

ARTICLE XI
OFF-STREET PARKING AND ACCESS CONTROL
REGULATIONS

In all zones, off-street parking facilities for the storage or parking of motor vehicles for use of occupants, employees, and patrons of the building hereafter erected, altered, or extended, and all uses of the land after the effective date of this ordinance, shall be provided and maintained as herein prescribed. However, where a building permit has been issued prior to the date of adoption of this ordinance, and provided that construction has not begun within ninety (90) consecutive calendar days of such effective date, off-street parking facilities in the amounts required by this ordinance shall prevail.

SECTION 11.0 GENERAL REQUIREMENTS

- A. **COMPUTATION OF PARKING SPACES:** In determining the number of parking spaces required, if such spaces result in fractional parts thereof, the number of said spaces required shall be construed to be the next highest whole number.

- B. **ADDITIONAL PARKING SPACES TO BE PROVIDED:** Whenever the intensity of use of any building, structure, or premises shall be increased through addition of dwelling units, gross floor area, seating capacity, change of use, or other units of measurement specified herein, additional parking spaces shall be provided in the amounts hereafter specified for that use, if the existing parking space is inadequate to serve such increase in intensity of use.

- C. **LOCATION OF OFF-STREET PARKING FACILITIES**
 - 1. Off-street parking facilities shall be located as follows:
 - a. **Single-Family Residential Zones - (R-1C, R-1E, R-1F, R-1H):** Off-street parking may be permitted in driveways in the front, side, and rear yards of permitted uses in these zones, provided all requirements of this ordinance are met. Additionally, off-street parking located in the rear yard shall be set back a minimum of ten (10) feet from the rear lot line. No off-street parking area, located in the front yard in a single-family residential zone, may exceed four hundred (400) square feet (two parking spaces) except, however, the zoning administrator may allow additional off-street parking spaces to be located thereon, provided that the additional parking spaces will not cause the ratio of unpaved area to paved

- area (parking and driveway areas) in the front yard to be less than 3:1.
- b. Multi-Family Residential Zones - (R-2): Off-street parking may be permitted in side or rear yards of permitted uses in these zones, provided that off-street parking facilities shall be set back a minimum of ten (10) feet from the rear lot line. Off-street parking may be permitted in required front yards, only if approved according to an approved development plan.
 - c. Special Development Zones - (RCD, PUD) Off-street parking shall be located as designated on the approved plan.
 - d. LSC Zone -
 - (1) Except as herein provided, off-street parking may be permitted in minimum required front, side, and rear yards of these zones, provided that all off-street parking facilities shall be set back a minimum of five (5) feet from any street right-of-way lines.
 - (2) IP Zone: Off-street parking may be permitted in the side and rear yards, provided that all off-street parking facilities shall be set back a minimum of ten (10) feet from the rear lot line, and shall not be permitted in the minimum required side yards. Off-street parking may be permitted in minimum front yards, provided that all minimum front and side yard requirements are maintained.
2. All off-street parking facilities shall be located on the same lot as the building served, except for the following:
- a. Permitted uses locating within multi-family and industrial zones may supply off-street parking within three hundred (300) feet from such lot served, upon approval of the zoning administrator, provided that such off-street parking facilities are unable to be provided on the same lot, or contiguous to the same lot, as the building being served. In addition, said off-street parking shall be located in the same zone as the use being served.
 - b. Existing single, two, or multi-family dwellings, which are permitted uses herein and occupy a lot of such size that off-street parking could not be provided on the same lot as the use being served,

said off-street parking may be permitted to locate within a distance not to exceed three hundred (300) feet from said dwelling or dwellings, upon approval of the zoning administrator. In addition, said off-street parking lot shall be located in the same zone as the use being served.

