



DAYTON PLANNING COMMISSION

111 S. 1st Street, Dayton, WA

PRELIMINARY AGENDA SPECIAL MEETING & CONTINUED PUBLIC HEARING Tuesday, January 6, 2015 @ 6:30 p.m.

1. CALL TO ORDER
2. ROLL CALL
3. MINUTES - Approval of 12/16/2014 meeting minutes (Attachment A)

Action - Approval of minutes for 12/16/14

4. PUBLIC HEARING: 2014 Docket for Updates to the Comprehensive Plan (CP) and development regulations (DR). (See summary of Final Docket List Below)
 - a. Update(s) from City Staff
 - b. Public Testimony & Questions
 - c. Close or continue Public Hearing

5. ADJOURN MEETING

Next Scheduled Meeting –January 20, 2015 @ 6:30 pm

ATTACHMENT B

Final Docket Items for 2014 CP & DR Update

The following final docket items were approved by the City Council on Monday, November 26, 2014 for review by the Dayton Planning Commission, have a public hearing and then forwarded back to the City Council with a recommendation: See the Dayton Website for additional information.

COMPREHENSIVE PLAN

- CP14-001** - Commercial Street Master Plan, adopt as a Subarea Plan. Funded by the Dayton Development Task Force (DDTF), the Plan includes area generally of the north Main St. alley to north edge of Commercial St. between just west of the Touchet River east to the viaduct.
- CP14-002** - Parks Plan – Plan approved by Resolution 1241, on 2/24/2014. Replace p 90 – 107 of 2008 Comprehensive Plan.
- CP14-003** - Comp PI 2008 - Update Plan text and term references to Land Use and Existing Land Use Designations, pages 26-28.
- CP14-004** - Updates Comp Plan Map P 28 to include both the UGA and City Comprehensive Plan Land Use designations using GIS tools. (Resignation of properties is not proposed under CP14-004. Also implements Comp. Plan designation terms revised in CP14-003.
- CP14-005** - Update "Existing Land Use Map" P 29 to reflect current/existing use of properties using GIS tools and County assessor information.

- CP14-006** – Updates the Comp Plan establishing a separate "Historic Element", adopt the Historic Downtown Dayton Historic District (DDHD) as a subarea and DDHD design guidelines used to approve Certificates of appropriateness.
- CP14-007** - Clarify references to elevations and topography inside city limits, P 32
- CP14-008** – Revise/correct reference to FIRM revision for Mustard Hollow, P 34. FIRM Zone "A" for Mustard Hollow was mostly revised to Zone "X".
- CP14-009** - Wildlife references update to separate reference to wildlife and domestic animals, P 35
- CP14-010** - Recognizes and incorporates the latest Capital Facilities Plans - 6 and 20 year
- CP14-011** – Update the Housing Element Chapter by adding policies to further define design and services needed, as well as recognize ways to accommodate aging-in-place.
- CP14-012**- Update Comp Plan to include additional definitions for terms used within the Comprehensive Plan.
- CP14-013** - Comp Pl Map Correction - Revise the designation of Paul & Marcene Hendrickson's property in the UGA from Public to Residential. This would be a correction to the map rather than considered as a map change.

DEVELOPMENT REGULATIONS

- DR14-001** - New Title 20 – Comprehensive Plan – New title referencing the adopted Comp Plan, subarea plans and amendments by ordinance.
- DR14-002** - Critical Areas / Geo Hazard/Seismic Hazard Code Revision:
- o Identify and classify hazards by level of potential risk and severity.
 - o Clarify that a geotechnical study is an option to allow development.
- Under the current code, development is severely restricted and possibly unreasonably limited. Other local codes will be reviewed and DNR will be consulted.*
- DR14-003** – Zoning - Historic District standards – Revise standards for Historic District Overlays as recommended by the Dayton Historic Preservation Commission.
- DR14-004** – Zoning - Side Yard setbacks for corner lots. – Revise code to allow a reduction to one of the two street front yards. Reduced yard width of 10 feet or alternatively 15 feet rather than 20 feet.
- DR14-005** - Development Standards Update -
- Establish trees and tree branches clearance in right-of way
 - Establish process for Deviation from standards for roads and other infrastructure
- DR14-006** Zoning Map Title 11 –Update of the Zoning Map using GIS tools. (This does not change map classifications) (GIS mapping completion date – Dec. 2014)
- DR14-007** Historic Districts– Zoning Overlays Title 11 (GIS mapping completion date – Nov. 2014)
- DR14-008** -Critical Areas Map Layers for Title 17 (GIS mapping completion date – Dec. 2014) See below for Links to maps.



DAYTON PLANNING COMMISSION

111 S. 1st Street, Dayton, WA

Meeting Minutes

Tuesday, December 16, 2014

1. CALL TO ORDER by Joe Huether at 6:32 pm
2. ROLL CALL: Joe Huether, Chair; Greg Abramson, Vice Chair; Carol Rahn present. Candace Jones arrived after minutes were approved. Carol was excused from the meeting at approximately 7:15 pm.
Also in attendance: Karen Scharer, Dayton Planning Director
3. MINUTES REVIEW & APPROVAL – Joe moved to accept the minutes of 11/18/2014. The commission voted to accept.
4. COMMUNICATIONS FROM CITIZENS – none
5. PREVIOUS BUSINESS –
2014 Comprehensive Plan & Development Regulations Update. Staff update
Karen explained the updates made to the docket since the 11/18.2014 Planning Commission meeting and the attachments to the agenda.
 - a. The 2014 Docket was finalized by the City Council on 11/24/2014.
 - b. Historic Zoning Overlay - In addition to the Historic Districts map - Attachment J, an additional map was presented to the commission which includes Historic Districts and Local Historic Register Properties in Dayton. This map is the updated overlay for zoning (DR14-007).
 - c. An updated map for the Hendrickson Comp Plan Map correction (CP14-013) was provided with the GIS Comp Plan draft used as the base map.
 - d. , Critical Area Maps (Attachment K) – An overview of the update of GIS maps was provided, including a discussion of the flood overlay, wellhead protection, seismic hazard, erosion hazard (DR14-008).
Carol added that in the Mustard Hollow area, the Dayton Ditch did at one time experience flooding.
Karen explained that the Fed's and State have many overlays and data which will not be included in the City's published critical areas maps and the City will instead continue to refer to these other maps for critical area data when needed.
 - e. Comprehensive Plan Map – LU-1 (Future Land Use) – Under CP14-004 the intent is to transfer the information from the current map(s) to the GIS format. Properties would not be redesignated.

- f. Seismic – Supplemental background information regarding risks associated with seismic activity and damage potential was provided (DR14-002).
- g. Hanford - Candy questioned what is the hazard associated with Hanford Reservation waste and our water supply.

Joe stated that he is a former employee at Hanford and that Dayton is upstream of the facility. Our water source is not connected to any hazard area of Hanford. Our water supply is separate. Also, here are no longer airborne releases of contaminants for the facility.

- h. Corner Lot Setbacks - Ann Stroud provided a letter in support of the proposed revision for setbacks associated with corner lot flank sides. Karen stated that Ann's home is on a corner with a nonconforming setback along S. 4th St.

In discussing corner lots, Joe stated that one needs to know the goal of the regulation regarding setbacks first before deciding what the regulation (setbacks) should be. The purpose of the regulation needs to be clearly stated.

Joe questioned how difficult it is to request a variance. Karen explained that in total the cost would be about \$600, part of the cost is based on hearing examiner time which can vary. With minor variances (less than 10% variance from code), the Planning Director has authority to allow administratively, but the variance criteria must still be met.

