51 Street and/or 6th Avenue. All trucks containing 3 or more axles should be restricted to truck routes shown in Figure 6.5 and 6.6.

The movement of hazardous good should be confined to truck routes shown in Figures 6.5 and 6.6.

In order to enforce the use of truck and hazardous goods routes in the proper manner, appropriate by-laws will have to be passed.

Unfortunately, until these new truck route facilities are constructed, truck movements must be maintained on existing roadways through the Town. Although 51 Street is the existing primary route for truck traffic from/to Secondary Road 748 North, the more gradual grades afforded by 48 Street are advantageous for northbound truck movements particularly under winter driving conditions.