

Summary of Costs

Location B - A prestressed concrete overpass structure - \$40,000, or a steel overpass structure - \$49,000.

Location A - A precast concrete overpass structure - \$66,000, or a cast in place lighted concrete underpass - \$86,000.

Summary of Relative Merits of Underpass Versus Overpass at A1. UnderpassA. Advantages

1. Because of the absence of existing development immediately facing either end of the proposed underpass, sidewalk connections to the underpass and leading through the development on either side could yet be made a requirement of the development.
2. The underpass at Location A will better serve the ultimate center of gravity of schools and other population in the area south of Loughheed Highway.
3. Pedestrians are not inclined to go out of their way to find an access over a highway, either over or under, and for this reason is it sometimes necessary to fence the right-of-way to restrict points of crossing; and in this regard, the underpass lends itself more readily to directing pedestrians to the use of it than an overpass.

B. Disadvantages

1. It will cost approximately \$46,000 more than a prestressed concrete overpass structure at Location B, or approximately \$20,000 more than a prestressed concrete overpass structure at Location A (the preferred location).
2. There would be greater traffic hazard during construction.
3. The traffic will be inconvenienced for approximately six months by limiting the width of the street to three lanes with two lanes inbound and one outbound in the morning and two lanes outbound and one inbound in the evening.
4. The location of the underpass at Location A is not near any immediate development, but will eventually be near the center of gravity of the developed area; and, therefore, if constructed immediately, it would appear on casual observation to not be in a suitable location to immediately benefit the existing apartment dwellers on the south side of Loughheed Highway.
5. The underpass does not come out level with the parking area of the Loughheed Mall Shopping Center, as the overpass does, and as a result, some further access will be required from the underpass, through the development and up to the level of the parking area of the Loughheed Mall Shopping Center.
6. Although well lighted, an underpass is still more subject to vandalism than an overpass, and because persons in the underpass are out of sight there exists a greater possibility for crime.

2. OverpassA. Advantages

1. The overpass is estimated to cost \$20,000 less than an underpass at the preferred location A (and \$37,000 to \$46,000 less at the not-preferred location B).

2. The overpass leads directly to the parking level of the Loughheed Mall Shopping Center.
3. There will be less traffic hazard during the construction of an overpass. Traffic diversion would be minimized and required only during the construction of the substructure. The superstructure could be set in place in approximately one week.

B. Disadvantages

1. The ten percent grade on the south approach ramp will be a factor to discourage pedestrians to use the facility.
2. As mentioned under the advantages of an underpass, it will be more difficult to create a situation which would force people to use the overpass.
3. An overpass has winter maintenance problems, which an underpass does not have.
4. An easement will be required for the structure along the west property line of Pier 1 Imports to the point where it connects to the Loughheed Mall Shopping Center.
5. The Highways Department do not favour an overpass, because of restriction to vertical clearance, and because it is too close to the traffic-light-controlled intersection at Austin Avenue.
6. If a cage is not constructed around the overpass, the possibility of objects thrown onto the road from the overpass is quite real, and if a cage is constructed around the overpass to prevent such an occurrence, it spoils the look of the overpass and makes it appear more like a "monkey cage".
7. Because the overpass is much narrower than an underpass, there is a good possibility that a conflict could develop between cyclists and pedestrians, particularly elderly pedestrians, which, dependant upon the severity of the conflict, could result in the banning of the use of the overpass to cyclists. Because the overpass meets the Loughheed Mall Shopping Center at parking level, which is considerably higher than the adjoining property to the west, which leads to the school, it will be necessary to have a walkway stepped or ramped down to the school path.

Having considered all of the foregoing relative merits of location and type of structure, it is our recommendation that the advantages of an underpass at Location A outweigh the disadvantages, even including the \$20,000 cost differential for Location A, and we would recommend that Reid, Crowther and Partners Limited be asked to proceed with the final design of a cast-in-place concrete underpass structure at Location A, and to prepare drawings and specifications for a tender call as soon as permissible. In this connection, it should be noted that the budgeted amount of \$60,000 should be increased to \$86,000, plus approximately 10 percent for complete engineering, for an overall total of \$94,000 or, say, \$95,000 for Work Order purposes.


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