Joe asked if the City could allow the Director to grant variances of 25%.

Karen stated that the city could, but cautioned the wisdom of giving such discretion to a director. She would look into the question and report back on January 6th.

Joe questioned if the amount of flexibility (percent of variance) could vary dependent on the specific code provision. Also Joe commented on the need to assure safety of children from automobiles. He also stated that vegetation should not block sight distance.

Joe indicated that regulations become non effective when the City has too restrictive of regulations.

Candy questioned what the setbacks are from an alley. Karen explained that there is a minimum 5 foot setback for an accessory building and the variations of setbacks dependent on height The proposed code amendment would allow for a reduced setback on the corner lot front flank side.

Greg stated that large vehicles parked on streets create a visibility problem even more than vegetation.

Karen agreed with Greg and used parking near the corner of Main Street and 1st Street intersection as an example.

6. PUBLIC HEARING: 2014 Docket for Updates to the Comprehensive Plan (CP) and development regulations (DR). (See summary of Final Docket attached to the 12/16/2014 Agenda)

The Hearing was opened and then closed for the evening at 7:30 pm as there were no citizens in attendance. The next hearing is scheduled for January 6, 2015. A decision on the recommendation to the City Council is scheduled for the Jan. 20, 2015 meeting.

7. NEW BUSINESS - none

8. MEETING ADJOURNED – Joe adjourned the meeting at 7:32 PM
Next Meeting January 6, 2015 @ 6:30 pm

Joe Huether, PC Chair Date Signed

Karen J Scharer, Planning Director Date Signed



Date: January 4, 2015
TO: Dayton Planning Commissioners and Mayor Craig George
FM: Karen Scharer, Planning Director
RE: 2014 Update /Further Background Information and Staff Recommendations for Development Regulations

A. DR14-004 Corner lots – Setbacks

1. Purpose of Front Setbacks:

a. Background - Much of Dayton was platted into lots before the 20th Century and the first zoning wasn't established until Jan. 6, 1959, Ordinance 1127.

Setbacks maintained the "farmhouse surrounded by grass" format which has been the most preferred residential format in the United States for over two centuries. The suburban farmhouse was not only desired, but also needed as the 19th Century City was often unpleasant with poor sanitation and sewage, and with air pollution from home heating and other sources.

b. Front setbacks provide a buffer between the building and the automobile traffic. Before the automobile, the super-wide streets were rather quiet, however, with the automobile came noise, and more air pollution.

c. Setbacks provide access to light and air for the residential property owner and assures a level of the same for neighbors.

d. In the 1930's, the Federal Housing Administration (FHA) published design standards for single family housing developments. Below are excerpts regarding setbacks from "Planning Profitable Neighborhoods" (published in 1938) stating the importance of setbacks in neighborhood design and calling for larger corner lots in order to provide similar buildable area as interior lots.

As stated above, Dayton had most lots and streets platted by this time. Most corner lots in Dayton were platted as the same size as interior lots. This resulted in less usable area for building on a corner lot than compared to interior lots.

To address the issue of comparable buildable lot area for corner and interior lots, many cities in the United States commonly have a code provision allowing for a "street side" or front flank side to have a reduced setback, typically being 10 or 15 feet. A number of code examples for Eastern Washington Cities were included in the DR14-005 Docket Item presented to the Commission on 11/16/2014.

Below - From <https://archive.org/stream/planningprofitab00unitrich#page/14/mode/2up> Page 5,

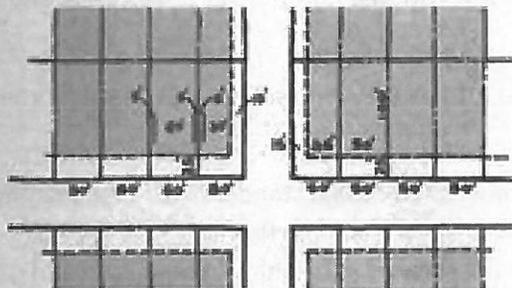
ZONING AND RESTRICTIONS

It is essential that every residential neighborhood be protected against adverse influences which may occur through undesirable land uses. The best means of such protection is through properly drawn and administered zoning regulations and by restrictive covenants that are

placed as blanket encumbrances against the entire tract. These protective measures help to maintain a stable market condition within the area and to assure purchasers that their investments will not be injured by the acts of selfish or thoughtless neighbors. Regulation of lot sizes, location of structures and their design, and prohibition of nuisances are good business for both buyer and seller.

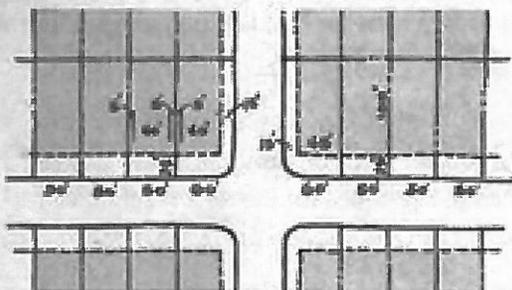
It is important that the developer distinguish between zoning and restrictive covenants. The first derives its authority from an exercise of police power, the other through a contractual obligation. They go hand in hand, one supplementing the other, and both are needed.

ch#page/14/mode/2up, Page 15.



USABLE AREA

Corner Lot—35' x 100' = 3,500 sq. ft. Building Footage 30'
Interior Lot—50' x 100' = 5,000 sq. ft. Building Footage 40'



USABLE AREA

Corner Lot—45' x 100' = 4,500 sq. ft. Building Footage 40'
Interior Lot—50' x 100' = 5,000 sq. ft. Building Footage 40'

BAD

PLAN WIDER CORNER LOTS

Every residential lot within a neighborhood should be sufficiently spacious to provide free area on all sides of the space to be covered by a dwelling. Because of the special requirements imposed upon corner lots by reason of necessary setbacks from two streets, it is recommended that corner lots be given extra width at least to the extent of the additional side yard demanded by the side street setback requirement. In the case of a normal corner lot with a side yard requirement of 5 feet and a side street building line setback of 15 feet, the width should be 10 feet wider than interior lots.

Regulations establishing minimum building line setbacks on the front, sides, and rear of dwellings must be considered by the subdivider at the time lot lines are established.

GOOD

2. Sight Distance for Vehicle Traffic and Pedestrian Safety:

Dayton residential areas predominately has very wide rights-of-way of 60 to 80 feet. Most streets are only partially improved with hard surfaces for driving and walking. The remainder of the right-of-way is often landscaped /or used as graveled parking areas. These areas also provide a de facto added "setback" from the street pavement.

DR14-005 specifically addresses sight visibility from rights-of-way and intersections.

3. Existing Setbacks on Corner Lots:

There are numerous examples throughout Dayton of corner lots with setbacks of structures from street right-of-way less than the Zoning Code 20 foot requirement. Many such buildings are the primary structure (house) having at least one street setback from typically 10 or 15 feet from right of way. Accessary structures at times are even closer with a 0 foot setback. Please see the Attachment A which provides a number of examples in Dayton demonstrating that reduced front setbacks do not create a safety risk at intersections. See Attachment A to this memo.

4. Alternative – Use of Minor Variances to allow Setback Reductions for Corner Lots.

I contacted MRSC.org and received a response regarding the 10% threshold for minor variance approvals by a Planning Director is the common practice, see Attachment B. However, some cities do provide for different percentages of variation dependent upon the code standard.

