STATE HIGHWAY ACCESS MANAGEMENT MANUAL

OHIO DEPARTMENT OF TRANSPORTATION

OFFICE OF ROADWAY ENGINEERING

Revised: July 2025

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1.0 State Highway Access Management Manual

1.1 General

The State Highway Access Management Manual establishes procedures and standards to protect the utility, function, capacity, and safety of the state highway system. The state highway system constitutes an integrated network of highways interconnecting all areas of the state and serving the safe, efficient movement of people and goods. The state highway system represents an irreplaceable public asset essential to the public health, safety, and welfare. The Ohio Department of Transportation has an obligation and a public-trust responsibility to preserve and maintain this system, to protect the public investment in this system, and to ensure its continued use in meeting state, regional, and local transportation needs.

It is a goal of the Department to preserve and manage the state highway system more effectively. It is a goal of the Department to improve public safety in the development, design, and operation of the state highway system. It is a goal of the Department to maintain and protect the state highway system's function and ability to move people and goods efficiently and conveniently.

The Department is committed to implementing access management policies and sound engineering standards that reduce highway congestion, minimize traffic delay, improve traffic flow, preserve highway capacity, and reduce crashes while balancing the need for access and supporting development. The Department is further committed to preventing to the extent practical any conditions from occurring in the development, design, and operation of a highway that cause or contribute to a decline in the highways designed and intended traffic function and that require excessive expenditure of public funds to correct.

To accomplish its goals and meet its obligations, the Department has developed this State Highway Access Management Manual to manage access to state highways as necessary to protect the public health, safety, and welfare; to preserve the operational and functional integrity of the state highway system; and to promote the safe and efficient movement of people and goods.

Except in cases of purchase or appropriation of access rights, nothing in this Manual shall deny the property owner the right to reasonable access to the general, public street system. However, the access rights of a property owner are subject to regulation for the public health, safety, and welfare and are subordinate to the public's rights and interests in a safe, efficient highway. The right of an owner of property to access to a state highway or to a particular means of access may be restricted if reasonable, alternative access is available or can be obtained to the general, public street system.

1.2 Authority

The State Highway Access Management Manual authority is derived from powers conferred on the Director of the Department of Transportation by Section 5501.31 and Section 5515.01 of Ohio Revised Code (ORC).

1.3 Scope of ODOT Access Control Authority

ODOT is responsible for the control of access on the following roads:

a. All Interstate facilities;
b. All State and U.S. Routes where the Right-of-Way (R/W) was purchased as Limited Access (LA/RW) including along an interchange cross street;
c. State and U.S. Routes outside of incorporated areas

Control of access for all other roadways is the responsibility of the local maintaining agency (City, County, Village or Township)

1.4 Grandfathered Access

As of September 1, 1998, all vehicular access and connections to the state highway system were regulated in accordance with the provisions of the State Highway Access Management Manual.

All access connections providing vehicular movement to or from a state highway, and in use prior to September 1, 1998 or constructed in accordance with a valid permit issued by an appropriate local authority having jurisdiction over the highway at the time of issuance of the permit shall be considered access connections exempt from the policies, requirements, criteria, and standards of the State Highway Access Management Manual until or unless the use of the property changes making the access subject to provisions in **Section 2.7**.

1.5 Need for Access Management

Access Management is the practice of controlling the number, type, size, and location of access points to the roadway system in order to promote the efficient and safe movement of traffic. FHWA cites access management as a proven safety countermeasure (https://highways.dot.gov/safety/proven-safety-countermeasures).

2.0 Access Permit Applications and Approval

2.1 Purpose

This section sets forth the procedures and requirements governing the issuance and approval of access permits for use or occupancy of right-of-way on state highways.

2.2 Access Requests

Ohio's 88 counties are divided between twelve ODOT Districts. Requests for an access permit should be directed to the District based on the county location of the proposed access. Refer to **Appendix A** for a map showing which ODOT district has authority for which county. **Appendix A** also provides contact information for each district. Requests related to an access should be directed to the District Permit Coordinator (DPC).

The DPC will provide information regarding submission requirements based upon the location, the land use and traffic the proposed access point(s) will service. A Traffic Analysis is required for any development that adds 60-200 trips (in and out) and a Traffic Impact Study is required for any development that adds over 200 trips (in and out). For proposed access points that generating more than 60 Trips (entering and leaving) in an hour; the applicant should request a preliminary meeting with ODOT to discuss the proposed development prior to making a formal access request. This will help ensure that all of the required information is submitted with the subsequent application.

For reference, **Table 2-1** illustrates some possible developments that may generate 60 and 200 trips (based on the latest edition of the ITE Trip Generation Manual):

Table 2-1

Code	Land Use	Unit	60-200 Peak Hour Trips (Requires Traffic Analysis)	>200 Peak Hour Trips (Requires TIS)
110	General Light Industrial	Sq. Ft. Gross Floor Area	66,500	260,000
140	Manufacturing	Sq. Ft. Gross Floor Area	42,000	276,000
210	Single-Family Detached Housing	Dwelling Units	55	200
220	Multifamily Housing (Low-Rise)	Dwelling Units	85	300
221	Multifamily Housing (Mid-Rise)	Dwelling Units	140	480
710	General Office Building	Sq. Ft. Gross Floor Area	31,500	123,500
720	Medical-Dental Office Building	Sq. Ft. Gross Floor Area	15,000	48,000
760	Research and Development Center	Sq. Ft. Gross Floor Area	45,000	180,000
814	Variety Store (i.e., Dollar Store)	Sq. Ft. Gross Leasable Area	8,100	N/A
820	Shopping Center	Sq. Ft. Gross Leasable Area	4,400	23,700
853	Convenience Market with Gasoline Pumps	Fueling Positions	4	N/A
912	Drive-In Bank	Sq. Ft. Gross Floor Area	2,900	9,800
932	High-Turnover (Sit-Down) Restaurant	Sq. Ft. Gross Floor Area	6,000	N/A
934	Fast Food Restaurant With Drive-Through Window	Sq. Ft. Gross Floor Area	1,200	3,900
960	Super Convenience Market/Gas Station	Fueling Positions	N/A	8

At the preliminary meeting applicants should present sufficient materials such as aerial maps, site plans, and documents to illustrate the site, the size and type of proposed land use, estimated traffic volumes and vehicle types generated by the site, adjacent public roads and highways, and any existing or available alternative access points. A map showing the proposed study limits for review and acceptance should be provided. This information should be provided to ODOT prior to the preliminary meeting to allow time for review and consideration.

