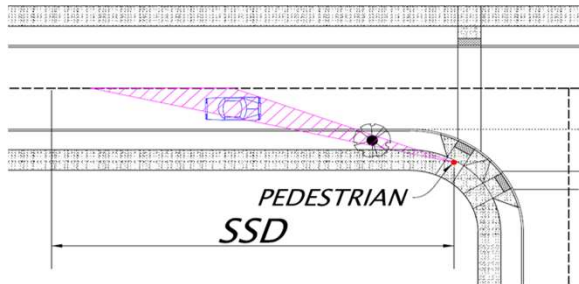# ODOT Tree Sightline Analysis

Analysis Methods

ISD = Intersection Sight Distance
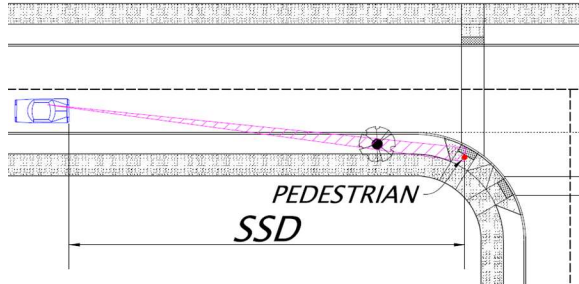*SSD = Stopping Sight Distance*

Method 1: Pedestrian at the top of the landing. Pedestrian should be able to see approximately 50% or more of the front of the approaching vehicle within stopping sight distance.
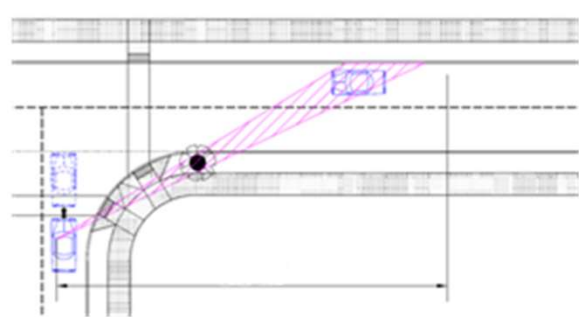

PEDESTRIAN
SSD

Method 2: Pedestrian at the back of the truncated domes. Pedestrian should be able to see approximately 50% or more of the front of the approaching vehicle within stopping sight distance.
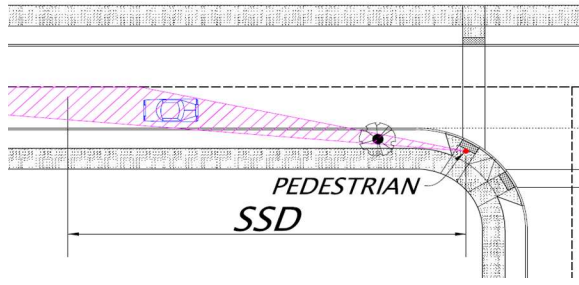
PEDESTRIAN
SSD

Method 3: No tree should be placed in the sight triangle such as to block the drivers visibility within stopping sight distance of the pedestrian standing at the back of the truncated domes.
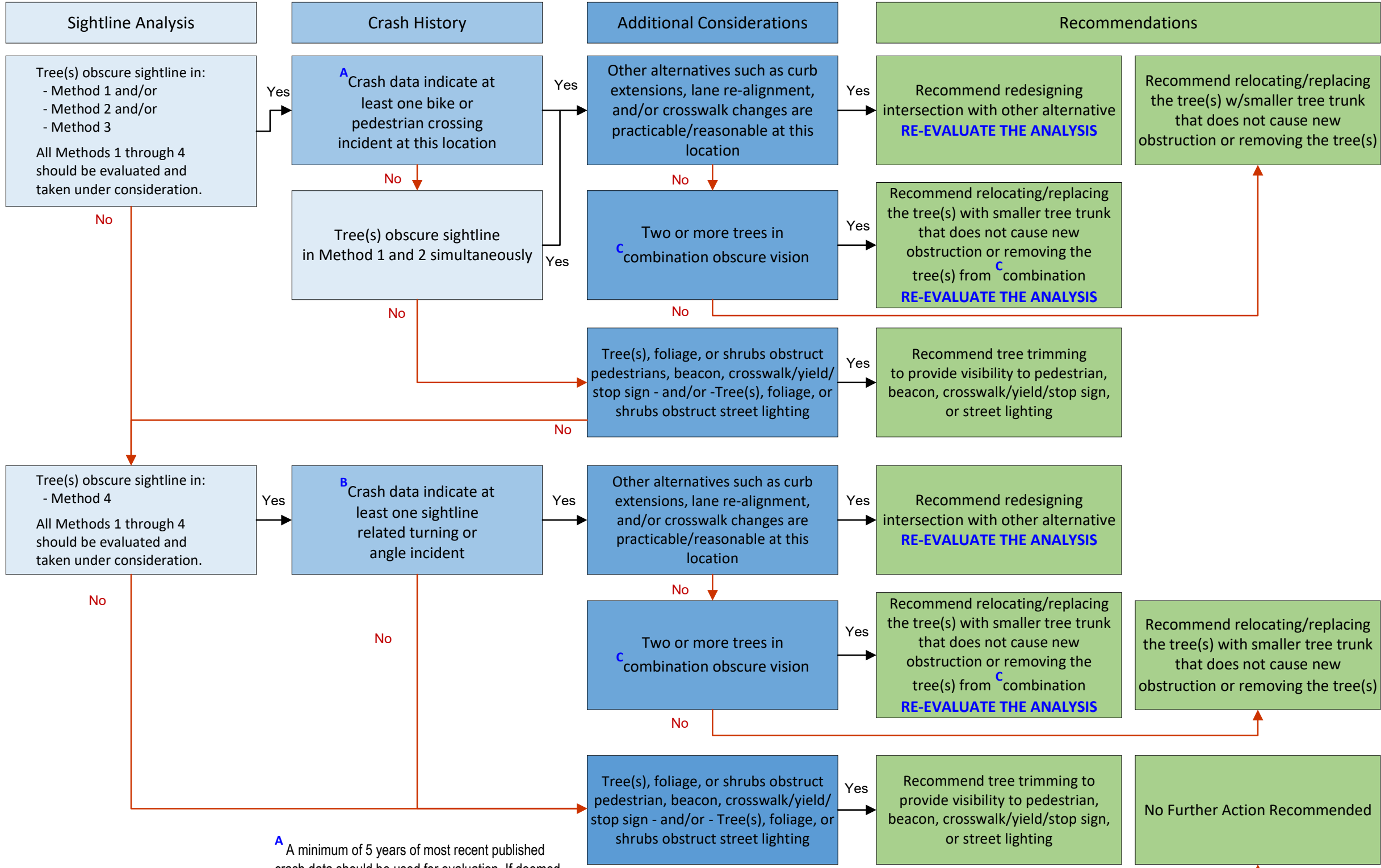