- c. Off-street parking, as required for a conditional use, may be permitted to locate on another lot than the building or use being served is located, when approved by the Board of Adjustment, provided that said parking is located within reasonable walking distance of the use or building being served and available at all times without restrictions for said purposes.
- D. COLLECTIVE PARKING PROVISION: Collective off-street parking facilities may be provided, however, the area for such parking facilities shall not be less than would otherwise be individually required.
- E. DRIVEWAYS NOT COMPUTED AS PART OF REQUIRED PARKING AREA: Entrances, exits, or driveways shall not be computed as any part of a required parking lot or area, except in the case of single-family residential zones, where access driveways may be used for parking.
- F. OFF-STREET PARKING SPACE TO BE USED FOR PARKING ONLY: Any vehicle parking space shall be used for parking only. Any other use of such space, including repair work or servicing of any kind, other than in an emergency, or the requirement of any payment for the use of such space, shall be deemed to constitute a separate commercial, use in violation of the provisions of this ordinance.
- G. NO BUILDING TO BE ERECTED IN OFF-STREET PARKING SPACE: No building of any kind shall be erected in any off-street parking lot except a parking garage containing parking spaces equal to the requirements set forth in this section of the ordinance or a shelter house/booth for a parking attendant, provided the number of required spaces are not reduced.
- H. PARKING PLAN APPROVAL REQUIRED: Plans for all parking lot facilities, including parking garages, shall be submitted to the zoning administrator for review and for compliance with the provisions of this ordinance and such other pertinent ordinances of the city. Such plans shall show the number of spaces and arrangements of parking aisles, location of access points onto adjacent streets, provisions for vehicular and pedestrian circulation, location of sidewalks and curbs on or adjacent to the property, utilities, location of shelters for parking attendant, locations of signs, typical cross-sections of pavement, including base

and sub-base, proposed grade of parking lot, storm drainage facilities, location and type of lighting facilities, and such other information or plans as the circumstances may warrant. Where such parking plans include provisions for access points to adjacent streets, then said plans shall also be prepared in accordance with the requirements of Section 11.2.

SECTION 11.1 DESIGN AND LAYOUT OF OFF-STREET PARKING AREAS

- A. **SIZE OF OFF-STREET PARKING SPACES:** For the purposes of this ordinance, one (1) parking space shall be a minimum of two hundred (200) square feet in area, exclusive of access drives or aisles, and shall be a minimum of ten (10) feet in width and twenty (20) feet in length. Such parking space shall have a vertical clearance of at least seven (7) feet.
- B. **WIDTH OF ACCESS DRIVES:** All off-street parking areas shall be laid out with the following minimum aisle or access drive widths:
1. Ninety (90) degrees (perpendicular) parking -- Twenty-four (24) feet (either one or two way circulation)
 2. Sixty (60) degree (angle) parking -- Eighteen (18) feet (one way circulation only)
 3. Forty-five (45) degree (angle) parking -- Thirteen (13) feet (one way circulation only)
 4. Thirty (30) degree (angle) parking -- Eleven (11) feet (one way circulation only)
 5. Zero degree (parallel) parking -- Twelve (12) feet (one way circulation)

When any combination of these types of parking is used (facing the same aisle) the most restricted aisle or access drive width requirements shall prevail.

- C. **ACCESS TO OFF-STREET PARKING SPACES:** Each required parking space shall be connected with a deeded public right-of-way by means of aisles or access drives as required by Section 11.1, B. All maneuvering into and out of each parking space shall take place entirely within property lines of lots, garages, and/or storage areas.
- D. **OFF-STREET PARKING AREAS IN MULTI-FAMILY, COMMERCIAL, OR INDUSTRIAL ZONES:** All such parking areas shall have a protective wall and/or bumper blocks around the perimeter of said parking area and shall be so designed that all vehicles leaving the facility will be traveling forward to approaching traffic. All parking shall be effectively screened on each side adjoining or fronting on any property situated in a zone permitting single-family

residential development, by a solid wall, fence, or densely planted compact hedge, as regulated by Section 9.17 of this ordinance. ground cover shrubs and trees shall be located and maintained so as to not interfere with vehicular and pedestrian traffic on the property or with sight distance clearance at entrances and exits.

- E. LIGHTING: Any lighting used to illuminate off-street parking areas shall not glare upon any right-of-way or adjacent property.
- F. PAVING OF NEW OFF-STREET PARKING AREAS: All new off-street parking areas shall be paved with asphalt concrete or Portland Cement concrete and shall be designed and constructed in accordance with the applicable standards adopted by the legislative body.