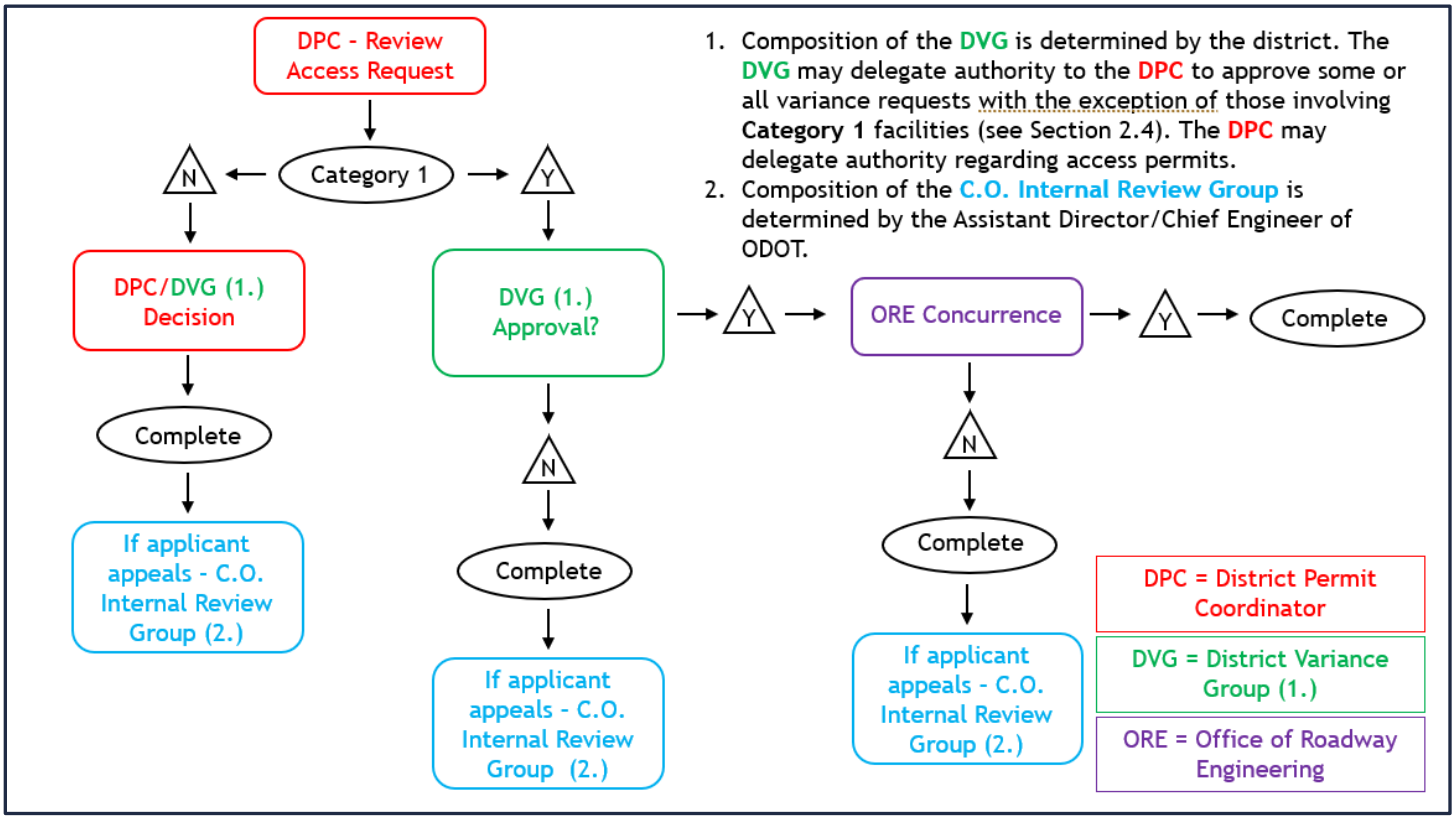
With this information ODOT can examine the feasibility of the access proposal with the applicant and consider whether it is permissible under the Department's access standards. ODOT will decide whether a TA or TIS is warranted, and if so, define its scope. ODOT reserves the right to require a TA or TIS for any proposed access without regard to the land use or trips that would utilize the proposed access. Preliminary discussion can expedite later review and evaluation of the permit application. Comments, suggestions, and recommendations made during any preliminary meeting are in no way binding upon the Department in subsequent evaluation of a formal permit application or decisions about the issuance of a permit.

2.3 Permit Application Process

An access permit application (MR 505) should be submitted to the District Permit Coordinator (DPC) who will coordinate internally with ODOT as necessary (County Manager, District Variance Group, Office of Roadway Engineering, C.O. Internal Review Group, etc.). The DPC may delegate the request within the district as necessary; however, it is the responsibility of the DPC to monitor the request for a timely response and completion by the Department. An access request may be submitted via mail or electronically via email. Decisions for an access request will generally be provided within 30 calendar days after all necessary application information is provided and correct.

For requests that are not a variance, the DPC will normally approve the request, however, specific requirements may be assigned to the approval (ex. location, access type, movement restrictions, etc.).

Figure 2-1 - Permit Review Process



2.4 Variances

An access variance grants permission to depart from the standards and requirements of the State Highway Access Management Manual. Variance requests should specify in writing what standards cannot be met and why in order to document and support the request.

In the case of a variance request, the DPC (or delegated designee) may:

a. Contact the applicant to discuss why the variance is being requested in lieu of meeting the normally allowable access provisions. The DPC may suggest changes to the applicant that will make the requested access no longer a variance or make the proposed access more closely meet the normally allowable access requirements. Changes to the application resulting from discussions with the applicant should be documented, potentially requiring a revised submission at the discretion of the DPC depending on the complexity of the changes. Alternatively, the DPC may revise the submitted application per discussion and agreement with the applicant; or
b. Make a recommendation to the District Variance Group who will render a variance decision; or
c. Issue a variance decision if that authority has been delegated to the DPC from the District Variance Group.

Approvals of a variance that provides direct access to a Category 1 facility will require the concurrence of the Office of Roadway Engineering (ORE). This shall also include access requests that affect LA/RW along an interchange cross street. The DPC will coordinate with ORE; ORE will coordinate with the Federal Highway Administration (FHWA) as necessary.

ODOT or Local authorities may establish an ODOT approved access management plan for a State Highway System corridor or section of corridor. Access requests that differ from an approved access management plan are not necessarily considered variances. Contact the District Permit Coordinator for information regarding access management plans.

2.5 Variance Review Procedure

When an applicant objects to the denial of a variance request, the applicant may request a review of the variance with the DPC. If the DPC still does not find the proposed changes acceptable, they will notify ORE of the review request and provide all necessary documentation to review the request. ORE will coordinate a meeting with the C.O. Internal Review Group, the DPC, and ORE. The C.O. Internal Review Group is comprised of 3 ODOT members: (1) the Chief Engineer & Assistant Director of Transportation Policy, (2) the Assistant Director of Field Operations, (3) the Deputy Director of the Division of Engineering. The C.O. Internal Review Group will provide a decision within 45 days. If the variance review request is denied the applicant may submit a permit application and plans reflecting the decision.

2.6 Restricting and Removing Access

Owners of property abutting on a public highway possess not only the right to the use of the highway in common with other members of the public, but also a private right or easement for the purpose of ingress and egress to and from the abutting property, which right may not be taken away or destroyed or substantially impaired without compensation. Even so, the State may modify or restrict a property owner's access without compensation as long as there is no denial or substantial interference with ingress and egress.

The exercise of this discretion to reasonably regulate access to and from the public roadway does not require that

a. access be provided to the State Highway System if reasonable access is available via the local street system; or
b. a full movement access be provided; or
c. multiple access points be provided

ODOT has the responsibility to preserve and maintain the State Highway System, to protect the public investment in this system, and to ensure its continued use in meeting state, regional, and local transportation needs. This responsibility, however, can sometimes require ODOT to control access in a manner that restricts what a property owner proposes for access. In these cases ODOT may deny or restrict access to the State Highway System. In cases where existing access is restricted or denial of direct access to the State Highway System is considered, the DPC should consult with the District Real Estate Administrator concerning implications of the property rights of an abutting owner; or assistance should be requested from the Office of Chief Legal Counsel.

When access management standards are considered in designing of a highway improvement project, the District Real Estate Administrator should be consulted for implications of the rights of access and exercise of discretion to reasonably regulate access, or assistance sought from the Office of Chief Legal Counsel.

2.7 Change of Land Use

The property owner or permittee, if applicable, may be required to reconstruct, relocate, redesign, remove or otherwise modify an existing access in order to conform to the standards and design specifications of the State Highway Access Management Manual or L&D Manual Volume 1 when a change in use of the property results in a change in the type or nature of access operation. A change in use may include, but is not limited to, structural modifications, remodeling, a change in the type of business conducted, expansion of an existing business, a change in zoning, or a division of property creating new parcels, but does not include modifications in advertising, landscaping, general maintenance, or aesthetics which do not affect traffic operations and safety. Previously approved accesses for properties that have been vacant for 2 years or more will not be grandfathered as an approved access point. ODOT reserves the right to withhold a permit review if an applicant does not have approval from local zoning. All access permits involving a change in zoning must provide documentation from the applicable jurisdiction showing the new zoning has been approved.

