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ACCESS MANAGEMENT MANUAL

Nashville Department of Transportation and Multimodal Infrastructure

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ACCESS REGULATIONS SUMMARY

This summary chapter compiles all of Metro Nashville's access regulations that are listed throughout this Access Management Manual. This Manual applies to new and infill land development submitted to Metro Nashville for plan reviews after *{bill effective date}*.

- **For projects where both the TDOT Highway System Access Manual (HSAM) and the NDOT Access Management Manual are applicable, the strictest regulations shall be enforced.**
- Where other access management standards governed by Metro Nashville policies outside this Manual are applicable, **the strictest standard shall be enforced**.
- For access design best practices, review this Manual in its entirety.

Authority of this Manual

The authorization of these regulations is granted to the Nashville Department of Transportation and Multimodal Infrastructure (NDOT) by the Metro Charter, Chapter 4, Section 8.402, and subsequent amendments by the Metro Council. The authority has been conferred to the Metro Government by the Tennessee General Assembly by Title 13, Section 13-3-101 through Section 13-3-304 and Section 13-3-401 through Section 13-3-411, and Title 7, Section 31, of the Tennessee Code Annotated, as amended, and other pertinent statutes for the establishment of regulations governing the subdivision of land, and street transportation system. The standards and guidance within this Manual apply to developments and capital projects on alleys, local, collector, and arterial routes within the jurisdiction of the Metropolitan Government of Nashville and Davidson County.

If any provision of this Manual is proven or held to be invalid or unconstitutional, such invalidity shall not affect the validity of these regulations as a whole, or any part thereof, other than the part determined to be invalid.

Access Location Regulations

When planning a new driveway/access, three key access location principles must be considered, as possible: *(Chapter 3.1)*

1. **Roadway Functional Classification:** Access shall be avoided on high functional classification roadways.
2. **Intersection Functional Area:** Access shall be avoided within the intersection functional area.
3. **Access Conflict Area:** New access points shall not be placed near existing access points.

If access within these three areas is unavoidable, countermeasures shall be employed to mitigate negative impacts on traffic flow and safety. Recommended measures include, but are not limited to:

- **Restricted Access Design** *(Chapter 2.2.2)*
- **Enhanced visibility** for all users *(Chapter 2.4.8)*

Maximum Number of Driveways per Frontage Length

Table 3-2: Maximum Number of Driveways

Lot Frontage	Max Number of Driveways*
0 to 149'	1
150' to 299'	2
Each additional 300'	1

**The maximum number of driveways per lot on an arterial is one (1), unless an exception is granted by NDOT. (Chapter 3.2.1)*

Driveway Spacing Regulations

- NDOT may require stricter adherence to spacing regulations and access management best practices when evaluating a full-access driveway proposal. If a full-access configuration does not align with the access management regulations outlined in this Manual, NDOT may require restricted access to mitigate adverse effects. This will be determined on a case-by-case basis. *(Chapter 2.2.1)*
- Driveways located along a single lot frontage shall meet minimum access spacing regulations, including both corner clearance and spacing between driveways.

Measurements Defined

Access-to-Access spacing is measured along the right-of-way line, starting from the nearest points where the driveways intersect the right-of-way. *(Chapter 3.2.2)*

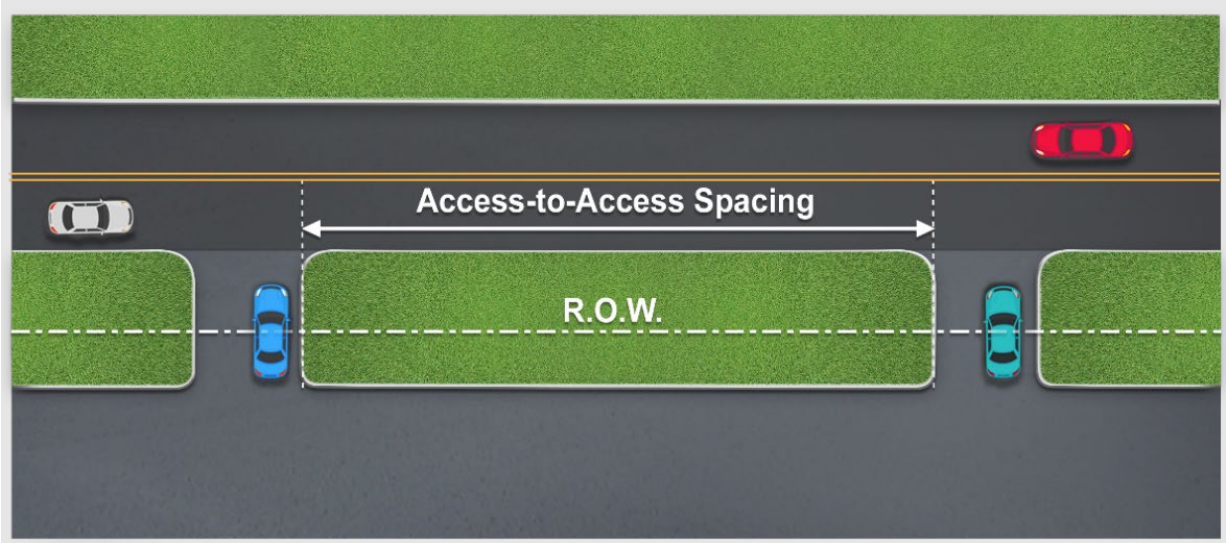

Figure 3-5: Access-to-Access Spacing

Access-to-Intersection spacing, also known as corner clearance, **is measured from the nearest intersection of the existing right-of-way lines or extensions thereof, as shown in Figure 3-7**. For streets designated to be widened at a future time by the adopted Major and Collector Street Plan, measurement shall be made from the future right-of-way lines. *(Chapter 3.2.4)*

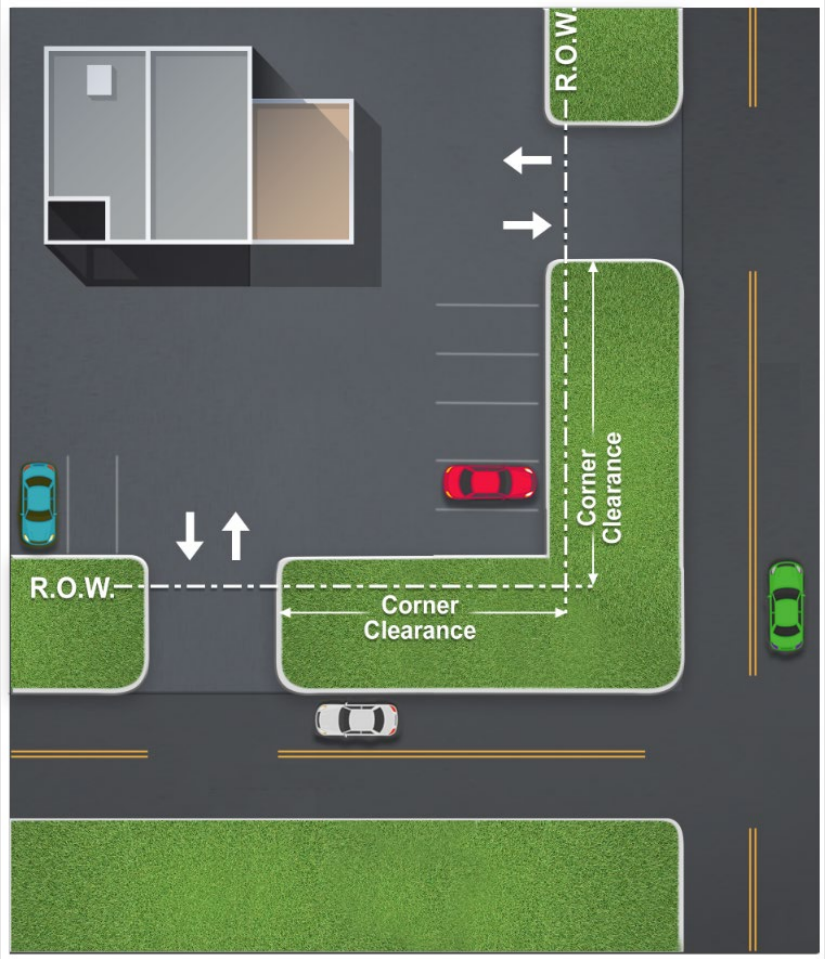

Figure 3-7: Illustration of Corner Clearance

Access-to-Interchange spacing is measured from the gore point of the ramp taper to the nearest point of intersection between the driveway and the existing ROW. *(Chapter 3.2.5)*

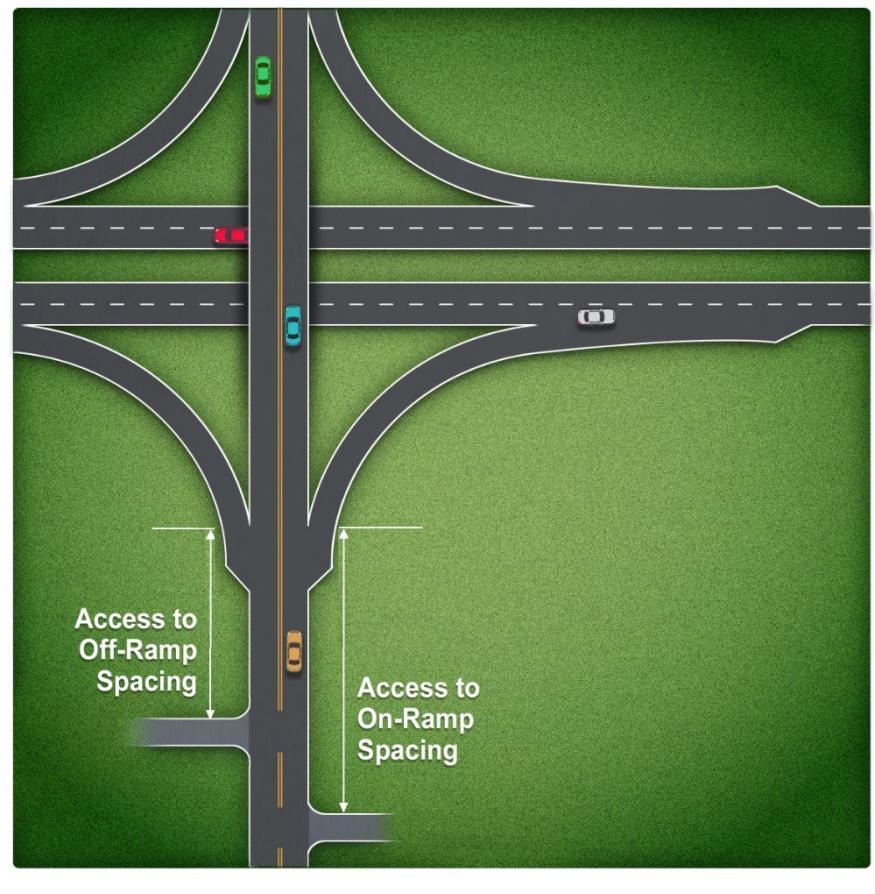

Figure 3-8: Distance from Interchange to Driveway

The **Intersection Functional Area** encompasses the physical intersection as well as the upstream and downstream areas critical for efficient traffic operations. This includes storage lengths for queuing vehicles and maneuvering distances required for through lanes and designated turn lanes. *(Chapter 3.1.2)*

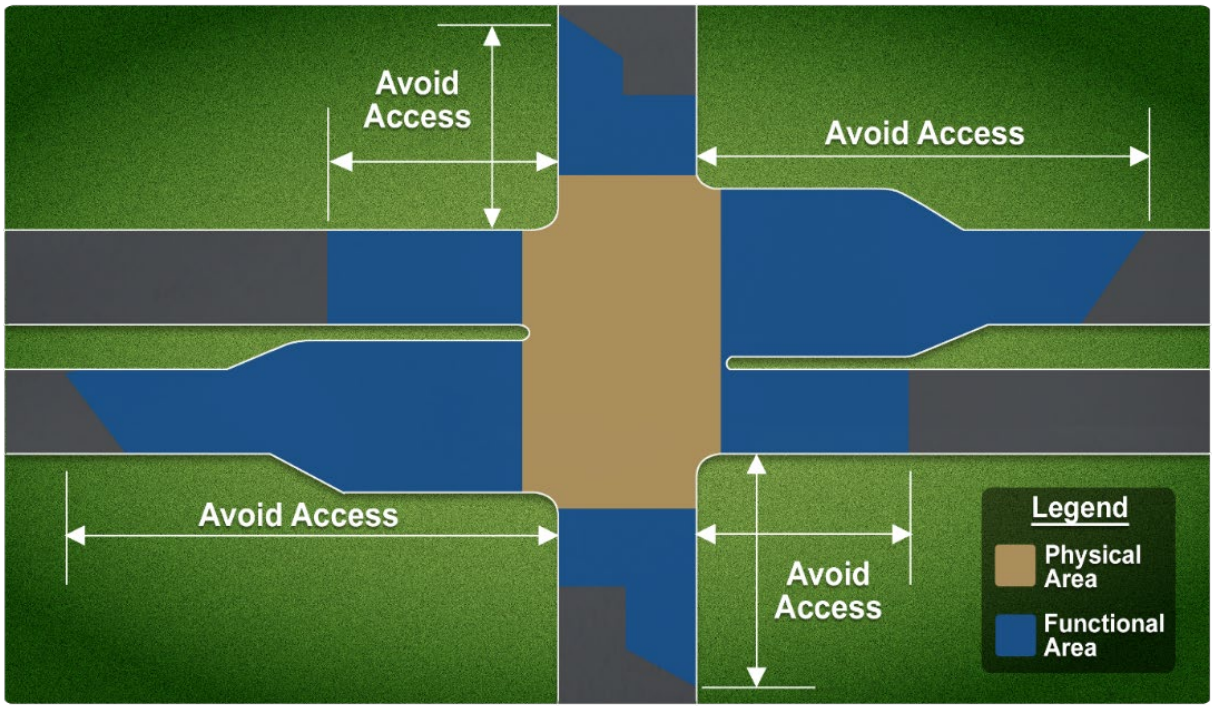

Figure 3-3: Intersection Functional Area

Access to Access Spacing for Single/Two-Family Lots

Table 3-3: Minimum Spacing of Driveways (Same Side of Roadway, SF/2F Residential)

Street Classification	Minimum Spacing (ft)
Arterial Boulevard	30'*
Collector Avenue	30'
Local Street	25'

**Access to SF/2F residences shall not be placed on arterials where an alternative access location is available. (Chapter 3.2.2)*

Access to Access Spacing for Non-Single/Two-Family Lots

Table 3-4: Minimum Spacing of Driveways (Same Side of Roadway, Non-SF/2F)

Street Classification	Access Type	
	Full Access	**Restricted Access****
Arterial Boulevard	SSD*	100'
Collector Avenue	100'	30'
Local Street	75'	30'

**See Table 3-5 for stopping sight distance (SSD) on level roadways and Table 3-6 for SSD on grades. See the end of this Summary Chapter for more details on Restricted and Shared Access. **See Chapter 2.2.2.*

Table 3-5: Stopping Sight Distance on Level Roadways

Design Speed (mph)	Stopping Sight Distance (ft)
15	80
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495

**From AASHTO's A Policy on Geometric Design of Highways and Streets*

Table 3-6: Stopping Sight Distance on Grades

Design Speed (mph)	Stopping Sight Distance (ft)					
	-3%	-6%	-9%	+3%	+6%	+9%
15	80	82	85	75	74	73
20	116	120	126	109	107	104
25	158	165	173	147	143	140
30	205	215	227	200	184	179
35	257	271	287	237	229	222
40	315	333	354	289	278	269
45	378	400	427	344	331	320
50	446	474	507	405	388	375
55	520	553	593	469	450	433

**From AASHTO's A Policy on Geometric Design of Highways and Streets*

Access to Intersections (Corner Clearance) for Single/Two-Family Lots:

Table 3-7: Single-Family and Two-Family Corner Clearance Regulations

Classification of Road to be Accessed by Driveway	Minimum Corner Clearance
Local	15'
Collector Avenue	50'
Arterial Boulevard	185'

Access to Intersections (Corner Clearance) for Non-Single/Two-Family Lots

Table 3-8: Corner Clearance Regulations (Non-SF/2F)

Classification of Cross Street	Classification of Mainline (Road to be Accessed by Driveway)		
	Arterial-Boulevard	**Collector-Avenue**	**Local Street**
Arterial Parkway	200’	150’	100’
Arterial Boulevard	200’	150’	100’
Collector Avenue	150’	100’	50’
Local Street	100’	50’	50’

**Alleyways do not have a minimum spacing standard.* (Chapter 3.2.4)

- Corner clearance shall be the greater of the distances specified in **Table 3-8** or the full extent of the intersection’s functional area.

Access to Interchange Ramps

Table 3-9: Minimum Access Spacing at Free-Flow Interchange Ramp Terminals

Dimension	Minimum	Desired*
Access to Off-Ramp	250’	590’
Access to On-Ramp	250’	1,100’

**When the desired spacing (TDOT standard) is available, it shall be implemented. When it is not available, the closest to the desired spacing distance shall be implemented. (Chapter 3.2.5)*

Access on Alleyways

Where alley access is available, access shall be placed on the alley.

Access Design Regulations

Driveway Geometry

Table 2-1: Driveway Width Regulations

Driveway Type	Minimum	Maximum
Single- and Two-Family Residential	15'*	22'
Multifamily and Commercial	15'	35'
Industrial	15'	35'

**On lots where 15' is greater than 40% of the total lot frontage, the minimum driveway width shall be 12'. (Chapter 2.4.1)*

- **Total driveway width** shall not exceed 40% of the property length at which the driveways shall be located, so long as this regulation does not conflict with reasonable access. NDOT does not permit the use of open curb cuts or head-in parking.
- **Driveways for two-way operation** shall be 90 degrees to the centerline of the roadway. *(Chapter 2.4.6)*
- **Driveway throat length** shall be a minimum of 20 feet for parking areas with 10 or more spaces. *(Chapter 2.4.2)*
- **Driveway curb ramp grade** shall not exceed 1:96 vertical:horizontal (1/8 inch per foot), per NDOT Engineering Specifications ST-322, ST-323, ST-324, and ST-325. *(Chapter 2.4.3)*
- **Driveway curb ramp cross slope** shall not exceed 1:48 vertical:horizontal (1/16 inch per foot), per NDOT Engineering Specifications ST-322, ST-323, ST-324, and ST-325. *(Chapter 2.4.4)*
- **Connection with the through lane – Curve Radius**
    - Where space permits, the curve radius between the edge of the travel lane and the edge of the driveway shall be large enough to accommodate the largest vehicle expected to frequently use the driveway. The maximum radius shall not exceed 20 feet, except when larger curb radii is required to accommodate large vehicle movements, as determined by the NDOT traffic engineer or his/her designee.
    - Where there is on-street parking, the curve radius shall be measured from the edge of the travel lane to the edge of the driveway.
      (Chapter 2.4.7)

- **Side Property Line:** The distance between the driveway at the curbline and the side property line shall not be more than 4 feet.
- **Buffer Strip:** A buffer strip, at least 4 feet wide, must be provided on private property parallel to and adjoining the public right-of-way. This strip is intended to prevent parked vehicles from encroaching on the right-of-way. The buffer strip should extend along the entire length of the property frontage where parking is permitted. It must include a physical barrier, such as a curb or wheel stop, positioned next to the parking area, at a height between 8 inches and 36 inches.
- **Clearance of Obstructions –** Driveways shall be constructed to clear utility poles, light structures, drainage structures, signs, traffic-control devices, fire hydrants and other similar installations, or such facilities shall be relocated at the expense of the property owner or lessee in conjunction with the owners or operating authorities of the facilities affected. *(Chapter 2.4.10)*

Sight Distance

For commercial, multi-family, and mixed-use developments, Access Design shall meet sight distance regulations, such as stopping sight distance and intersection sight distance. Reference the latest edition of *A Policy on Geometric Design of Highways and Streets* (AASHTO) for appropriate sight distance criteria. Coordination with the NDOT Chief traffic engineer or his/her designee is required when sight distance cannot be met. *(Chapter 2.4.9)*

Driveway Alignment

Opposite access points shall be directly across from each other with aligned centerlines, or distant enough from one another to prevent conflicts. If driveways cannot be aligned, the minimum driveway offset distance shall be 200 feet for arterials and 100 feet for collectors. *(Chapter 3.2.3)*

Emergency Access

If an additional emergency access point is required and it cannot meet the regulations set in this Manual or presents a safety concern, then the access must be gated. See NDOT Engineering Specification ST-324A. Emergency access regulations are set by Nashville Fire Code and Nashville Fire Department and must be approved by Metro Fire Department. *(Chapter 3.2.9)*

Access Near Roundabouts

NDOT views roundabouts as a viable and sometimes preferred alternative to signalized intersections. Where roundabouts are used, minimum corner clearance regulations from

Chapter 3.2.4 – Access-to-Intersection Spacing apply. These values serve as a minimum requirement, but in practice, NDOT prefers driveways to be placed as far from the roundabout as possible. *(Chapter 3.2.6)*

Access Near Railroad Crossings

Driveways near railroad crossings should be avoided. If no feasible alternatives exist and a driveway must be located near a public at-grade railroad crossing, the edge of a commercial or industrial driveway shall not be placed between the stop bar and the edge of the railroad track. Additionally, the driveway shall be set back **at least 15 feet from the edge of the railroad track**. Access placed near railroad crossings require coordination with the railroad operating party *(Chapter 3.2.7)*

Access At or Near Auxiliary Lanes

Driveways shall not cross auxiliary lanes such as right-turn lanes, acceleration lanes, and deceleration lanes. *(Chapter 2.3.3)*

Access at a Signalized Intersection

Where access occurs at a signalized intersection as one of the signalized legs, the intersection shall incorporate protected and dedicated intersection elements including, but not limited to curb extensions, bike and/or pedestrian signal phasing, turn calming, conflict markings, and/or raised intersections/crossings. *(Chapter 4.1)*

Access Near On-Street Parking

Driveways shall be spaced at least 35 feet from on street parking to allow for adequate sight distance and meet corner visibility regulations. Pavement markings, or when appropriate, physical delineation, shall be provided between the driveway and on street parking to indicate a no-parking zone. *(Chapter 3.2.8)*

Additional Construction Regulations

Driveway Aprons

Driveway apron construction shall be guided by NDOT Engineering Specifications ST-322, ST-323, ST-324, and ST-325.