SECTION 11.2 SPECIFIC OFF-STREET PARKING REQUIREMENTS: The amount of off-street parking space required for uses, buildings, or additions, and changes in intensity of uses thereto, shall be determined according to the following requirements, and the space, so required, shall be stated in the application for a zoning and building permit and shall be reserved for such use. Where more than one use is located in the same building, each individual use shall be in accordance with the off-street parking requirements of this section of the ordinance.

TYPES OF USES	REQUIRED NUMBER OF SPACES
A. Airport, railroad passenger stations and bus terminal	One (1) parking space for each four (4) seating accommodations for waiting passengers, plus one (1) parking space for each two (2) employees on shift of largest employment.
B. Automobile laundries	One (1) parking space for each employee, plus one (1) space per owner or manager, and reservoir space equal to five (5) times the capacity of the facility.
C. Automobile Service stations	One (1) parking space for each gas pump island, plus two (2) parking spaces for each working bay, plus one (1) parking space for each employee on shift of largest employment.
D. Beauty parlor and/or barber shops	Two (2) parking spaces per barber and/or beauty shop operator.
E. Bowling establishments	Five (5) parking spaces for each lane, plus one (1) parking space for each two (2) employees on shift of largest employment.
F. City and/or county government	One (1) parking space for each two hundred (200) square feet of gross floor area.
G. Commercial or trade schools	One (1) parking space for each two (2) students, based on design capacity of the school, plus one (1) parking space for each employee.

TYPES OF USES	REQUIRED NUMBER OF SPACES
H. Convalescent homes, nursing homes, rest homes, homes for the aged, and orphanages	One (1) parking space for each two (2) beds, plus one (1) parking space for each two (2) employees or staff members, including nurses, on shift of largest employment, plus one (1) parking space per doctor.
I. Dance halls, pool and billiard halls, and exhibition halls without fixed seats	One (1) parking space for each one hundred (100) square feet of floor area used for dancing or assembly, or one (1) parking space for each four (4) persons, based on design capacity, whichever is greater, plus one (1) parking space for each two (2) employees on shift of largest employment.
J. Dormitories, Fraternities, Sorority Houses, and other group housing	One (1) parking space per each two (2) residents, plus one (1) parking space per owner or operator, plus one (1) parking space per employee, or one (1) parking space for each two (2) seats for membership meetings, whichever is greater, based on design capacity.
K. Dwellings: One-Family Two-Family	Two (2) parking spaces. Four (4) parking spaces, with individual access for each dwelling unit, or a joint access in which no parking is permitted on the access drive.
L. Dwellings: Multi-Family	One and one-half (1-1/2) parking spaces for every one (1) bedroom dwelling unit and two (2) parking spaces for every dwelling unit with two (2) or more bedrooms.

TYPES OF USES	REQUIRED NUMBER OF SPACES
M. Establishments for sale and consumption on the premises of alcoholic beverages, food, refreshments, or for take home food service	<p>One (1) parking space for each two (2) employees on shift of largest employment plus one parking space for each:</p> <ul style="list-style-type: none"> A. Thirty (30) square feet of gross floor area in a drive-in restaurant; B. One hundred forty (140) square feet of gross floor area in a carry-out restaurant; C. Forty (40) square feet of gross floor area or two (2) seating accommodations, based on maximum seating capacity, whichever is greater, in a combination restaurant; D. Two (2) seating accommodations, based on maximum seating capacity, in a sit-down restaurant.
N. Fire stations	One (1) parking space for each person on duty on largest shift.
O. Hospitals	One (1) parking space for each two (2) beds, plus one (1) parking space for each two (2) employees or staff members, including nurses, on shift of largest employment, plus one (1) parking space per doctor.
P. Laundromats	One (1) parking space for each two (2) washing machines, plus one (1) parking space for each employee.
Q. Libraries, museums, and art galleries	One (1) parking space for each four (4) seats in rooms for public assembly or one (1) parking space for each fifty (50) square feet of gross floor area for use by the public, whichever is greater, plus one (1) parking space for each two (2) employees on shift of largest employment.

