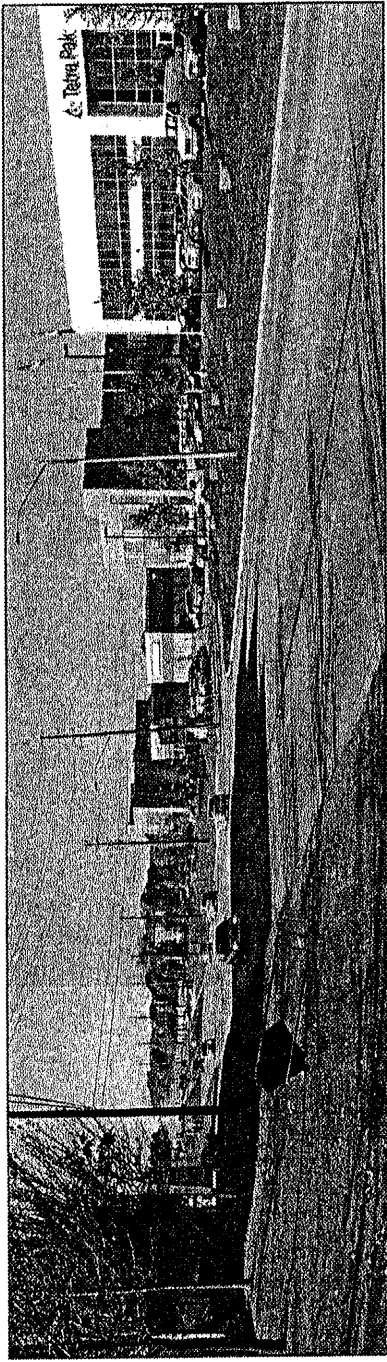
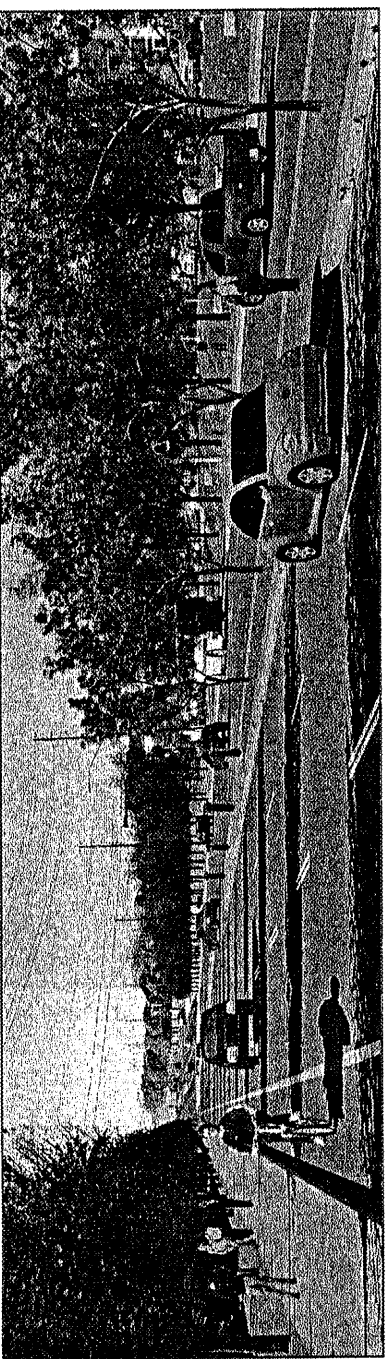
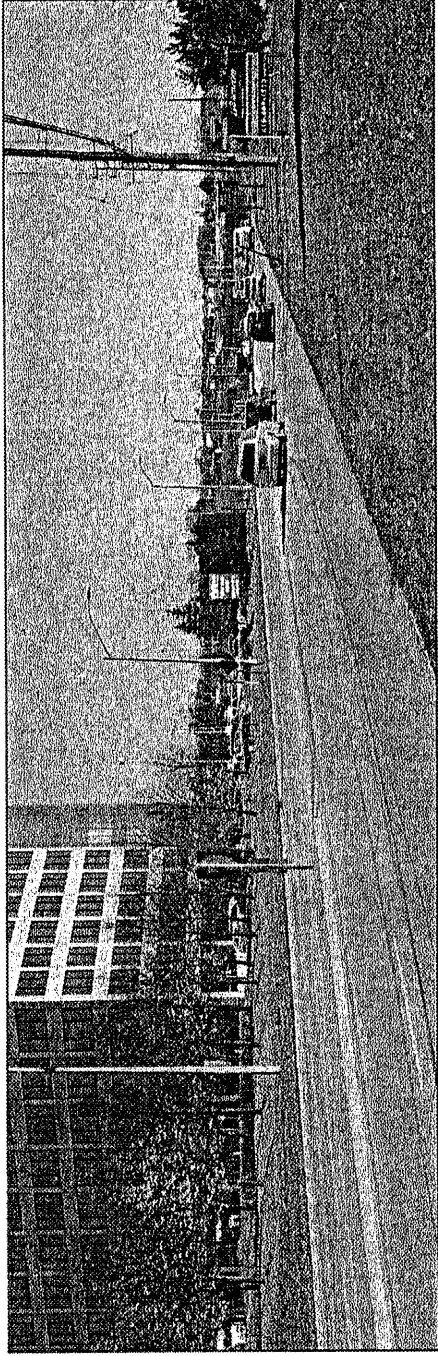