All driveways shall include a paved apron constructed of a hard surface material. The apron must extend:

- From the edge of the street pavement or the back edge of the sidewalk (if present),
- To the edge of the right-of-way or 10 feet, whichever is greater.

- If the distance between the street pavement or sidewalk and the edge of the right-of-way exceeds ten feet, the NDOT Chief Traffic Engineer or his/her designee is authorized to approve an alternate apron design. *(Chapter 2.4.5)*

Protection of Residential Areas

In order to minimize deterioration and destabilization of residential areas, access for nonresidential properties which abut residential-zoned areas shall be designed to minimize the intrusion of nonlocal traffic onto residential local and minor local streets while also maintaining reasonable access between public rights-of-way and private property.

Driveway Visibility - Obstructions

To ensure safe and efficient traffic operations, NDOT enforces driveway visibility standards designed to prevent obstructions, enhance driveway identification, and improve overall roadway safety.

It is unlawful to place or maintain any sign, vegetation, or structure that interferes with traffic visibility under the following conditions:

1. On private property within thirty-five feet of any street intersection so as to interfere with traffic visibility at the intersection and at no time higher than thirty inches above the crown of the adjacent roadway;
2. On private property in such a manner as to interfere with traffic visibility of any driver using an authorized driveway, alley or roadway;
3. Within the right-of-way of any street within the area of the metropolitan government, unless granted by NDOT.

Development within the urban zoning overlay (UZO) district and in the DTC, CF, CF-NS, MUI, and MUI-NS districts may be exempt from this provision. Any person violating any of these provisions shall be notified by NDOT that the offending sight restriction shall be removed within fifteen days after notification. If the sight restriction is not removed within fifteen days after notification, NDOT shall remove said sight restriction, either with metro forces or by normal metro contract procedures. The property owner shall be responsible for any expenses incurred by metropolitan government in removing the restriction(s) and those expenses shall be recoverable in an action brought by the metropolitan government. *(Chapter 2.4.8)*

Construction – Regulations

Construction of all driveways shall be as required by current regulation, specifications and drawings of NDOT, and to the lines and grades furnished by NDOT. Any work performed prior

to furnishing of lines and grades or not meeting specifications and regulations shall be removed or reworked by and at the expense of the person responsible for the work.

Location and Dimension of Driveways

Driveways shall be located in accordance with the rules set forth in the most current version of NDOT's Access Management Manual. Property owners shall comply with the dimension regulations set forth in the most current version of NDOT's Access Management Manual. Deviations from the regulations for driveway location and dimension require submittal of the Access Waiver Form to NDOT.

Review of Driveway Applications

While NDOT prioritizes the abutter's right to reasonable access, NDOT's chief engineer, or his/her designee, shall give due consideration to the convenience, safety and requisite movement of pedestrian, bicycle, and vehicular traffic on the streets and alleys when reviewing a driveway application.

Duty of Property Owner

It shall be the duty of all persons owning property abutting the streets in the metropolitan government area, who make provision for vehicular access to and from public streets and private properties, to give due consideration to the convenience, safety and requisite movement for all road users. All costs of driveway construction or major driveway repair shall be borne by the owner or lessee of the property to be served.

Construction – Authorization Required

Authorization for driveway construction shall be secured from the traffic and parking commission and NDOT prior to the beginning of construction, such as the cutting of any grass plot, gutter or sidewalk, for the purpose of construction of any driveway.

Authorization – Application

- Applications for authorization of construction, reconstruction or major repair of driveways shall be made on forms prescribed by the traffic and parking commission and NDOT. Applications shall be signed by the property owner or lessee and contractor, if any, and shall be accompanied by a clear drawing or blueprints, in triplicate, showing the exact location and dimensions of the driveway with reference to the property to be served, and a brief explanation of proposed usage of property and shall include property lines, rights-of-way, nearest intersecting streets and alleys, distance from right-of-way lines to gasoline pumps, structures or other improvements on the property, proposed treatment of public right-of-way adjacent to the driveway, utility poles, fire hydrants, traffic-control devices, parking meters and bus stops near the proposed driveway.

- For more information on Driveway Permit applications, see Chapter 5.1.

Authorization – Expiration

Driveway authorizations are valid for a period of one year from date of approval. Actual construction must begin before expiration of approval. No notice of expiration will be issued, and authorizations will automatically terminate unless renewal is authorized in writing by the traffic and parking commission and NDOT.

Abandoned Driveways

Any driveway abandoned for vehicular use due to changes in property development or use shall be removed and the site reformed to conformity with adjacent existing conditions.

Nonconforming driveways—Notice to remove—Failure to comply

Any person violating any of the provisions contained in this manual shall be notified that the offending driveway construction, reconstruction or repairs shall be removed. Notification shall be made by the Nashville Department of Transportation and Multimodal Infrastructure by NDOT's chief engineer, or his/her designee, in writing to the property owner or lessee and contractor, if any, to the effect that the offending work must be removed within ten days from the date of notification, and the driveway replaced to conform to the provisions contained in this chapter.

In the event of failure to comply with notification, the metropolitan government will make the necessary driveway corrections and assess the costs against the property abutting driveway.

Downtown and Multimodal Regulations

Vehicle access should be designed to protect vulnerable road users, such as bicyclists, pedestrians, and transit riders commuting to and from bus stops, creating a transportation system that benefits all while ensuring reasonable access for property owners. *(Chapter 4)*

Porte- Cochères

- Porte-cochères should be served by driveway pairs (one ingress-only and one egress-only).
- The one-way driveways shall have a width of 12 - 15 feet and shall be spaced at least 30 feet apart.
- Driveway throat length shall be at least 20 feet from the intersection of the driveway with the traveled roadway to the nearest edge of the covered drop off.
- The width of the covered drop-off should accommodate at least one maneuver lane and one lane for the loading zone.

- At a minimum, 10 feet should be provided per maneuver lane within the drop-off area.
- An alternative, acceptable design for porte-cochères is a site with an ingress-only access that allows egress onto a connected alleyway.
- Porte-Cocheres shall be prioritized on streets of lower functional classification.
- Where applicable, Porte-cochères shall have direct access to the parking garage to contain valet operation movements without having to exit the site. *(Chapter 4.4.1)*

Parking Garage Driveways

- Parking garage entrance/exit points shall be designed with pedestrian safety in mind.
    - The use of electronic signage, audible alarms, signage, convex mirrors, transitional lighting, and detectable warning surfaces should be used to increase visibility between drivers and pedestrians.
- At garage access points, the driveway shall transition smoothly to be flush with the sidewalk. *(Chapter 4.4.2)*

Pedestrian Design

All driveways crossing sidewalks shall be designed in compliance with the latest PROWAG and ADA standards.

Where applicable:

- Design of pedestrian facilities in driveways shall follow NDOT Engineering Specifications ST-322, ST-323, ST-324, and ST-325.
- When the pedestrian sidewalk crosses the existing driveways, the maximum cross slope at any point on a sidewalk is 2%.
- All traffic control devices relating to pedestrian safety at driveways shall be designed in compliance with the most updated ADA and MUTCD guidance.
- For driveways with raised channelized islands, the island should be at least 6 feet in width and have flat area for pedestrians in wheelchairs. *(Chapter 4.2)*

Pedestrian Hybrid Beacon (PHB)

A PHB is a traffic control device used to warn and control traffic with the purpose of assisting pedestrians in crossing a street or highway. Driveways should be located at least 100 feet in advance of and at least 20 feet beyond the PHB. See Chapter 4.2.1 for additional guidance and figures.

Rectangular Rapid Flashing Beacon (RRFB)

A RRFB is another traffic control device used at pedestrian crossings to enhance safety. When access must be placed in proximity to an RRFB, the driveway should be located at

least 20 feet beyond or in advance of the crosswalk. See Chapter 4.2.1 for additional guidance and figures.

Transit Design

- Driveway placement near transit stops shall be avoided.
- Boarding and alighting areas shall be ADA- and PROWAG-compliant.
- Reference the latest WeGo Transit Design Guidelines for desirable size and placement of transit stops to ensure a driveway is not placed within that zone.
- On transit corridors, planned or existing transit stops and crosswalks shall take priority over new or retrofitted access points.

Coordination and agreement with NDOT and WeGo shall take place before additional driveways are planned or constructed that impact existing or planned transit stops on those corridors. *(Chapter 4.3)*

Lay-by Policy

Reference the latest NDOT Lay-by Policy for guidance.

Restricted Access

When access spacing regulations cannot be met, and alley access or shared access is unavailable, access design shall restrict turning movements to eliminate high-risk conflict points. Restricted access may be recommended by NDOT as a condition of driveway approval.

If the access regulations set in this Manual cannot be met and restricted access strategies cannot be applied, an Access Waiver Form shall be submitted to NDOT for review.

Restricted access points may include the following:

- Right-In-Right-Out (RIRO) driveways.
- One-way driveways.
    - Right-in only or right-out only driveway.
- Shared driveways.
- Access on roadways with a non-traversable median.
- Access on one-way roadways. *(Chapter 2.2.2)*

Right-In-Right-Out (RIRO) Design

If a nontraversable median is not present in the roadway and a RIRO driveway is to be added, a narrow raised landscaped median or vertical delineation (such as flexible pylons[1]) shall be designed in coordination with the NDOT Chief Traffic Engineer and his/her designee to actively discourage left turns from the roadway into a RIRO driveway.

RIRO driveways should be 60 degrees to the centerline of the roadway but may be reduced to 45 degrees at the discretion of NDOT. **Coordinate with the Chief NDOT traffic engineer or his or her designee for the design specifications of a RIRO driveway. All RIRO designs require final approval from NDOT.**

One-way Design

One-way driveways shall be designed in coordination with NDOT and in accordance with the latest MUTCD standards.

Shared Access

On arterial classified roads, where the configuration of properties, topography, and/or prior site development layout prevents the access spacing regulations of this Manual from being met, the NDOT Chief Traffic Engineer or his/her designee should encourage joint access driveways or cross access corridors.

- Wherever feasible, the NDOT Chief Traffic Engineer or his/her designee encourages the establishment of a joint-use driveway (shared access) serving two or more abutting properties.
- If a proposed development abuts an existing development with a joint-use driveway, the proposed development should connect its vehicular circulation to the existing joint access and circulation areas.
- If a proposed development abuts an undeveloped property, it may include a joint-use driveway designed to connect to the adjacent property in the future. *(Chapter 2.2.2)*

Cross-Access Corridors

- The NDOT Chief Traffic Engineer or his/her designee may designate cross-access corridors for properties on arterials and other corridors based on engineering judgment.
- Developments within these corridors must be designed with coordinated parking, access, and circulation systems to support shared use.

[1] See *Cost Effective Local Road Safety Planning and Implementation, pages 24-25*. (2011) (ATSSA) 4W3707_Final_Report.pdf

- Cross-access designations must be recorded on subdivision plats.
- If a development within the cross-access corridor abuts an existing developed property outside the designated corridor but includes a joint access driveway, the new development may tie into the existing access and circulation system.

Recording Easements

- Site plans that include cross-access corridors or joint-use driveways must grant an easement for access to and from abutting properties.
- This easement must be filed with the Office of the Metropolitan Clerk.

Closing of Interim Driveways

- Once a permanent joint-use driveway or cross-access easement is constructed, all interim driveways shall be closed and removed.
- Property owners shall enter into a written agreement with the metropolitan government, recorded in the public records, to ensure the closure of interim driveways upon completion of the joint-use driveway.

Access Waiver Form

The Access Waiver Form is required for driveways that do not meet the regulations of this manual to justify and document variations from the designated criteria.

Additional analyses beyond the waiver form may be required by NDOT to support proposed deviations from the access management regulations outlined in this Manual.

All driveways will be subject to review and approval by the NDOT Chief Traffic Engineer or his/her designee. The waiver form must be submitted and approved by NDOT prior to any official site plan submittals to the Metropolitan Planning Department or for a Building Permit Application.

If the Access Waiver Form is denied approval from NDOT, then a request can be made to the Traffic and Parking Commission to have a deviating access design. The Access Waiver Form with NDOT's filled out response shall be included in the request made to the Traffic and Parking Commission.

See Chapter 5.2 for more details and **Appendix** for the Access Waiver Form.

1. INTRODUCTION

The Nashville Department of Transportation and Multimodal Infrastructure (NDOT) Access Management Manual establishes clear guidance on the planning, regulation, design, and implementation of access between private property and the public right-of-way. This Manual applies to new and infill land development submitted to Metro Nashville for plan reviews after *{bill effective date}*.

Davidson County is experiencing significant growth, as new developments transform neighborhoods and add thousands of new residents[2] and over ten million visitors[3] to the transportation network every year. New transportation capacity challenges, brought about by significant population growth, warrant a comprehensive approach to access management. This manual serves as a guide for balancing the need to provide reasonable access to adjacent property owners with the responsibility to create and maintain a safe, efficient, and accessible environment for all modes of transportation. By outlining consistent standards and procedures, the manual supports thoughtful decision making that preserves both the integrity and safety of the transportation network and the reasonable access needs of adjacent property owners.

This Manual was created to enact NDOT's short-term and long-term transportation plans and is a part of the 2022-2026 Vision Zero Action Plan (VZAP)[4]. The VZAP provides a comprehensive strategy to eliminate all traffic fatalities and severe injuries while increasing safety, health, and equitable mobility options for all. Action Item A2-f in the VZAP is to "Adopt a context-sensitive access management policy, specifically targeting the high injury network (HIN)[5]". This Manual is also an action item of the 2024 Connect Downtown Action Plan, a 10-year plan to transform mobility throughout Middle Tennessee, improve safety, and expand travel options. The NDOT Access Management Manual is also in alignment with NashvilleNext[6], Davidson County's 2040 plan, which includes the Major and Collector Street Plan[7] (MCSP) and the Community Character Manual [8](CCM).

[2] https://www.nashvillechamber.com/blog/press-release-chamber-announces-nashville-msa-grew-by-86-people-per-day-in-2023/
[3] https://www.visitmusiccity.com/research
[4] https://www.nashville.gov/sites/default/files/2022-08/NashvilleVZ_ActionPlan_FINAL_Resolution.pdf?ct=1661973337
[5] https://experience.arcgis.com/experience/74363e0dbb3e43138bc7d451a90817ef/page/High-Injury-Network/
[6] https://www.nashville.gov/departments/planning/nashvillenext
[7] https://www.nashville.gov/departments/planning/major-and-collector-street-plan
[8] https://www.nashville.gov/departments/planning/long-range-planning/community-character-manual

1.1 Purpose of the NDOT Access Management Manual

This Manual is designed to support NDOT's mission to build and maintain a safe, reliable, multimodal transportation network that elevates the quality of life and prosperity in Davidson County. Specifically, this document provides a comprehensive access management resource to support reasonable access through the following activities:

1. Ensure appropriate access management strategies are implemented when land is developed.
2. Reduce conflict points and improve safety for all road users to align with Vision Zero goals.
3. Integrate with the existing transportation plans and policies of the Metropolitan Government (referred to as "Metro" or "Metro Nashville") and NDOT.
4. Serve as a design resource of best practices for Metro-led projects.

This Manual serves as the primary access management resource within Davidson County to support the implementation of NDOT's transportation policies and initiatives.

1.2 What is Access Management?

Access Management is the coordinated planning, regulation, design, and implementation of access between roadways and private property. Intentional access management results in reduced conflict points and promotes safe and efficient system operations for all road users while maintaining reasonable access for property owners.

Access Management is executed through various strategies, including:

- Managing interactions between vehicular access and multimodal facilities.
- Prioritizing the placement of access points at roadways of lower functional classification, lower speeds, and with fewer travel lanes.
- Utilizing driveway channelization and medians to restrict movements and reduce conflicts at access points.
- Determining optimal distances between access points and other roadway features, such as intersections, traffic signals, and other driveways.
- Promoting the use of joint accesses, cross accesses, alley accesses, and frontage roads to reduce the number of access points on roadways.

1.3 Benefits of Access Management

Access management strategies directly result in improved safety, reduced fatal or serious injury crashes, and more efficient traffic operations. These benefits stimulate the economy by reducing travel costs and travel times as well as ensuring local businesses are accessible.

Access management provides these safety, operational, and economic benefits through its support of the modal hierarchy established in Access Nashville 2040 and the NDOT Complete Streets Implementation Guide. The modal priorities are shown in **Figure 1-1**[9], which places vulnerable road users, people walking, biking, utilizing transit, and using mobility devices as the top priorities of the transportation network.

Figure 1-1: *Modal Hierarchy*

1.3.1 Safety Benefits

This Manual is in alignment with the USDOT Safe System Approach. From the USDOT:

"The Safe System Approach has been embraced by the transportation community as an effective way to address and mitigate the risks inherent in our enormous and complex

[9] Figure sourced from the NDOT Complete Streets Implementation Guide

transportation system. It works by building and reinforcing multiple layers of protection to both prevent crashes from happening in the first place and minimize the harm caused to those involved when crashes do occur. It is a holistic and comprehensive approach that provides a guiding framework to make places safer for people."

The core principles of the safe systems approach are as follows:

- Death and serious injuries are unacceptable:
  - Access Management strives to eliminate death and serious injury crashes.
- Humans make mistakes:
  - Access Management provides a more forgiving roadway environment with safeguards against user error.
- Humans are vulnerable:
  - Access Management strives to protect the transportation system's vulnerable users.
- Responsibility is shared:
  - Access Management is a collaborative practice between a diverse set of stakeholders to make the roadway safer for all.
- Safety is proactive:
  - Access Management prevents roadway safety hazards by reducing and eliminating conflicts.
- Redundancy is crucial:
  - Access Management provides a standardized approach for consistency across land development and capital projects in Davidson County.

The safety benefits of access management are largely attributable to the reduction of conflict points on the roadway. Conflict points occur when travelers' paths intersect and may involve merging, diverging, stopping, weaving, or crossing maneuvers **(Figure 1-2)**[10]. Reducing conflict points simplifies the traveling experience and results in fewer collisions.