The issue with using the variance process is that variances are only to be used to grant relief from the standard and the applicant still must meet all variance criteria as stated below.

11-10.040 VARIANCES—INTENT.

A variance on the dimensional or development requirements of this title is intended to provide relief where, due to geographic, topographic or other similar conditions, complete compliance with all requirements of this title prevents the use of a property which is generally available to other properties in the same zone.

11-10.050 CONDITIONS FOR GRANTING A VARIANCE.

A variance from the dimensional or development requirements of this title may be granted only if the following facts and conditions exist:

A. Due to geography, topography, or other similar conditions, a strict application of the requirements of this title would deprive the subject property of rights and privileges enjoyed by other properties in the same zone;

B. Due to physical conditions, the development of the lot in strict conformity with the provisions of this title will not allow for reasonable use;

C. That the variance, if granted, will not alter the character of the neighborhood, or be detrimental to surrounding properties in which the lot is located;

D. The variance requested will not permit a condition which is materially detrimental to the public welfare, nor injurious to other properties and improvements in the vicinity of the subject property;

E. The variance is not required due to conditions created by the actions of the applicant, property owner or their agents;

F. The granting of the requested variance will not provide a special privilege to the property or the applicant that is denied by this title to other lands, structures or buildings within the same zone.

G. The variance will not allow an increase in the number of dwelling units permitted by the zoning district.

H. The variance shall not allow a land use which is not permitted under the zoning district in which the property is located.

I. Justification for the issuance of a variance shall not be based on the illegal use of neighboring lands, structures or buildings in the same zone, and the illegal or permitted uses of lands, structures or buildings in other zones.

11-10.060 VARIANCE FINDINGS OF FACT

Before a variance can be granted or denied, the hearing body must find that:

A. The application is complete as required in Title 10;

B. The variance requested are within the conditions specified in section 11-10.060;

C. The variance is the minimum variance that will make possible the reasonable use of land, building or structure; and,

D. The granting of any particular variance will be consistent with the general purpose and intent of this title, is in compliance with the Comprehensive Plan and will not be injurious to any affected neighborhood or otherwise detrimental to the public welfare.

The hearing body may attach conditions to any variance if such conditions are necessary to protect the public welfare or the purpose of this title. If the hearing body finds that the applicant is not eligible for a variance or does not fulfill the requirements, the hearing body shall state the reasons for the denial of the variance.

Staff Conclusion and Recommendation:

Setting a standard of 10 feet for corner lot flank side setbacks as proposed under DR14-004:

- 1) Is consistent with the historic and current purpose of such front setbacks providing light and air.
- 2) Better reflects the City current development in that there are numerous corner lots where buildings are less than 20 feet from rights-of-way,
- 3) Is consistent with many neighboring communities which allow a setback reduction on the front flank side, and,
- 4) Does not result in any visibility hazards at intersections.

B. DR14-005 – Vegetation Clearance Development Standards Update

In researching the corner lot sight triangle provisions I discovered that under DR14-005 a definition of the sight triangle for right-of way is not clearly defined. I have contacted Howard Boggs by email for his expertise. I suggested two ways to define the sight triangle and inside corner referenced in DR14-005.

Two Options:

Sight triangles and inside corners referenced below are calculated based on (a AASTHO, state or other standard) or ... are measured a minimum of (X) feet back from the traveled lane(s).

Please see Attachments C, D and E for background information on this subject. A recommendation for the addition of an intersection sight triangle will be provided in the staff update on 1/6/15.

DR14-004 CORNER LOTS – SETBACKS and SIGHT VISIBILITY

EXAMPLE 1 - S 1st (80' R-or-W) & E Tremont (70' R-or-W)



Looking North on 1st Ave South. 315 S 1st St., blue house is **12' setback** from S.1st St R-of-W.

Looking east onto S. 1st St and E. Tremont Ave beyond. Blue house has a **14' setback** from Tremont R-of-W. (sidewalk)



Looking South on S 1st

Looking NW from E. Tremont to S. 1st St.



Attach A

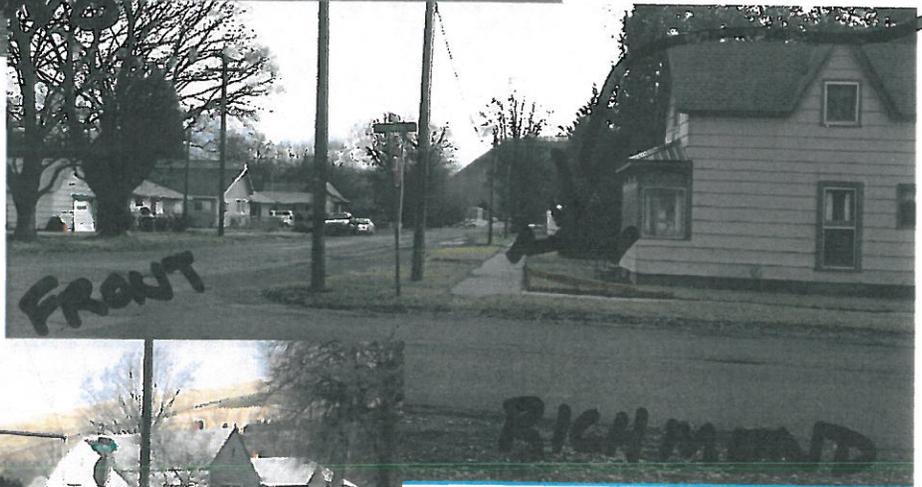
EXAMPLE 2 - N Front St (70' R-or-W) & Richmond Ave (70' R-or-W)



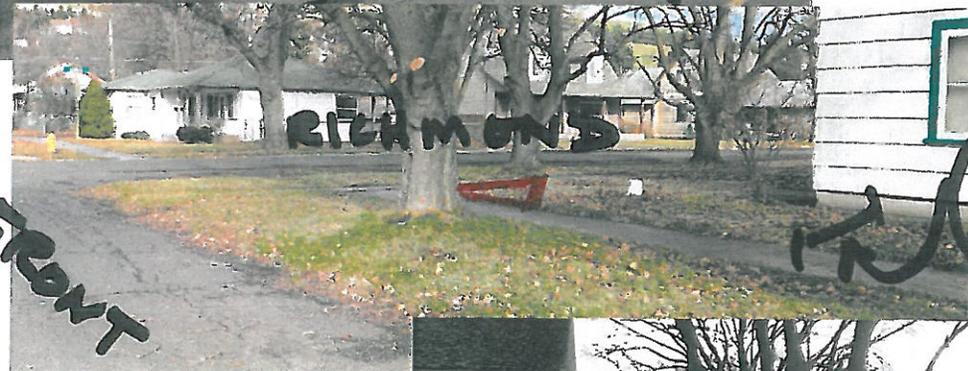
Looking southeast from W Richmond to N Front St. Pink house has a **12' setback** from West Richmond Ave R-of-W and 9 foot setback from N Front St. R-of-W.

Green house has a **10' setback** from N Front St. R-of-way.

Looking south on N Front St. Pink house has a **9 foot setback** from N Front St. R-of-W.



Looking northwest from N Front to Richmond Ave. Pink house has a **9 foot setback** from N Front St. R-of-W and a **12' setback** from West Richmond Ave R-of-W.



Green house in foreground has a **10' setback** from N Front St. right -of-way. (Sidewalk).

Looking south at green house and N. Front St.

10' setback



EXAMPLE 3 - S 4th St (80' R-or-W) & E Clay St. (70' R-or-W)

Looking SW from S. 4th St. to Clay St.



