

April 10, 2018

Mayor and Commissioners
316 N. Park
Helena, MT 59623

Dear Mayor and Commissioners:

RE: Updating the sight distance triangle ordinance and associated policies

The 2014 update of Helena's transportation plan called for revising the ordinance dealing with lines of sight at intersections. Growing Friends of Helena was concerned, and remains concerned, that some suggested revisions of the ordinance would lead unnecessarily to fewer boulevard trees. Helena's boulevard trees are likely to suffer major die-offs in the near future and substantial replanting will be necessary. Therefore, we now propose a balanced approach of changes to the ordinance along with changes to certain standards and policies affecting boulevard trees.

Dealing with the sight distance triangle ordinance in isolation could undermine future efforts to replant boulevard trees. This ordinance is not the only city policy that affects the safety of neighborhood streets. Helena residents already are less likely to be in serious accidents than county residents, even given the layout of streets and trees in the older neighborhoods. We think the city can maintain and even improve the level of safety while retaining the character of our neighborhoods, especially the older ones.

Our recommendations are derived from both existing standards and observed behavior. They rest on two basic insights. First, trees on neighborhood streets improve functioning of the street in ways that trees on high-speed, high-volume streets do not. Second, boulevards, especially in prickly pear country, are not ideal places to plant trees. Rather, trees are planted in boulevards to support street functions. This sometimes involves arboricultural practices different than would apply in a park or a yard.

These recommendations should be considered as a package. By making revisions to the ordinance part of a larger strategy, we believe all parties will see that the Commission is taking a comprehensive and thoughtful approach to boulevard trees. Specific suggestions are detailed in the attached document, along with some explanatory notes. Like City engineering standards, the suggestions are detailed and technical where necessary.

Respectfully,

Bob Throssell, President
Growing Friends of Helena

PROPOSALS FOR BOULEVARD TREES AND STREET DESIGN

Overview

Growing Friends' proposal builds on amendments to the ordinance suggested by City staff at the November 29, 2017, administrative meeting. We also address engineering standards, landscaping standards, sign placement practices, ADA ramp design, bulb out policy, and ordinance enforcement practices. Some of our recommendations are new, some would revise existing policies and practices, and some already are in place.

Our proposed changes mostly affect low-volume, low-speed, low-accident neighborhood streets. High-speed, high-volume, high-accident streets are primarily those controlled by MDT and aren't affected. Our proposed changes do recognize that some trees cannot be replaced because of the addition of other street features since trees were first planted a century ago.

Our proposal does not address parked cars. The sight distance triangle ordinance deals only with fixed objects near an intersection that might impede a driver's vision. However, studies and everyday experience show that parked cars are far more of a visual barrier than boulevard trees. Accordingly, the City's approach to boulevard trees will be scrutinized by the public to see whether the City is more concerned about safety than simply uninterested in trees.

Goal and rationale

The goal for boulevard trees should be a visual and physical barrier between the street and sidewalk, with minimal gaps and maximum tunnel effect. This goal requires boulevard trees be planted close enough together and consistently enough and that they must be substantially taller than the typical vehicle.

Growing Friends plants trees to create used and useful public spaces. This gives us a perspective for addressing the functional aspects of boulevard trees, not just the aesthetic or arboricultural ones. Boulevards are not ideal places to plant trees; these trees are planted because they provide certain unique functions for the street and community:

- Physical and psychological barrier between vehicles and pedestrians
- Traffic calming
- Reduced heat island effect
- Landscaping in areas of dense housing and small yards
- Year round justification for winter snow storage space

The explanation given in the transportation plan for the ordinance revision was to better avoid "vehicle conflicts" at intersections. Trees drew special attention, suggesting the consultant believed trees are a significant cause of accidents. We disagree. We obtained accident data from the Montana Department of Transportation, which we have shared with City staff. These data show 1) that boulevard trees pose less collision danger at intersections than other pole-like objects and 2) that tree-lined streets do not appear to have more accidents than streets without trees. Perhaps these reflect the effect of trees on

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drivers' behaviors. Or perhaps this is because boulevard trees are less a visual barrier than assumed, since they do not substantially block headlights at night during the summer and are without leaves for seven months of the year. Whatever the reason, Growing Friends argues that boulevard trees have worked and can work as one of many street components.