[10] Adapted from the TRB Access Management Manual (2014)

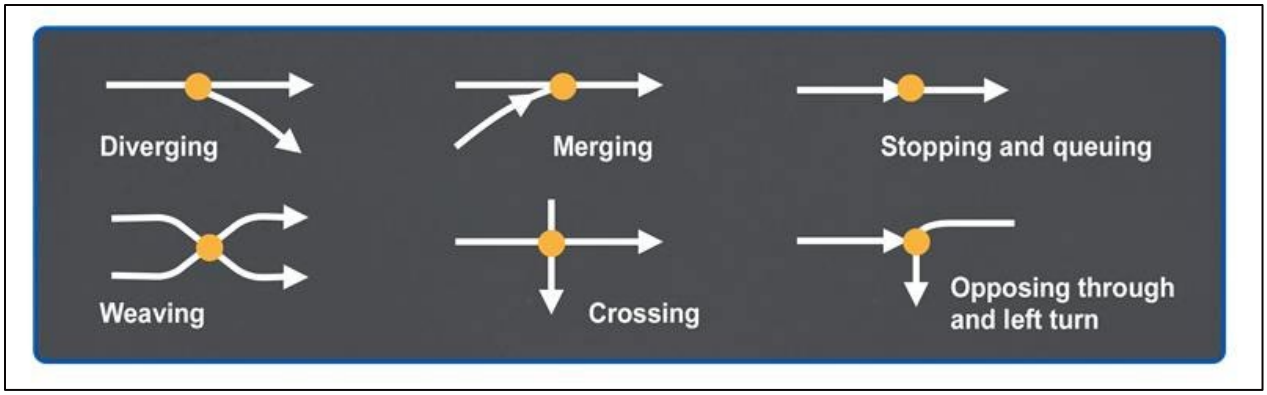

Figure 1-2: *Types of Conflict Points*

Research[11] shows a strong correlation between increased access density and an increased collision rate along roadways. This is caused by motorists having less time to perceive, react to, and avoid a potential collision at a conflict point (e.g., a car pulling out of a driveway). A study conducted by the NCHRP from an analysis of 37,500 collisions suggested that an increase from 10 driveways to 20 driveways per mile increases collision rates by roughly 30%[12]. The specific relationship between access point density and collision rate varies according to road geometry, speed limit, and traffic volumes.

Conflict points can also be reduced by simplifying each access point. An additional full-access driveway along a multi-lane roadway introduces several new conflict points for motorists, as shown in **Figure 1-3[13].** Pedestrian and bicycle movements further add to the complexity and risk associated with each access point. Introducing design techniques such as right-in right-out driveways, medians, and auxiliary lanes can be deployed to reduce collision rates.

Incorporating techniques to promote safe vehicle movements and enhance awareness among motorists and vulnerable road users is critical in access management. Strategies include:

[11] Gluck, J., H. S. Levinson, and V. Stover. NCHRP Report 420: Impacts of Access Management Techniques. TRB, National Research Council, Washington, D.C., 1999.
Levinson, H. S. Access Spacing and Accidents: A Conceptual Analysis. In *Transportation Research Circular E-C019: Urban Street*
BRW Consulting Group. Statistical Relationship Between Vehicular Crashes and highway Access. Minnesota Department of Transportation,1998. http://www.dot.state.mn.us/accessmanagement/pdf/research/statisticalrelationships.pdf.
Millard, W. Accident Analysis Relating Crashes to Major Access Management Features. Florida Department of Transportation, Tallahassee, 1993.

[12] Gluck, J., H. S. Levinson, and V. Stover. NCHRP Report 420: Impacts of Access Management Techniques. TRB, National Research Council, Washington, D.C., 1999.
[13] Adapted from the TRB Access Management Manual (2014)

1. **Installing Signage**: When and where the installation of signage is warranted, clear, well-placed signage can provide advance warnings and guide behavior to improve safety.
2. **Improving Sight Distance**: Ensuring unobstructed views at intersections and crossings allows motorists and vulnerable users to see and react to one another in time.
3. **Reducing Speeds**: Implementing measures like speed humps, raised crosswalks, or lower speed limits can mitigate the severity of crashes and increase reaction times.
4. **Reducing Turning Radii**: Sharpening turning angles forces drivers to slow down, making crossings safer for pedestrians and cyclists.
5. **Adding Pedestrian Islands**: Refuge islands provide a safe space for pedestrians to pause when crossing multi-lane roads.
6. **Narrowing Roadway Widths**: Deliberate narrowing through lane reductions or curb extensions (road diets) can slow traffic and create a more pedestrian-friendly environment.
7. **Designing Visual Cues**: Gateway treatments, pavement markings, and shared space designs create environments that foster awareness and cooperation between all users.

These approaches not only enhance safety but also encourage a multimodal perspective in roadway design, aligning with modern urban planning principles.

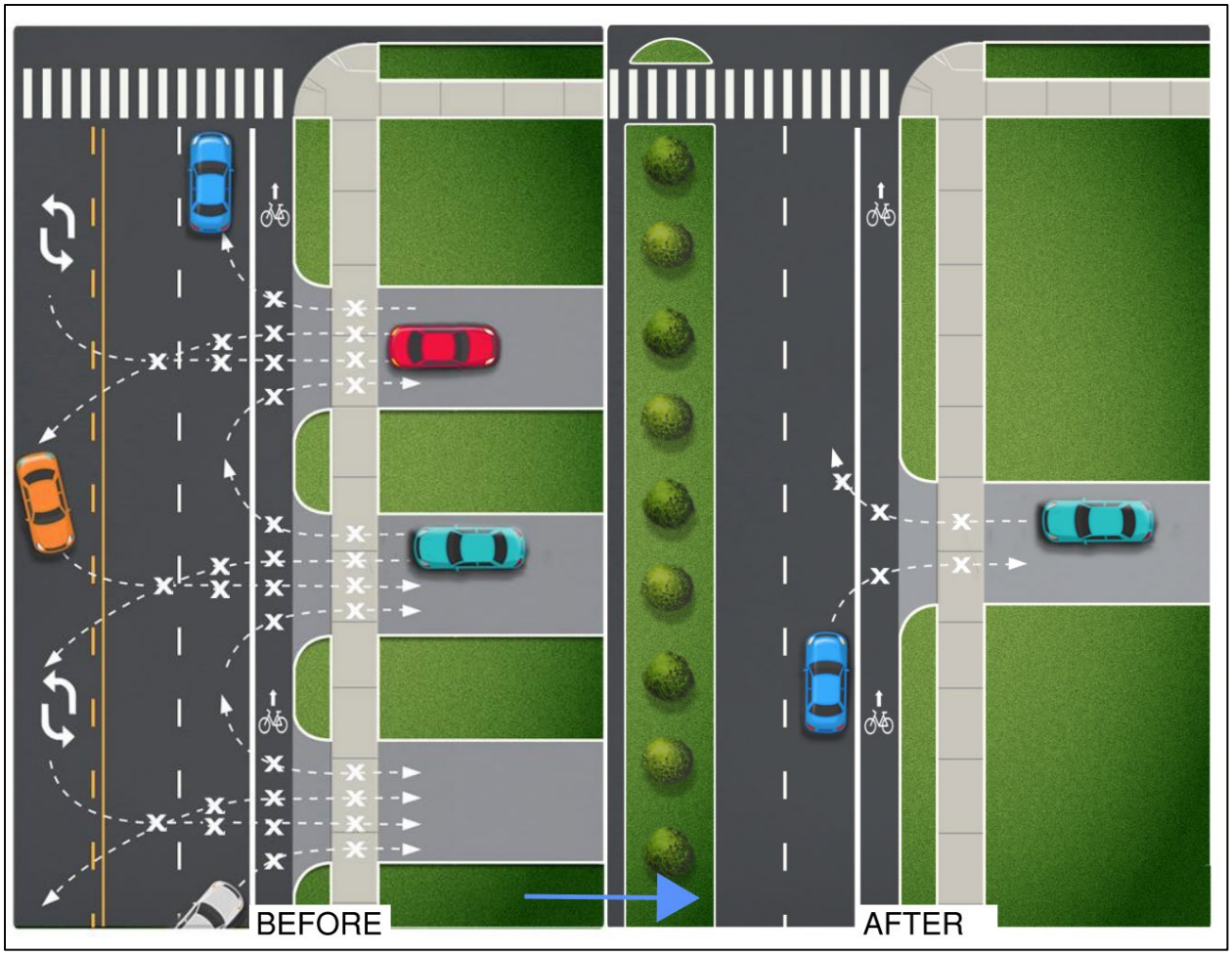

Figure 1-3: *Consolidation of Access Points*

1.3.2 Operational Benefits

Access management has several operational benefits. Studies show that increasing access spacing along a corridor increases capacity, maintains desired free-flow speed, and reduces travel delay.

Capacity analysis indicates that the typical reduction in free-flow speed (for one direction) is approximately 0.25 mph per access point per mile of road[14]. **Table 1-1**[15] summarizes the reduction in free-flow speed caused by increased access density.

[14] Reilly, W. R. Capacity and Level-of-Service Procedures for Multilane Rural and Suburban Highways. Final report, NCHRP Project 3-33. TRB, National Research Council, Washington, D.C., 1990.
[15] Highway Capacity Manual 2010. Transportation Research Board of the National Academies, Washington, D.C., 1990.

Table 1-1: Relationship Between Number of Access Points and Free Flow Speed

Access Points per Mile	Reduction in Free-Flow Speed (mph)
0	0.0
10	2.5
20	5.0
30	7.5
≥40	10.0

Other studies[16] have shown that the cumulative effect of access management techniques such as access spacing, uniform access design, auxiliary lanes (when appropriate), and non-traversable medians significantly improve travel times through a corridor.

Transit and other multimodal operations also receive these speed benefits and gain greater reliability, because of the reduced variability of traffic flows. These benefits are significant for transit operations and directly transfer some of the benefits of access management to multimodal users of the corridor.

1.3.3 Economic Benefits

The effect of access management on businesses largely focuses on techniques that restrict left-turns into and out of a site, such as non-traversable medians. Studies[17] indicate that median projects and other access management improvements generally have no overall adverse impact on business activity, and businesses sometimes experience an increase in activity. The safety and operational advantages of access management benefit businesses and potential customers or employees accessing a site.

While economic impacts often depend on the specific traffic conditions around a site, there are several economic risks associated with uncontrolled access. Poor access management combined with high traffic volumes can increase collisions and travel times, which degrades business value along a corridor.

When access to a business is unsafe, particularly due to left turns across high-volume corridors, customers may go elsewhere. This effect can be seen along an entire corridor with

[16] McShane, W. Access Management and the Relation to Highway Capacity and Level of Service. Florida Department of Transportation, Tallahassee, 1996. The Access Control Demonstration Project. Colorado Department of Transportation, Denver, 1985.

[17] (34) (35) (36) Cunningham, C., M. Miller, S. Smith, D. Findley, D. Carter, B. Schroeder, D. Katz, and R. Foyle. Economic Effects of Access Management Techniques in North Carolina. North Carolina Department of Transportation, Raleigh 2010. Rees, M., T. Orrick, and R. Marx. Police Power Regulation of Highway Access and Traffic Flow in the State of Kansas: Review of Kansas Case Law and Applications to Highway Design. Proc., 4th National Conference on Access Management, Portland, Ore., 2000. http://www.teachamerica.com/ accessmanagement.info/pdf/AM00PAPR.pdf.
Vu, P., V. N. Shankar, and G. F. Ulfarsson. Is Access Management Good for Business? Business Perceptions of the Effects of Traffic Access Management on Accessibility and Patronage. Transportation Planning and Technology, Vol. 29, No. 4, 2006, pp. 273–293.

uncontrolled access, resulting in degrading property values as travelers avoid busy and unsafe corridors. Further, by controlling the design and location of access points, access management can contribute to the overall visual appeal of roadway networks and surrounding areas, which may also stimulate economic growth.

1.4 Other Plans and Policies

This document is designed to be integrated with the other plans, policies, and processes of Metro Nashville and NDOT. To effectively implement access management strategies, it is important to understand the local characteristics established by Metro's policy documents.

In addition to the relevant documents listed below, it is recommended that this Manual be used in conjunction with field assessments, sound engineering judgment, and the best practices provided in other relevant strategic policy documents. Relevant documents may be published by national institutions, Tennessee Department of Transportation (TDOT), Metro, and NDOT, including:

- Multimodal Transportation Analysis (MMTA) Guidelines (NDOT)
- Engineering Details and Specifications (NDOT)
- Complete Streets Implementation Guide (NDOT)
- Multimodal Access Closure Policy (Metro)
- Metropolitan Code of Laws (Metro)
- Downtown Code (Metro)
- NashvilleNext (Metro)
- The Community Character Manual (Metro)
- The Major and Collector Street Plan (Metro)
- Subdivision Regulations (Metro)
- WeGo Transit Design Guidelines (Metro)
- Highway System Access Manual (TDOT)
- Roadway Design Guidelines (TDOT)
- Manual for Constructing Driveway Entrances on State Highways (2015) (TDOT)
- The Manual of Uniform Traffic Control Devices (FHWA)
- Vision Zero Action and Implementation Plans (NDOT)
- Connect Downtown Action Plan (NDOT)
- nMotion Transit Plan (WeGo)

- Choose How You Move Transportation Improvement Plan (NDOT)
- Any Urban Design Overlays in a given area (Metro)

These documents are linked on the Access Management Nashville.gov webpage. The most recent version of documents should be referenced in conjunction with this Manual.

1.5 Primary Sources

The primary sources used to develop the NDOT Access Management Manual include:

- TDOT *Highway System Access Manual* (2021)
- TDOT *Manual for Constructing Driveway Entrances on State Highways* (2015)
- TRB *Access Management Manual, 2nd Edition* (2014)
- FHWA *Manual on Uniform Traffic Control Devices for Streets and Highways, 11th Edition* (2023)
- AASHTO *A Policy on Geometric Design of Highways and Streets, 7th Edition* (2018)
- TRB *Highway Capacity Manual, 6th Edition* (2016)
- A Policy on Geometric Design of Highways and Streets (AASHTO)
- Urban Street Design Guide (NACTO)
- Peer Guidelines:
    - *Charlotte Streets Manual* (2023)
    - *Evansville Access Management Manual and Development Guide* (2016)
    - *FDOT Multimodal Access Management Guidebook* (2023)
    - *Fort Worth Access Management Policy* (2018)
    - *Port Authority Roadway Access Management Guidelines* (2017)

Other sources used in development are referenced throughout this Manual.

1.6 Authority of this Manual

The authorization of these regulations is granted to the Nashville Department of Transportation and Multimodal Infrastructure (NDOT) by the Metro Charter, Chapter 4, Section 8.402, and subsequent amendments by the Metro Council. The authority has been conferred to the Metro Government by the Tennessee General Assembly by Title 13, Section 13-3-101 through Section 13-3-304 and Section 13-3-401 through Section 13-3-411, and Title 7, Section 31, of the Tennessee Code Annotated, as amended, and other pertinent statutes for the establishment of regulations governing the subdivision of land, and street transportation system. The standards and guidance within this Manual apply to developments and capital projects on alleys, local, collector, and arterial routes within the jurisdiction of the Metropolitan Government of Nashville and Davidson County.

If any provision of this Manual is proven or held to be invalid or unconstitutional, such invalidity shall not affect the validity of these regulations as a whole, or any part thereof, other than the part determined to be invalid.

"Shall", "Should", and "May"

This Manual uses the terms "shall," "should," and "may" to establish the level of obligation associated with the standards and guidance herein. The following definitions apply:

- **Shall**: A mandatory condition. When the term "shall" is used, compliance with the specified regulation is obligatory. These regulations must be met when implementing a design or application.
- **Should**: An advisory condition. The term "should" indicates recommended usage. While not mandatory, adherence to these guidelines is advisable and encouraged.
- **May**: A permissive condition. The term "may" signifies an optional or discretionary practice, with no obligation for design or application.

1.6.1 Coordination with the TDOT Highway System Access Manual

The TDOT Highway System Access Manual (HSAM) (2021) applies to all TDOT employees, consultants, and contractors involved in the planning, design, construction, maintenance, and operation of state and federally funded projects, and local governments managing and maintaining transportation projects with funding through TDOT's Local Programs Development Office. The Geometric Criteria outlined in Volume 3 of the HSAM, which includes protocols for access location and design, applies to the following types of projects:

- New alignment projects
- Roadway widening projects
- Major reconstruction projects

For projects where both the TDOT HSAM and the NDOT Access Management Manual are applicable, the stricter standards shall be enforced.

1.6.2 Applicability of Other Access Management Standards

Where other access management standards governed by policies outside this Manual are applicable, **the strictest standard shall be enforced**. Other applicable access management standards include but are not limited to Urban Design Overlays, the Downtown Code, Subdivision Regulations, and any of the resources listed in **Chapter 1.4**.

2. ACCESS DESIGN

This chapter provides guidance on the proper design and application of various driveway types. Access design is essential for ensuring road user safety and mitigating adverse impacts on traffic flow.

This chapter answers the following key questions:

- What are the important access design considerations for different land uses?
- What are the key driveway geometric standards, and how do they improve access?
- How can access design support the safety and mobility of multimodal road users?

The guidance provided in this chapter should be used in conjunction with the other sections of this Manual and applicable specifications set forth by NDOT and other Metro agencies.

2.1 NDOT Engineering Specifications

NDOT maintains a library of Engineering Details and Specifications all listed on Nashville Davidson County's website[18] which includes various standards for driveways in the public right of way. Driveways serving single-family or two-family developments have different design and spacing specifications than driveways serving other land uses. This chapter describes the main driveway types guided by this Manual.

2.1.1 Single-Family or Two-Family Access Design

The design of single-family and two-family driveways is guided by **NDOT Engineering Specification ST-322**. "Single-family" means one residential dwelling unit per structure, as defined in the Zoning Code. "Two-family" means (as defined in the Zoning Code):

1. Two attached dwelling units that share the floor of a unit with the ceiling of another unit or a common wall from grade to eave at the front façade which continues for 80 percent of the common side or 20 feet, whichever is greater; or
2. Two detached dwelling units on a single lot which are separated by at least 6 feet.

2.1.2 Multifamily and Commercial Access Design

The design of commercial and multifamily driveways is guided by **NDOT Engineering Specification ST-324**. A commercial driveway is a driveway serving an establishment used for the conduct of a business. Multi-family driveways service three or more dwelling units on a single lot. Access design features of higher-density developments may include three-lane

[18] https://www.nashville.gov/departments/transportation/developers/details-and-specifications

cross-sections intended for two-way traffic, driveway channelization and/or driveway pairs, parking areas, internal site circulation, and loading zones.

2.1.3 Access Design for Other Land Uses

The design of driveways serving other land uses besides residential and commercial developments is generally guided by **NDOT Engineering Specification ST-324.** Variations in driveway design may be required to accommodate site-specific needs or larger design vehicles.

2.2 Access Types

Access can be designed to permit or restrict specific vehicular movements entering or facilitates vehicular movement in all directions (left, right, and through). Restricted access permits a limited combination of vehicular movements, the most common of which is a right-in right-out (RIRO).

The type of access that is optimal for a given location depends on multiple factors, such as traffic patterns, roadway geometry, site design, safety concerns, urban setting, and land use. This chapter describes when it is appropriate to apply certain types of access.

2.2.1 Full Access

Full-access driveways create the maximum number of conflict points, warranting careful evaluation of their safety and operational impacts, particularly on higher-volume, higher-speed roadways. NDOT may require stricter adherence to spacing regulations and access management best practices when evaluating a full-access driveway proposal. If a full-access configuration does not align with the access management regulations outlined in this Manual, NDOT may require restricted access to mitigate adverse effects. This will be determined on a case-by-case basis.

Full-access driveways may be a suitable option under one or more of the following conditions:

- The access is along a low-volume, low-speed, and low-functional classification of roadway.
- The access aligns with existing access on the opposite side of the roadway.
- Site design constraints prevent an alternative access configuration.
- Restricted access would cause significant re-routing or U-turn issues.