South Side of 16th Avenue Looking West - Existing



South Side of 16th Avenue Looking West - Treatment @ Intersection - Proposed



South Side of 16th Avenue Looking East - Existing



South Side of 16th Avenue Looking East - Mid Block - Proposed

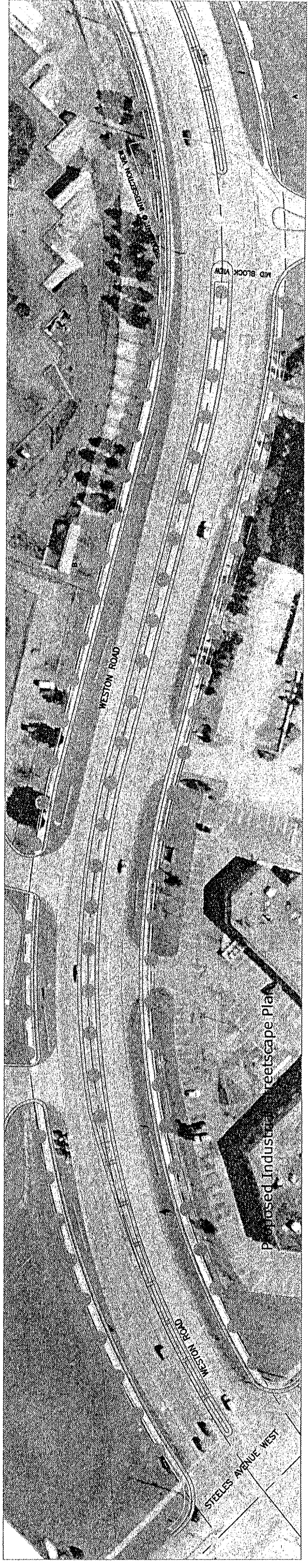
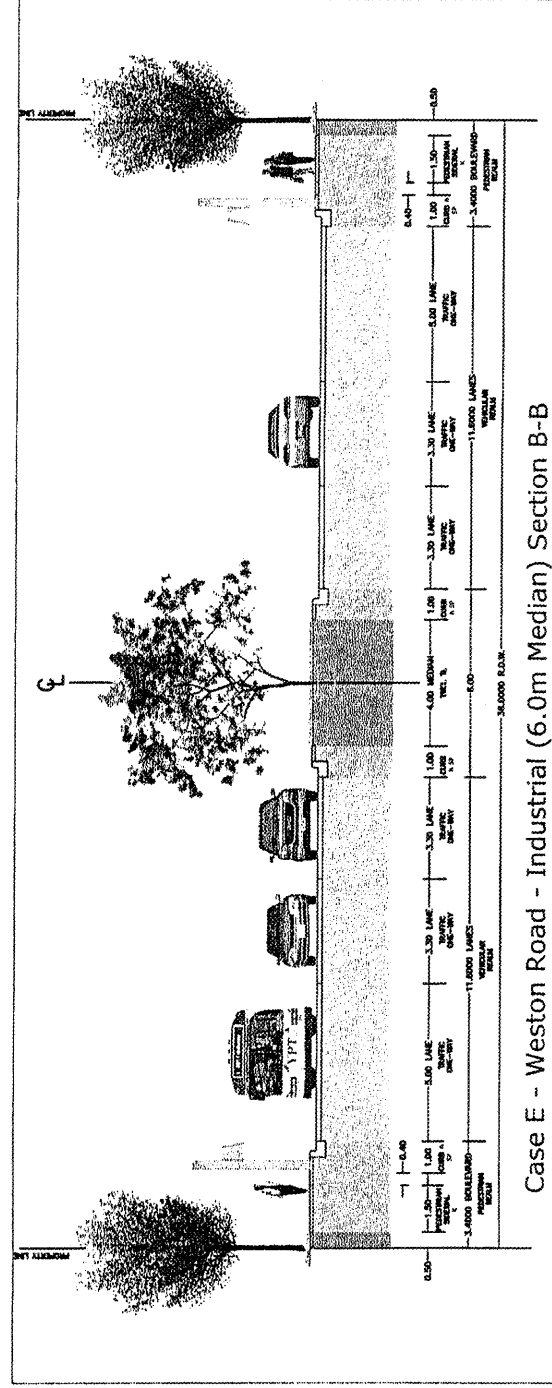
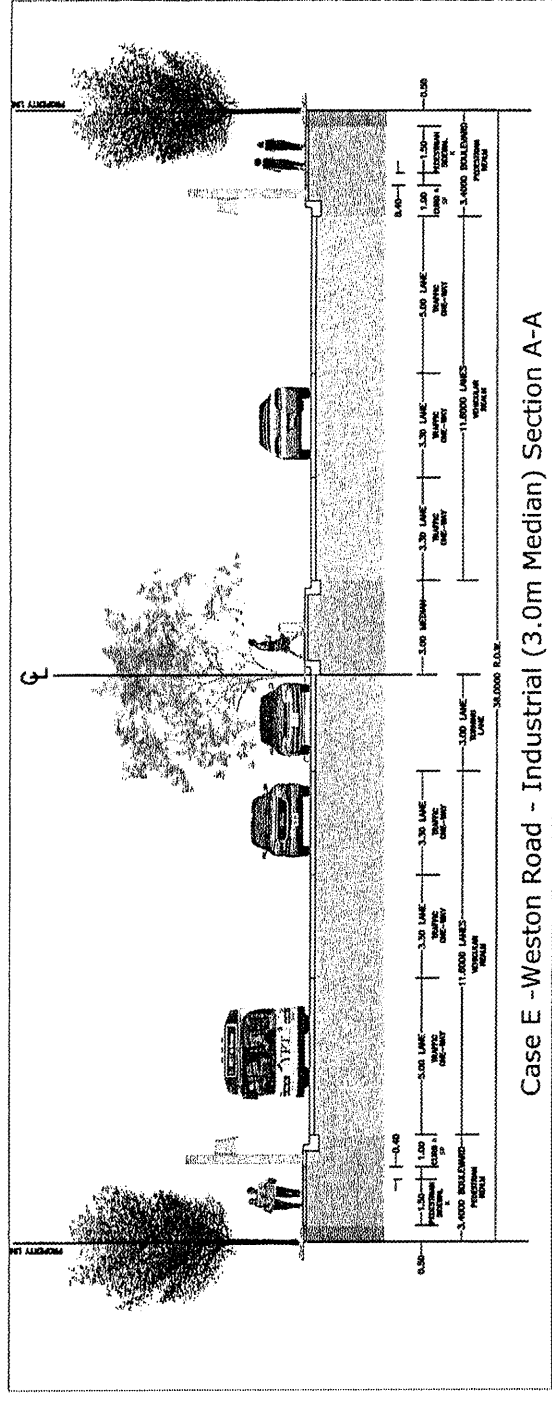
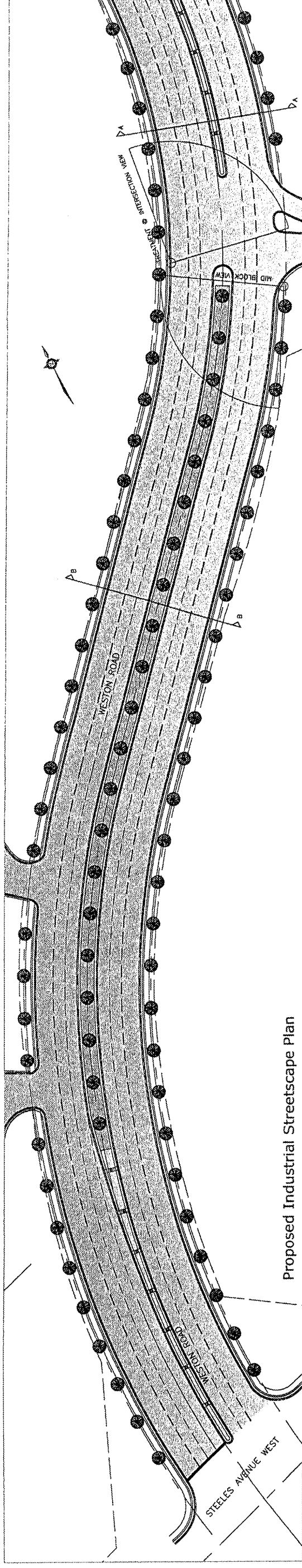
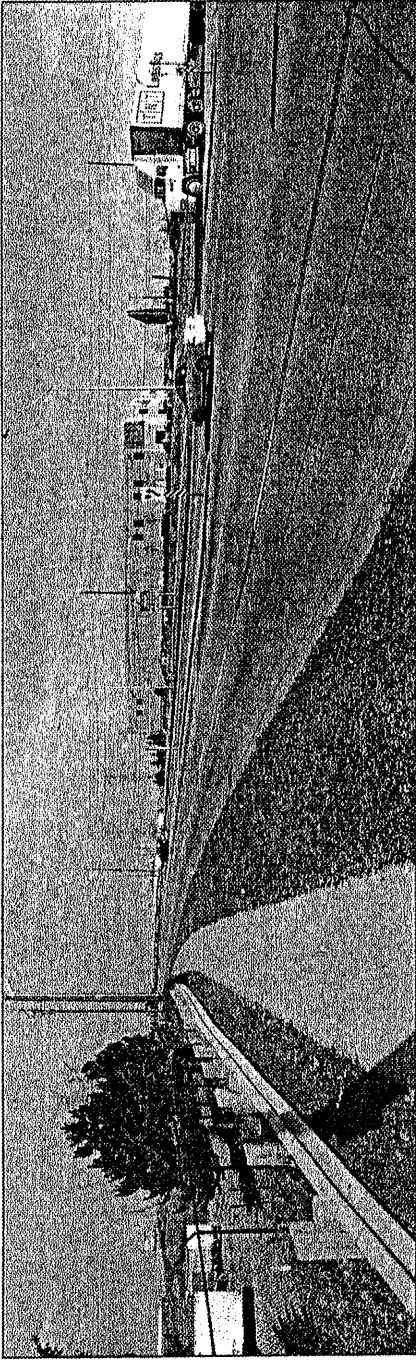
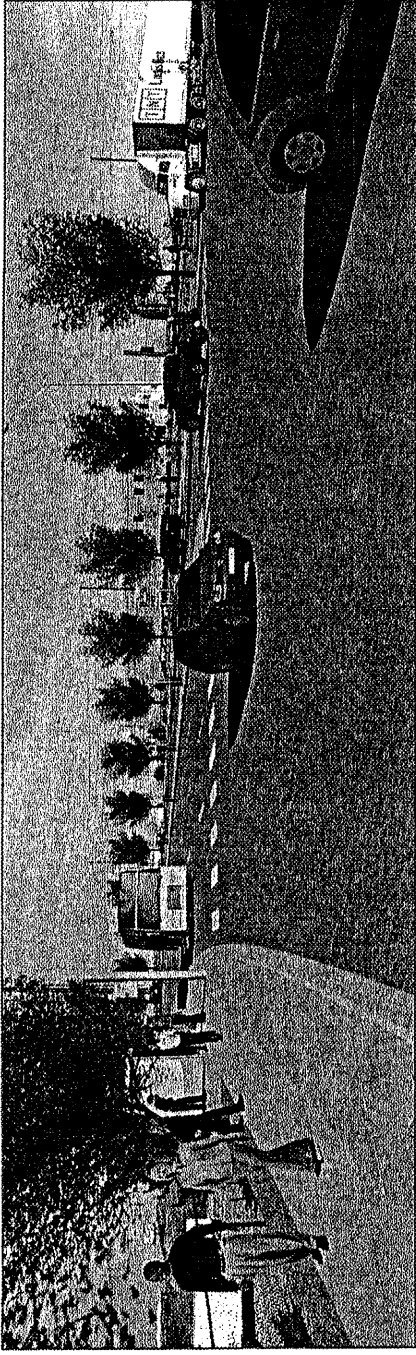