TYPES OF USES	REQUIRED NUMBER OF SPACES
R. Medical offices and/or clinics	Five (5) parking spaces for each practitioner plus one (1) parking space per each two (2) employees, or one (1) parking space for each two hundred (200) square feet of gross floor area in the building, plus one (1) parking space for each two (2) employees, whichever is greater.
S. Mortuaries or funeral homes	One (1) parking space for each four (4) seats in the main chapel or public assembly area, based on maximum seating capacity, plus one (1) parking space for each funeral vehicle and employee, or in the case of no fixed seats, one (1) parking space for each fifty (50) square feet of floor area in parlor or service rooms, or one (1) parking space for each four (4) persons, based on design capacity of the building, whichever is greater, plus one (1) parking space for each funeral vehicle and employee.
T. Offices for professional, business, and financial, real estate, and business purposes, other than medical offices and/or clinics	One (1) parking space for each two hundred (200) square feet of gross floor area.
U. Post offices	One (1) parking space for each two hundred (200) square feet of gross floor area, plus one (1) parking space for each two (2) employees on shift of largest employment, plus one (1) parking space for each vehicle operating from the premises.

TYPES OF USES	REQUIRED NUMBER OF SPACES
V. Private clubs, boarding houses, and lodge halls	One (1) parking space for each guest sleeping room, or one (1) parking space for each four (4) fixed seats in the main assembly area, whichever is greater, plus one (1) parking space for each two (2) employees, or in the case of no fixed seats, one (1) parking space for each two (2) employees.
W. Retail and personal service stores	Five and one-half (5.5) parking spaces per one thousand (1,000) square feet of gross leasable area.
X. Schools - elementary, junior high, and equivalent, private or parochial schools	One (1) parking space per teacher and administrator or one (1) space for each four (4) seats in the auditorium, stadium, and other places of assembly or facilities available to the public, based on maximum seating capacity, whichever is greater.
Y. Schools - senior high, trade and vocational, colleges and universities, and equivalent, private or parochial	Six (6) parking spaces for each room to be used for class instruction or administrative offices, or one (1) parking space for each four (4) seats in the auditorium, stadium, and other places of assembly or facilities available to the public, based on maximum seating capacity, whichever is greater.
Z. Shopping centers, enclosed malls, and other retail centers over 400,000 square feet	Five and one-half (5.5) parking spaces per one thousand (1,000) square feet of gross leasable area.
AA. Stadium and sports arenas	One (1) parking space for each four (4) seats, based on maximum seating capacity, plus one (1) parking space for each two (2) employees on shift of largest employment.

TYPES OF USES	REQUIRED NUMBER OF SPACES
BB. Theaters, auditoriums, churches, and places of assembly with fixed seats	One (1) parking space for each four (4) seats, based on maximum seating capacity, plus one (1) additional parking space for each two (2) employees on shift of largest employment.
CC. Theaters, auditoriums, churches, and places of assembly without fixed seats	One (1) parking space per four (4) people in designed capacity of building, or one (1) parking space per one hundred (100) square feet in main auditorium or assembly area, whichever is greater, plus one (1) parking space for each two (2) employees on shift of largest employment.
DD. Tourist homes, cabins, motels or hotels, excluding areas used for meeting rooms and places of assembly	One (1) parking space for each sleeping room or suite, plus one (1) parking space for each two (2) employees on shift of largest employment.
EE. Industrial establishments, including manufacturing, research, and testing laboratories	Two (2) parking spaces for each three (3) employees - the total number of parking spaces being the total number of employees on any two (2) consecutive shifts having the largest number of employees, based on design capacity, plus one (1) parking space for each company vehicle operating from the premises.
FF. Wholesale establishments, warehouses, and storage buildings	One (1) parking space for each employee, plus one (1) parking space for each company vehicle operating from the premises.

