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Director

DESIGN MEMO 4.11

To: Designers, Contractors, and City Departments

Date: May 24, 2021

Subject: Sight Distance for Urban Locations

Category: Horizontal and Vertical Design

Jy 5/26/2021

Until further notice, this direction will be used for scoping, design, and construction of plans within the City of Columbus Right of Way.

I. Purpose:

The purpose of this design memo is to establish guidelines to be used when evaluating an existing intersection or commercial driveway for possible sight distance problems, for major changes in traffic control such as removing a traffic signal and installing a stop sign in its place, and for establishing guidelines for new intersections.

II. Applicability:

- A. The provisions of this design memo shall apply to all areas of public right-of-way.
- B. All privately maintained areas of public right-of-way within a required sight triangle shall not contain any objects greater than 2.5 feet in height, unless approved by the Administration of the Division of Traffic Management or designee.
- C. If any areas within a required sight triangle as defined by this policy include areas of private property, coordination with Code Enforcement shall occur to ensure that Section 3321.05 of the Columbus City Code is being maintained, where applicable.
- D. This design memo shall apply to private commercial driveways accessing the public right-of-way. A commercial driveway includes driveways serving multi-family residential properties with four or more units and all driveways serving commercial, industrial, manufacturing or institutional uses.

III. General:

- A. All decisions are to be based on field inspection and scale drawing evaluation.



- B. The field inspection is to be done with a minimum disruption to normal traffic and with proper safety procedures followed by the investigator.
- C. In consideration of the need of on-street parking and the presence of existing infrastructure in established urban environments, sight distance values for areas where the posted speed limit is 35 MPH or less have been reduced from typical sight distance standards found in the most recent edition of A Policy on Geometric Design of Highways and Streets by AASHTO. Nevertheless, it is strongly recommended that the standards found in the most recent edition of A Policy on Geometric Design of Highways and Streets by AASHTO be maintained where physical limitations of existing urban infrastructure are not present.

IV. Procedure:

- A. Each existing intersection being investigated for adequate sight distance is to be evaluated separately with consideration given to the following:
 - 1. Determine the available sight distance from the normal final stop position (decision point) for the subject intersection (See Figures 1 and 2).
 - Peak hour restrictive parking equals a travel lane.
 - The decision point for narrow roadways (<18 feet) is located on the center line of roadway, as opposed to 3 feet offset from center line or a location based on engineering judgment.
 - At signalized locations where right-turns on red are permitted, the right-turning sight distance should be checked.
 - The leg of the sight triangle along the minor road should follow the alignment of that road (if the minor road is skewed compared to the major road, the sight triangle will not be a right triangle).
 - The leg of the triangle along the major road should follow the alignment of the travel lane being checked (incorporate curves if the major road has horizontal curvature).
 - 2. Comparison with the recommended sight distances (Table 1).
 - 3. Unusual geometrics, such as roadway curvature or grade affecting speed judgment. (See most recent edition of A Policy on Geometric Design of Highways and Streets by AASHTO for additional intersection sight distance information).
- B. For a new intersection, such intersection should be planned and located to provide as much sight distance as practical. In achieving a safe roadway design, as minimum, there should be sufficient sight distance for the driver on the minor roadway to cross the major roadway or make a turning movement onto the major roadway without requiring approaching traffic to reduce speed. Stop controls are assumed. (See most recent edition of A Policy on Geometric Design of Highways and Streets by AASHTO for additional intersection sight distance information).