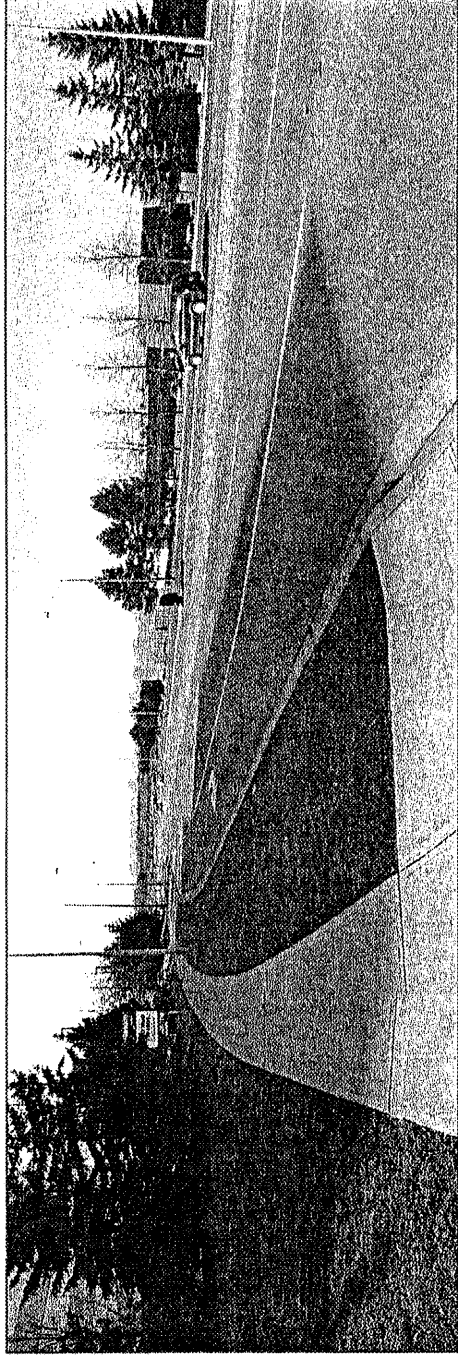
FIGURE 9-14
PROPOSED STREETSCAPE PLAN
CASE E: INDUSTRIAL TYPOLOGY
(WESTON ROAD NEAR STEELS AVENUE WEST)