TYPES OF USES

REQUIRED NUMBER OF SPACES

GG. All other uses not listed herein

Based on a study to be prepared by the owner or operator; number of spaces to be required determined according to:

- (a) type of use and estimated number of total trips generated during peak conditions (inbound and outbound);
- (b) estimated parking duration per vehicle trip (turn-over rates);
- (c) based on estimated number of trips generated and average parking duration per trip, calculate number of spaces required;
- (d) estimated number of employees - (one (1) parking space to be provided for each two (2) employees based on shift of maximum employment).

SECTION 11.3 ACCESS CONTROL REGULATIONS

In order to promote greater safety of passage between highway and land, improve the convenience and ease of movement of travelers on the highway, permit reasonable speeds and economy of travel, and increase and protect the capacity of the highway, the location and design of access points shall be in accordance with the following access control requirements. These requirements shall apply to all arterial and collector type streets, as identified in the adopted comprehensive plan.

- A. **PROVISION OF RESERVED TURNING LANES:** At those access points where vehicles turning to and from the arterial and collector streets will affect the roadway capacity, reserved turn lanes shall be constructed by the developer.
- B. **PROVISION OF FRONTAGE ROAD:** Where possible, provision for the construction of a frontage road shall be made. However, access to the arterial or collector streets via an intersecting street or a common driveway shall be investigated if such a design is not reasonable.
- C. **COORDINATION OF ACCESS POINTS:** Major Access points on opposite sides of the arterial and collector streets shall be located opposite each other, otherwise turning movement restrictions may be imposed by the planning commission or zoning administrator, whichever is applicable. In addition, in order to maximize the efficient utilization of access points, access drives shall be designed, located, and constructed in a manner to provide and make possible the coordination of access with, and between, adjacent properties developed (present or future) for similar uses. As a condition of approval for construction, use, or reuse of any access road, the zoning administrator may require that unobstructed and unencumbered access, in accordance with the provisions of this ordinance, be provided from any such access point to adjacent properties.
- D. **SPACING RESTRICTIONS FOR SIGNALIZED ACCESS POINTS:** Access points which will warrant signalization shall be spaced a minimum distance of one quarter (1/4) mile apart. The exact location of the signal light shall be determined by a traffic engineering study which shall at least account for the following variables:
 - 1. Speed
 - 2. Traffic signal phasing
 - 3. Traffic signal cycle length
 - 4. Roadway geometrics
 - 5. Accident experience

Provision for all turning movements to maintain the design capacity of the roadway shall be required.

- E. SIGHT DISTANCE: The location of access points shall comply with safe sight distance requirements, as provided in Table 1. The centerline of all access points shall intersect as nearly at a ninety (90) degree angle as possible, but in no case shall the angle of intersection be less than seventy-five (75) degrees or greater than one hundred five (105) degrees, unless approved by the planning commission or zoning administrator, whichever is applicable, due to certain exceptional conditions.
- F. LOCATION OF UNSIGNALIZED ACCESS POINTS
1. Arterial Streets
 - a. Unsignalized access points shall be spaced a minimum distance of six hundred (600) feet apart. Turning restrictions and/or reserved lanes may be required.
 - b. One (1) access point per existing tract will be permitted. However, if the spacing requirements for a direct access point onto an arterial street (as provided in F., 1., a., above) cannot be met, then an access point may be located on a frontage road, or on an intersecting local street, or share a common driveway that meets the spacing requirements. In order for the intersecting local street or frontage road to function properly, access onto them should be controlled as follows:
 - (1) Access points onto local streets intersecting an arterial street shall be spaced a minimum distance of one hundred (100) feet, measured from point of curb return to point of curb return, from the arterial street.
 - (2) In areas zoned to permit commercial, industrial, or multi-family residential uses, access points from adjacent properties onto frontage roads, shall be no less than one hundred (100) feet, measured from point of curb return to point of curb return, from intersections of the frontage road with local or collector streets.
 - c. Where the frontage of a tract is greater than five hundred (500) feet an additional access point may be permitted. However, the type of access will depend on the spacing requirements in F., 1., a.