Change in use includes but is not limited to the following:

- The use of the access increases in actual vehicular volume by 20 percent or more or an actual increase of 10 or more trips in the peak hour;
- The traffic volume of a particular directional characteristic (such as left turns) increases by 20 percent or more or an actual increase of 5 or more trips in the peak hour;
- The use of the access by vehicles exceeding 30,000 pounds gross vehicle weight increases by 20 percent or more or an actual increase of 10 or more trips in the peak hour;
- The use of the access increases in actual vehicular volume from a level not exceeding Manual warrants and standards for design elements, to a level exceeding Manual design warrants and standards by 20 percent or more;
- The historical use of the access was less than daily use, and the new use would be for daily use of the access;
- The free flow of vehicles entering the property is restricted causing vehicles to queue on the highway, creating a highway hazard.

2.8 Developer Agreements

A developer agreement is recommended when dealing with sizable and/or complex private developments sites. This type of agreement can be used to clarify the responsibilities of both the developer and ODOT with respect to the proposed work, construction, and installation of roadway improvements.

Districts shall work with the Office of Chief Legal when utilizing and preparing any developer agreement.

2.9 Event Traffic

ODOT does not typically require an applicant to construct roadway improvements to specifically address impacts of event traffic. Instead, as part of the TIS & permitting process, ODOT may require the applicant to provide a formalized event traffic management plan to detail how traffic will be handled for reoccurring events.

3.0 Access Categories

The Department assigns an "access category" to each section of roadway where ODOT has the responsibility to control access. The access category assigned to a road in conjunction with the number of vehicles (Trips in/out) using a proposed access determines the normally acceptable number, location and types of accesses that can be permitted for that roadway.

Applicants can determine the access category of a route by contacting the DPC or checking the Access Category website (https://gis3.dot.state.oh.us/DistrictAccessManagement/). Applicants should always confirm with the DPC that the map is correct. With the access category identified and the number of Trips established, the normally allowable accesses and restrictions can be determined.

The following describes the three different types of access categories:

Category 1
Freeway and expressway facilities with Limited Access Right-of-Way (LA/RW) including the cross street LA/RW adjacent to an interchange ramp. Freeways are divided multi-lane highways for through traffic with all crossroads separated in grade with full access control. Freeways include all Interstate and Interstate look-alike facilities. No private driveway or at grade intersection access is permitted on freeways.

Expressways primarily serve interstate, interregional and intercity trips and may have both interchanges and at-grade intersections. No private driveway access is permitted on expressways unless the property owner retains deeded rights and has no other reasonable access to the general public street system.

Category 2
State and U.S. routes with a higher level of access control due to factors such as: existing drive density, congestion, crash issues, existing or potential for major development, etc. These are typically urban and suburban facilities that may or may not involve LA/RW. Private driveway and intersection access is potentially permissible.

Category 3
All other State and U.S. routes under ODOT's jurisdiction not assigned to one of the above access categories. These are typically rural and possibly suburban facilities with little existing or expected potential for major development and minimal crash or congestion issues. These facilities may or may not involve LA/RW. Private driveway and intersection access is potentially permissible.

3.1 Access Requests within LA/RW

Any access requests within the limits of existing LA/RW or change of an existing deeded access will require consideration through the District Real Estate Administrator under Section 7306 of the ODOT Real Estate Manual since it requires either conveyance of necessary access rights or release of highway easement (both being considered to be property disposal) in addition to an access permit. This process also involves determination of enhanced value as provided in Section 4501.02 of the Real Estate Manual. The District Real Estate Administrator must be consulted prior to processing any request for permit which involves a new or revised opening in LA/RW. Additional assistance can be requested from the Office of Chief Legal Counsel.

Information related to locked-gate access to freeways and other limited access highways is provided in Section 801.2.6 of the L&D Manual Volume 1.

4.0 Driveways

4.1 Normally Allowable Driveway Access

Driveways are defined in **Appendix D**. Private driveway access is normally only permissible on Category 2 and Category 3 facilities. **Table 4-1** provides submission requirements and guidance governing what is normally allowed for driveway access requests on these facilities.

Table 4-1

Normally Allowed Driveway Access							
	Category 2			Category 3			Minimal Use Drive (Cat. 2 and 3)
	Low Volume	Medium Volume	High Volume	Low Volume	Medium Volume	High Volume	
Number of Trips (Peak Hour) (A)	10-59	60-200	200+	10-59	60-200	200+	<10
Submission Requirements (B)	MR505, Site Plan, Deed, Turn Lane Warrants	MR505, TA, Site Plan, Deed, Const. Plan, Cost Estimate	MR505, TIS, Site Plan, Deed, Const. Plan, Cost Estimate	MR505, Site Plan, Deed, Turn Lane Warrants	MR505, TA, Site Plan, Deed, Const. Plan, Cost Estimate	MR505, TIS, Site Plan, Deed, Const. Plan, Cost Estimate	MR505, Plan Sheet, Deed
Permitted (C)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Traffic Movement (D)	Full, RIRO, Restricted Lefts	Full, RIRO, Restricted Lefts	Full, RIRO, Restricted Lefts	Full	Full, RIRO, Restricted Lefts	Full, RIRO, Restricted Lefts	Full
Drive Spacing	Table 4-2	Table 4-2	Table 4-2	Table 4-2	Table 4-2	Table 4-2	Table 4-2
Left/Right Turn Lane Required (E)	Turn Lane Warrants	Turn Lane Warrants	Turn Lane Warrants	Turn Lane Warrants	Turn Lane Warrants	Turn Lane Warrants	N/A

(A) Number of Trips (Peak Hour)

The number of vehicle Trips entering/exiting a proposed driveway access in the peak hour can be determined in several ways depending on the situation:

a. A proposed access serving a new land use typically requires a Trip calculation to be made. This methodology is defined by the Institute of Transportation Engineers (ITE) and is published in the ITE Trip Generation Manuals. Where a proposed access will service a land use not included in the Trip Generation Manual, the applicant should consult with the DPC for guidance.
b. With the concurrence of the DPC; Trips for the same land use at another very similar existing location may be used.
c. Minimal use drives serving things such as a single tenant private residence, utilities, agricultural fields, etc. need only note in the MR505 the number of trips being "<10".
d. The DPC has the authority to decide the best methodology to determine the number of Trips. Applicants of an access permit should consult with the DPC if unsure of the methodology to determine the Trips.

(B) Submission Requirements

In addition to the submission requirements outlined in **Table 4-1**, access requests may also include supplementary visual information such as maps, deeds, bonds, site plans, cost estimates, construction plans, drawings on an aerial image, diagrams or other similar exhibits showing the location of the proposed access and its relation to adjacent access points within 1000 feet (including if the nearest adjacent access point(s) is on a different property). The extent of this supplementary information should be commensurate with the complexity of the access request.

a. **MR505** – This is the standard access request form that can be found at https://www.dot.state.oh.us/Divisions/Engineering/Roadway/Documents/MR505electronic.pdf. An MR505 is required with every access request and must be signed by the property owner.
b. **Traffic Analysis (TA)** – The TA serves two purposes:
    i. Determines the need for left/right turn lanes. See **Section 7.0** for information on a Traffic Analysis and **Section 8.0** for information on turn lanes; and
    ii. Determines the number of lanes required on the state highway or driveway through the analysis of the proposed drive using the latest version of the Highway Capacity Software. Every movement should be LOS E or better in the design horizon year.
c. **Traffic Impact Studies (TIS)** – Comprehensive analysis of potential access impacts. TIS guidance is provided in **Section 9.0**.
d. **Sight Distance Study -** Based on the topography adjacent to the proposed access, a sight distance study may be required. See Figures 201-4E and 201-5E in the L&D Manual Vol. 1.
e. **Maintenance of Traffic Plan -** Access Permits involving construction that encroaches on the roadway or shoulders shall include a Maintenance of Traffic Plan in accordance with the OMUTCD.
f. **Turn Lane Warrants -** Determines the need for left/right turn lanes. See **Section 8.0** for additional information on turn lane warrants.