Looking NE from Clay St to S 4th St. White home is

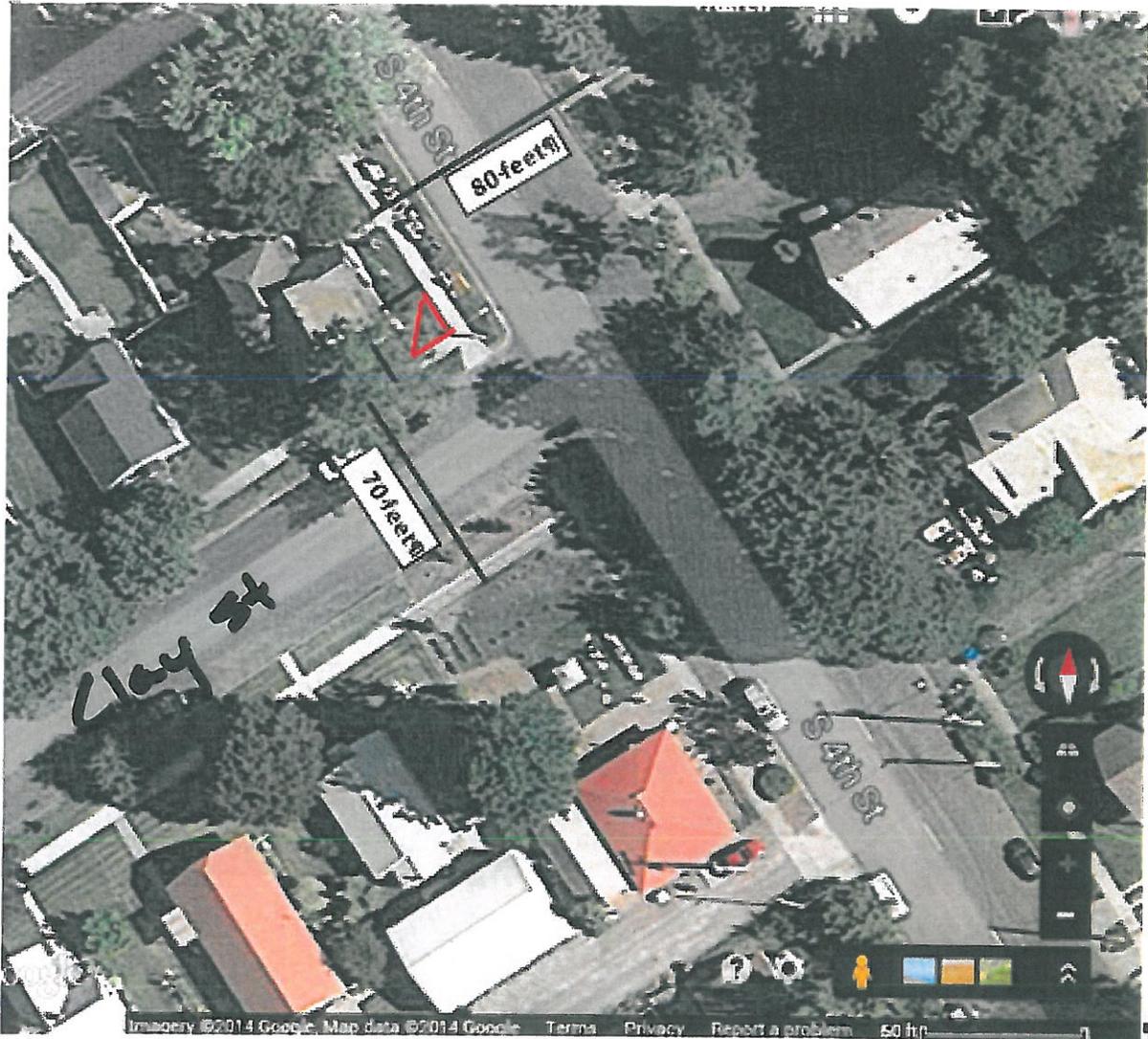
9 feet from Clay St. R-of-W &

16 feet from S 4th St. R-of-W.

No sight issues present.



On the south side of Clay St at the intersection with S. 4th St. is an example of limited sight visibility due to vegetation.



Red triangle shows the sight distance triangle of DMC 11.03.065. - VISION CLEARANCE AREA REQUIREMENTS. At street intersections and at intersections of streets and alleys, in the area adjacent to each intersection shall be maintained in a clear and open condition to provide for safe vision of traffic on the intersecting streets. The area shall include all areas within a sight triangle, measured ten feet back from the intersecting property lines along each street front or alley property line. Within this triangle area no fences, bushes, structures or other vision obstructing elements may be more than three feet higher than the finished grade of the adjacent streets and no signs, tree limbs or other vision obstructing elements may be less than eight feet above the finish grade of the adjacent streets.

EXAMPLE 4 - S 7th St (60' R-or-W) & E Spring St. (50' R-or-W)



Looking north from Spring St to S 7th St., white home w/green awning to the left is approximately **3 feet** from S. 7th St. R-of-W. and home up-hill to the right is about **11 feet** from S. 7th St. R-of-W.



Across the street at the southeast corner is an example of **fencing setback from the corner** per **DMC 11.03.065. - VISION CLEARANCE AREA REQUIREMENTS.**

At street intersections and at intersections of streets and alleys, in the area adjacent to each intersection shall be maintained in a clear and open condition to provide for safe vision of traffic on the intersecting streets. The area shall include all areas within a sight triangle, measured ten feet back from the intersecting property lines along each street front or alley property line. Within this triangle area no fences, bushes, structures or other vision obstructing elements may be more than three feet higher than the finished grade of the adjacent streets and no signs, tree limbs or other vision obstructing elements may be less than eight feet above the finish grade of the adjacent streets.

EXAMPLE 5 - S 3rd St (60' R-or-W) & E Jackson St. (60' R-or-W)



A
Home is 10 feet from sidewalk (R-of-W) of S 3rd St. and 20 feet plus from E Jackson St.

B
House is 8 feet from sidewalk on E. Jackson St. and 20 feet from S. 3rd St.



FRONT STREET SIDES

Front Flank Sides



Front Primary Sides



Karen Scharer

From: Sue Enger <senger@mrsc.org>
Sent: Tuesday, December 23, 2014 10:16 AM
To: kscharer@daytonwa.com
Subject: RE: Research Request

I am responding to your request for information about which cities allow the Planning Director to make approval decisions about minor variances. You also asked if any cities allow a minor variance with over 10% deviation, and asked about administrative variances as well.

I can't provide information about every city that uses a minor or administrative variance procedure. Of the ones I found, the normal procedure is to designate the director as the decision-maker. I found a few examples of cities that allow processing of some deviations of greater than 10% as minor variances, although the 10% threshold is pretty common. Although I mainly searched for "minor variances," as you requested, a greater number of communities offer "administrative variance" procedures, which generally appear to be the same as the minor variances.