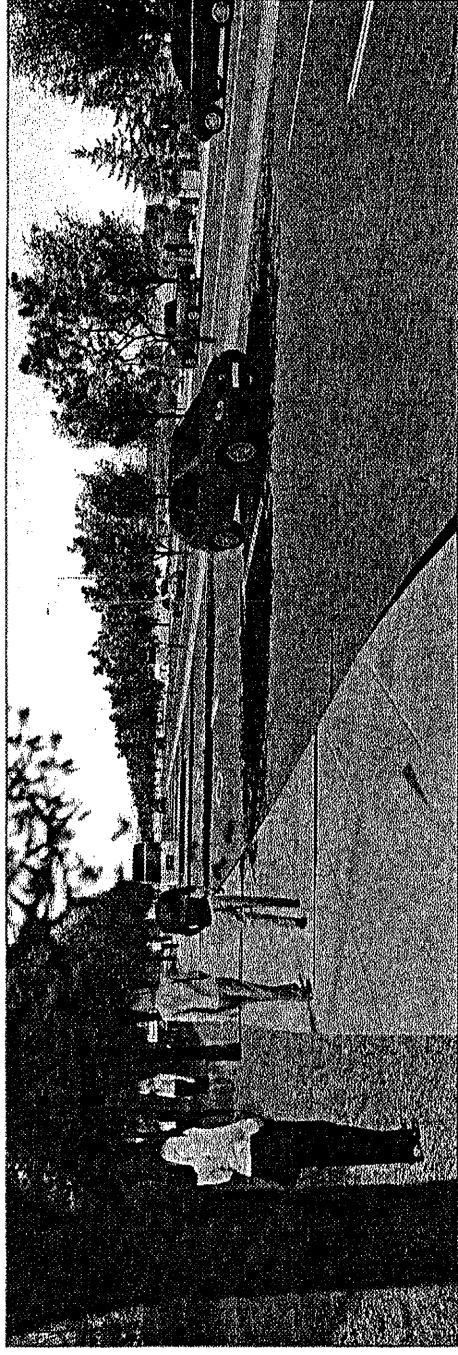
West Side of Weston Rd. Looking North East - Existing