(C) Permitted

Where a parcel otherwise has reasonable access to a local street system, ODOT has the discretion to deny a request for additional direct access to/from the State or U.S. Highway system. No additional access will be provided for the splitting or dividing of existing parcels currently under common ownership or control. All access to such newly created properties from property splits should be provided internally from the existing access.

Once a property has been legally split and sold to a new owner, the new property owner is entitled to and may apply to ODOT for a separate access point. Since ODOT does not control local zoning and land splits, it is dependent on local jurisdictions to work with ODOT to implement splits that are consistent with ODOT's Access Management principles. It is strongly recommended that ODOT Districts work with their local jurisdictions to bring awareness of how ODOT's driveway spacing requirements are affected by split sizes.

(D) Traffic Movement

Table 4-1 provides the normally allowable movement types for each access category. ODOT reserves the exclusive right to determine the type and number of access points to the State Highway System.

a. **Category 2 Facilities**
    i. One direct private access will be permitted per parcel or contiguous parcels under common ownership. Additional accesses would require a variance. No direct private access will normally be permitted if the property has other reasonable access or opportunity to obtain such access from the local street network. If allowed, the access will generally be restricted to right-in/right-out. Left turn movements may be permitted based upon the following considerations:

1. The left turn does not have potential for signalization;

2. ODOT concurs that the left turn movement will not cause congestion or a safety issue;
3. The left turn does not interfere with operation of the adjacent street and properties

ii. Driveway access requests on facilities with an existing median will be restricted to right-in/right-out unless ODOT concurs that a left turn movement from the proposed driveway provides an operational or safety benefit to the general public. This also applies to minimum use drives.

iii. Left turn movements out of a proposed driveway will not be allowed onto multi-lane roadways where the turning vehicle must cross 3 or more lanes of through traffic (includes positive left turn lanes but not a two-way left turn lane).

b. **Category 3 Facilities**

i. One direct private access will be permitted per parcel or contiguous parcels under common ownership. Additional access may be permitted without a variance if ODOT concurs that an additional access:
   1. Would not adversely affect the safety and operation of the highway, and
   2. Is necessary for the safe or efficient use of the property, and
   3. Would not adversely affect adjacent properties.

ii. Driveway access requests on facilities with an existing median will be restricted to right-in/right-out unless ODOT concurs that a left turn movement from the proposed driveway provides an operational or safety benefit to the general public. This also applies to minimal use drives.

(E) Left/Right Turn Lane Required – Drives along Access Category 2 and 3 facilities may require the construction of turn lanes. See **Section 8.0** for additional guidance.

It is recognized that some properties may require additional access points than is normally allowed in order to function properly; usually due to the type of land use occupying the property. In these cases consideration of a variance can be given to allow additional access points. Additional access points should be evaluated to determine if a restricted movement would, in the opinion of ODOT, provide sufficient additional access. For corner properties, it is recommended that the main access point be located on the side street whenever possible.

4.2 Driveway Spacing

Table 4-2 provides minimum driveway spacing requirements. In general, it is desirable to provide the maximum spacing possible while providing adequate sight distance. The table below represents the minimum spacing that can be provided without the request being a variance.

Table 4-2

Driveway Spacing			
	Category 2 - Low, Medium, High Category 3 - Medium, High	Category 3 - Low Category 2, 3 - Minimal Use	
Posted Speed (mph)	Minimum Distance (ft.)	Recommended* Distance (ft.)	Minimum Distance (ft.)
25	155	155	50
30	200	200	50
35	250	250	50
40	305	305	50
45	360	360	50
50	425	425	75
55	495	495	100
60	570	570	125

*Use recommended distance unless a documented reason is provided and agreed to by ODOT. Approved driveways meeting or exceeding the minimum spacing do not require a variance.

4.3 Factors that can Affect Driveway Spacing

Table 4-2 provides normally allowable driveway spacing dimensions. There are factors, however, that should be considered when choosing a driveway location including but not limited to:

a. Driveway Overlap
b. Driveway Proximity to an Intersection
c. Sight Distance

The driveway spacing distances provided in the **Table 4-2** may potentially be altered as necessary to address these and other factors specific to an access request.

4.31 Driveway Overlap

Driveways located on opposite sides of the street, especially medium and high volume drives, should avoid having overlapping left turn entrances whenever practical. **Figure 4-1** through **Figure 4-3** provides information related to driveway overlap.

Figure 4-1

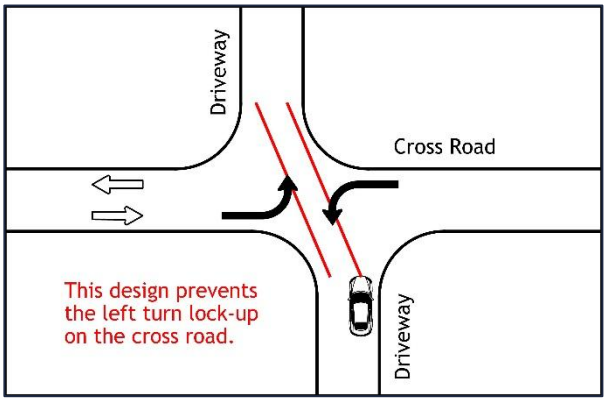


Figure 4-2

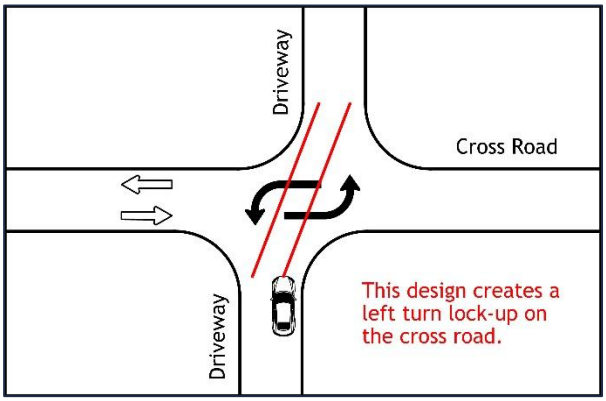
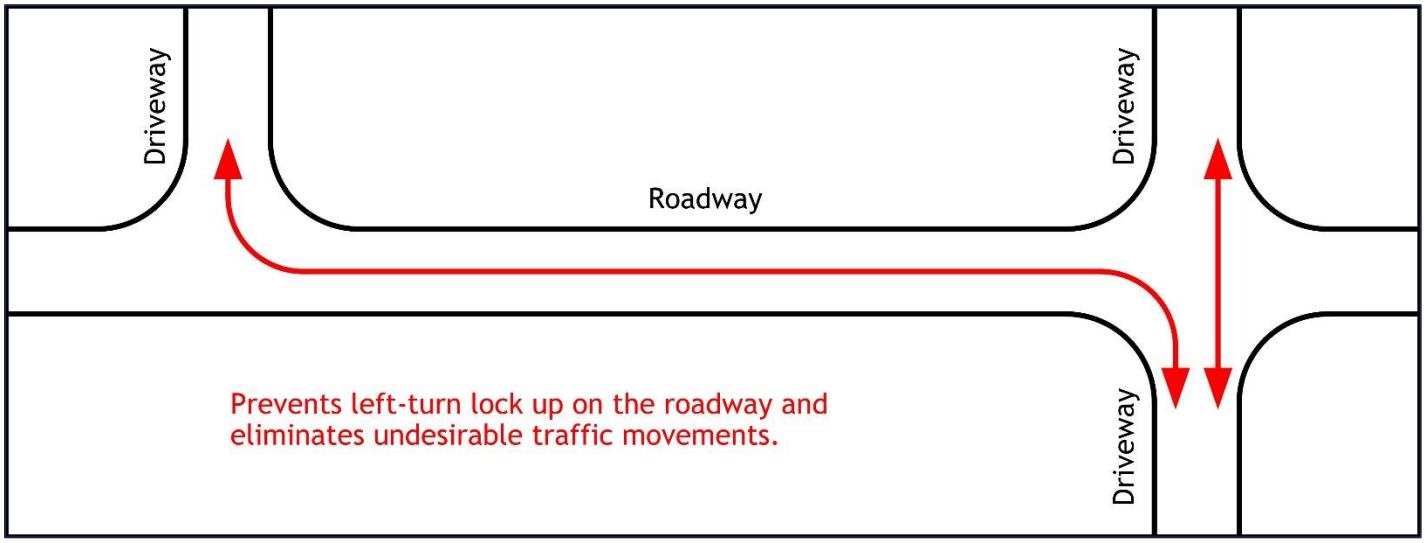