Proposal as a package

These proposals are intended to be taken as a package. Individually, they could skew results one way or another. When implemented in combination, they should promote all the street functions of boulevard trees in coordination with other street features. The proposal does include flexibility for City staff to deal with the challenges of replanting the older parts of town.

Sight distance triangle ordinance changes

(Note: Once changes are agreed upon, they must be rewritten in legislative language.)

The ordinance will deal only with the sight distance triangle.

Note: Staff proposal dealt with trees anywhere in a block.

The ordinance will treat trees as a functional component of street design, and as with all components, limited by certain conditions.

Only trees allowed by boulevard tree standards may be planted in boulevards within 15 ft of back of curb at an uncontrolled street intersection or within 4 ft of the back of the intersecting sidewalk, whichever is greater.

Note: This is greater than average distance for existing plantings in the older parts of town.

The sight distance triangle for an alley way is 5 ft along the curb line from either edge of the alley right of way (ROW) and 15 ft back from the curb line along the centerline of the alley.

Note: This triangle is larger than in current ordinance.

Only trees allowed by boulevard tree standards may be planted within 4 ft of an alley ROW, that is, within the sight distance triangle, except that for unpaved alleys allowed trees may be planted within 5 ft of the traveled pathway (as indicated by the ruts), so long as the planting location is outside the ROW.

Note: The provision for unpaved alleys is primarily to deal with replanting in the older parts of town, where alley ROW is unclear and traffic may or may not favor the center of the ROW.

Single trunk trees that can be limbed up 8 ft are allowed on private property in the sight distance triangle if more than 25 ft from the intersecting curb lines. Other landscaping on private property higher than 30" in height is not allowed within 50 ft of the intersecting curb lines.

Note: This limitation is based on lesser contribution of private landscaping to the functioning of the street. It was not specifically addressed previously.

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Sight distance triangles will be reduced to the extent they are blocked by topography or existing permanent buildings, as determined by the City Engineer.

Engineering standards

Landscaping standards for boulevard trees are incorporated by reference into engineering standards.

Note: This does not appear to currently be the case.

Boulevard tree planting standards

Boulevard tree planting standards are developed by the City Arborist consistent with the revised sight distance triangle ordinance and are specifically included by reference in engineering standards.

Note: The City Arborist already develops planting standards, including approved species of trees, grouped in classes based on height.

The typical spacing of trees on a block will be coordinated with location of other objects on that block, especially on first-time plantings. The City Arborist may approve, for individual trees, variations of up to 3 ft from the typical spacing to accommodate other street objects. The preferred spacing for Class II trees will be 25-35 ft.

The current list of allowed boulevard trees will be further categorized to identify trees appropriate for planting in sight distance triangles and in proximity to other street objects.

- Trees in the sight distance triangle must have a single trunk and be of a more open variety (such as locust or burr oak) or have no branches less than 5 ft above the ground when planted and must be capable of being limbed up to 8 ft above ground within ten years.
- Trees in proximity to pole-like structures will be vase-shaped or narrower in spread (such as certain elm cultivars, Amur Maackia, Sensation Maple; not trees like Norway Maple)
- Explicit permissions from both the City Arborist and the City Engineer are required for planting anywhere in the sight distance triangle on streets with a speed limit of thirty-five miles per hour or higher.

Tree planting distance from street features other than intersections

Driveway	- 4 ft
Streetlight	- 10 ft (Note: follows utility practice for service drops)
Utility pole	- 10 ft Class 1, 15 ft Class II (Note: follows utility practice for poles)
Fire hydrant	- 5 ft (Note: NFPA 1, Fire Code, 18.5.7.1 requires a minimum of 3 ft clearance)
Stop or yield sign	- 3 ft when in back; 5-15 ft in front depending on offset of sign from the line of trees

The City Arborist may shorten the separation distance by 1 foot for every 5 feet required in the table above to improve the street function of a particular tree or make a particular tree spacing work. For trees in sight distance triangle, this will be determined in consultation with the City Engineer.