(1) If the frontage of the tract is large enough, then at least one (1) of the access points may have direct access onto the arterial street, provided the spacing between the adjacent access points meet the requirements of Section F., 1., a., and all other requirements of this section of the ordinance. In the case where the frontage allows only one (1) point of direct access, due to spacing restrictions as provided herein, the second access point will be via a frontage road, or an intersecting local street, or share a common driveway that meets the spacing restrictions, as provided along the arterial street.

d. If a tract of land has no means of access that would meet the requirements of this section of the ordinance, one (1) access point shall be provided. However, all such access points shall be considered a temporary right-of-way and may be terminated, reduced, limited to certain turning movements, or caused to be relocated by the zoning administrator at such time as the particular use served by the access point changes and/or the property is otherwise provided an alternate means of access via a frontage road, or an intersecting local street, or sharing of a common driveway. Provisions for the construction of a frontage road, restricted turning movements, or other improvements, may be required, as a condition to approval, in order to minimize the number of access points and congestion to the adjacent street. In all cases where said access points are classified as temporary, such designation shall be duly noted on the plot plan or site plan submitted for a zoning permit and also upon the deed of the property in question.

2. Collector Streets

a. On two-lane roadways, one (1) access point per existing tract will be allowed. However, if the frontage is greater than five hundred (500) feet, an additional access point may be permitted. Furthermore, the minimum spacing between adjacent access points on this type of facility shall be one hundred (100) feet, measured from point of curb return to point of curb return, except in the case where the street intersects another collector street or arterial street, then said access points shall be spaced a minimum of three hundred (300) feet from the intersection.

- b. On multi-lane roadways, the spacing is dependent on whether or not a barrier median exists (prohibiting left-turn movements). If a barrier median exists, access points may be spaced as close as three hundred (300) feet. However, certain turning movements will be prohibited. If a barrier median does not exist, then the minimum spacing of access points shall be six hundred (600) feet. In addition, some turning movements may be prohibited.
- c. One (1) access point per existing tract will be allowed. However, if the spacing requirements for a direct access point, as provided in F., 2., a., cannot be met, then an access point may be located on a frontage road, or on an intersecting street, or share a common driveway that meets the spacing requirements.
- d. If a tract of land has no means of access that would meet the requirements of this section of the ordinance, one (1) access point shall be provided. However, all such access points shall be considered a temporary right-of-way and may be terminated, reduced, limited to certain turning movements, or caused to be relocated by the zoning administrator at such time as the particular use served by the access point changes and/or the property is otherwise provided an alternate means of access via a frontage road, or an intersecting local street, or sharing of a common driveway. Provisions for the construction of a frontage road, restricted turning movements, or other improvements, may be required, as a condition to approval, in order to minimize the number of access points and congestion to the adjacent street. In all cases where said access points are classified as temporary, such designation shall be duly noted on the plot plan or site plan submitted for a zoning permit and also upon the deed of the property in question.

G. WIDTH OF ACCESS POINTS

- 1. In single-family residential zones, no access point width shall be less than nine (9) feet nor more than twenty (20) feet. In all other zones, access points shall not be less than twelve (12) feet nor more than forty-eight (48) feet in width. The width shall be as measured from the point of curb return to point of curb return, or edge of pavement if no curb exists, excluding the curb radius.
- 2. The zoning administrator may modify (enlarge or reduce) the width to provide for a more efficient and safe channelization and/or flow of traffic.

