In established neighbourhoods, there are often conflicts located in the space where a sidewalk would typically be installed. Some of the common constraints include streetlights, overhead power poles, utility boxes, trees, landscaping, and adverse sloped ground surfaces. Spatial restrictions due to the current right-of-way (ROW) are also very common. Often there is insufficient ROW to allow for the construction of a sidewalk that meets current design standards in the existing boulevard. A discussion of these potential constraints is included below.

<u>Trees</u>

Many of Saskatoon's streets are lined with boulevard trees. The age, species and placement of the trees varies, however, the trees are often located in the boulevard space where a sidewalk would typically be installed.

A tree is considered in conflict if it falls within 1.5 m of the edge of the sidewalk. In cases where the tree is located within this 1.5 m buffer from the back of the sidewalk but not in direct conflict with the path, options may be available to mitigate the conflict. Examples include relocation of the tree if it is young or bridging the sidewalk over the tree roots if the tree is mature.

In some cases, the sidewalk and trees are in direct conflict. In these locations the trees would need to be removed to provide sufficient space for the installation of the sidewalk. Removal of these trees would be in conflict with Urban Forestry's mandate to preserve Saskatoon's urban forest.

In some cases, there may be adequate space to build the sidewalk into the roadway rather than in the boulevard space, allowing the trees to remain. Costs for construction of a sidewalk into the roadway will be substantially higher due to modifications required to change the street cross-section, including changes to drainage and stormwater management.

<u>Utilities</u>

Boulevard space is often used to house many utilities including street lights, traffic signals, power lines, gas lines, fiber-optic cables, catch basins, hydrants, etc. These utilities can often be relocated to accommodate a sidewalk installation; however, the type of utility will have a large impact on the cost of relocation. For example, relocating an overhead power line will be more costly than relocating a catch basin.

<u>Grades</u>

In some locations, steep grades along the boulevard would require the construction of a retaining wall to make installing a sidewalk possible. Where space is insufficient, this may make a sidewalk infeasible to install.

Available Right-of-Way

Not all streets were designed with the intent to install a sidewalk. In these locations, there may not be sufficient space within the right-of-way to install a sidewalk without the acquisition of adjacent property. Where insufficient right of way is available, property

acquisition or shared-use agreements would need to be explored with adjacent property owners.

Impacts to Adjacent Property

The installation of a sidewalk may have impacts on adjacent property owner's site configuration or landscaping investments. For example, to provide a safe sidewalk facility, installing a sidewalk may require a reduction in the width of a driveway access or consolidation of multiple accesses. Additionally, some property owners may have made investments in the boulevard space such as landscaping. In these situations, discussions with the property owner to determine a mutually acceptable approach would be required.

Substandard Sidewalk

In many locations in established neighbourhoods, the sidewalk may not meet current standards due to the conflicts discussed above. A substandard sidewalk, that is, a sidewalk that does not meeting the current design standards (e.g. reduced sidewalk width), is not ideal, however, it is preferable than having no sidewalk at all. The minimum width to be provided in all cases is 1.5 m to allow for accessibility.