Figure 4-3 - Most Preferred



4.4 Driveway Proximity to an Intersection

Driveways located too close to intersections can cause operational and/or safety problems. **Table 4-2** should be used to determine the appropriate corner clearance distance. In most cases driveways near intersections shouldn't allow full movements in/out if those movements are required to cross left turn lanes serving the intersection on the adjacent primary street. Driveways should not be permitted within the boundaries of a turn lane, but if there is no other option, consideration should be given to limiting the drive to right-in/right-out or right-in only. It may also be desirable to locate a drive as far as possible from the intersection; even though this would result in the proposed drive being located closer to the drive on the adjacent property.

For driveways located near a roundabout, driveway spacing should be measured from the entrance/exit of the circulatory roadway to the center of the adjacent drive.

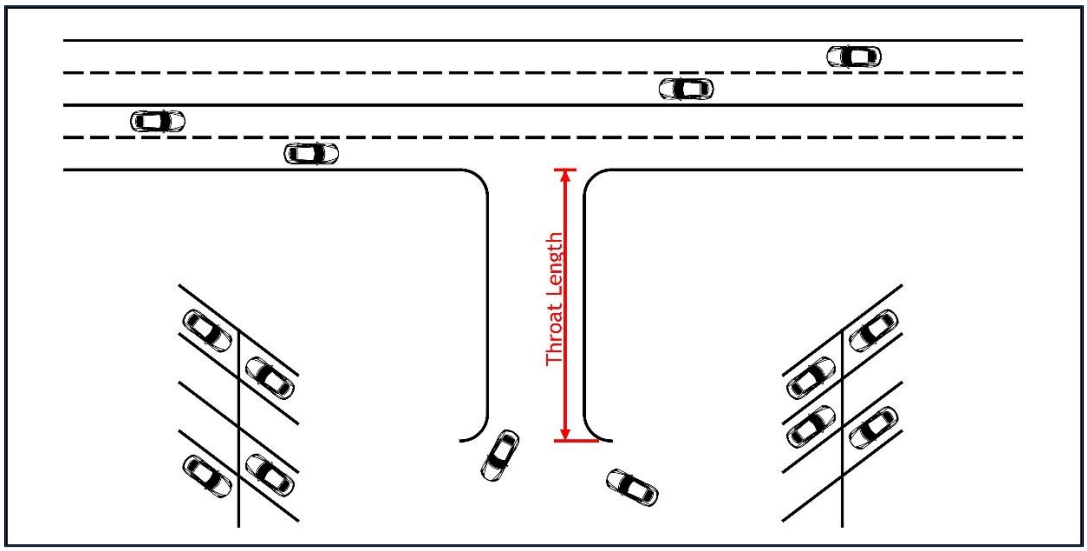
4.5 Sight Distance

Driveway spacing may need to be varied from **Table 4-2** in order to provide, improve or maximize sight distance. The recommended sight distance is Intersection Sight Distance (ISD) with the minimum being mainline Stopping Sight Distance (SSD). Refer to Section 201 of the L&D Manual Volume 1 for Sight Distance guidance.

4.6 Driveway Throat Length

Care should be taken to ensure proposed drives, especially to large traffic generators such as malls and shopping centers, provides sufficient driveway throat length to ensure that vehicles entering a parking facility do not backup (queue) into the public street system. Generally, entering movements should free-flow into the parking area that do not need to yield or stop for vehicles exiting or traversing through the parking area.

Figure 4-4



For exiting vehicles, sufficient throat length should be provided to store the expected/calculated queue of exiting vehicles (**Figure 4-4**). Refer to Figure 803-9 in L&D Manual Volume 1 for relevant design information.

4.7 Driveway Design

Driveway design standards are provided in Section 803 of the Location and Design Manual - Volume 1 and Standard Construction Drawing BP-4.1. Typical driveway designs with right in/right out access, as well as other permitted turn access, are in Section 400 of the Location and Design Manual – Volume 1, Figures 401-13(a-d).

4.8 Driveways Adjacent to Interchange Ramps

Driveways and intersections are not permitted within the interchange LA/RW along the adjacent cross-street per L&D Manual Volume 1, Section 801.2.5. However, in rare cases when this must be contemplated, sufficient analysis using a 20 year design is required (per the OATS Manual) to ensure there would be no detrimental operational effects on the interchange. Drives or intersections adjacent to a ramp must be analyzed with HCS and may be required to supplement with simulation. The study limits must include all ramp intersections. A TIS may be required to assess impacts of the proposed access, especially for an access request within 1000' of an interchange ramp terminal.

Lane use changes within the interchange area necessitated by an access request will require an approved Interchange Study (IOS, IMS, or IJS) as applicable prior to an access request being approved. Refer to Section 550 of L&D Manual Volume 1 for information related to an IOS, IMS, or IJS.

5.0 Intersections

It is recognized that there may be limited opportunity to dictate the precise location of a proposed intersection. The below provides guidance related to recommended intersection spacing where the opportunity to control the spacing is available. In cases where intersection location cannot practically be provided, spacing should be maximized to the extent possible.

5.1 Intersection Spacing

Intersections are defined in **Appendix D**. For intersection spacing refer to **Table 5-1**.

Table 5-1

Intersection Spacing				
	Urban/Suburban		Rural	
Access Category	Recommended Spacing	Minimum Spacing	Recommended Spacing	Minimum Spacing
1*	1 Mile	1/2 Mile	1 Mile	1/2 Mile
2	1/2 Mile	1/4 Mile	1 Mile	1/2 Mile
3	1/2 Mile	1/4 Mile	1 Mile	1/2 Mile

*See L&D Vol. 1 Section 550 for information related to interchange spacing requirements

5.2 Intersection Considerations

Intersections should be located to provide required sight distance (Refer to Section 201 of the L&D Manual Volume 1) and meet geometric design criteria (Refer to Section 400 of L&D Volume 1). Traffic Analysis or a TIS is required to determine the number of lanes on each approach. If an intersection is proposed to be signalized, or if it is likely in the future, refer to **Table 5-1** to determine the appropriate intersection spacing.

Approval of proposed intersections that do not meet **Table 5-1** spacing requirements must be processed as a variance. It is generally desirable to minimize the number of intersections to the extent possible while balancing the need for access. Existing reasonable access to the local street network should be considered prior to approving a new intersection on the State Highway System.

Intersections must comply with ADA requirements.

In cases of an access request resulting from a development created street that will become a public street; the application shall include a signed letter from the County or Municipal Engineer (as applicable) indicating approval of the developer's road or street plan.