2.2.2 Restricted Access

Restricted access refers to an access or access configuration that limits vehicular movements to a property and may be recommended by NDOT. Restricted access should be applied when one or more of the following conditions apply:

- The access is located on a higher-speed, higher-volume roadway.
- The access falls within the functional area of an intersection.
- Spacing from adjacent access points is insufficient.
- Left-turn movements cross multiple travel lanes.
- Sight distance is inadequate for safe turning maneuvers.
- Significant pedestrian and bicyclist traffic traverses the access point.
- The access is located on Transit Corridors.

Access restriction is generally accomplished through driveway channelization features, roadway median treatments, or shared access. Access on a one-way street is also considered restricted access, as the full range of vehicle movements is not permitted.

Right-In Right-Out Design

A Right-In Right-Out (RIRO) driveway restricts vehicle movements to right turns only, eliminating left-turn maneuvers when entering and exiting the driveway **(Figure 2-1)**[19]. By significantly reducing conflict points compared to full-access driveways, RIRO configurations enhance safety and improve traffic flow, particularly on high-volume arterials.

RIRO driveways should only be placed where a nontraversable median in the roadway prevents left-turning vehicles from violating the access restriction. If a nontraversable median is not present in the roadway and a RIRO driveway is to be added, a narrow raised landscaped median or vertical delineation (such as flexible pylons[20]) shall be designed in coordination with the NDOT Chief Traffic Engineer and his/her designee to actively discourage left turns from the roadway into a RIRO driveway.

[19] Adapted from TRB Access Management Manual

[20] See *Cost Effective Local Road Safety Planning and Implementation, pages 24-25.* (2011) (ATSSA) 4W3707_Final_Report.pdf

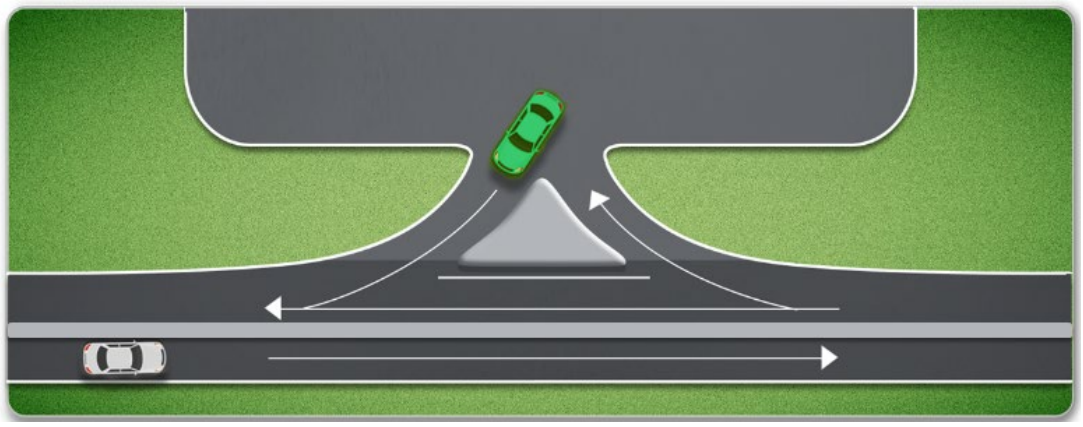

Figure 2-1: *Right-in Right-Out with Nontraversable Median*

Key Design Considerations

While RIRO driveways can be advantageous, their application depends on the roadway's ability to safely facilitate RIRO-only movements and the site's capacity to accommodate this configuration without creating internal circulation challenges. Effective RIRO designs should include:

- **Turn Calming and Hardening:** Especially for interactions with vulnerable road users.
- **Raised Medians or Channelization**: To enforce restricted movements and prevent left-turn conflicts.
- **Clear Signage**: To guide drivers and ensure compliance.
- **Internal Circulation Planning**: Designed to support safe and efficient loading/unloading, pick-up/drop-off activities, and parking access.
- **Driveway Angle:** RIRO driveways should be 60 degrees to the centerline of the roadway but may be reduced to 45 degrees at the discretion of NDOT.

Coordination with the Chief NDOT traffic engineer or his or her designee is required for the design specifications of a RIRO driveway. All RIRO designs require final approval from NDOT.

Provisions for Bicycle Safety

When a RIRO driveway crosses a roadway with bicycle lanes, additional measures are necessary to prioritize cyclist safety and minimize conflicts. Recommended design features include:

- **Enhanced Pavement Markings**: Clearly delineating bike lanes at driveway crossings.
- **Driver Awareness Signage**: Alerting motorists to crossing cyclists.

- **Raised or Colored Bike Lanes**: Increasing visibility and emphasizing priority for cyclists at conflict points. Reference **Chapter 4.1** for more detailed guidance.

One-Way Access Design

One-way driveways, either ingress-only or egress-only, may be an appropriate design choice if traffic patterns, roadway characteristics, safety concerns, or internal site circulation require the separation of ingress and egress movements. Visual cues such as pavement markings and signage should be placed to help drivers understand the intended direction of travel in a one-way driveway. One-way driveways shall be designed in accordance with the latest MUTCD standards. One-way driveways may allow left turning movements.

Right-in Only or Right-out Only

One-way driveways that restrict left-turning movements using channelizing devices similar to RIRO driveways are referred to as either right-in or right-out only. One-way driveways should be right-in only or right-out only when access is on a higher-speed, higher-volume roadway or when the regulations outlined in **Chapter 3 - Access Location** cannot be met. If non-traversable channelization is not present, a narrow raised landscaped median or flexible pylons should be installed in the roadway.

Porte-cochere Access

Porte-cocheres are typically utilized in downtown settings and involve driveway pairs: one ingress-only and one egress-only. For more porte-cochere guidance, see **Chapter 4.4.1**.

Shared and Cross Access

NDOT encourages private property owners to consolidate access along roadways by incorporating inter-parcel connections, particularly when spacing regulations cannot be met. Combining driveways between parcels reduces conflict points, enhances safety, and promotes more efficient roadway operations.

Where the configuration of properties located on arterial streets precludes spacing of driveway access in accordance with the regulations of this Manual due to topography or prior site development layout, the NDOT Chief Traffic Engineer or his/her designee encourages joint access driveways or cross access corridors.

The following standards apply to shared access and cross-access **(Figure 2-2)**:

1. **Shared Access**
    - Wherever feasible, the NDOT Chief Traffic Engineer or his/her designee encourages the establishment of a joint-use driveway (shared access) serving two or more abutting properties.

- If a proposed development abuts an existing development with a joint-use driveway, the proposed development should connect its vehicular circulation to the existing joint access and circulation areas.
- If a proposed development abuts an undeveloped property, it may include a joint-use driveway designed to connect to the adjacent property in the future.

2. **Cross-Access Corridors**
    - The NDOT Chief Traffic Engineer or his/her designee may designate cross-access corridors for properties on arterials and other corridors based on engineering judgment.
    - Developments within these corridors must be designed with coordinated parking, access, and circulation systems to support shared use.
    - Cross-access designations must be recorded on subdivision plats.
    - If a development within the cross-access corridor abuts an existing developed property outside the designated corridor but includes a joint access driveway, NDOT may require that the new development ties into the existing access and circulation system.
3. **Recording Easements**
    - Site plans that include cross-access corridors or joint-use driveways must grant an easement for access to and from abutting properties.
    - This easement must be landfilled with the Office of the Metropolitan Clerk.
4. **Closing of Interim Driveways**
    - Once a permanent joint-use driveway or cross-access easement is constructed, all interim driveways shall be closed and removed.
    - Property owners shall enter into a written agreement with the metropolitan government, recorded in the public records, to ensure the closure of interim driveways upon completion of the joint-use driveway.

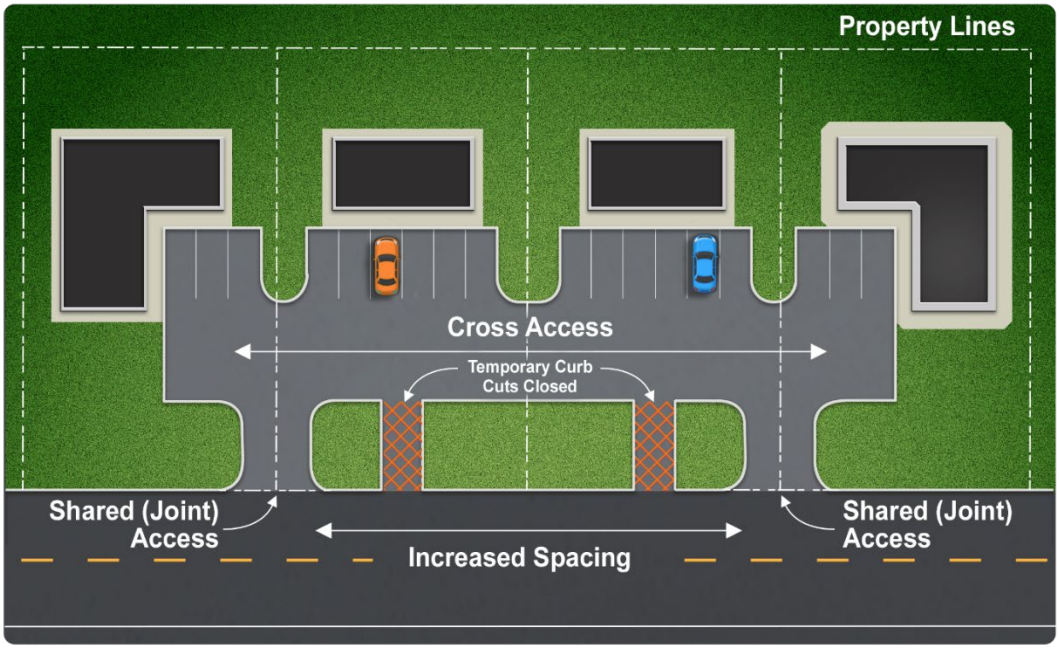

Figure 2-2: *Joint (Shared) Access and Cross Access*

2.3 Access Design for Roadways with Median Treatments and Auxiliary Lanes

Roadway elements such as medians, two-way left-turn lanes (TWLTLs), and auxiliary lanes play a critical role in access design. These elements influence how vehicles enter and exit driveways, affect traffic flow, and contribute to overall roadway safety. Properly designed access to roadways with these elements helps minimize conflicts, reduce delays, and enhance operational efficiency.

2.3.1 Non-Traversable Medians

A non-traversable median is a physical barrier, such as a concrete divider or landscaped island, that separates opposing traffic flows. These medians are commonly implemented on arterial-boulevards and arterial-parkways to enhance roadway safety and manage traffic operations. Medians can also be implemented as a traffic calming or road diet measure.

Types of Medians

Medians can be designed to allow varying levels of access while improving safety and operational performance. The types of medians include:

1. **No Opening**:
    - Restricts driveway access to **right-in/right-out (RIRO)** movements only.
    - Eliminates left-turn and crossing-through maneuvers, maximizing safety.

2. **Median Crossover, No Left Turn Bay**:
    - Allows all left-turn and crossing-through maneuvers.
    - Typically involves higher conflict points and requires careful consideration.
3. **Median Crossover, Left Turn Bay:**
    - Allows all left turn and crossing maneuvers, but the addition of a left turn bay channelizes turning movements.
4. **Median Crossover, Directional Left-Turn Bay**:
    - Permits left-turn movements from one or both sides of the roadway.
    - Eliminates crossing-through maneuvers, reducing conflict points.
5. **Two-Way Left-Turn Lane:**
    - Traversable median that allows all left turn and crossing maneuvers.

Figure 2-3 illustrates these types of medians.

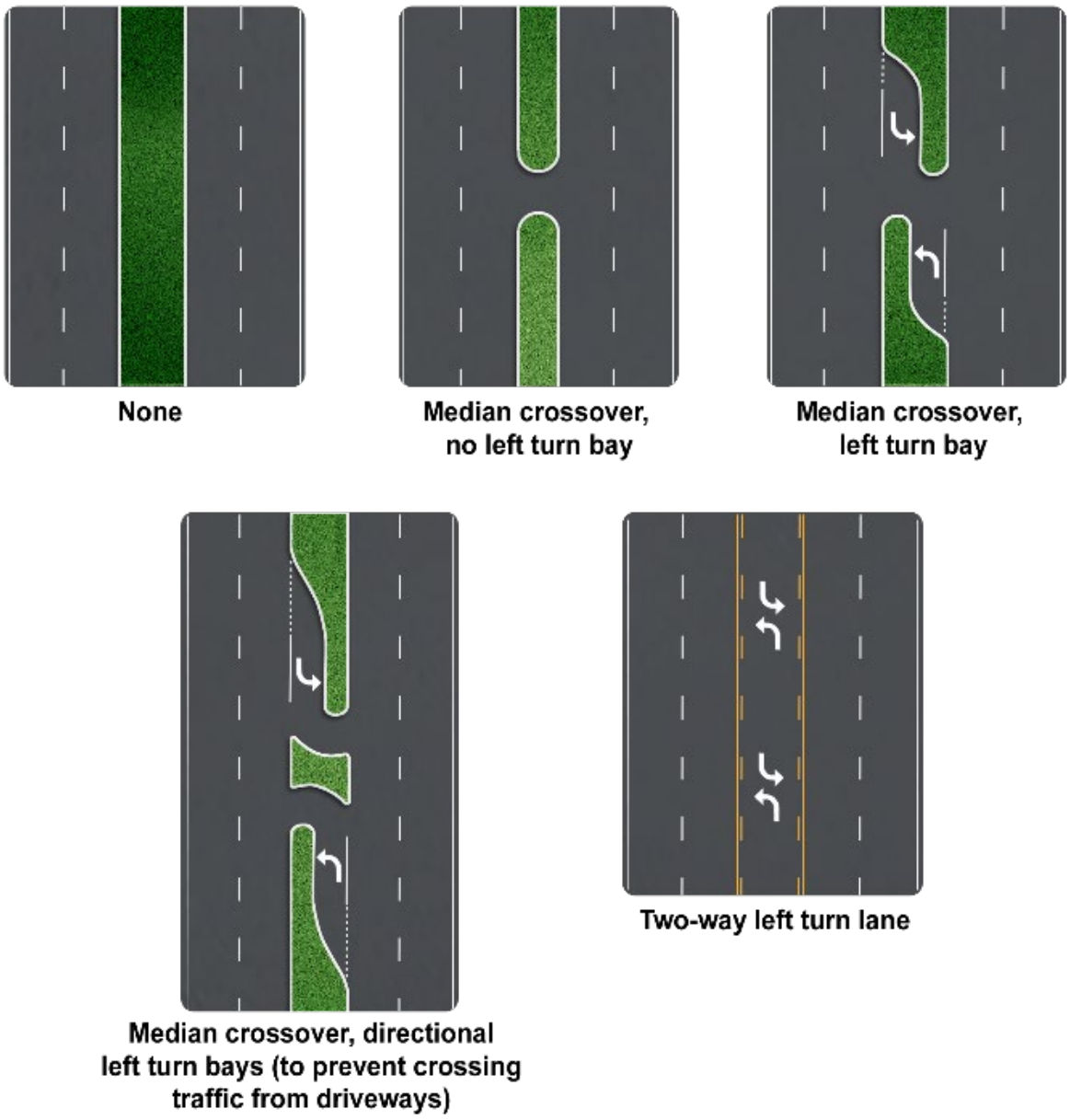

Figure 2-3: *Types of Medians*

Requesting and Modifying Median Openings

The creation or modification of a median opening may be requested to support development access. Decisions regarding such modifications are determined by the NDOT Chief Traffic Engineer or his/her designee and are based on Multimodal Transportation Studies (MMTAs), safety analysis, and site-specific needs.

NDOT retains the authority to install or modify medians and median openings as part of broader roadway plans. These decisions ensure that access modifications align with safety standards and the overall performance goals of the roadway network.

2.3.2 Two-Way Left-Turn Lanes

Two-Way Left-Turn Lanes (TWLTLs) facilitate crossing-through movements and left-turns from both sides of the roadway. These lanes are a common feature on **arterial-boulevards** and **collector-avenues**.

While TWLTLs can enhance accessibility and reduce the need for U-turns, they also introduce additional conflict points, particularly in high-traffic environments. This necessitates careful planning and design of access to roadways with a TWLTL to balance convenience and safety.

Access Design Considerations for TWLTLs

When designing access on roadways with a TWLTL, consider the following:

1. **Driveway Offset and Alignment**
    - Align driveways directly across the street or ensure sufficient offset distance to prevent adverse jog maneuvers.
    - See **Chapter 3.2.3 – Access Alignment on Opposite Sides of the Roadway** for guidance on driveway alignment and offset.
2. **Sight Distance**
    - Ensure that vehicles exiting driveways have adequate sight distance. With a TWLTL, left-turning vehicles must judge gaps in traffic from both directions, requiring clear visibility to prevent collisions.
    - See **Chapter 2.4.9 – Sight Distance Regulations** for more guidance on sight distance.
3. **Left-Turn Volume**
    - A driveway experiencing heavy left-turn volumes may warrant additional design features, such as channelization or driveway restrictions, to safely manage traffic flow.
    - See **Chapter 2.2.2 – Restricted Access** for further guidance.
4. **Queuing**
    - Access design should account for the possibility of queuing in the TWLTL, especially in areas with high left turn demand. Adequate driveway throat length prevents vehicles from backing up into the main roadway while waiting to turn.
    - See **Chapter 2.4.2 – Driveway Throat Length** for further guidance.

2.3.3 Auxiliary Lanes

Driveways shall not cross auxiliary lanes such as right-turn lanes, acceleration lanes, and deceleration lanes.

Right-turn lanes and acceleration lanes may be warranted for signalized driveways at the discretion of the NDOT traffic engineer. Supporting lane warrant analyses may be required as well.

2.4 Driveway Geometrics

This chapter defines the key driveway geometrics to consider when designing appropriate access. Driveway geometrics may be modified to improve safety or accommodate specific land uses, roadway classifications, traffic volumes, traffic speeds, and vehicle types.

2.4.1 Driveway Width

Driveway width is a function of the physical space required to accommodate all driveway users. Driveway width accounts for the number of lanes, the widths of those lanes, the presence and width of a median in the driveway, and the needs of motorized, pedestrian, and bicycle traffic. The number of lanes is dependent on the findings of a traffic analysis. **Table 2-1** provides the minimum and maximum driveway widths per **NDOT Engineering Specifications ST-322, ST-323, ST-324, and ST-325**. The total driveway width shall not exceed 40% of the property length at which the driveways shall be located. The use of open curb cuts and head-in parking is not permitted.

Table 2-1: *Driveway Width Regulations*

Driveway Type	Minimum	Maximum
Single- and Two-Family Residential	15’*	22’
Multifamily and Commercial	15’	35’
Industrial	15’	35’

*On lots where 15’ is greater than 40% of the total lot frontage, the minimum driveway width shall be 12’.

2.4.2 Driveway Throat Length

Driveway throat length is the distance between the street ROW and the nearest vehicle turning movement (internal driveway, drive-thru queue space, or parking space). The depth of throat length must be sufficient to allow on-site storage of vehicles to prevent “spillback” onto public streets or into site parking areas. Throat length must also be sufficient to allow users to react to conflicts ahead. Driveway throat length shall be a minimum of 20 feet for parking areas with 10 or more spaces.

2.4.3 Curb Ramp Grade

The driveway curb ramp grade shall not exceed 1:96 vertical:horizontal (1/8 inch per foot), per **NDOT Engineering Specifications ST-322, ST-323, ST-324, and ST-325**.

2.4.4 Curb Ramp Cross Slope

The driveway curb ramp cross slope shall not exceed 1:48 vertical:horizontal (1/16 inch per foot), per **NDOT Engineering Specifications ST-322, ST-323, ST-324, and ST-325**.

2.4.5 Driveway Aprons and Curb Ramps

A driveway apron is the portion of a driveway that connects to the street and is sloped to allow vehicles to transition smoothly from the roadway to the driveway. Driveway apron construction shall be guided by **NDOT Engineering Specifications ST-322, ST-323, ST-324, and ST-325**.

All driveways shall include a paved apron constructed of a hard surface material. The apron must extend:

- From the edge of the street pavement or the back edge of the sidewalk (if present),
- To the edge of the right-of-way or ten feet, whichever is greater.