- Chewelah Municipal Code [Sec. 18.16.030\(B\)](#) – Up to 10% deviation; Administrator approves (city administrator or his/her designee)
- Bainbridge Island Municipal Code [Sec. 2.16.060](#) & [Sec. 2.16.010](#) – Up to 25% deviation; Planning commission review and recommendation, director (of department) approves
- University Place Municipal Code [Sec. 19.85.030](#) – Administrative variance - Up to 25% deviation; Director approves
- Walla Walla Municipal Code [Sec. 20.220.020](#) - Up to 10% deviation; Director approves
- Port Townsend Municipal Code [Sec. 17.08.060](#) – Deviation of 5% or 20% depending on specific standard to be varied. (See definition for Variance, minor in [Sec. 17.08.060](#); Director of development approves as per [Sec. 17.86.055](#))
- Colville Municipal Code [Sec 17.88.030](#) - Up to 10% deviation; Administrative official (person designated by city council to administer this title) approves with notice of decision required as per [Sec. 17.108.100](#)
- Fircrest Municipal Code [Sec. 22.74.002](#) – Up to a 10% deviation; Director approves as per [Sec. 22.05.003](#)
- Ellensburg Municipal Code, [Sec. 15.500.040](#) – Administrative variance - Up to a 10% deviation; Director approves
- Gig Harbor Municipal Code [Sec. 17.66.020](#) – Administrative variance - Deviation of 5%, 10%, or 20% depending on specific standard to be varied, and planning director has the authority to decide

Hopefully, this information is helpful!

-----Original Message-----

From: Receptionist
Sent: Monday, December 22, 2014 9:34 AM
To: Sue Enger
Subject: Research Request

Name: Karen Scharer
Title: Planning Director
Phone: 509 5406747
Email: kscharer@daytonwa.com

Attach B

Background Information for DR14-005 -

Internet Chat downloaded 1/4/15 – Website source not saved

Sight Triangle Question March 2008

Original Question

John Tatum jtatum@ci.marysville.wa.us

What is common or standard practice on allowing parking on an arterial within the Entering Sight Distance sight triangle for a stopped side street?

Responses

Raid Tirhi [Raid.Tirhi@cityoffederalway.com]

We use AASHTO standards that depend on arterial speed limit.

Victor Salemann [Vls@deainc.com]

One of my EIT's got your request for information on parking in sight triangles. I checked the Bellevue code and while a parked car is not addressed there are specific dimensions for what is and isn't an obstruction - I'd call a car an obstruction.

Rick Perez [Rick.Perez@cityoffederalway.com]

There is a wide variety of practice on this topic. My preference is to use the AASHTO Green Book procedures for intersection sight distance. I've attached a public domain spreadsheet template I developed to analyze this situation. It's fairly conservative and probably not suitable for dense urban settings, due to occlusion from parked cars. I liberalize it by using posted speed instead of design speed.

King County Road Standards uses a table based on some generic intersection configurations. It is even more conservative than AASHTO 99% of the time.

For low speed urban settings, I've seen several cities use a simple triangle of 30 feet along each side with no sight restricting obstructions between 2.5 and 8 (or 10) feet in height.

Richard Meredith [rmeredith@ci.shoreline.wa.us]

You raise a good question. In an urban environment, there is often a high demand for parking to be balanced with a need for adequate sight-distance for safety. What I have found is that I can justify removing enough parking to provide adequate sight distance. Beyond that, I normally speak with the adjacent property owner/resident to see if they are okay with additional parking loss above the minimum necessary. Trying to restrict more parking than necessary can result in unpleasant political situation.

To determine minimum sight-distance, I use a point 12-14ft back from the edge of the traveled way. I use the stopping sight distance formula $1.47vt + v^2/30(f+g)$ where v =posted speed+5mph, t =perception reaction time=1 sec, f =friction factor with bald tires and wet pavement => typically 0.33 for 30 mph, and g is the grade of the roadway.

Attach C

Background Information for DR14-005 -
Internet Chat downloaded 1/4/15 – Website source not saved
Sight Triangle Question March 2008

You may notice the 1sec perception reaction time. I justify this as I am normally evaluating an existing condition, not designing a new roadway. There are references in the ITE handbook that use the 1 sec in signal operations. I believe that in an urban environment, where there are lots of visual cues to keep drivers alert, that 1 sec is a reasonable value in this situation.

This has been my standard practice while with the City of Seattle and currently at the City of Shoreline.

Don McGahuey [Dmcgahuey@hcwl.com]

When I was with the City of Wenatchee, I relied on RCW 46.61.570 which in part says:

Within twenty feet of a crosswalk

Within thirty feet upon the approach to any flashing signal, stop sign, yield sign, or traffic control signal located at the side of a roadway

Generally, where parking is allowed along arterial streets, Wenatchee's curbs are painted yellow 30 feet back from where the curb lines would intersect; and this is supported by an ordinance that prohibits parking with a "yellow zone".

The distances in the RCW definitely do not meet sight triangle standards. To prohibit parking within the sight distance triangle in an urban setting where commerce relies on the street for customer parking just wouldn't be acceptable in most areas (politically speaking).

Wise, Jeffrey R. [jrw@hdjengineers.com]

WSDOT has a standard. Or at least they did 12 years ago when I worked there. I'm sure you have included a few WSDOT people in your research. As far as I know none of the municipalities in SW Washington have such a parking restriction. However, generally when we do intersection sight distance checks. for development. we do mention that there is parking in the vicinity of the site access that could impact sight distance. On a couple of occasions we have removed parking in the sight distance triangle to address a specific safety issue. I think most agencies have Code that allows them to address specific safety issues that could be used to remove parking from the sight distance triangle.

Jerry L. Hahs, PE [jhahs@comcast.net]

Am not familiar* with a "common or standard" practice re parking on thru street approaches to a R1-1 controlled side street, however, there are many publications to assist in the decision making process. Some recommended publications are: *Fundamentals of Traffic Engineering, 8th Edition*, University of California IT&TE 1973 Course Notes; *California Highway Design & Traffic [Obsolete] Manuals*; *AASHTO Green Book*; and *MUTCD*. They help with the analysis of parking and other intervisibility obstructions at intersections.

*Recently was informed that Riverside County, California has extensive roadway standards. You may want to investigate them.

Paul Coffelt [pcoffelt@ci.lynnwood.wa.us]

My observation is that Lynnwood does not allow parking on arterials. If there is a bus stop on an arterial, the front of the bus cannot stop within the entering sight distance triangle for side street traffic. This is generally mitigated by requiring stops to be 60 feet or more downstream of the stop-controlled intersection. The distance may need to be more if articulated buses are going to use the stop.

David Smith [dsmith3@ci.olympia.wa.us]

Olympia does not allow parking within the sight triangle.

See link and section 4B.150

http://www.olympiawa.gov/documents/EngineeringStandardsNew/Chapter4_complete.pdf

Noel Schoneman [NSchoneman@ci.kirkland.wa.us]

Check out Kirkland's web site: www.ci.kirkland.wa.us/home.htm

then select "Departments", then "Public Works", then Transportation & Streets; there you will find a selection for "Sight Distance"

Kurt Latt KLatt@bellevuewa.gov

Bellevue will restrict parking on an arterial to maintain adequate lines of sight. The standards are generally based on the AASHTO green book and sight distance triangles are reviewed in the field to determine the extent of parking restriction necessary. Generally posted speed is used but if the 85th percentile speeds are known they will also be considered. Also, grade sometimes comes in to play and affects sightlines as outlined in AASHTO. Bellevue's sight distance triangles are available online in our design manual at the following link.

<http://www.bellevuewa.gov/pdf/Transportation/TE-01.pdf> here's the drawing.

the entire design manual drawings are at: <http://www.bellevuewa.gov/7020.htm>

Rob Crittenden [RCRITTENDEN@REDMOND.GOV]

We are currently struggling with this same issue here in Redmond. Our sight triangle for arterial streets is 20 feet by 100 feet. The 20 foot leg of the triangle is drawn perpendicular to the face of curb on the arterial street back in to the driveway. The 100 foot leg is drawn along the curb face of the arterial street, and then the two legs are connected to form a triangle. No sight obstruction is allowed in this triangle that is higher than two feet or lower than eight feet (with some exceptions). Please see below for our sight triangle standard.