- H. EXCEPTIONS TO ACCESS POINT REQUIREMENTS: Where situations develop that may require special treatment, the requirements as provided in Section 11.2, A. - G., may be varied, provided that a traffic engineering report is prepared by a qualified traffic engineer, establishing that the special treatment will have no adverse effects on the roadway safety and capacity.
- I. ACCESS POINT PROBLEM AREAS: If, after special study, it is determined that the type of use or activity proposed would have an adverse effect on the safety and capacity of the adjacent roadway, the access point spacing requirements, as contained in this section, may have to be increased in order to adequately solve the traffic movement.
- J. APPROVAL OF ACCESS POINTS REQUIRED: Plans for all access points, and modifications thereto (including plans to use existing access points where a change of use for any tract of land would generate more traffic than the previous use, thus producing an adverse effect on the adjacent roadway), shall be submitted to the zoning administrator and the Northern Kentucky Area Planning Commission staff, at a scale not less than 1 inch = 100 feet. No action of approving or rejecting these plans by the zoning administrator shall be taken until a review and recommendation of said plans has been made by the Northern Kentucky Area Planning Commission staff. Such plans shall show the location of all access points, and access points within six hundred (600) feet in either direction. The proposed access point shall include typical cross-sections of pavement, the base and subbase, proposed grade, and storm drainage, and such other information or plans as the circumstances may warrant. If such access points are being located in conjunction with off-street parking and/or loading and unloading facilities, then said plans shall also include parking and off-street loading and/or unloading plans, in accordance with Sections 11.0 and 12.0 of this ordinance.
- K. APPROVAL OF ACCESS POINTS ALONG STATE MAINTAINED ROUTES BY KENTUCKY DEPARTMENT OF TRANSPORTATION: A copy of the Plans for all access points to be constructed along a state maintained route shall also be submitted to the Kentucky Department of Transportation for review and approval during the same time as plans are submitted to the zoning administrator, as provided for in Section 11.2. No access point plans shall be approved, or permits issued, for construction by the zoning administrator, until said access point plans have been approved by the Kentucky Department of Transportation.

TABLE 1A

SIGHT DISTANCE FOR VEHICLES EXITING FROM ACCESS POINTS ONTO ADJACENT ROADS
see Figure 1A

VEHICLE TYPE	20 MPH				30 MPH				40 MPH				50 MPH				60 MPH			
	2 lane		4 or 6 lane		2 lane		4 or 6 lane		2 lane		4 or 6 lane		2 lane		4 or 6 lane		2 lane		4 or 6 lane	
	DL	DR	DL	DR	DL	DR	DL	DR	DL	DR	DL	DR	DL	DR	DL	DR	DL	DR	DL	DR
Passenger Car	150	130	130	130	360	260	220	260	530	440	380	440	740	700	620	700	950	1050	950	1050
Truck	300	200	200	200	500	400	400	400	850	850	850	850	1600	1600	1600	1600	2500	2500	2500	2500

Notes:

D=Distance along major road from access point to allow vehicle to enter safely.

Figures given are measured from a vehicle ten (10) feet back of the pavement edge.

Figures given are in feet.

Values are for urban conditions. On rural streets, distances are to be increased by ten (10) percent to allow for greater reaction time.

The sight distances apply when street grades are zero (0) percent to three (3) percent, either up or down. When an upgrade is steeper than three (3) percent, adjustments are to be made to compensate for the longer time required to reach the speed of highway traffic. The time is less than shown when the highway is descending. Adjustment factors apply to grades only in that portion of the road between the access points and the downstream point at which a vehicle emerging from the access points has been able to accelerate to within ten (10) miles per hour of the route speed.

When the street, in the section to be used for acceleration after leaving the access point, ascends at three (3) percent to four (4) percent, then sight distances in the direction of approaching ascending traffic are to be increased by a factor of 1.4. When the access point ascends at five (5) percent to six (6) percent, sight distances should be increased by a factor of 1.7.

When the street, in the section to be used for acceleration after leaving the access point, descends at three (3) percent to four (4) percent, then sight distances in the direction of approaching descending traffic are to be reduced by a factor of 0.6. If the road descends at five (5) percent to six (6) percent, sight distances should be reduced by a factor of 0.5.

When the criteria for sight distances to the right cannot be met, the need can be eliminated by prohibiting left turns by exiting vehicles.

TABLE 1B

LEFT TURN SIGHT DISTANCE FOR VEHICLES ENTERING ACCESS POINTS
see Figure 1B

VEHICLE TYPE	20 MPH			30 MPH			40 MPH			50 MPH			60 MPH		
	2 Lane	4 Lane	6 Lane	2 Lane	4 Lane	6 Lane	2 Lane	4 Lane	6 Lane	2 Lane	4 Lane	6 Lane	2 Lane	4 Lane	6 Lane
Passenger Car	150	160	170	230	250	270	370	390	420	520	550	580	700	740	780
Truck	260	260	300	400	400	480	570	620	670	810	880	950	1000	1100	1200

Notes:

S=Sight distance along major route to safely turn left into access point.