If the distance between the street pavement or sidewalk and the edge of the right-of-way exceeds ten feet, the NDOT Chief Traffic Engineer or his/her designee is authorized to approve an alternate apron design.

The design and construction of the driveway apron must ensure that it does not impede any drainage way, maintaining proper stormwater flow and avoiding localized flooding. This is intended to ensure safe, durable access to private properties while preserving the functionality of the roadway and surrounding infrastructure.

2.4.6 Driveway Angle

The angle at which a driveway connects to the roadway influences the speed at which drivers will complete their turning movement.

- Driveways for two-way operation shall be 90 degrees to the centerline of the roadway.
- RIRO driveways should be 60 degrees to the centerline of the roadway but may be reduced to 45 degrees at the discretion of NDOT.

2.4.7 Driveway Curve Radius

Where space permits, the curve radius between the edge of the travel lane and the edge of the driveway shall be large enough to accommodate the largest vehicle expected to

frequently use the driveway, also known as the *design vehicle*. The maximum curve radius shall not exceed 20 feet, except when larger curb radii is required to accommodate large vehicle movements, as determined by the NDOT traffic engineer or his/her designee. See **Figure 2-4** for an illustration of this parameter.

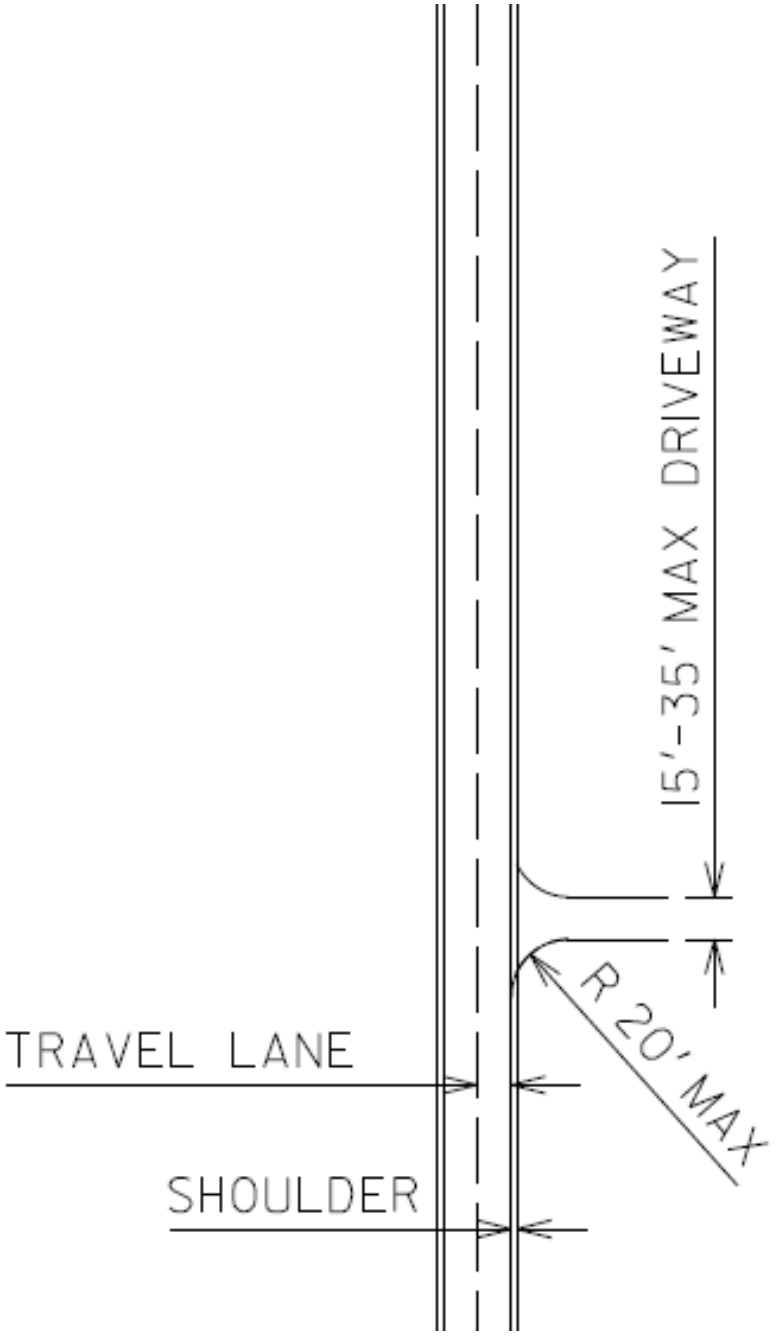

Figure 2-4: *Driveway Curve Radius - Connection to Outer Travel Lane*

Where there is on-street parking, the curve radius shall be measured from the edge of the travel lane to the edge of the driveway, as shown in **Figure 2-5**.

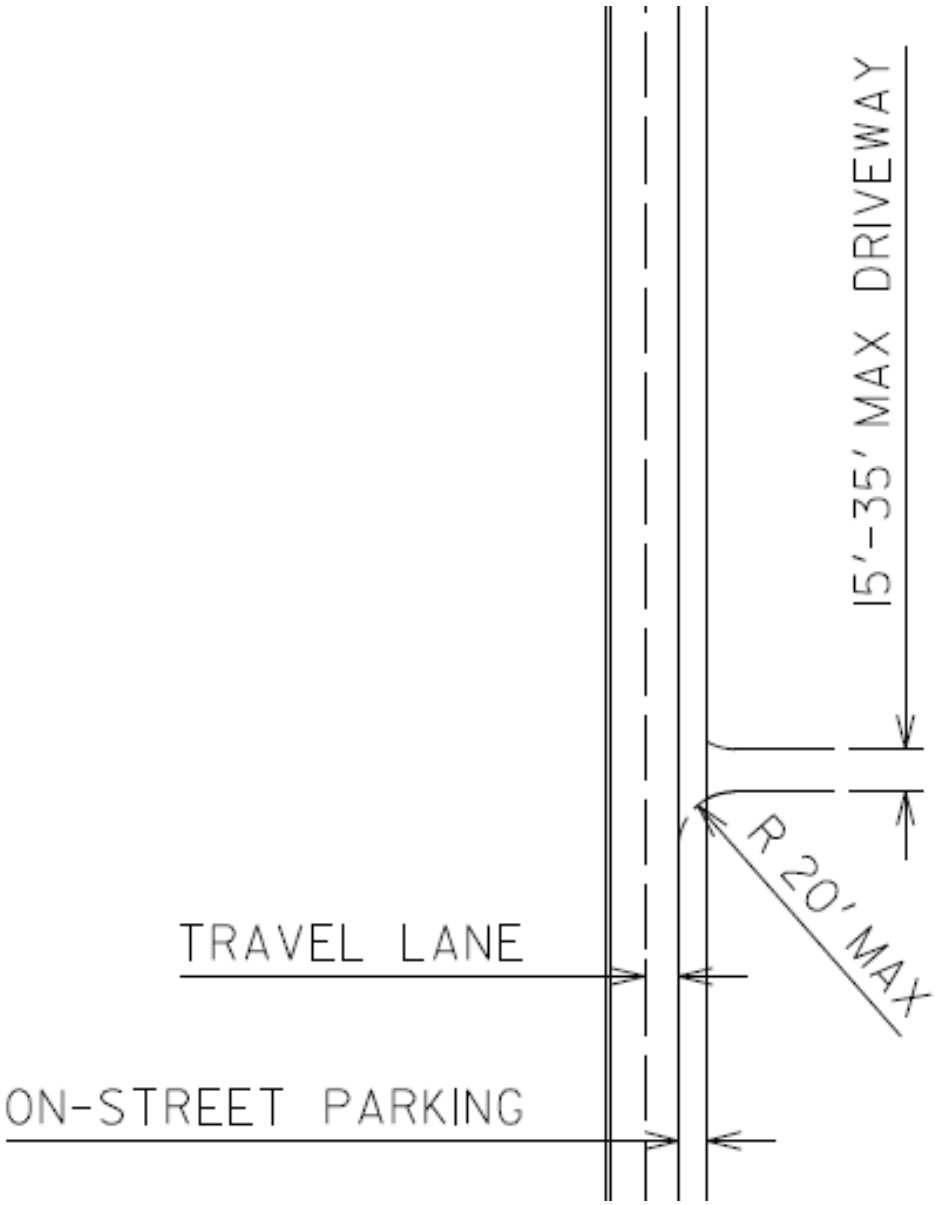

Figure 2-5: *Driveway Curve Radius with On-Street Parking*

Minimum turning radii of design vehicles are provided in Table 2-5a of AASHTO's **A Policy on Geometric Design of Highways and Streets**. An excerpt of this table is shown in **Table 2-2.** NDOT typically requires that driveways can accommodate the turning movements of an intermediate semi-trailer (WB-40), but design vehicles regulations vary depending on the land use served by the driveway.

Table 2-2: *Design Vehicle Turning Radii (AASHTO 2018)*

Design Vehicle Type	Passenger Car	Single-Unit Truck	City Transit Bus	Conventional School Bus (65 passenger)	Intermediate Semi-Trailer
Symbol	P	SU-30	CITY-BUS	S-BUS40	WB-40
Minimum Design Turning Radius (ft)	23.8	41.8	41.6	39.1	39.9

2.4.8 Driveway Visibility - Obstructions

To ensure safe and efficient traffic operations, NDOT enforces driveway visibility standards designed to prevent obstructions, enhance driveway identification, and improve overall roadway safety.

It is unlawful to place or maintain any sign, vegetation, or structure that interferes with traffic visibility under the following conditions:

1. On private property within thirty-five feet of any street intersection so as to interfere with traffic visibility at the intersection and at no time higher than thirty inches above the crown of the adjacent roadway;
2. On private property in such a manner as to interfere with traffic visibility of any driver using an authorized driveway, alley or roadway;
3. Within the right-of-way of any street within the area of the metropolitan government, unless granted by NDOT.

Development within the urban zoning overlay (UZO) district and in the DTC, CF, CF-NS, MUI, and MUI-NS districts may be exempt from this provision. Any person violating any of these provisions shall be notified by NDOT that the offending sight restriction shall be removed within fifteen days after notification. If the sight restriction is not removed within fifteen days after notification, NDOT shall remove said sight restriction, either with metro forces or by normal metro contract procedures. The property owner shall be responsible for any expenses incurred by metropolitan government in removing the restriction(s) and those expenses shall be recoverable in an action brought by the metropolitan government.

2.4.9 Sight Distance Regulations

For commercial, multi-family, and mixed-use developments, Access Design shall meet sight distance regulations, such as stopping sight distance and intersection sight distance. Reference the latest edition of *A Policy on Geometric Design of Highways and Streets*

(AASHTO) for appropriate sight distance criteria. Coordination with the NDOT Chief traffic engineer or his/her designee is required when sight distance cannot be met.

2.4.10 Other Design Regulations

The following standards shall be required where applicable:

- **Side Property Line –** The distance between the driveway at the curbline and the side property line shall not be more than 4 feet.
- **Buffer Strip –** A buffer strip, at least 4 feet wide, must be provided on private property parallel to and adjoining the public right-of-way. This strip is intended to prevent parked vehicles from encroaching on the right-of-way. The buffer strip should extend along the entire length of the property frontage where parking is permitted. It must include a physical barrier, such as a curb or wheel stop, positioned next to the parking area, at a height between 8 inches and 36 inches.
- **Clearance of Obstructions –** Driveways shall be constructed to clear utility poles, light standards, drainage structures, signs, traffic-control device, fire hydrants and other similar installations, or such facilities shall be relocated at the expense of the property owner or lessee in conjunction with the owners or operating authorities of the facilities affected.

3. ACCESS LOCATION

This chapter provides guidance on the proper placement of driveways between private property and the public right-of-way. Each driveway must integrate with the complex characteristics of the surrounding area, such as unique traffic patterns, roadway geometries, multimodal infrastructure, and land uses. This chapter addresses the following key questions:

- What are the governing principles of access location?
- Which access spacing dimensions are defined in the Metro Code?
- What are the best practices for providing access to streets in Davidson County?

The guidance provided in this chapter outlines access location best practices that preserve safety and support the desired function of the roadway network.

3.1 Access Location Principles

All driveways are intended to provide **safe, reasonable, and efficient access** to private property while maintaining roadway functionality. A properly located driveway integrates seamlessly into the roadway network, minimizing congestion and collision risks.

When planning a new driveway, three key access location principles must be considered while maintaining reasonable access for property owners. These principles include:

1. **Roadway Functional Classification:** Access shall be avoided on high functional classification roadways where possible.
2. **Intersection Functional Area:** Access shall be avoided within the intersection functional area.
3. **Access Conflict Area:** New access points shall not be placed near existing access points if possible.

3.1.1 Roadway Functional Classification

Roadways are classified based on their intended function and the balance between mobility and access they provide within the transportation network.

Roadways with a higher functional classification—such as arterials—are higher-speed, higher-volume corridors that prioritize mobility over access. Introducing driveways on these roadways increases conflict points and shall be avoided. In contrast, driveways are better suited to lower-functional-classification roadways, such as collectors, local streets, or alleys, where lower speeds and traffic volumes provide a safer environment.

Within Davidson County, the roadway functional classification system includes the following types of roadways:

1. **Arterial:** Higher-speed, higher-volume roadways that facilitate longer trips within the city.
2. **Collector:** Medium-volume roadways that provide circulation within and between neighborhoods.
3. **Local:** Low-speed, low-volume roadways that provide direct access to individual properties.
4. **Alleys:** A street intended to provide access to the rear or side of lots or buildings in urban districts and not intended for the purpose of through vehicular traffic.

Each category is further subdivided based on roadway characteristics, as summarized in **Table 3-1**.

Table 3-1: *Roadway Functional Classification System*

Functional Classification	Description	Operational Characteristics	Access Characteristics
Arterial-Parkway*	Facilitates cross-town trips; separates vehicles from pedestrians and bicyclists.	Higher-speed; higher-volume	Limited access; no direct driveway access.
Arterial-Boulevard	Serves longer trips within and between communities.	Medium- to higher-speed; higher-volume	Balances access and mobility; access primarily via alleys or side streets.
Collector-Avenue	Provides circulation within and between neighborhoods.	Low-speed; low- to medium-volume	Prioritizes access over mobility; access via alleys, side streets, or driveways.
Local Street	Primarily provides access to adjacent properties; serves short trips.	Low-speed; low-volume	Prioritizes access over mobility; access via alleys or driveways.
Alleys	Provides access to the rear or side of lots or to buildings in urban districts.	Low-speed; Not intended for through traffic	Primary function is access; limited through mobility

**Note: Arterial-Parkways are not addressed in this Manual due to their function as limited access roadways that do not allow driveway access.*

Alley Access Regulation

Alleys serve an important function within the transportation network, providing access to parcels away from higher-speed, higher-volume roads. Where alley access is available, access shall be placed on the alley. (**Figure 3-1**)[21].

Figure 3-1: *Commercial Alley Access*

Balancing Mobility and Access

Access management is key to achieving the desired balance of access and mobility for each roadway classification. Arterial-Parkways, for instance, require strict access controls to ensure safe, higher-speed travel over long distances. Conversely, local streets provide frequent and direct property access.

Figure 3-2 illustrates the relationship between access and mobility across different roadway classifications, emphasizing how access management strategies align with functional goals.

[21] Adapted from NACTO Urban Street Design Guide

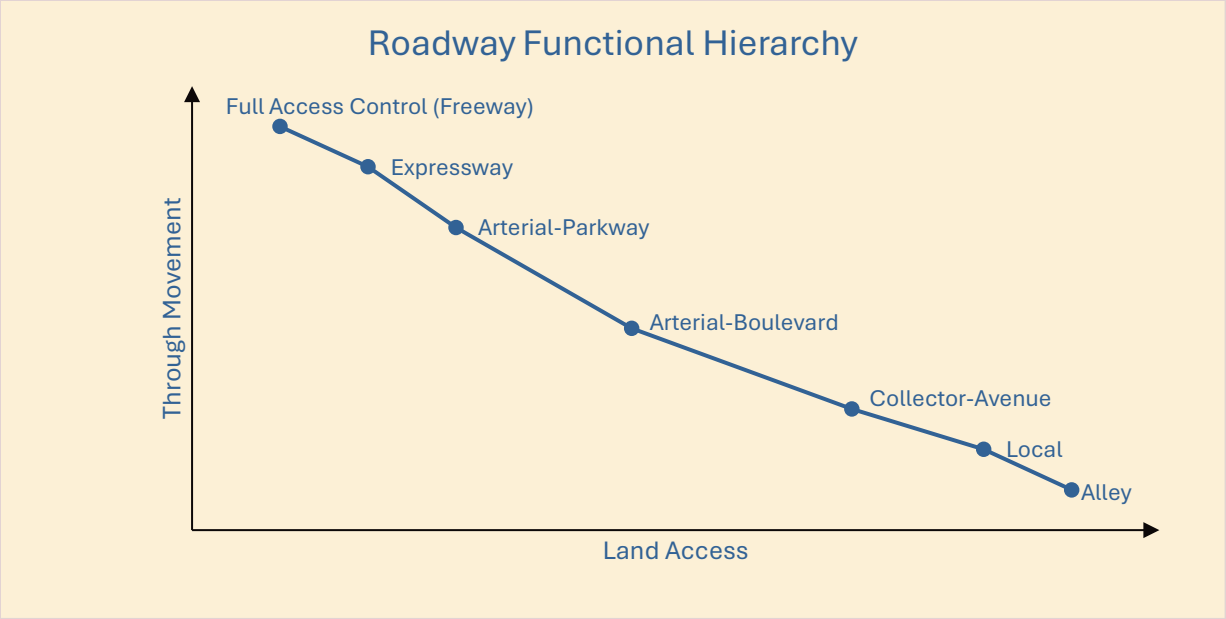

Figure 3-2: *Roadway Functional Hierarchy*

This Manual aims to facilitate the appropriate balance of mobility and access across the spectrum of roadway functional classifications through the strategic placement and design of driveways.

3.1.2 Intersection Functional Area

Intersections introduce numerous conflict points and are a common location for roadway collisions. The **intersection functional area** encompasses the physical intersection as well as the upstream and downstream areas critical for efficient traffic operations. This includes storage lengths for queuing vehicles and maneuvering distances required for through lanes and designated turn lanes. Within this area, motorists must remain especially vigilant to safely respond to traffic maneuvers.

Figure 3-3[22] illustrates the extent of the intersection functional area.

[22] Adapted from TRB Access Management Manual

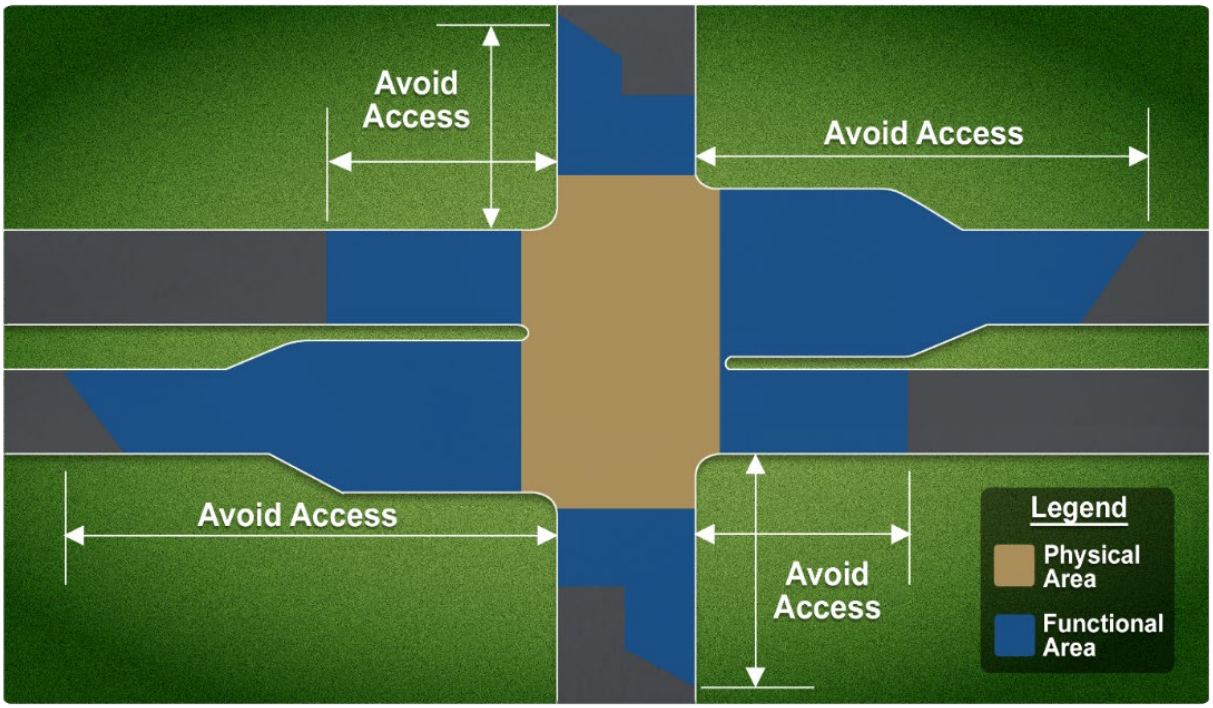

Figure 3-3: *Intersection Functional Area*

A driveway within the intersection functional area leads to complex driving environments for motorists and increases the risk of collisions and unsafe driving behavior.