West Side of Weston Rd. Looking North East- Treatment @ Intersection - Proposed



East Side of Weston Rd. Looking South West - Existing



East Side of Weston Rd. Looking South West - Mid Block - Proposed

minimum of 0.5 metre in front of the potential hazard. Currently, the Region of York has a 90 km/h design speed on Regional streets, with a posted speed of 70 km/h. This proposed cross-section design requires a lowering of both the design speed (to 60 km/h) and the posted speed (to 60 km/h) at the time that these more urban cross-sectional elements are introduced in the roadside or boulevard. The posted speed is typically 10 km/h lower than the design speed for higher speed roads. For lower speed roads, the design and posted speeds are usually the same. According to TAC, setting the posted speed limit the same as the design speed is acceptable. In the case of higher speed roadways, the higher design speed as compared to the posted speed can provide an enhanced measure of safety. However, the counter argument is that with a higher design speed than the posted speed, the driver perceives the higher design speed and tends to travel at a higher speed than the posted speed.

No trees would be placed closer than 1.15 metres from the curb. Where a spacing of less than 1.15 metres from the curb is available, the area should be hard surfaced with a decorative treatment, instead of tree planting.

Ideally it would be desirable to set back any such elements further from the roadway. However, it must be noted that the proposal includes a 1.5 metre wide bikeway adjacent to the curb, in addition to the 1.0 to 1.4 metre setback behind the curb. This results in a total clear zone offset of 2.5 to 2.9 metres. Therefore, the wider boulevard option proposed in residential areas almost meets the required clear zone offset for a 60 km/h design, without the barrier curb.

Median widths of 5.2 metres (residential) and 6.0 metres (other cross-sections) are proposed in the mid-block sections. At many median locations a low planter is proposed, with a low wall setback about 1.0 metre from the face of curb. Lighting, trees or plantings are placed within this raised planter. This is quite similar to the landscape treatment along Hurontario Street in Mississauga, between Eglinton Avenue and Highway 401. The 1.0 metre setback of the planter back of the roadway curb also provides the required minimum 0.5 metre clear zone if the roadway design speed is 60 km/h or less. However, in this instance, there is not the additional safety factor that exists at the roadside, where the bike lane provides an additional 1.5 metre buffer. There, the raised median treatment is more exposed to traffic running off the road due to the lesser offset from the edge of pavement.

On this basis, the low planter structures should be designed to be as forgiving as possible in the event of a collision. Also, the planter will need to be not too low so as to pose a hazard to a vehicle jumping the curb and striking the planter face at a less than desirable angle. This means that the planter will need to be high enough to redirect a vehicle. The planter design will also need to avoid the possibility of hooking or snagging a vehicle, which could increase the severity of the crash. Ideally all median street furniture should remain within the planter, shielded by the planter structure that could redirect any vehicle away from the possibility of a secondary collision.