20D.210.25 Sight Clearance at Intersections.

20D.210.25-010 Purpose.

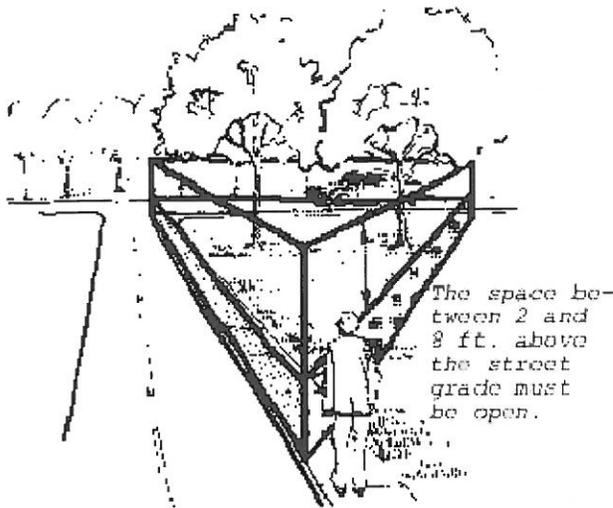
The purpose of this section is to improve traffic safety at intersections. (Formerly 20C.20.220(05))

20D.210.25-020 Intersection.

For the purpose of this section, intersections shall mean where two public and/or private alleys, roads, streets, or nonresidential driveways meet or cross. (Formerly 20C.20.220(10))

20D.210.25-030 Obstruction of Intersection.

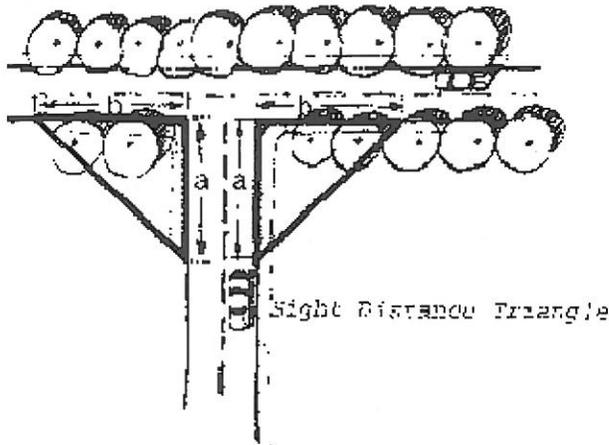
The obstruction of a motor vehicle operator's view at an intersection shall be prohibited within the "Sight Distance Triangle" described in this section between a height of two feet and eight feet above existing street grade. Sight obstructions that shall be excluded from the "Sight Distance Triangle" include parked vehicles, signs, fences, hedges, shrubs, natural vegetation and trees and other inanimate objects greater than one foot in width. Sight obstructions that are permitted in the "Sight Distance Triangle" include utility poles, traffic control devices, trees and other inanimate objects 1.5 feet or less in width and spaced at least 50 feet apart. (Formerly 20C.20.220(15))



20D.210.25-040 Sight Distance Triangle.

Type of Intersection	Horizontal Sight Clearance for Intersection Legs Noted	
	(a)	(b)
Controlled by	(a)	(b)
Traffic Signal or Stop Sign		
Intersections that Involve Arterials (30MPH+)	20'	100'
Others (Local access, driveways, etc.) (25 MPH)	20'	65'
Uncontrolled or Yield Right-of-Way (Local access – residential)	70'	70'

The sight distance triangle is described by two intersecting lines of a specified length (a) and (b) which correspond to the straight line projections of the pavement edges and a third line which connects the extremities of the other two without overlaying the pavement. The location of the pavement edge shall be for a fully developed street that meets City standards for the classification, whether it is in fact completed or not. (Formerly 20C.20.220(20))



Background Information for DR14-005 -
Internet Chat downloaded 1/4/15 – Website source not saved
Sight Triangle Question March 2008

The problem with this triangle is that it only affects area outside of the curb line, and does not address on-street parking. We are beginning discussions internally to develop a new standard for parking beside driveways that will help address the sight line issue.

Glenn Chouinard [GlennChouinard@KennedyJenks.com]

Not generally acceptable. Typically the city code will dictate it is not allowed and a generic sight triangle and resulting distance is applied.

Eric Widstrand [Eric.Widstrand@Seattle.Gov]

SDOT restricts parking 30 feet from the intersection. If we get complaints about sight distance or notice a collision pattern that can be mitigated by improving sight distance we may restrict parking farther. We try to balance the needs of adjacent land uses requiring parking with the access needs of drivers pulling onto a street since we are in an urban environment. There are some instances where we assume the driver will need to creep towards the intersection after coming to a complete stop to get a better line of sight.

Turner, Bob [BTurner@SpokaneCity.org]

John, attached is what the City uses, I can't say it is the "common" practice because I don't have enough experience with what other municipalities do. Spokane has been using this standard for over 20 years that I am aware of.

I am curious what you find from other agencies, especially pertaining to horizontal and vertical curves, and retaining walls at the intersection.

David Alm [d.alm@incainc.com]

Safety First! Parked vehicles constitute a significant potential for traffic accident when allowed to obstruct necessary decision sight distance. Although the pressure to maximize on-street parking is often significant and difficult to resist, there is great liability exposure if AASHTO or locally adopted sight-distance requirements are not satisfied.

I recommend checking case law for a clarification of the point of reasonableness in compromising sight-distance standards. Any known reduction below general adopted standards better be backed up with logged site-specific engineering evaluation of the sight-distance.

Entering side streets have a legal (marked or unmarked) pedestrian crosswalk in place that must also be protected with adequate sight-distance.



3.5 Clearances/Clear Zones

A. Vertical Clearances

1. The clearance above any street surface shall be a minimum of sixteen and one-half (16 ½) feet to overhead obstacles. This height shall be maintained across the full width of the street, extending two feet behind the face of curb.
2. The clearance above sidewalks shall be a minimum of eight (8) feet to overhead obstacles. Shrubs and other items shall not extend into the sidewalk area.

B. Horizontal Clearances

1. The clear horizontal sight distance triangle at intersections shall be as described in AASHTO "A Policy on Geometric Design of Highways and Streets", Chapter 9, section on Sight Distance, and Section 21.46 of the Cheney Municipal Code.

C. Clear Zones

1. The term "clear zone" is used to designate the unobstructed area provided beyond the edge of the travel way on a public road for the recovery of errant vehicles.
 - a. On shouldered roads, rigid objects shall be placed no closer to the travel way than the clear zone distance as described in the current edition of AASHTO's "Roadside Design Guide". Within the clear zone, all hazards shall be protected by traffic barriers. In lieu of barriers, hazards may be constructed flush with the surface.
 - b. All proposed construction along SR 904 shall adhere to WSDOT Design Manual for all clear zone requirements.

3.6 Bikeways and Off-Road Pathways

- #### A. Bicycle facilities shall be constructed where designated in Section 9.4.4 of the City's Comprehensive Plan, and shall be designed in accordance with City Standards. Side slopes adjacent to bikeways shall meet the requirements of Table 3-D. Where shared pedestrian/ bicycle pathways are constructed, the minimum width shall be 10 feet.