Key Features of the Intersection Functional Area

The extent of the functional area typically includes the following roadway features:

- Acceleration lanes
- Deceleration lanes
- Lane taper
- Merge lane
- Exclusive right-turn lanes
- Exclusive left-turn lanes
- Bikeways/bike facilities
- Transit stops
- Pedestrian Crossings

Managing Access Within the Intersection Functional Area

Whenever possible, access points shall be located outside the intersection functional area to preserve safety and operational efficiency. However, if access within this area is

unavoidable, countermeasures shall be employed to mitigate negative impacts on traffic flow and safety. Recommended measures include:

- **Restricted access**
- **Enhanced visibility** for all users

3.1.3 Access Conflict Area

Similar to the intersection functional area, the **access conflict area** encompasses the driveway location, the portion of the roadway required for decision and maneuvering distances, and the vehicle storage length necessary to serve the driveway **(Figure 3-4)**. At each conflict area, all users must safely perceive and react to vehicular movements. Closely spaced driveways reduce drivers' visibility and require faster reactions, creating a more complex driving environment. This increases the density of conflict areas, which exacerbates collision risks and compromises roadway safety.

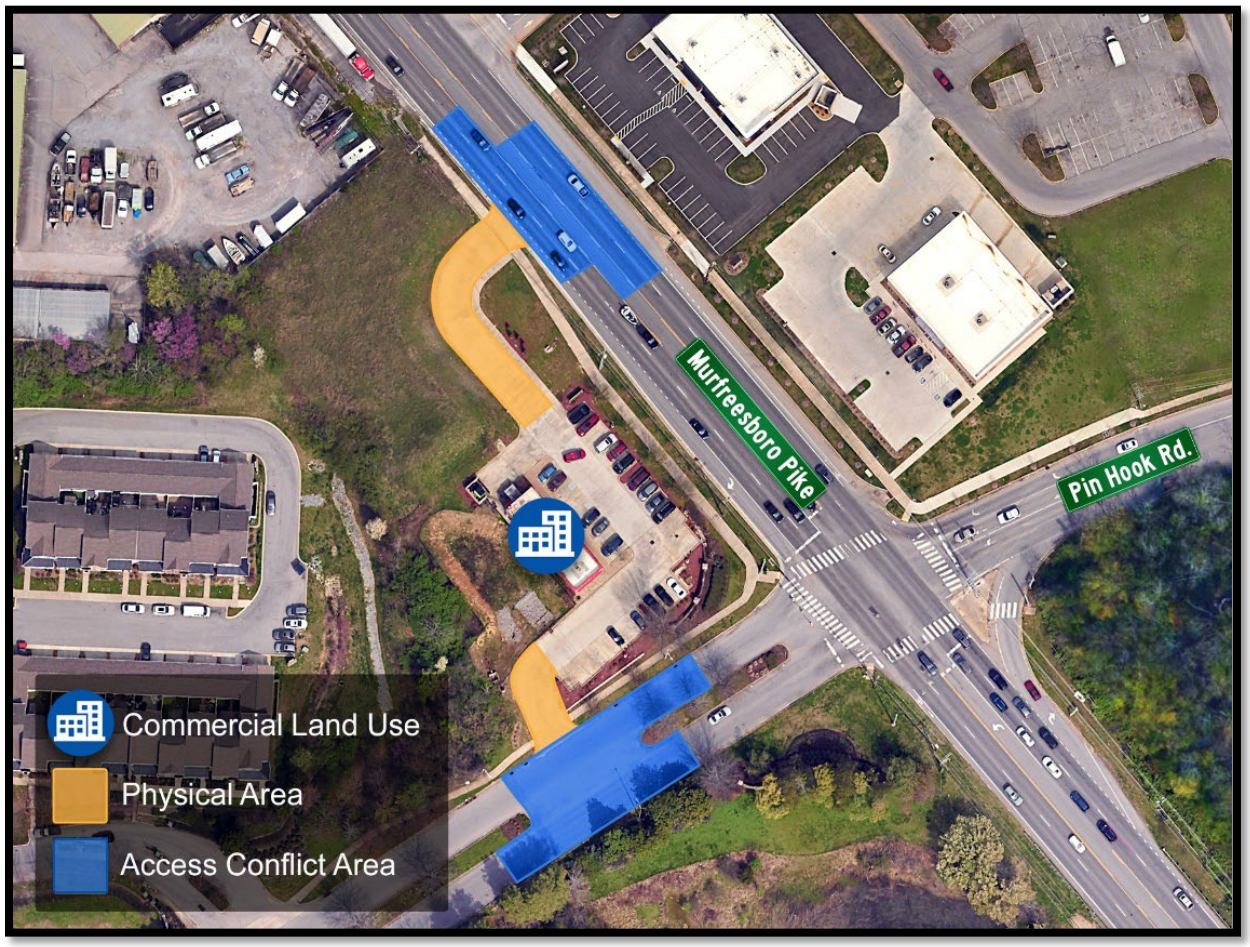

Figure 3-4: *Access Conflict Area Illustrated on Access Points in Davidson County*

3.2 Access Location Standards

This section defines the access location standards that shall be required of all new and infill land development constructed at or after the time of this Manual's implementation.

Each standard defined in this section is enforced by the Metropolitan Code of Laws. If a proposed access to private property does not comply with the access dimension standards, an access waiver form shall be completed and approved by NDOT. The access waiver process is described in **Chapter 5.2 - Access Waiver Form.**

3.2.1 Access per Frontage Length on Arterials

On arterials, NDOT allows one entrance to a single property, not including required emergency accesses.

When the need for additional driveways is demonstrated through a traffic study, NDOT may grant an exception to the one driveway policy on arterials based on lot frontage, as shown in **Table 3-2**.

Table 3-2: *Maximum Number of Driveways per Frontage Length on Arterials*

Lot Frontage	Max Number of Driveways*
0 to 149'	1
150' to 299'	2
Each additional 300'	1

**The maximum number of driveways per lot on an arterial is one (1), excluding any required emergency access points, unless an exception is granted by NDOT.*

Driveways located along a single lot frontage shall meet minimum access spacing regulations, including both corner clearance and spacing between driveways.

3.2.2 Access-to-Access Spacing

Access-to-Access spacing is measured along the right-of-way line, starting from the nearest points where the driveways intersect the right-of-way, as shown in **Figure 3-5**.

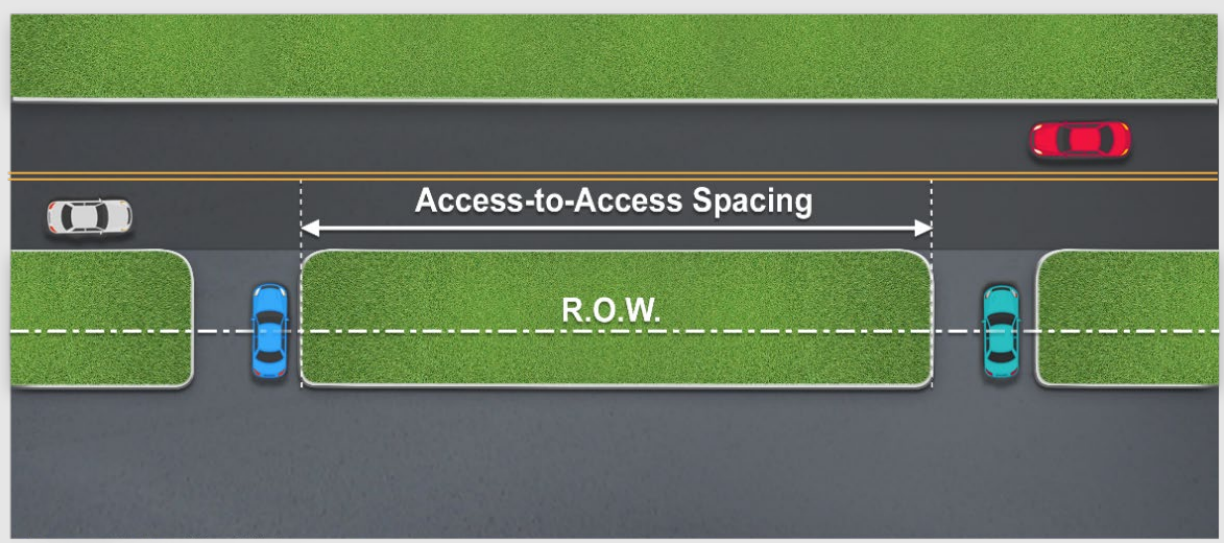

Figure 3-5: *Access-to-Access Spacing*

Minimum spacing between two adjacent access points is based on roadway functional classification and access type. The minimum spacing for single-family and two-family residential driveways shall follow the standards outlined in **Table 3-3**. The spacing standards for all other land uses shall follow **Table 3-4**. For non-SF/2F land uses, spacing between full-access driveways on arterial-boulevards shall meet stopping sight distance as defined in the AASHTO *A Policy on Geometric Design of Highways and Streets* (2018) and shown in **Tables 3-5 and 3-6**. Spacing standards for restricted access and access on collector-avenues and local streets were developed through the review of peer cities, best practice resources, and the local roadway network. For more information regarding the resources used to develop this Manual, see **Chapter 1.5 – Primary Sources**.

Table 3-3: *Minimum Spacing of Driveways (Same Side of Roadway, SF/2F Residential)*

Street Classification	Minimum Spacing (ft)
Arterial Boulevard	30’*
Collector Avenue	30’
Local Street	25’

** Access to SF/2F residences shall not be placed on arterials where an alternative access location is available.*

Table 3-4: Minimum Spacing of Driveways (Same Side of Roadway, Non-SF/2F)

Street Classification	Access Type	
	Full Access	Restricted Access**
Arterial Boulevard	SSD*	100’
Collector Avenue	100’	30’
Local Street	75’	30’

**See Table 3-5 for stopping sight distance on level roadways and Table 3-6 for stopping sight distance on grades. **See Chapter 2.2.2.*

Table 3-5: Stopping Sight Distance on Level Roadways

Design Speed (mph)	Stopping Sight Distance (ft)
15	80
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495

Table 3-6: Stopping Sight Distance on Grades

Design Speed Design Speed (mph)	Stopping Sight Distance (ft)					
	-3%	-6%	-9%	+3%	+6%	+9%
15	80	82	85	75	74	73
20	116	120	126	109	107	104
25	158	165	173	147	143	140
30	205	215	227	200	184	179
35	257	271	287	237	229	222
40	315	333	354	289	278	269
45	378	400	427	344	331	320
50	446	474	507	405	388	375
55	520	553	593	469	450	433

When access spacing regulations cannot be met, and alley access is unavailable, access design shall restrict left-turning movements to eliminate high-risk conflict points.

Restricted access points include the following:

- RIRO driveways
- One-way driveways
- Right-in only or right-out only driveway
- Shared driveways
- Access on roadways with a nontraversable median
- Access on one-way roadways

See **Chapter 2.2.2** for further details regarding restricted access.

3.2.3 Access Alignment on Opposite Sides of the Roadway

Access connections on opposite sides of the roadway present unique challenges for access management. Opposite access points shall be directly across from each other with aligned centerlines, or distant enough from one another to prevent conflicts.

Closely spaced offset driveways result in adverse jog maneuvers **(Figure 3-6)**, especially at high speeds. Adequate offset distance allows for distinct turning movements, which results in a safer alternative for roadway users. Two-way left-turn lanes (TWLTL) can facilitate jog maneuvers, but closely spaced offset driveways should still be avoided where a TWLTL is present. See **Chapter 2.3.2 – Two-Way Left-Turn Lanes** for more information about access and TWLTLs.

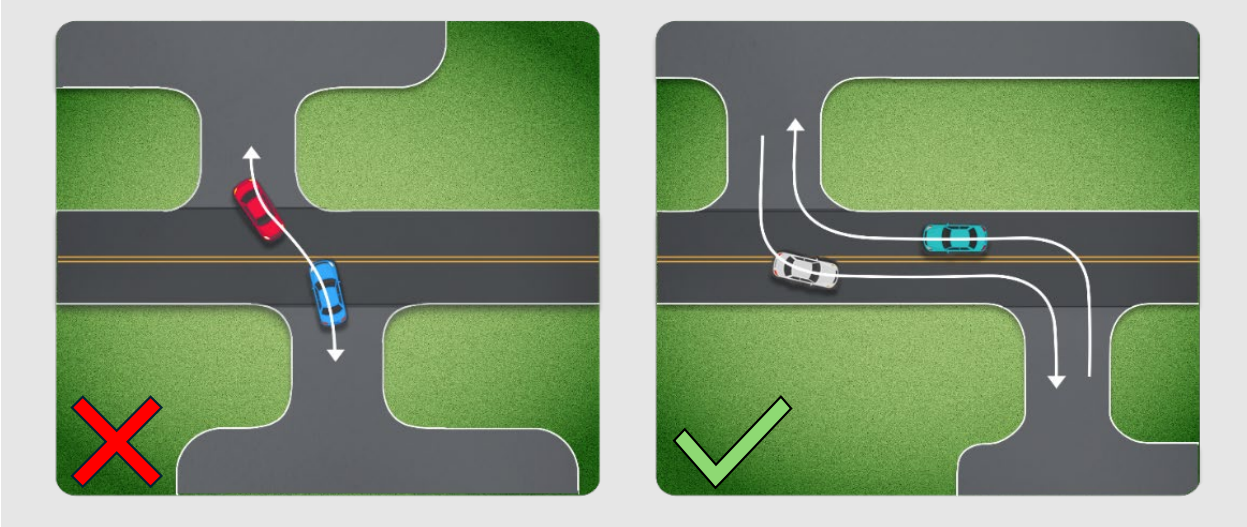

Figure 3-6: *Closely Spaced Access Points Causing an Adverse Jog Maneuver (left) and Preferred Offset Access (right)*

If driveways cannot be aligned, the minimum driveway offset distance shall be 200 feet for arterials and 100 feet for collectors.

Physically restricted access points, such as RIRO driveways with raised channelizing islands or medians, do not require alignment or substantial offset distances, because they are not creating unsafe left-turn conflicts.

3.2.4 Access-to-Intersection Spacing (Corner Clearance)

Corner clearance, or access-to-intersection spacing, is in place to prevent the placement of access points within or near the intersection functional area.

Access-to-intersection spacing is measured from the nearest intersection of the existing right-of-way lines or extensions thereof, as shown in **Figure 3-7**. For streets designated to be widened at a future time by the adopted Major and Collector Street Plan, measurement shall be made from the future right-of-way lines.

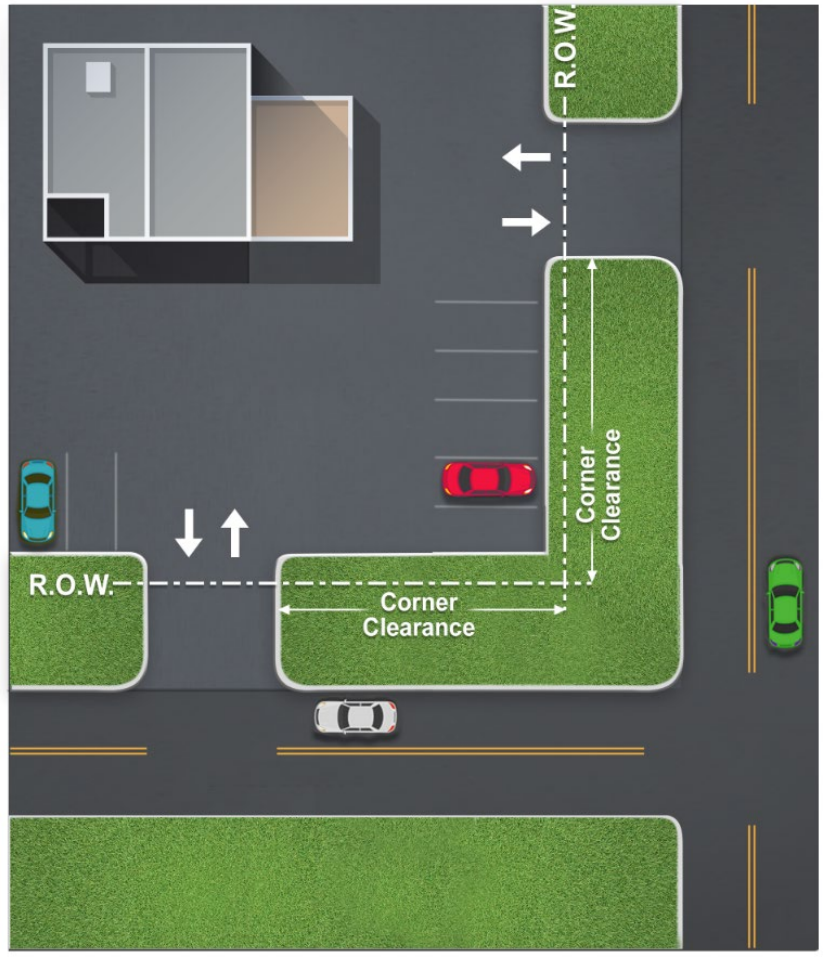

Figure 3-7: *Illustration of Corner Clearance*

For single-family and two-family land uses, the required corner clearance distances shall follow **Table 3-7**.

Table 3-7: Single-Family and Two-Family Corner Clearance Regulations

Classification of Road to be Accessed by Driveway	Minimum Corner Clearance
Local	15’
Collector Avenue	50’
Arterial Boulevard	185’

For driveways serving land uses other than single-family or two-family residences, the minimum corner clearance shall be the greater of the distances specified in **Table 3-8** or the full extent of the intersection’s functional area. See **Chapter 3.1.2 – Intersection Functional Area** for more information.

The corner clearance regulations in **Table 3-8** are based on the classification of the road to be accessed by a driveway (mainline), and the classification of the intersecting road at the adjacent intersection (cross street).

Table 3-8: Corner Clearance Regulations (Non-SF/2F)

Classification of Cross Street*	Classification of Mainline (Road to be Accessed by Driveway)		
	Arterial-Boulevard	Collector-Avenue	Local Street
Arterial Parkway	200’	150’	100’
Arterial Boulevard	200’	150’	100’
Collector Avenue	150’	100’	50’
Local Street	100’	50’	50’

*Alleyways do not have a minimum spacing standard.

NDOT requires access to be placed outside of the intersection functional area. In cases where the functional area extends beyond the minimum required corner clearance distance shown in **Tables 3-7 and 3-8**, the functional area regulation is the applicable standard.

The maximum number of access points permitted on a corner lot is one full access and one restricted access. Exceptions may be granted for specific land uses.

3.2.5 Access-to-Interchange Spacing

This section only applies to free-flow interchange ramp terminals. For spacing from interchange ramps that are controlled by stop signs or traffic signals, access-to-intersection spacing regulations in **Chapter 3.2.4** shall be applied.

Free-flow ramp terminals require that ramp traffic merges and weaves with through-traffic. Access-to-interchange spacing is measured from the gore point **(Figure 3-8)** of the ramp taper to the nearest point of intersection between the driveway and the existing ROW.