An Intersection Control Evaluation is recommended for the following scenarios:

a. Changing control at an existing intersection, such as converting a stop-controlled intersection to a traffic signal or converting a signalized intersection to a roundabout

b. Installation of a new intersection between two or more public roads where two-way stop control will result in failing operation

c. Installation of a high-volume driveway as defined by ODOT's State Highway Access Management Manual, Table 4-1 (more than 200 vehicles per hour in the peak hour)

d. Adding a leg to an existing intersection, unless the leg is a medium volume, low volume, or minimal use driveway (less than 200 vehicles per hour in the peak hour) or a very low volume road (per AASHTO, a road with less than 400 vehicles per day)

e. Adding multiple turn lanes or one or more through lanes at an existing intersection

6.0 Traffic Signals

Any traffic signals requested or required as part of an access request shall be justified using the warrants established in Part 4 of the Ohio Manual of Uniform Traffic Control Devices (OMUTCD). Documentation of meeting a traffic signal warrant shall be included with any access requests that include a traffic signal.

It should be noted that, per Section 4C.01 of the Ohio Manual of Uniform Traffic Control Devices, meeting a signal warrant does not imply that ODOT or any maintaining agency must install a traffic signal. The decision to approve a signal installation should be dependent on several factors including but not limited to safety, proximity to and coordination with adjacent signals and storage requirements. See **Section 5.1** for recommended and minimum intersection spacing.

In addition, traffic signals installed to serve private access points require a signal maintenance agreement assigning annual operation and maintenance cost for the traffic signal. Refer to the ODOT Traffic Engineering Manual (TEM) Section 401-7 for specifics related to traffic signal maintenance agreements and the associated costs.

7.0 Traffic Analysis and Traffic Volumes

7.1 Traffic Analysis (TA)

See **Table 4-1** to determine when a Traffic Analysis is required.

A Traffic Analysis may be required for any proposed access within a location identified by ODOT's Highway Safety Program as a safety problem area or crash location or any location identified by ODOT as a congested traffic area even if the trip threshold is not met.

7.11 Purpose

The TA serves two purposes:

a. Determines the need for left/right turn lanes. See **Section 8.0** for information on turn lanes; and
b. Determines the number of lanes required on the state highway or driveway through the analysis of the proposed drive using the latest version of the Highway Capacity Software. Every movement should be LOS E or better in the design year per the OATS Manual, Section 5.9.

7.12 Submission Requirements

The Traffic Analysis should include a Capacity Analysis, Turn Lane Warrants, and Turn Lane Storage calculations.

7.13 Capacity Analysis

HCS is required and simulation may be requested by the District if necessary. Each software is required to be used in accordance with ODOT's requirements as stated in the OATS Manual, Chapter 3. See **Section 9.46** for requirements if significant adverse impacts are expected.

7.14 Study Limits

At a minimum the study limits need to include all proposed or modified access points and their adjacent intersections. If determined necessary by the District, additional analysis points may be requested**.**

7.15 Design Year

The Design Year is Opening Year + 10 years. Typically, the weekday AM peak and PM peak hour traffic volumes are required however, there are cases where the weekday or weekend midday peak hours may also be required.

7.2 Traffic Analysis Volumes

The following methodologies may be utilized to determine the volumes used for the purposes of a Traffic Analysis (Turn Lane Warrant and Capacity Analysis). A Traffic Analysis is required for proposed access points serving 60-200 trips. These methods are not to be used for other ODOT design traffic procedures. Refer to **Section 9.0** for information related to TIS design volumes. A full TIS may be conducted in lieu of these procedures if desired.

The AM and PM peak hours of the adjacent street will be used in a Traffic Analysis. Based on the land use, alternative hours such as the midday peak (11a-1p) or weekends may be more appropriate for the Traffic Analysis. The DPC should be consulted regarding the necessary analysis hours. The analysis hours would normally be discussed as part of the scope for the study.

If TFMS or TIMS data is not available refer to Chapter 4 (Section 4.2.1) in the Ohio Traffic Forecasting Manual Vol. 1 for other methods for obtaining a background traffic growth rate.

7.21 Hourly Count Method 1

a. **Counts** - Count adjacent street AM & PM Peak hour traffic using the 4 highest consecutive 15 minute intervals per **Appendix B**. The hours/days may vary based on land use.

b. **Design Year** - Apply growth factor to adjacent street traffic counts using a 10 year analysis horizon. Growth factor (rate) can be obtained using the ODOT TFMS Tool (preferred) or from the ODOT Transportation Information Management System (TIMS). TIMS is available on the ODOT Office of Technical Services web site. (https://gis.dot.state.oh.us/tims). Growth rates are not compounding. Example – 1.5% growth per year x 10 years = 1.15 multiplier for adjacent street counts;
c. **Design Hour Traffic** - Convert 10 year adjacent street hourly traffic from (b) to a design hour count by multiplying each count by the appropriate "Peak Hour to Design Hour Factor", available on the Office of Statewide Planning & Research's web site, Modeling & Forecasting section at https://www.transportation.ohio.gov/programs/statewide-planning-research/04-modeling-forecasting/certified-traffic.
d. **Overlay Trips** - Overlay the number of trips using the proposed access. Proposed pass-by trips should be in accordance with the ITE Trip Generation Manual. The Trip volumes should correlate to the adjacent street peak hour (i.e., the corresponding AM or PM "Peak Hour of Adjacent Street" from the ITE Manual). In the absence of better information, directional distribution percentages of the access Trips can match the directional distribution of the adjacent street;
e. Utilize the traffic volumes from (d) for the purposes of Turn Lane Warrant Analysis and Capacity Analysis for both of the peak hours.

7.22 Hourly Count Method 2

a. **Counts** - ODOT maintains an inventory of traffic counts in the MS2 online system. MS2 is available at (https://odot.ms2soft.com/tcds/tsearch.asp?loc=Odot&mod=). Existing counts in the MS2 system located in the vicinity of the proposed access may be used with the permission of the DPC in lieu of performing new counts. If the turning movement count at the adjacent intersection are not readily available in the MS2 system, the use of Hourly Count Method 1 is preferred. See Section 4.2 of the Ohio Analysis & Traffic Simulation Manual (OATS) for additional guidance on the existing count inventory.
b. **Design Year** - Apply growth factor to adjacent street traffic counts using a 10 year analysis horizon. Growth factor (rate) can be obtained using the ODOT TFMS Tool (preferred) or from the ODOT Transportation Information Management System (TIMS). TIMS is available on the ODOT Office of Technical Services web site. (https://gis.dot.state.oh.us/tims). Growth rates are not compounding. Example – 1.5% growth per year x 10 years = 1.15 multiplier for adjacent street counts;
c. **Design Hour Traffic** - Convert 10 year adjacent street hourly traffic from (b) to a design hour count by multiplying each count by the appropriate "Peak Hour to Design Hour Factor", available on the Office of Statewide Planning & Research's web site, Modeling & Forecasting section at https://www.transportation.ohio.gov/programs/statewide-planning-research/04-modeling-forecasting/certified-traffic.
d. **Overlay Trips** - Overlay the number of trips using the proposed access. Proposed pass-by trips should be in accordance with the ITE Trip Generation Manual. The Trip volumes should correlate to the adjacent street peak hour (i.e., the corresponding AM or PM "Peak Hour of Adjacent Street" from the ITE Manual). In the absence of better information, directional distribution percentages of the access Trips can match the directional distribution of the adjacent street;
e. Utilize the traffic volumes from (d) for the purposes of Turn Lane Warrant Analysis and Capacity Analysis for both of the peak hours.