The narrower median widths at the left turn bays can pose additional safety concerns. In these location, where the median is 2.2 to 3.0 metres wide, any items such as light standards are more exposed to traffic due to a reduced offset and to traffic from both

directions. As such, placement of design elements that pose a hazard to traffic will be discouraged, or if placed in this area, should offer a breakaway base.

It should also be noted that breaks are shown in the planter boxes in the median in some mid-block locations, so as to allow pedestrians to cross. As noted in our previous discussions, the intent is not to encourage this practice and not to suggest that these crossings are protected (re: no designation of unprotected crosswalks). This proposal is simply to allow those pedestrians to cross who may wish to do so at their own risk, similar to what occurs in the North York City Centre area where breaks have been provided in the landscaping along the Yonge Street median. However, again it is recognized that there are safety implications, such that the number of such openings should be kept to a minimum.

Reduced lane widths as discussed in Section 5.1, would also enhance safety. However as noted, this will necessitate a change in the Region's design standards prior to implementation.

9.6 POTENTIAL LANDSCAPING FEATURES

Varying types of plants with different planter arrangements can be put within the raised median. **Figures 9-16** and **9-17** illustrate the potential landscaping features that can be implemented within the 5.2 metre wide median (residential) and the 6.0 metre wide median (other cross-sections), respectively, that can be found at mid-block locations. The median width will be reduced to 2.2 metres (residential) and 3.0 metres (other cross-sections) at the left turn lanes. The potential landscaping features that can be implemented within the 2.2 metre wide and 3.0 metre wide medians are illustrated in **Figures 9-18** and **9-19**, respectively.

The potential landscaping features that can be implemented along the residential boulevards are illustrated in **Figure 9-20** for the mid-block locations. For other cross-sections, the potential landscaping features are illustrated in **Figures 9-21** and **9-22** for the mid-block locations and locations near intersections, respectively.

9.7 COSTS

The additional construction and maintenance costs associated with the recommended cross-section are acknowledged. A general comparison of the typical costs between the standard Regional cross-section and the recommended alternative on a per kilometre basis are provided in **Table 9-1**. It should be noted that these are order-of-magnitude estimates for comparative purposes.

Table 9-1
Typical Cost Comparison

Cost	Widening to Standard 6/7 Lane Cross-Section	Widening to Recommended Alternative Cross-Section
Construction Cost (\$/km)		
Road Work	\$3.21M	\$3.36M
Bike Lanes	\$0.00M	\$0.15M
Boulevards	\$0.11M	\$0.11M
Medians	\$0.00M	\$0.77M
Total	\$3.32M	\$4.39M
Maintenance Cost (\$/km/year)		
Road Operations	\$48.0k	\$48.0k
Aesthetics	\$2.0k	\$12.0k
Total	\$50.0k	\$60.0k

The costs related to the recommended cross-sections are clearly higher because of the additional landscaping in the medians and the exclusive bike lanes.

9.8 PHASING OF LANDSCAPING FEATURES

In theory, the landscaping features can potentially be implemented in phases. For example, the new medians can be constructed without landscaping, or the boulevard can be built without any landscaping features, or with trees planted at a less frequent spacing. This would reduce the initial construction costs during widening.

Figure 9-23 illustrates the potential phasing of the landscaping features at the McCowan Road (commercial) case study corridor, as an example. The figure illustrates in sequence (from top to bottom):

- The standard six general purpose lanes with a two-way-left-turn lane
- The six general purpose lanes, with exclusive bike lanes and grass median
- The four general purpose lanes plus HOV lanes, with exclusive bike lanes and grass medians
- The four general purpose lanes plus HOV lanes, with exclusive bike lanes and enhanced median aesthetics.

However, phasing the landscaping features would not help reduce the total costs. Indeed, as the labour costs and other material costs tend to increase year after year, the costs of implementing some landscaping features later would actually be higher than those if they are constructed at the outset with the road widening.

There are also other compelling reasons not to phase the implementation of the landscaping. Having a median and/or boulevard without putting in the landscaping features would negatively impact the aesthetics of the roadway and not accurately reflect the longer term intended look and feel to the corridor. (The partially finished median and/or boulevard would not only look unfinished, but also potentially can be a magnet for garbage.) Implementing the landscaping features at a later time would also