B. Off-Road Multi-Use Pathways

1. All off-road pathways shall be constructed as multi-use pathways and designed to accommodate, at a minimum, pedestrians and bicyclists. To promote multi-use compatibility and public safety, all public and private off-road multi-use pathways shall be constructed in accordance with the design standards below. Design drawings demonstrating compliance with said standards shall be submitted to the City of Cheney for review and approval prior to construction. Deviations to these design standards may only be permitted with the approval of the Public Works Director.
 - a. Width: The minimum width of all off-road pathways shall be 10 feet.
 - b. Construction: The pathway pavement may be constructed of either asphalt or concrete.

Attach D



- c. Section: Asphalt shall be a minimum of two inches thick over four inches of crushed gravel, on a compacted subgrade. Concrete shall be four inches thick over two inches of crushed gravel, on a compacted subgrade.
- d. Shoulders: The pathway shall include a minimum of one-foot level shoulders on each side.
- e. Clearing: Trees and brush shall be cleared a minimum of fourteen feet (two feet each side of the pathway to a height of ten feet.
- f. Alignment: The pathway alignment shall follow the natural terrain of the land so as to minimize grading.
- g. Drainage: A discernable drainage ditch shall be constructed on the uphill side of a pathway. Culverts shall route stormwater runoff to the lower side of the trail to natural drainage ways.
- h. Grade: The maximum sustained grade shall be 12%. 15% grades may be allowed for short sections.
- i. Line of Sight: Minimum of 85 feet for grades less than 10% and 50 feet for grades greater than 10%
- j. Side Slopes: Pathways with downhill side slopes greater than 2:1 may, at the Director's discretion, require protective measures such as fencing.
- k. Pullouts Pullouts ten feet wide and 16 feet long should be constructed at significant lookout areas to allow for rest and aesthetic opportunities.

3.7 Pavement Cuts and Patches

The City of Cheney has adopted the Spokane County / City of Spokane Regional Pavement Cut Policy as its standard for the cutting and patching of existing roadways.

DR14- 005 City Standards for Street Intersection Sight Distance – Tree/Vegetation Removal – Background Documentation

Chapter 1310 Intersections / WSDOT Design Manual M 22-01.10 Page 1310-39 / July 2013

<http://www.wsdot.wa.gov/publications/manuals/fulltext/M22-01/1310.pdf>

1310.06 Intersection Sight Distance

Providing drivers the ability to see stop signs, traffic signals, and oncoming traffic in time to react accordingly will reduce the probability of conflicts occurring at an intersection. Actually avoiding conflicts is dependent on the judgment, abilities, and actions of all drivers using the intersection. The driver of a vehicle that is stopped and waiting to cross or enter a through roadway needs obstruction-free sight triangles in order to see enough of the through roadway to complete all legal maneuvers before an approaching vehicle on the through roadway can reach the intersection. Use Exhibit 1310-19a to determine minimum intersection sight distance along the through roadway.

The sight triangle is determined as shown in Exhibit 1310-19b. Within the sight triangle, lay back the cut slopes and remove, lower, or move hedges, trees, signs, utility poles, signal poles, and anything else large enough to be a sight obstruction. Eliminate parking to remove obstructions to sight distance. In order to maintain the sight distance, the sight triangle must be within the right of way or a state maintenance easement (see Chapter 510).

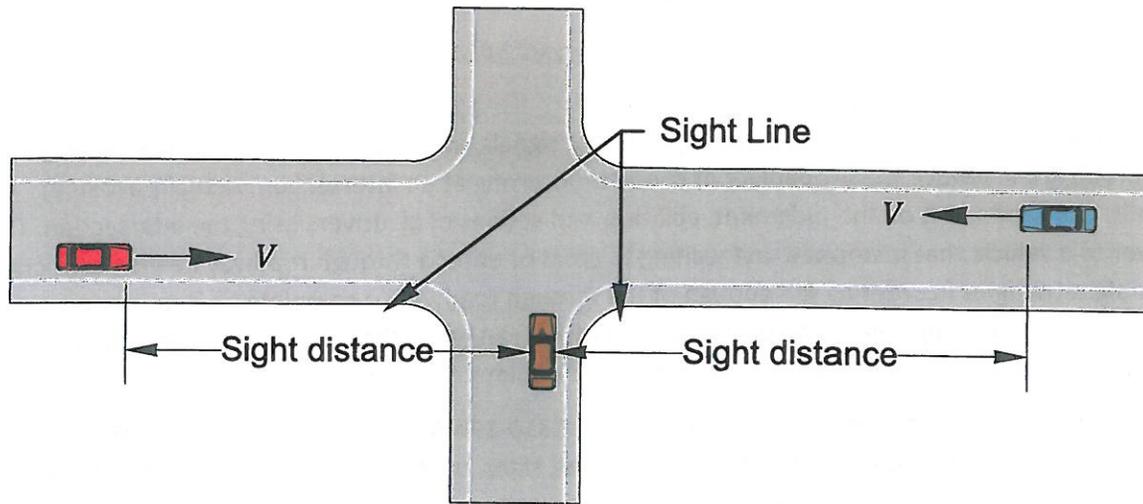
➤ The setback distance for the sight triangle is 18 feet from the edge of traveled way. This is for a vehicle stopped 10 feet from the edge of traveled way. The driver is almost always 8 feet or less from the front of the vehicle; therefore, 8 feet are added to the setback. When the stop bar is placed more than 10 feet from the edge of traveled way, providing the sight triangle to a point 8 feet back of the stop bar is desirable.

Provide a clear sight triangle for a P vehicle at all intersections. In addition, provide a clear sight triangle for the SU-30 vehicle for rural highway conditions. If there is significant combination truck traffic, use the WB-67 rather than the SU-30. In areas where SU-30 or WB vehicles are minimal and right of way restrictions limit sight triangle clearing, only the P vehicle sight distance needs to be provided.

At existing intersections, when sight obstructions within the sight triangle cannot be removed due to limited right of way, the intersection sight distance may be modified. Drivers who do not have the desired sight distance creep out until the sight distance is available; therefore, the setback may be reduced to 10 feet. Document the right of way width and provide a brief analysis of the intersection sight distance clarifying the reasons for reduction. Verify and document that there is no identified collision trend at the intersection. Document the intersection location and the available sight distance in the Design Variance Inventory (see Chapter 300) as a design exception.

If the intersection sight distance cannot be provided using the reductions in the preceding paragraph, where stopping sight distance is provided for the major roadway, the intersection sight distance, at the 10-foot setback point, may be reduced to the stopping sight distance for the major roadway, with an evaluate upgrade and HQ Design Office review and concurrence. (See Chapter 1260 for required stopping sight distance.) Document the right of way width and provide a brief analysis of the intersection sight distance clarifying the reasons for reduction. Verify and document that there is no identified collision trend at the intersection. Document the intersection location and the available sight distance in the Design Variance Inventory (see Chapter 300) as an evaluate upgrade.

Attach E



$$S_i = 1.47Vt_g$$

Where:
 S_i = Intersection sight distance (ft)
 V = Design speed of the through roadway (mph)
 t_g = Time gap for the minor roadway traffic to enter or cross the through roadway (sec)

Intersection Sight Distance Equation
 Table 1

Design Vehicle	Time Gap (t_g) in Sec
Passenger car (P)	7.5
Single-unit trucks and buses (SU-30 & CITY-BUS)	9.5
Combination trucks (WB-40 & WB-67)	11.5

Note:
 Values are for a stopped vehicle to turn left onto a two-lane two-way roadway with no median and grades 3% or less.