7.23 AADT Method

a. **AADT** - Obtain a nearby AADT from ODOT's MS2 system;
b. **Factor AADT** - Apply K and D factors to the 2-way AADT. K=0.1 and D=0.55 may be used in the absence of more specific values being available to obtain the design hourly volume. Where 1-way AADT is provided by MS2 the D Factor is not required and each directional AADT can apply the K factor separately, note that K factors listed in MS2 should generally NOT be used as these are not K30 design hour factors unless the site is a permanent counting station;

c. **Design Year** - Apply growth factor to adjacent street traffic counts using a 10 year analysis horizon. Growth factor (rate) can be obtained using the ODOT TFMS Tool (preferred) or from the ODOT Transportation Information Management System (TIMS). TIMS is available on the ODOT Office of Technical Services web site. (https://gis.dot.state.oh.us/tims). Growth rates are not compounding. Example – 1.5% growth per year x 10 years = 1.15 multiplier for adjacent street counts;
d. **Overlay Trips** - Overlay the number of trips using the proposed access. Proposed pass-by trips should be in accordance with the ITE Trip Generation Manual. The Trip volumes should correlate to the adjacent street peak hour (i.e., the corresponding AM or PM "Peak Hour of Adjacent Street" from the ITE Manual). In the absence of better information, directional distribution percentages of the access Trips can match the directional distribution of the adjacent street;
e. Utilize the traffic volumes from (d) for the purposes of Turn Lane Warrant Analysis and Capacity Analysis.
f. The application of K and D Factors to a 2-way AADT are normally only used to produce the highest peak hour for one direction in the 30th highest hour. In order to perform Traffic Analysis for both AM and PM peak hours by factoring a 2-way AADT, use the same K and D Factor for both the AM and PM peaks while overlaying the appropriate AM and PM Trip Generation numbers. Document assumptions for applying the D factor in the AM & PM peak hours (which direction is the peak). This is a very conservative approach that should not normally be used. It is preferred to use an hourly count method or use directional AADT's if available.

8.0 Turn Lane Warrants

At unsignalized access points turn lane warrant analyses must be performed to determine if right or left turn lanes are warranted.

Table 4-1 denotes turn lanes as being "N/A" minimal use drives. In most cases, minimal use drives will not require turn lanes. Districts will have discretion to require turn lane warrants to be evaluated. Considerations, such as the following, may contribute to need for turn lane warrants:

1. Providing acceptable levels of service as determined by the Traffic Analysis or TIS; or
2. Mitigating existing or expected crash concerns; or
3. Matching adjacent or nearby typical sections of the adjacent street; or
4. Preparation for future widening plans of the adjacent street

For low volume access points, a turn lane warrant submission is required, however Districts can determine if it is practical to construct turn lanes at a particular location. District has some discretion in the requirement of the turn lane warrants. If it is decided that a turn lane warrant submission is not required, the developer shall submit a memo listing these reasons.

Access requests that require a Traffic Analysis or TIS will include a turn lane analysis.

Refer to L&D Vol. 1 Sections 401.2.2, 401.6.1, and 401.6.3 and Figures 401-5aE, and 401-6dE for additional information regarding turn lane warrants. Turn lane warrants must be prepared using Design Year traffic. The cost of constructing required turn lanes is the responsibility of the applicant.

9.0 Traffic Impact Study (TIS)

9.1 When is a Traffic Impact Study needed?

9.11 The District Office determines the need for a Traffic Impact Study during a preliminary meeting with the applicant as discussed in **Section 2.2**.

9.12 A Traffic Impact Study is required if the total number of trips (entering and exiting vehicles) during the highest peak hour is greater than or equal to 200 (See **Section 9.4** for TIS Requirements).

9.13 A Traffic Impact Study may be required for any proposed access within a location identified by ODOT's Highway Safety Program as a safety problem area or crash location or any location identified by ODOT as a congested traffic area even if the total number of trip ends is less than 200.

9.14 If construction has not started within 3 years of the approval of the TIS or subsequent interchange study, a reevaluation is required to ensure the traffic data is still accurate and the proposed modifications are still appropriate.

9.2 What is the Purpose of a Traffic Impact Study?

9.21 The purpose of a Traffic Impact Study is to ensure that any proposed modifications do not negatively impact the current traffic operations or safety of the surrounding roadway network.

9.22 The approval of a TIS is based on the study proving that the modified access request meets the following conditions:

a. Established Level of Service criteria is met or existing Level of Service is maintained. See **Section 9.46**.
b. Safety is not made worse
c. Modifications are consistent with ODOT's design criteria
d. Modifications are feasible and implementable

9.23 The objectives of a TIS are to:

a. Determine whether or not the access request can meet the standards and requirements of the State Highway Access Management Manual and other applicable standards.
b. Determine the appropriate location, spacing, and design of the access connection(s) necessary to mitigate the traffic and operational impacts on the highway.
c. Determine the need for any improvements to the adjacent and nearby roadway system to maintain a satisfactory level of service and safety and to protect the function of the highway system while providing appropriate and necessary access to the proposed development.
d. Assure that the internal traffic circulation of the proposed development is designed to provide safe and efficient access to and from the roadway system and is consistent with the purpose of this manual.

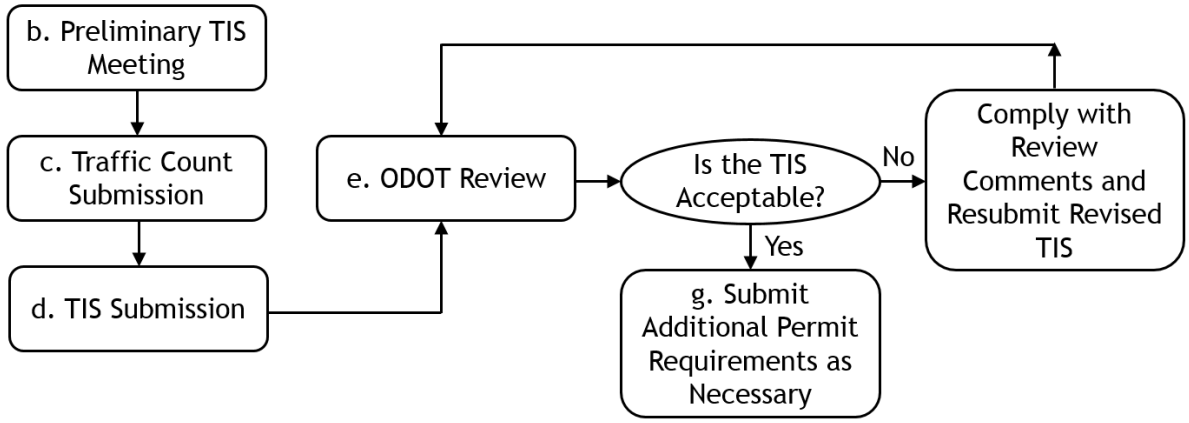
9.3 Traffic Impact Study Review Process

9.31 Traffic Impact Study Review Team
The District Deputy Director will appoint a multi-disciplinary team to review all Traffic Impact Studies.

9.32 Traffic Impact Study Process:

a. A TIS Flow Chart is shown in **Figure 9-1**:

Figure 9-1



b. **Preliminary TIS Meeting**
Prior to submitting a Traffic Impact Study, the consultant/developer is required to meet with ODOT Staff to discuss initial study criteria and study limits. The consultant should be prepared to discuss general site layout, location and number of proposed drives, known access variances, study limits, expected site traffic and any other pertinent information.

c. **Traffic Count Submission**
Prior to the TIS submission the applicant is required to submit the proposed study limits, traffic volumes, trip generation and distribution percentages for ODOT's review and approval. The Traffic Counts should be submitted electronically. Traffic Count Submissions will be reviewed within 30 days.

d. **TIS Submission**
All TIS Submissions need to be submitted electronically. Include electronic submissions of analysis files and output for analysis software (i.e. HCS, TransModeler).

e. **TIS Review**
The District will evaluate if the access proposal is permissible under the highway's assigned access category and meets the requirements of the State Highway Access Management Manual and determine the appropriate location, spacing, and design of the access connection(s).