V. Update History:

A. This is the original design memo for Sight Distance for Urban Locations dated May 24, 2021.

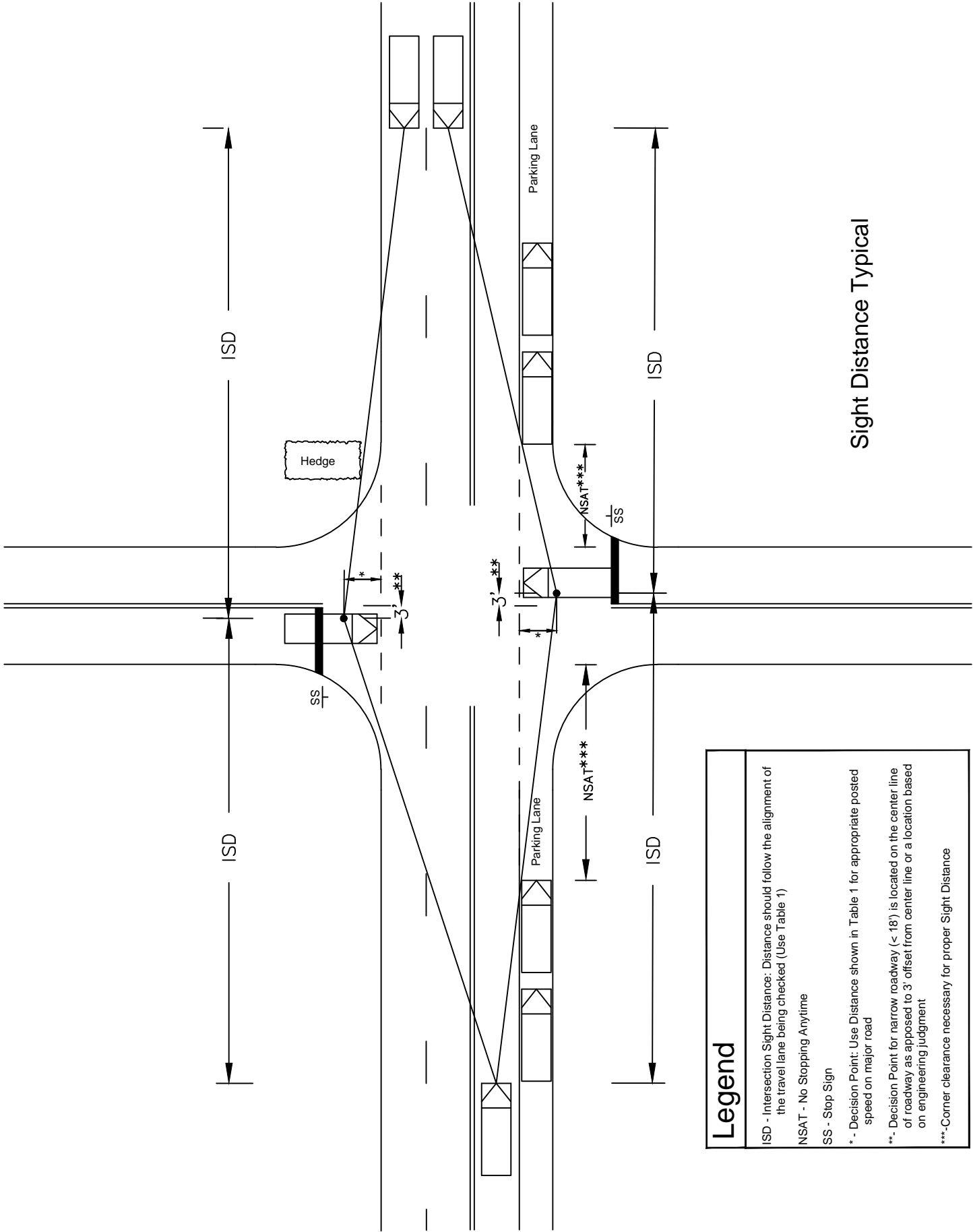
Table 1: Intersection Sight Distance

SPEED (MPH*)									
15	20	25	30	35	40	45	50	55	60
NORMAL FINAL STOP POSITION									
Use Decision Point of 10'			Use Decision Point of 12'		Use Decision Point of 14.4'				
MINIMUM SIGHT DISTANCE (FT)									
For left and right turning vehicles					For left turning vehicles				
					445	500	555	610	665
115	155	200	250	375	For right turning and crossing vehicles				
					385	430	480	530	575

*Speed should be posted speed unless a higher design speed is being used on a project.