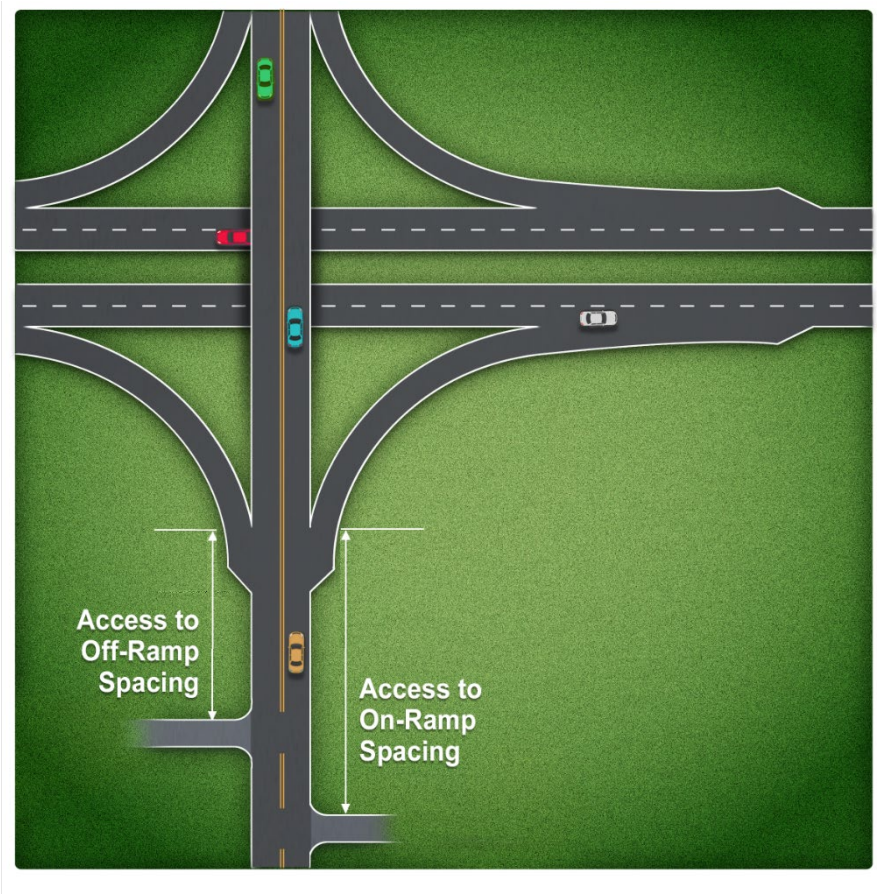

Figure 3-8: *Distance from Interchange to Driveway*

The minimum and desired access spacing regulations at free-flow interchanges shall follow **Table 3-9**. When feasible, the spacing shall be the desired dimension, which is aligned with TDOT guidance. Otherwise, the access-to-interchange spacing shall be at a minimum of 250 feet.

Table 3-9: *Minimum Access Spacing at Free-Flow Interchange Ramp Terminals*

Dimension	Minimum	Desired*
Driveway to Off-Ramp	250’	590’
Driveway to On-Ramp	250’	1,100’

**When the desired spacing is available, it shall be implemented. When it is not available, the closest to the desired spacing distance shall be implemented.*

3.2.6 Access Near Roundabouts

NDOT views roundabouts as a viable and sometimes preferred alternative to signalized intersections. Where roundabouts are used, minimum corner clearance regulations from **Chapter 3.2.4 – Access-to-Intersection Spacing** apply. These values serve as a minimum requirement, but in practice, NDOT prefers driveways to be placed as far from the roundabout as possible. Distances are measured along the right-of-way line from the entry or exit point of the roundabout to the nearest point where the driveway intersects the right-of-way line, as shown in **Figure 3-9**.

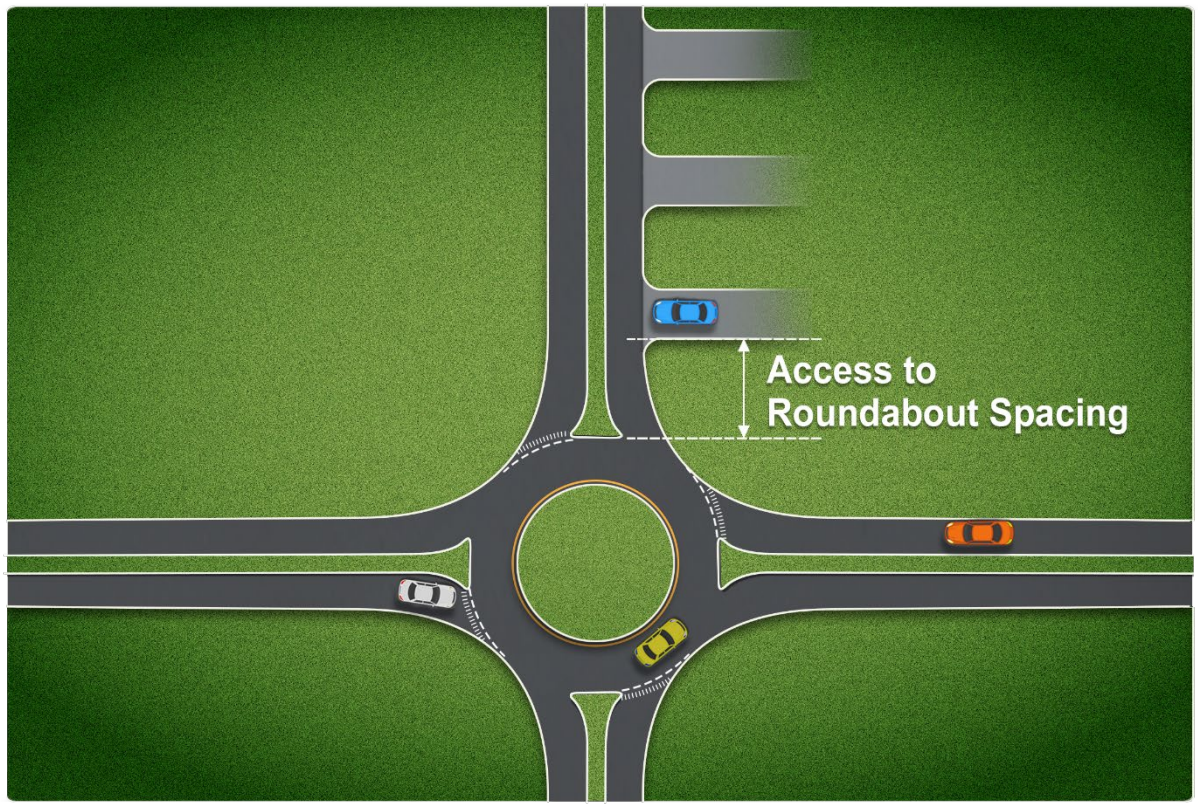

Figure 3-9: *Driveway Distance from Roundabout*

3.2.7 Access Near At-Grade Railroad Crossings

Driveways near railroad crossings should be avoided. If no feasible alternatives exist and a driveway must be located near a public at-grade railroad crossing, the edge of a commercial or industrial driveway shall not be placed between the stop bar and the edge of the railroad track. Additionally, the driveway shall be set back **at least 15 feet from the edge of the railroad track**. Access placed near railroad crossings require coordination with the railroad operating party.

3.2.8 Access Near On-Street Parking

Driveways shall be spaced at least 35 feet from on-street parking to allow for adequate sight distance and meet corner visibility regulations. Pavement markings, signage, or when appropriate, physical delineation, shall be provided between the driveway and on street parking to indicate a no-parking zone.

3.2.9 Emergency Access

If an additional emergency access point is required and it cannot meet the regulations set in this Manual or presents a safety concern, then the access must be gated. See NDOT Engineering Specification ST-324A. Emergency access regulations are set by Nashville Fire Code and Nashville Fire Department and must be approved by Metro Fire Department.

4. MULTIMODAL AND DOWNTOWN REGULATIONS

While access management has traditionally focused on motorized vehicles, it is critical to ensure safe passage and access for bicyclists, pedestrians, and transit users as well. NDOT prioritizes the safety of these multimodal road users and prefers to avoid vehicular access on segments with high multimodal volumes and extensive infrastructure supporting non-vehicular transportation. Vehicle access should be designed to protect vulnerable road users, such as bicyclists, pedestrians, and transit riders commuting to and from bus stops, creating a transportation system that benefits all while ensuring reasonable access for property owners.

4.1 Access Management Guidance for Bicycle Infrastructure

Where access occurs at a signalized intersection as one of the signalized legs, the intersection shall incorporate protected and dedicated intersection elements including, but not limited to curb extensions, bike and/or pedestrian signal phasing, turn calming, conflict markings, and/or raised intersections/crossings. Where a site is unable to provide access at a lower classification street and access is uncontrolled, the access should incorporate raised crossings, turn calming, and conflict markings.

Refer to the MUTCD for bicycle striping standards and NACTO's *Don't Give Up at the Intersection* for further supplemental guidance on the design of access near bicycle lanes. **Table 4-1**[23] provides additional design solutions for common concerns faced by bicyclists at driveways.

Table 4-1: *Design Considerations Related to Bicyclists*

Concern or Issue	Design Response
Bicyclists, motorists in vehicles, and pedestrians need to see each other far enough in advance to avoid collision	• Provide horizontal and vertical alignment that provides an adequate advance view of the driveway intersection. • Do not place anything near the roadway that blocks needed sight lines. • Provide a bicycle lane that enhances operations while improving visibility.

[23] Adapted from the TRB Access Management Manual

Concern or Issue	Design Response
Motorists using the driveway facilities need to drive slower when cyclists are present.	• Apply turn hardening or traffic calming to driveway designs.
Abrupt change in cross slope causes bicyclists to lose balance.	• Where a bicycle path or other similar route crosses a driveway, provide a smooth transition where the bike path cross slope meets the driveway grade.
An abrupt change in surface elevation causes bicyclists to lose control.	• Where a bicyclist could turn into or turn out of a driveway, do not permit abrupt changes in surface elevation that could create bumps for the bicyclist. • Raise the bike lane to sidewalk level through a mountable driveway.
Relatively thin bicycle tires are vulnerable to openings in the surface.	• Do not have any grate openings that a bicycle tire could drop into. (See **NDOT Engineering Specifications ST-506, ST-506a, and ST-506b.**) • Provide bicycle stopping sight distance for 0-ft.-tall objects, so that the bicyclists can always see the pavement surface.

Examples of Access Designed for Bicyclist Safety

A driveway on a roadway segment with bicycle traffic creates conflict points with bicyclists in addition to the standard set of vehicular conflict points. Conflict points with vulnerable road users shall be avoided since collisions with non-motorists are more likely to result in serious or life-threatening injuries.

Access should not be placed across existing or planned bike lanes. Access should be restricted (RIRO) where a driveway must cross a bike lane. **Figure 4-1** shows an example on Old Hickory Boulevard of restricted access crossing a bike lane, providing additional measures of safety for bicyclists and driveway users. Also, the pavement markings shown in **Figure 4-1** alert bicyclists that they are entering a high-conflict zone.

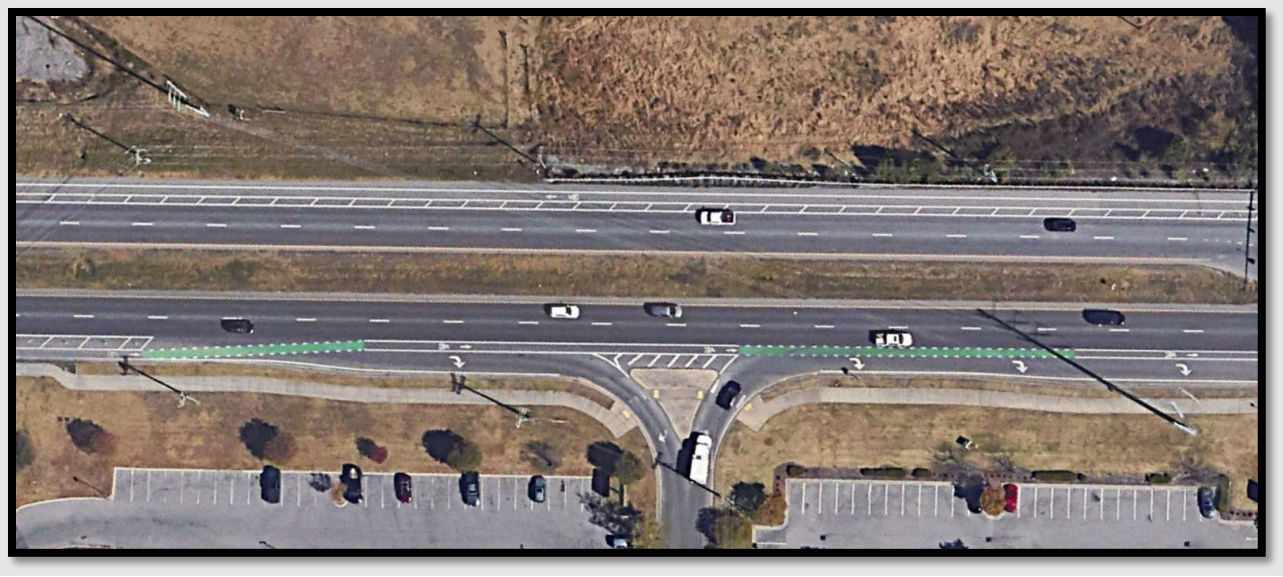

Figure 4-1: *Restricted Access Intersecting a Bike Lane on Old Hickory Boulevard (Nashville, TN)*

Design strategies such as a raised crossing surface on the bike path, painted conflict markings, vegetative buffers, or additional signage should be used to increase bicycle safety while crossing driveways. **Figure 4-2** shows bike lanes on 12th Avenue South that include green pavement markings at driveway crossings and vegetative buffers for an additional measure of protection.

Figure 4-2: *Bike Lanes on 12th Avenue South Featuring Green Pavement Markings at Driveway Crossings and Vegetative Buffers (Nashville, TN)*

4.2 Access Management Guidance for Pedestrian Infrastructure

Where access connections interact with pedestrian facilities, such as sidewalks, it is important to ensure that the design promotes seamless integration and safety for pedestrians. This includes considering factors such as visibility, signage, maintenance, and accessibility to create a cohesive and user-friendly experience. All driveways crossing sidewalks shall be designed in compliance with the latest PROWAG and ADA standards.

The following information should be addressed where applicable:

- Design of pedestrian facilities in driveways shall follow **NDOT Engineering Specifications ST-322, ST-323, ST-324, and ST-325**.
- For driveways with raised channelized islands, the island should be at least 6 feet in width and have flat area for pedestrians in wheelchairs.
- When the pedestrian sidewalk crosses the existing driveways, the maximum cross slope at any point on a sidewalk is 2%.

Detectable Warning Surfaces

To assist pedestrians with visual impairments, detectable warning surfaces (DWS)/truncated domes should be provided where commercial driveways have a yield or stop control at the junction between the sidewalk and the driveway vehicle route. Per PROWAG guidance, detectable warning surfaces are not required for residential driveway crossings. Truncated domes shall be yellow in color. For DWS design regulations, reference **NDOT Engineering Specification 02523**.

PROWAG R208.1 provides the following guidance for applying Detectable Warning Surfaces at driveway-sidewalk crossings:

On pedestrian access routes, detectable warning surfaces indicate the boundary between pedestrian and vehicular routes where there is a flush rather than a curbed connection. Detectable warning surfaces should not be provided at crossings of residential driveways since the pedestrian right-of-way continues across residential driveway aprons. However, where commercial driveways are provided with yield or stop control, detectable warning surfaces should be provided at the junction between the pedestrian route and the vehicular route. Where pedestrian at-grade rail crossings are located within a street or highway, detectable warning surfaces at the curb ramps or blended transitions make a second set of detectable warning surfaces at the rail crossing unnecessary.

Detectable warning surfaces are not intended to provide wayfinding for pedestrians who are blind or have low vision. Wayfinding can be made easier by:

- *Sidewalks that provide a clear path free of street furniture, such as benches, bus stops, traffic signs, lampposts, and waste bins;*
- *Visual contrast between walking and non-walking areas (e.g., planted borders);*
- *Route edges that are clear and detectable by cane;*
- *Direct pedestrian street crossings and curb ramps that are in-line with direction of travel;*

- *Orthogonal intersections that facilitate navigation using parallel and perpendicular vehicle sound cues; and,*
- *Barriers where pedestrian travel or crossing is not permitted.*

All traffic control devices relating to pedestrian safety at driveways shall be designed in compliance with the most updated ADA and MUTCD guidance.

4.2.1 Enhanced Pedestrian Crossings

A **Pedestrian Hybrid Beacon (PHB)** is a traffic control device used to warn and control traffic with the purpose of assisting pedestrians in crossing a street or highway. The beacon consists of two red lenses above a single lens, and the lenses remain "dark" until a pedestrian desiring to cross the street pushes the call button to activate the beacon.[24]

Driveways should be located at least 100 feet in advance of and at least 20 feet beyond the PHB, as shown in **Figure 4-3**. Where driveways must be placed closer to the PHB, site accommodations should be made through curb extensions or other techniques to provide adequate sight distance. When on-street parking is present, curb extensions should be installed on both sides of the crossing to ensure adequate sight distance is also provided.

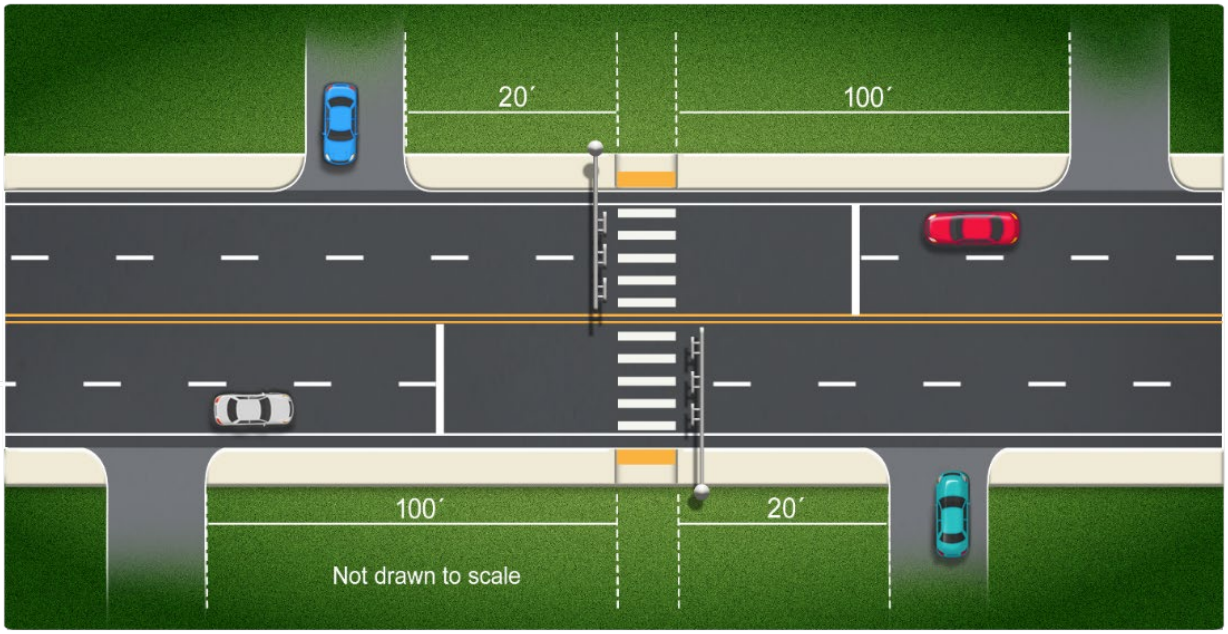

Figure 4-3: *Driveway Spacing from PHB*

A **Rectangular Rapid Flashing Beacon (RRFB)** is another traffic control device used at pedestrian crossings to enhance safety. RRFBs consist of two, rectangular-shaped yellow

[24] https://highways.dot.gov/safety/proven-safety-countermeasures/pedestrian-hybrid-beacons#:~:text=The%20pedestrian%20hybrid%20beacon%20(PHB,above%20a%20single%20yellow%20lens.

indications, each with a light-emitting diode (LED)-array-based light source, which flashes with an alternating high-frequency when activated to increase the visibility of pedestrians crossing.[25] When access must be placed in proximity to an RRFB, the driveway should be located at least 20 feet beyond or in advance of the crosswalk, as shown in **Figure 4-4**. When on-street parking is present, curb extensions should be installed on both sides of the crossing to ensure adequate sight distance is also provided.