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Note: Examples of trees planted in back of stop signs may be found on Hauser on the first few intersections west of Benton, among other places.

Class I bushy trees are prohibited in boulevards on slopes and are discouraged in areas with narrower boulevards and extensive on-street parking and/or pedestrian traffic.

Boulevards smaller than 4 ft in width will not be replanted within the sight distance triangle; only Class I trees elsewhere, and only where approved by the City Arborist.

Tree heights and spread used to determine the list of approved species will reflect plausible dimensions given growing conditions on Helena boulevards with likely levels of irrigation.

Because trees in Helena rarely obtain their theoretical height and girth, Class II trees can be planted in boulevards 5 ft and wider to provide their street functions.

Note: Most existing boulevard trees have lasted 90 years or more in such boulevards. Further, we believe (as a rough estimate) 85-90% of trees planted per the proposed site distance triangle amendments have survived for up to a century.

Related issue: The Parks Department website FAQs says, "No shrub, ground cover, or flower may exceed thirty (30) inches in height" in a boulevard. Growing Friends couldn't find the authority for this requirement other than within the sight distance triangle. Perhaps an addition to city ordinance is needed.

Sign placement practices

Stop signs and yield signs will be placed 2 feet from the face of curb to edge of sign on streets with boulevards. Where boulevards are less than 7 feet wide, the edge of the signs will be placed between 1 and 2 ft from the face of curb to minimize obstruction of vision by boulevard trees.

Note: The Manual of Uniform Traffic Control Devices (MUTCD) Section 2B.01 Standard 02 says, "Regulatory signs shall be installed **at or near** where the regulations apply (emphasis added)." The 2 ft minimum distance is a suggestion, not a standard; see MUTCD Section 2A.16 Standardization of Location, Support 01. The 1-2 ft distance is permitted in a related situation under MUTCD Section 2A.19 Lateral Offset, Option 11, showing that MUTCD does not see that distance as a major problem.

Stop and yield signs will be placed 4 to 8 feet in back of intersecting sidewalks, at whatever distance accommodates placement of trees, including the possibility of a tree between the sign and the intersecting sidewalk.

Note: See MUTCD Section 2A.16 Standardization of Location, Support 01 and Section 3B.16 Stop and Yield Lines, Guidance 10, which suggests the sign "should not be placed more than 30 feet or less than 4 feet from the nearest edge of the intersecting traveled way."

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Except for stop or yield signs or other traffic control device that requires vehicles to stop, the placement of signs will accommodate the spacing of boulevard trees.

Note: We're told this can happen under current city practice.

ADA Ramps

Wherever possible, ramps will use curbs rather than wings at edge to reduce conflict between roots and ramp.

The amount of gravel used under ADA ramps will be at least 6 inches to encourage roots to grow deeper in search of water.

Bulb out near intersections

Bulb-outs will be required on new corners or corner rebuilds at intersections which have been determined by Engineering to be likely to have parking and sight issues (such as sloping streets in dense residential neighborhoods), with or without boulevard trees.

Note: This allows stop and yield signs to be closer to the travel way and decreases the effect of parked cars on a driver's vision.

Enforcement of sight triangle on private property

Greater attention will be given to enforcing the ordinance for landscaping, such as evergreens and shrubs, on private property.

Note: Many consider these to be a more serious sight issue than boulevard trees. Dealing with these first will make changes in boulevard tree spacing less objectionable.

Summary of Minimum Planting Distances for Boulevard Trees*

Uncontrolled intersections	- 15 ft from intersecting curb lines or 4 ft from back of intersecting sidewalk, whichever is greater
Controlled intersections	- 4 ft from intersecting sidewalk and 3 ft from control sign if in back; 5 to 15 ft in front of control sign depending on offset of sign pole from line of trees
Alleys	- 4 ft from alley ROW, except unpaved alleys 5 ft from the traveled pathway, if outside the ROW
Driveway	- 4 ft
Streetlight	- 10 ft
Utility pole	- 15 ft Class II trees; 10 ft Class I trees
Fire hydrant	- 5 ft

*All distances contingent on using trees approved for the type of location and other conditions. Please refer to detailed explanations.