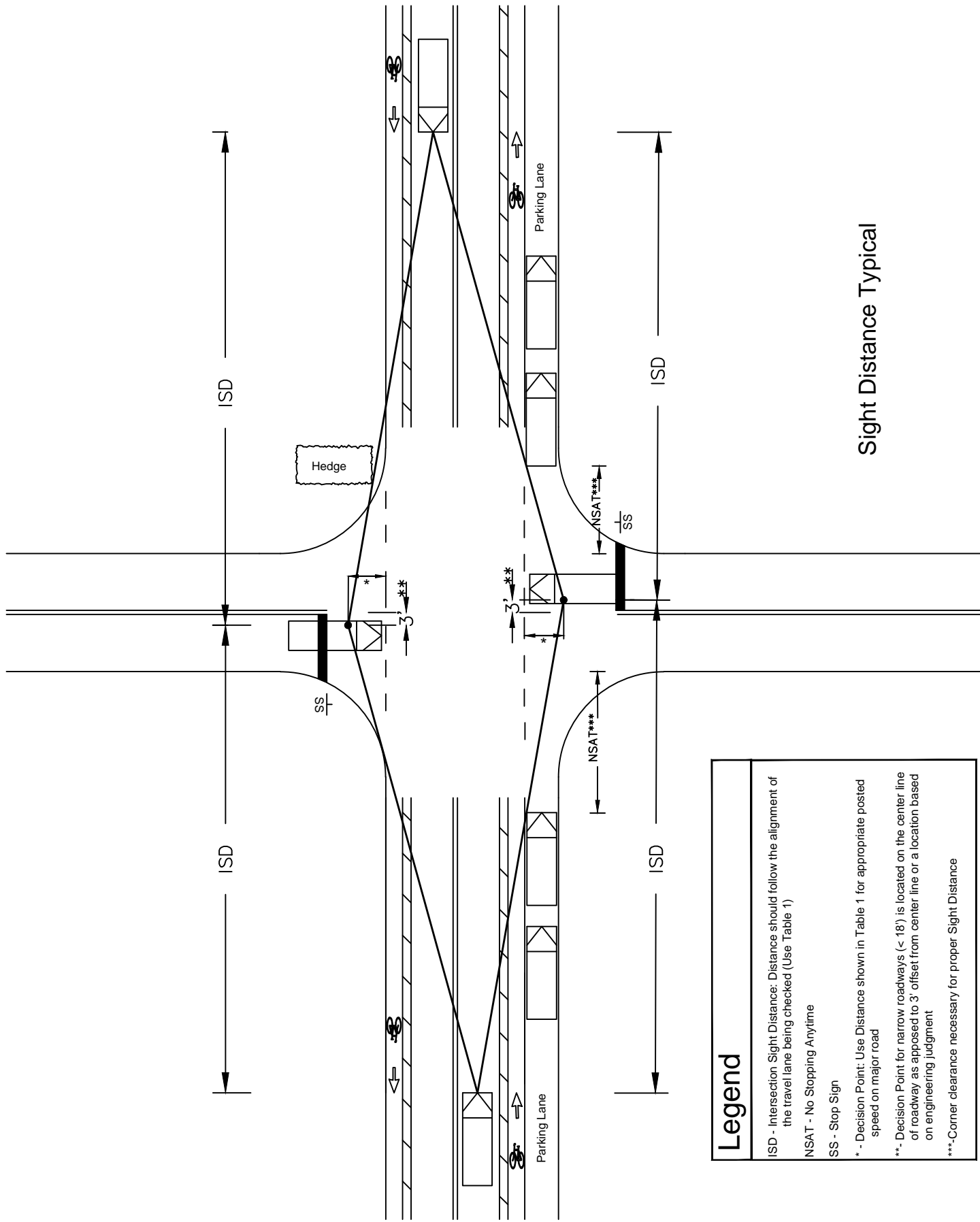


Figure 1: Sight Distance at Intersections



Legend	
ISD - Intersection Sight Distance: Distance should follow the alignment of the travel lane being checked (Use Table 1)	
NSAT - No Stopping Anytime	
SS - Stop Sign	
* - Decision Point: Use Distance shown in Table 1 for appropriate posted speed on major road	
**- Decision Point for narrow roadway (< 18') is located on the center line of roadway as apposed to 3' offset from center line or a location based on engineering judgment	
***-Corner clearance necessary for proper Sight Distance	

Figure 2: Sight Distance at Intersections



Sight Distance Typical

Legend	
ISD - Intersection Sight Distance: Distance should follow the alignment of the travel lane being checked (Use Table 1)	
NSAT - No Stopping Anytime	
SS - Stop Sign	
* - Decision Point: Use Distance shown in Table 1 for appropriate posted speed on major road	
**. Decision Point for narrow roadways (< 18') is located on the center line of roadway as apposed to 3' offset from center line or a location based on engineering judgment	
***-Corner clearance necessary for proper Sight Distance	