Intersection Sight Distance Time Gaps (t_g)
 Table 2

Adjust the t_g values listed in Table 2 as follows:

Crossing or right-turn maneuvers:

All vehicles subtract 1.0 sec

Multilane roadways:

Left turns, for each lane in excess of one to be crossed, and for medians wider than 4 ft:

Passenger cars add 0.5 sec

All trucks and buses add 0.7 sec

Crossing maneuvers, for each lane in excess of two to be crossed, and for medians wider than 4 ft:

Passenger cars add 0.5 sec

All trucks and buses add 0.7 sec

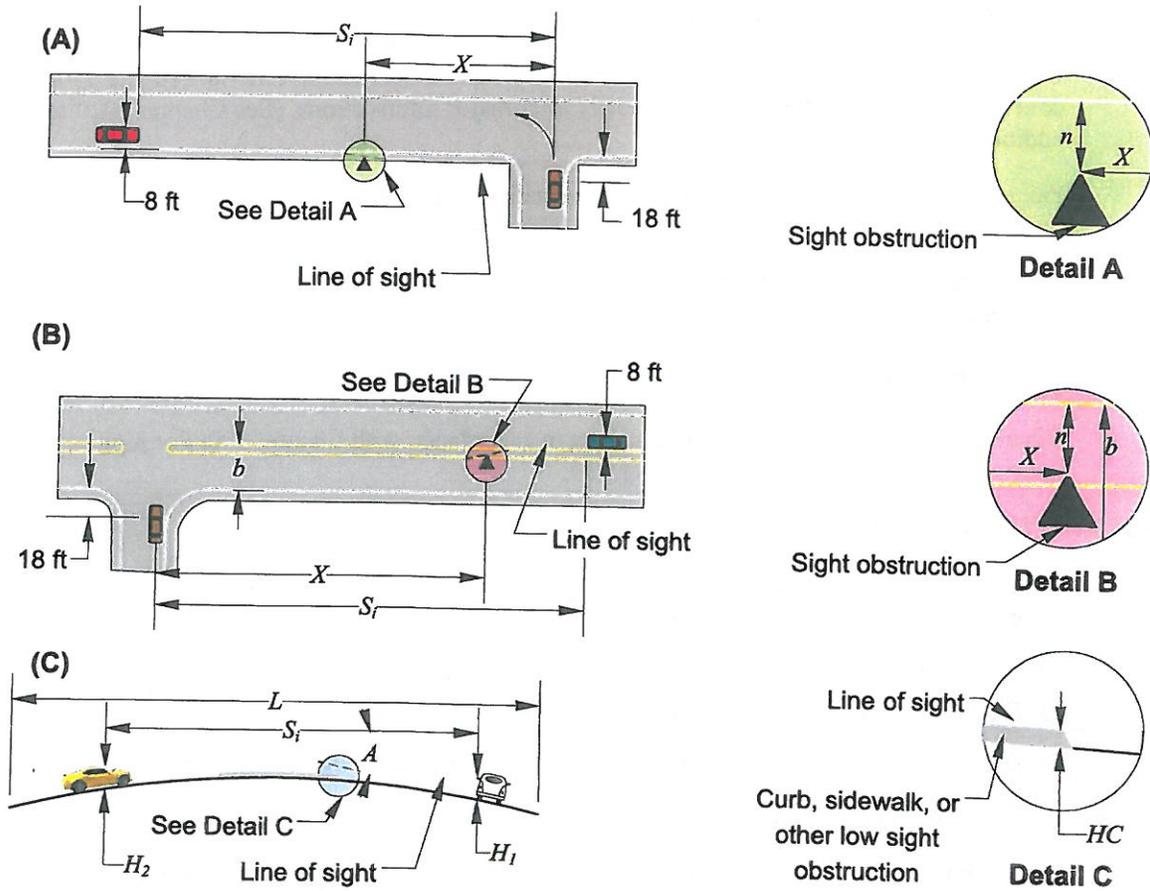
Note: Where medians are wide enough to store the design vehicle, determine the sight distance as two maneuvers.

Crossroad grade greater than 3%:

All movements upgrade for each percent that exceeds 3%:

All vehicles add 0.2 sec

Sight Distance at Intersections
 Exhibit 1310-19a



For sight obstruction driver cannot see over:

$$S_i = \frac{(26 + b)(X)}{(18 + b - n)}$$

Where:

- S_i = Available intersection sight distance (ft)
- n = Offset from sight obstruction to edge of lane (ft)
- b = Distance from near edge of traveled way to near edge of lane approaching from right (ft) ($b=0$ for sight distance to the left)
- X = Distance from centerline of lane to sight obstruction (ft)

For crest vertical curve over a low sight obstruction when $S < L$:

$$S_i = \frac{\sqrt{100L[\sqrt{2(H_1 - HC)} + \sqrt{2(H_2 - HC)}]^2}}{A}$$

$$L = \frac{AS_i^2}{100[\sqrt{2(H_1 - HC)} + \sqrt{2(H_2 - HC)}]^2}$$

Where:

- S_i = Available sight distance (ft)
- H_1 = Eye height (3.5 ft for passenger cars; 6 ft for all trucks)
- H_2 = Approaching vehicle height (3.5 ft)
- HC = Sight obstruction height (ft)
- L = Vertical curve length (ft)
- A = Algebraic difference in grades (%)

Sight Distance at Intersections
Exhibit 1310-19b

1310.07 Signing and Delineation

Use the [MUTCD](#) and the [Standard Plans](#) for signing and delineation criteria. Provide a route confirmation sign on all state routes shortly after major intersections. (See [Chapter 1020](#) for additional information on signing.)

Painted or plastic pavement markings are normally used to delineate travel paths. For pavement marking details, see the [MUTCD](#), [Chapter 1030](#), and the [Standard Plans](#).

Contact the region or HQ Traffic Office for additional information when designing signing and pavement markings.

1310.08 Procedures

Document design decisions and conclusions in accordance with [Chapter 300](#). For highways with limited access control, see [Chapter 530](#).

1310.08(1) Approval

An intersection is approved in accordance with [Chapter 300](#). Complete the following items, as needed, before intersection approval:

- [Intersection Control Type Approval](#) (see [Chapter 1300](#))
- Deviations approved in accordance with [Chapter 300](#)
- Approved Traffic Signal Permit (DOT Form 242-014 EF) (see [Chapter 1330](#))

1310.08(2) Intersection Plans

Provide intersection plans for any increases in capacity (turn lanes) at an intersection; modification of channelization, or change of intersection geometrics. Support the need for intersection or channelization modifications with history; school bus and mail route studies; hazardous materials route studies; pedestrian use; public meeting comments; etc.

For information to be included on the intersection plan for approval, see the Intersection/Channelization Plan for Approval Checklist on the following website:

www.wsdot.wa.gov/design/projectdev/

1310.08(3) Local Agency or Developer-Initiated Intersections

Intersections in local agency and developer projects on state routes must receive the applicable approvals in section [1310.08\(1\)](#) as part of the intersection design process.

The project initiator submits an intersection plan and the documentation of design decisions that led to the plan to the region for approval. For those plans requiring a design variance, the deviation or evaluate upgrade must be approved in accordance with [Chapter 300](#) prior to approval of the plan. After the plan approval, the region prepares a construction agreement with the project initiator (see the [Utilities Manual](#)).

1310.09 Documentation

Refer to [Chapter 300](#) for design documentation requirements.