PEDESTRIAN
SSD

Method 4: Driver at the side street, stopped at stop bar, crosswalk, or stop sign. The driver should be able to see approximately 50% or more of the front of the approaching vehicle within ISD (SSD minimum). There should be improved visibility once the driver moves forward to the edge of the travel lane, after checking that the are no pedestrians using crosswalk.

- Check with the local &/or state forestry department whether the tree(s) have been identified &/or scheduled for removal.
- The acceptability of low shrubs that do not cover the visibility for pedestrian or driver is up to the discretion of an engineer.

Oregon Department of Transportation

Pedestrian Driven Analysis

Sightline Analysis

Tree(s) obscure sightline in:
- Method 1 and/or
- Method 2 and/or
- Method 3

All Methods 1 through 4 should be evaluated and taken under consideration.

No →

Crash History

A Crash data indicate at least one bike or pedestrian crossing incident at this location

Yes →

No ↓

Tree(s) obscure sightline in Method 1 and 2 simultaneously

Yes →

No →

Additional Considerations

Other alternatives such as curb extensions, lane re-alignment, and/or crosswalk changes are practicable/reasonable at this location

Yes →

No ↓

C Two or more trees in combination obscure vision

Yes →

No →

Tree(s), foliage, or shrubs obstruct pedestrians, beacon, crosswalk/yield/stop sign - and/or -Tree(s), foliage, or shrubs obstruct street lighting

Yes →

No →

Recommendations

Recommend redesigning intersection with other alternative **RE-EVALUATE THE ANALYSIS**

Recommend relocating/replacing the tree(s) w/smaller tree trunk that does not cause new obstruction or removing the tree(s)

Recommend relocating/replacing the tree(s) with smaller tree trunk that does not cause new obstruction or removing the tree(s) from **C** combination **RE-EVALUATE THE ANALYSIS**

Recommend tree trimming to provide visibility to pedestrian, beacon, crosswalk/yield/stop sign, or street lighting

Vehicle Driven Analysis

Sightline Analysis

Tree(s) obscure sightline in:
- Method 4

All Methods 1 through 4 should be evaluated and taken under consideration.

No

Crash History

B Crash data indicate at least one sightline related turning or angle incident

Yes →

No

Additional Considerations

Other alternatives such as curb extensions, lane re-alignment, and/or crosswalk changes are practicable/reasonable at this location

Yes →

No ↓

C Two or more trees in combination obscure vision

Yes →

No →

Tree(s), foliage, or shrubs obstruct pedestrian, beacon, crosswalk/yield/stop sign - and/or - Tree(s), foliage, or shrubs obstruct street lighting

Yes →

No →

Recommendations

Recommend redesigning intersection with other alternative **RE-EVALUATE THE ANALYSIS**

Recommend relocating/replacing the tree(s) with smaller tree trunk that does not cause new obstruction or removing the tree(s) from **C** combination **RE-EVALUATE THE ANALYSIS**

Recommend relocating/replacing the tree(s) with smaller tree trunk that does not cause new obstruction or removing the tree(s)

Recommend tree trimming to provide visibility to pedestrian, beacon, crosswalk/yield/stop sign, or street lighting

No Further Action Recommended

A A minimum of 5 years of most recent published crash data should be used for evaluation. If deemed necessary/appropriate, crash data can be supplemented with less recently published crash data (e. g. project programmed data). If an engineer becomes aware of more recent relevant crash that have not been yet published, this crash should also be added to crash data used for evaluation.

Crash data should clearly indicate collision between vehicle and bicycle or pedestrian crossing the street at marked or unmarked crosswalk in question. Engineering judgment should be made for the use of other crashes that are indicative of pedestrian/car or car/pedestrian sight impairment cause.

B A minimum of 5 years of most recent published crash data should be used for evaluation. If deemed necessary/appropriate, crash data can be supplemented with less recently published crash data (e. g. project programmed data). If an engineer becomes aware of more recent relevant crash that have not been yet published, this crash should also be added to crash data used for evaluation.

C When analysis identifies more than one tree trunk obscuring vision for pedestrians or vehicles - one tree at a time should be removed from combination until visibility is obtained. Analysis should be re-evaluated and documented after each tree is removed.

PEDESTRIAN
SSD