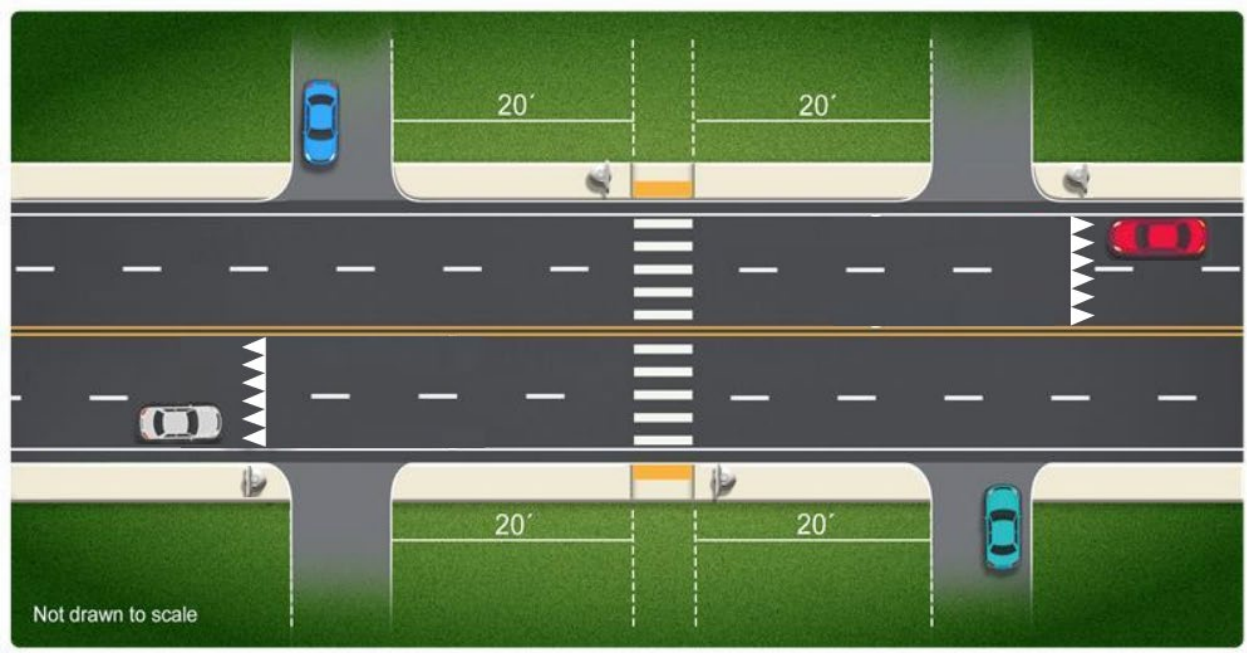

Figure 4-4: *Driveway Spacing from Rectangular Rapid Flashing Beacon*

Reference the latest edition of the MUTCD, NACTO, and FHWA guides for more detailed standards, guidance, and options regarding PHBs and RFBs.

4.3 Access Management Guidance for Transit Infrastructure

4.3.1 Location of Access Near Transit Stops

Driveways located near transit stops can present visibility issues for bus operators, pedestrians, and vehicles entering and leaving the roadway. Driveway placement near transit stops should be avoided. Driveways should be clear of existing or planned transit stops, including their waiting areas. Transit stops should be ADA- and PROWAG-compliant. Boarding and alighting areas shall be ADA- and PROWAG-compliant. The desirable size and placement of existing and proposed transit stops should be determined with WeGo and by

[25] https://highways.dot.gov/safety/proven-safety-countermeasures/rectangular-rapid-flashing-beacons-rrfb#:~:text=RRFBs%20flash%20with%20an%20alternating,on%20the%20application%20of%20RRFBs.

reference to the latest WeGo Transit Design Guidelines before any new or retrofitted access is located near a transit stop.

It is preferred that transit stops are on the far side of intersections and busy driveways. It is preferred that crosswalks are located approximately 10 feet behind a stopped bus. On transit corridors, planned or existing transit stops and crosswalks take priority over new or retrofitted access points.

At existing transit stops, all other options shall be documented and agreed as infeasible by WeGo before a driveway is placed within a transit stop boarding, alighting or waiting area. For such situations, WeGo provides guidance in the WeGo Transit Design Guidelines.

4.3.2 Access on Transit Corridors

All Access corridors; High-Capacity Transit corridors; and Bus Rapid Transit corridors all seek to prioritize transit safety, speed, reliability, comfort, accessibility and mimic the benefits of Light Rail. Turning movements, particularly across curb-side transit lanes, reduce the effectiveness of those benefits, as well as add risk. Strict access management is expected along these planned and existing corridors. Coordination and agreement with NDOT and WeGo shall take place before additional driveways are planned or constructed that impact existing or planned transit stops on those corridors. To identify these corridors, see the Choose How You Move Plan, Connect Downtown Plan, NashvilleNext, and the MCSP.

4.4 Access Management Guidance for Downtown

This Manual provides access management strategies that support the modal hierarchy established in Access Nashville 2040 and the NDOT Complete Streets Implementation Guide. This modal hierarchy places vulnerable road users, people walking, biking, utilizing transit, and using mobility devices, as the top priorities of the transportation network. In the downtown area, where there is a higher volume of multimodal trips, it is especially important to support these vulnerable road users through additional safety design considerations and reduced conflict points. The following section will address specific management concerns for the downtown area.

4.4.1 Porte-cochères

A porte-cochère, otherwise referred to as a covered drop-off, is common in land uses such as hotels, healthcare facilities, residential buildings, retirement communities, convention centers, and retail establishments that need areas for quick pull-through movements. The following design guidance applies to commercial and multifamily developments having a porte-cochère:

- Porte-cocheres should be served by driveway pairs (one ingress-only and one egress-only). (See **Figure 4-5** for an example of an acceptable access configuration for a porte-cochere).
- An alternative acceptable design for porte-cocheres is a site with an ingress-only access that allows egress onto a connected alleyway.
- The one-way driveways shall have a width of 12 - 15 feet and shall be spaced at least 30 feet apart.
- Driveway throat length shall be at least 20 feet from the intersection of the driveway with the traveled roadway to the nearest edge of the covered drop off.
- The width of the covered drop-off should accommodate at least one maneuver lane and one lane for the loading zone.
- At a minimum, 10 feet should be provided per maneuver lane within the drop-off area.
- Porte-cochères shall be prioritized on streets of lower functional classification.
- Where applicable, Porte-cochères shall have direct access to the parking garage to contain valet operation movements without having to exit the site.

The number of maneuver lanes needed is dependent on the trip generation of the development and can be determined by a supplemental traffic analysis.

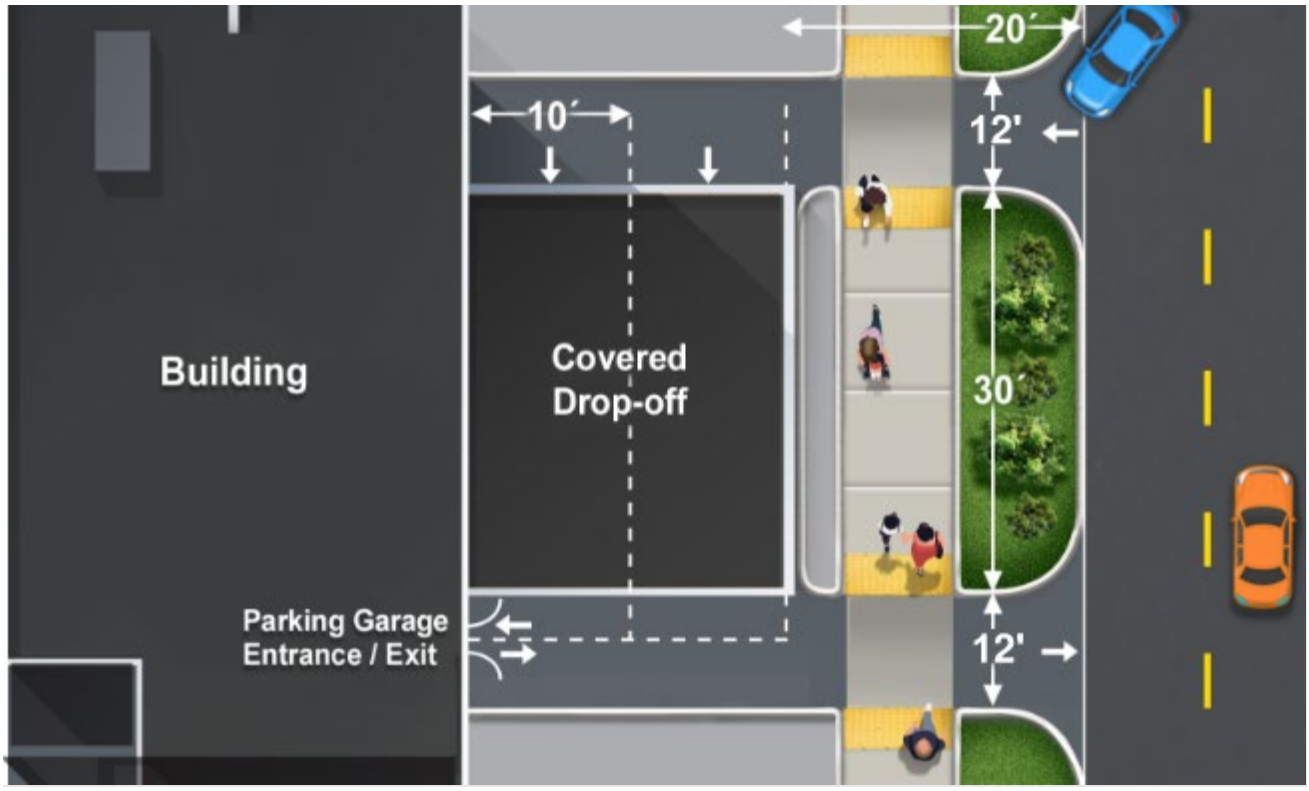

Figure 4-5: *Example of an Acceptable Access Configuration for Porte-Cochère*

4.4.2 Garage Access

Garage access is typically located in areas such as the Downtown Core where there is a high volume of pedestrians and other vulnerable road users. Parking garage entrance/exit points shall be designed with pedestrian safety in mind. The use of electronic signage, audible alarms, signage, convex mirrors, transitional lighting, and detectable warning surfaces should be used to increase visibility between drivers and pedestrians **(Figure 4-6)** [26].

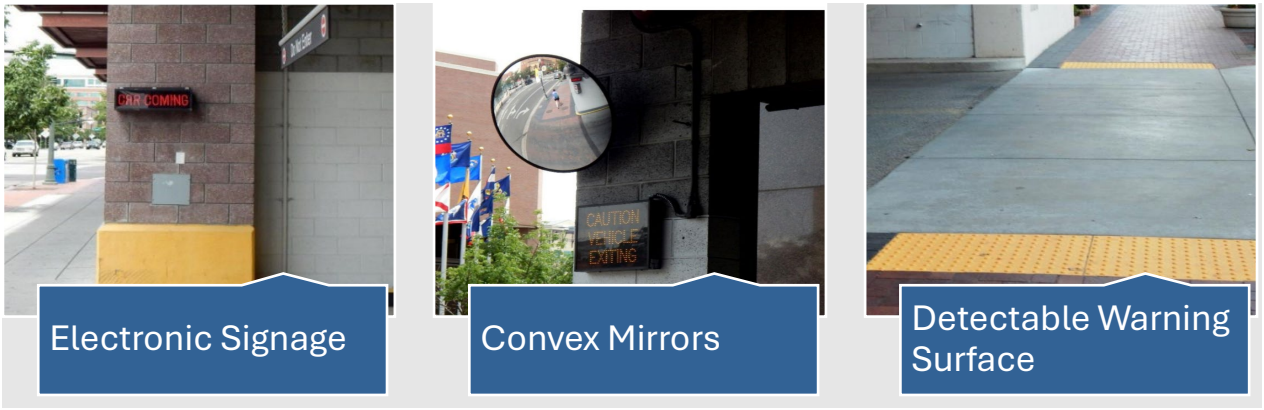

Figure 4-6: *Safety Measures for Garage Access*

At garage access points, the driveway shall transition smoothly to be flush with the sidewalk, as shown in **Figure 4-7.**[26]

Figure 4-7: *Garage Access Ramp Flush with Sidewalk*

4.4.3 Lay-by Policy

Reference the latest NDOT Lay-by Policy for guidance and standards.

[26] *CCDC Parking Garage Pedestrian Safety Review* (Kimley-Horn, 2015)

5. ADMINISTRATION AND IMPLEMENTATION

5.1 Driveway Permitting

NDOT's driveway permitting process is managed through NDOT's ePermits system. For new driveways, applicants must apply through ePermits, and a separate permit may be required for sidewalk closures or excavations. For existing properties adding a driveway, applicants must submit a driveway application through ePermits with either a sketch of the property and new driveway, or with other associated building plans. NDOT reviews the application, ensuring all necessary documents are provided. The review process involves coordination with the Right-of-Way Permit Office, as well as Metro Water's Stormwater division and any other associated departments. An inspector monitors the installation to ensure compliance with the approved plan, and any required waivers are attached to the site plan.

5.1.1 Required Approval

No person may construct or modify any access connection to a roadway within the jurisdiction of the Metropolitan Government of Nashville and Davidson County without approval from NDOT. Approval is typically granted through the permitting process described herein. All requests for connections to an applicable roadway after the date of the adoption of this Manual must be reviewed for conformance with this Manual, except as noted below.

Any access connection constructed without approval after the adoption of this Manual is considered an illegal nonconforming access and may be issued a violation notice and may be closed or removed.

5.2 Access Waiver Form

Flexibility is essential to balance access management objectives with reasonable access for development. This Manual is intended to provide flexibility while maintaining a fair, equitable, and consistent process for access management decisions.

The following reasons may justify deviation from the access management standards:

- Parcel size and/or shape do not allow sufficient distance to apply spacing standards.
- Infill land development and neighboring parcels restrict the ability to meet spacing standards.
- Applying the required standard will lead to operational and/or safety issues, as demonstrated by a traffic study.

The Access Waiver Form is required for driveways that do not meet the regulations of this manual to justify and document variations from the designated criteria.

Additional analyses beyond the waiver form may be required by NDOT to support proposed deviations from the access management regulations outlined in this Manual.

All driveways will be subject to review and approval by the NDOT Chief Traffic Engineer or his/her designee. The waiver form must be submitted and approved by NDOT prior to any official site plan submittals to the Metropolitan Planning Department or for a Building Permit Application.

If the Access Waiver Form is denied approval from NDOT, then a request can be made to the Traffic and Parking Commission to have a deviating access design. The Access Waiver Form with NDOT's filled out response shall be included in the request made to the Traffic and Parking Commission.

See **Appendix** for the Access Waiver Form.

APPENDIX – ACCESS WAIVER FORM

Nashville Department of Transportation and Multimodal Infrastructure

Access Waiver Form

DRAFT

1 Introduction

Submit this waiver form to the Nashville Department of Transportation and Multimodal Infrastructure (NDOT) prior to any official site plan submittals to the Metropolitan Planning Department or for a Building Permit Application. The purpose of this form is to determine if the proposed development cannot meet NDOT's Access Management requirements or alternative options for access as defined in the NDOT Access Management Manual. Along with this form, the Applicant must also submit a **(1) site plan with clearly shown access location(s) and design, (2) aerial map that identifies the functional area of nearby intersection(s) and/or site access, (3) High Injury Network map, (4) Major and Collector Street Plan (MCSP) map, and any other applicable supporting documentation.**

If approved by NDOT, include this form with all Planning and Building Permit plan submittals.

For additional guidance on completing this form refer to NDOT's Access Management Manual.

2 Application Information

Submittal Date	
Codes, Planning Case #, or Building Permit #	
Project Name	
Project Address	
Parcel ID(s)	
Existing Zoning	
Proposed Zoning (if applicable)	
Council District	
Applicant or Project Developer	
Applicant or Project Developer E-mail	
Applicant or Project Developer Phone #	

Notes

3 Project Review

Number of Proposed Access Points	

Table 3.1 Proposed Access Locations

	Street & Functional Classification	High Injury Network
1		
2		
3		

Include the street name, followed by the associated functional classification, per MCSP, in parenthesis, in column 1 and 'high', 'medium', 'low', or 'not ranked' for column 2.

Table 3.2 Distance to nearest intersection and/or existing driveways

	Parcel ID of Nearest Driveway or Intersection Street Names	**Distance** (feet) **from Nearest Driveway Edge to Proposed Driveway Edge**
1		
2		
3		

Table 3.3 Proposed Trip Generation

Land Use	Size (Square Feet or Dwelling Units)	Peak Hour Trips		Daily Trips
		AM	PM	
Total				

Use additional sheet(s) if necessary. If applicable, alternative peak hours should be shown on an additional sheet.

4 Multimodal and Safety Review

Use the prompts in tables below to provide a high-level overview of the existing or planned multimodal facilities.

Multimodal Review

Table 4.1 Multimodal Mobility Review

Are there bicycle facilities on the roads with a proposed vehicle access point? If yes, provide description.	
Are there pedestrian facilities on the roads with a proposed vehicle access point? If yes, provide description.	
List all transit stops along the property frontage(s) and within a quarter mile of the site.	
Are there any planned multimodal facilities along the property frontage(s)? Reference Metro Nashville and NDOT Transportation Planning Documents.	

Safety Review

Fill out the following section using AASHTOWare Crash Data for the property frontages to the nearest intersection(s). If no crashes occurred within the previous 5 years, then this section can be omitted.

Crashes within the Previous 5 Years? *(circle one)* **Yes** **No**

Table 4.2 Crash Location and Type Summary

Year	Total Crashes	Crash Location		Crash Type							
				Crash Involving Two Vehicles				Crash Involving One Vehicle			
		At an Intersection	Along Roadway	Head on	Rear-End	Angle	Sideswipe	Pedestrian Involved	Other Non-Motorist	Property	Unknown
2024											
2023											
2022											
2021											
2020											
Sum											

Table 4.3 Crash Severity Summary

Year	Total Crashes	Crash Severity				
		Fatal	Serious Injury	Minor Injury	Possible Injury	Property Damage Only
2024						
2023						
2022						
2021						
2020						
Sum						

[Insert Crash History Map]

5 Access Requirements

Check the box(es) for the element that is being requested to be waived.

Access Location Requirement(s) Not Met:

☐ Access per Frontage Length

☐ Access to Access Spacing

☐ Access to Intersection Spacing (Corner Clearance)

☐ Access to Intersection Spacing (Functional Area)

☐ Access to Interchange Ramp Spacing

☐ Other: _____

☐ Not Applicable

Access Design Requirement(s) Not Met:

☐ Driveway Width

☐ Driveway Throat Length

☐ Driveway Angle

☐ Driveway Grade

☐ Driveway Visibility/Sight Distance

☐ Other: _____

☐ Not Applicable

In Table 5.1, include the access requirement as described in the NDOT Access Management Manual in column 1 and what the associated access design or location that is being proposed in column 2.

Table 5.1 Access Requirement Comparison

Access Requirement (Checked Above)	**Proposed Access Alternative**

In Table 5.2, write a thorough narrative providing justification for the deviation from access requirements. Attach additional pages as needed.

Table 5.2 Narrative for Access Waiver

Thorough Description of Alternative Design Need

6 NDOT Reviewer Response

Table 6.1 will be completed and signed by the NDOT Chief Traffic Engineer or his/her designee upon review of the Access Waiver Form.

Table 6.1 NDOT Reviewer Response

NDOT Reviewer Name	
NDOT Reviewer Email	
Date	
Response	☐ Approved ☐ Denied ☐ More Information Needed
Comments (Reasons for Approval/Denial)	

NDOT Reviewer Signature

Date