Figures given are measured from a vehicle ten (10) feet back of the pavement edge.

Figures given are in feet.

Values are for urban conditions. On rural streets, distances are to be increased by ten (10) percent to allow for greater reaction time.

The sight distances apply when street grades are zero (0) percent to three (3) percent, either up or down. When an upgrade is steeper than three (3) percent, adjustments are to be made to compensate for the longer time required to reach the speed of highway traffic. The time is less than shown when the highway is descending. Adjustment factors apply to grades only in that portion of the road between the access points and the downstream point at which a vehicle emerging from the access points has been able to accelerate to within ten (10) miles per hour of the route speed.

When the street, in the section to be used for acceleration after leaving the access point, ascends at three (3) percent to four (4) percent, then sight distances in the direction of approaching ascending traffic are to be increased by a factor of 1.4. When the access point ascends at five (5) percent to six (6) percent, sight distances should be increased by a factor of 1.7.

When the street, in the section to be used for acceleration after leaving the access point, descends at three (3) percent to four (4) percent, then sight distances in the direction of approaching descending traffic are to be reduced by a factor of 0.6. If the road descends at five (5) percent to six (6) percent, sight distances should be reduced by a factor of 0.5.

When the criteria for sight distances to the right cannot be met, the need can be eliminated by prohibiting left turns by exiting vehicles.

FIGURE 1A

SIGHT DISTANCE FOR VEHICLES EXITING FROM ACCESS POINTS
refer to Table 1A

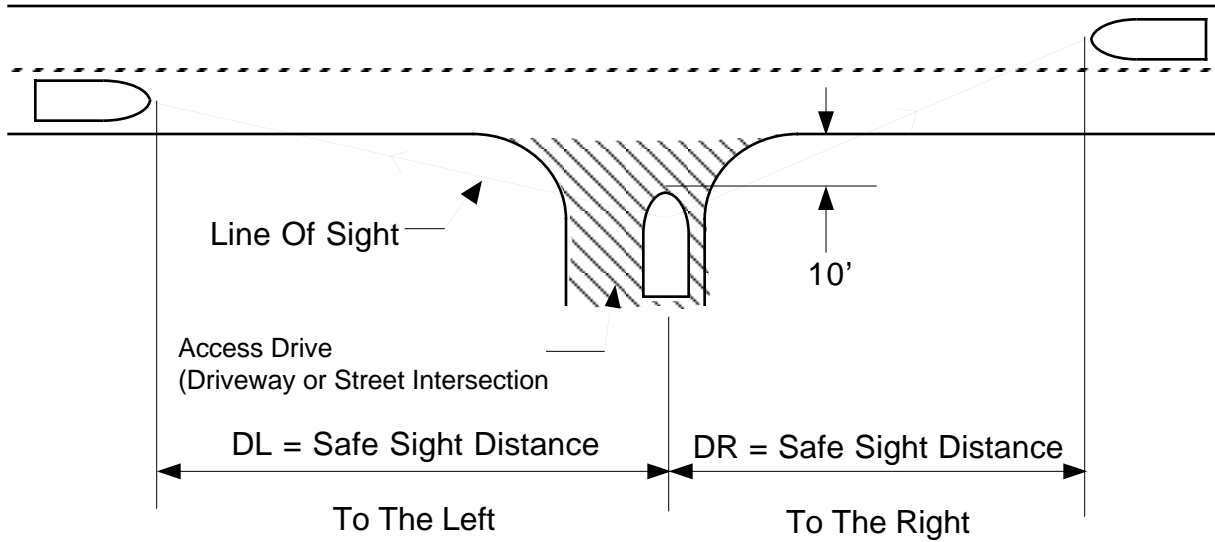


FIGURE 1B

LEFT TURN SIGHT DISTANCE FOR VEHICLES ENTERING ACCESS POINTS
refer to Table 1B