The District will forward the TIS to ORE for concurrent review if the project involves interstate or expressway L/A right of way.

f. **Review Time**
As a general rule, review time for all TIS and related plan submissions will be 45 calendar days. Occasionally, the 45 day review time may be extended depending on workload, holidays, etc.

g. **TIS Approval**
Once the TIS is approved, the applicant can begin preparing construction plans and submit additional permit requirements as necessary. Construction plans are required to match the build condition that is approved in the TIS. If the build condition is modified after a TIS has been approved then the TIS is

required to be updated and resubmitted for review. Roadway construction improvements must be completed by Opening Day of the site.

For sites involving complex or multiple developments, it is recommended that District work with the Office of Chief Legal to implement a Developer Agreement to ensure the developer will build the proposed roadway improvements recommended in the TIS.

9.4 Traffic Impact Study Requirements

9.41 Traffic Impact Study Levels

The study area, number & types of analyses, etc. depends on the total number of trip ends (entering and exiting vehicles) during the highest peak hour. See **Table 9-1** for TIS Level 1 and 2 requirements.

Table 9-1

Design Element	Site Trip Ends	
	Level 1	Level 2
	200-499	500+
Turn Lane Warrants	✓	✓
HCS Analyses	✓	✓
Simulation Analyses	*	*
Hourly Count Method 1	✓	
Design Traffic Procedures		✓
Design Year	OY+10**	OY+20

OY - Opening Year
* - Determined by District, or where significant congestion exists
** - Level 1 TIS that includes interchange ramp intersections must use a 20-yr. design year

9.42 Study Limits

a. TIS preparer is required to submit to District a map showing the Study Limits for review and acceptance.
b. Generally, a TIS Level 1 will require a smaller study area, whereas a TIS Level 2 will require a larger study area.
c. TIS Level 1 Study Limits – Extend 1000' beyond all existing and proposed site drives including any nearby additional significant intersections outside of 1000' as determined by ODOT.
d. TIS Level 2 Study Limits – Limits are determined in the Preliminary TIS meeting. Minimum study limits should include adjacent and nearby significant intersections including ramp intersections.
e. Projects involving ramp intersections may require an Interchange Study (IOS or IMS) subsequent to the TIS approval.

f. For Traffic Impact Studies that are expected to trigger an Interchange Study it is suggested to get traffic counts that encompass the Interchange Study limits. It is recommended that District staff coordinate with the Office of Roadway Engineering if an Interchange Study is anticipated.

9.43 Opening Year
Opening Year is when the site is expected to open with all proposed roadway improvements.

9.44 Design Year
TIS Level 1 – Design Year is Opening Year + 10 years
TIS Level 2 – Design Year is Opening Year + 20 years

If the proposed modifications within a TIS (Level 1 or 2) require an Interchange Study a 20 year Design Year is required.

9.45 Capacity Analyses

a. The TIS will examine the AM Peak and PM Peak of the No-Build and Build conditions (before and after) in order to evaluate traffic impacts associated with the proposed development.
b. The impacts of all access alternatives on highway capacity and throughput is required to be calculated for the following conditions:

   Using the Design Year traffic volumes, the following must be analyzed:

   i. **No-Build Condition** – Analyze existing roadway geometry (i.e. number/types of lanes) and existing traffic control (i.e. signalized/unsignalized) using the background traffic (this excludes site traffic).

   ii. **Build Condition 1** – Analyze existing roadway geometry (i.e. number/types of lanes) and existing traffic control (i.e. signalized/unsignalized) using the background traffic plus the site traffic (Note: this would be the No-Build Condition for Interchange Studies).

   iii. **Build Condition 2** – Analyze proposed roadway geometry (i.e. number/types of lanes) and traffic control (i.e. signalized/unsignalized) using the background traffic plus the site traffic to meet the established criteria (Note: this would be the Build Condition for Interchange Studies).

   If Build Condition 1 meets established geometric and operational criteria then Build Condition 2 is not required.

c. The following computer software is required to be used in accordance with ODOT's requirements as stated in the ODOT Analysis & Traffic Simulation Manual, Chapter 3.

   i. Highway Capacity Software (HCS) – always required
   ii. Simulation Software – may be required, determined by District
   iii. Other software as agreed to and acceptable to ODOT

9.46 Significant Adverse Impacts
When comparing the No-Build condition to the Build condition, significant adverse impacts occur when the proposed intersection cannot meet the operational goals set in the OATS Manual, Section 5.9, Operational Goals of Mainline & Intersections.

When significant adverse impacts are expected, the following information is required to be provided:

a. Intersection(s) where the adverse impact is occurring
b. Intersection(s) LOS (No-Build/Build)

c. Control LOS (No-Build/Build)
d. What improvements are required to mitigate the adverse impact?
e. If the adverse impact is not being mitigated, explain why.

The developer is responsible for funding the required improvements.

All new intersections will also need to be consistent with the OATS Manual operational goals.

9.47 Traffic Volumes

a. ODOT and the applicant must agree on traffic volumes before proceeding with analyses.
b. Typically, the weekday AM peak and PM peak hour traffic volumes are required, however, there are cases where the weekday or weekend midday peak hours may also be required.
c. All analyses must be prepared using the greater of the following:
    - the design hour volume (DHV) for the adjacent roadway plus the site traffic of the proposed development for the peak hour of the adjacent street
    - the peak hour of the generator site traffic and the corresponding hourly volume of the adjacent street (adjusted using the same DHV factor as used for the design hour)
d. If site peak-hour trips are < 500 use **Hourly Count Method 1** in **Section 7.21**, however, a 24 hour machine count (as defined in Chapter 8 of Volume 1 of the Ohio Design Traffic Forecasting Manual) is required to identify the peak hours at the location.
e. If site peak-hour trips are ≥ 500 then the traffic forecast must follow the procedures specified in Chapter 8 of Volume 1 of the Ohio Design Traffic Forecasting Manual.
f. Site traffic volumes are required to be calculated using the most current edition of the ITE Trip Generation Manual.

9.48 Signal Warrant Analyses

See **Section 6.0** Traffic Signals.

10.0 Permit Issuance and Terms of Approval

10.1 Permit Issuance

The applicant shall not begin construction of any improvements until plans for said improvements have been approved by ODOT and the applicant has received a permit for construction within the right-of-way.

When a permit is to be issued for an approved access connection, the permit shall be issued on Form No. MR 509, including any modifications, conditions, or restrictions that apply to the permit as necessary. The Director of Transportation or their designee will sign the permit form, and a copy of the permit package will be given to the permittee. A permit is not valid until it is signed by the Director.

No changes, modifications, or revisions may be made to the location or design or to the conditions and terms as contained in an approved access permit by any Department personnel without the written approval of the District Deputy Director and in accordance with the State Highway Access Management Manual.

10.2 General Provisions Applying to All Access Permits

The granting of an access permit does not convey to the permittee or to the property served any rights, title, or interest in state highway rights-of-way or in the design or operation of the state highway, or in any way abridge the right of the Department in the exercise of its jurisdiction over state highways.

If, in the future, it is necessary for improved safety and operation of the highway or for the benefit of the traveling public, the Department, as directed by the Director of Transportation, may reconstruct, relocate, modify, repair, or remove any access connection or any features or fixtures thereof. And in the future, if it is necessary for improved safety and operation of the highway or for the benefit of the traveling public, the Department may redesign the highway including installing any auxiliary lanes and modifying any allowable turning movements. Any such changes in roadway design that are necessary for improved safety and operation of the highway or for the benefit of the traveling public shall not require a permit modification for an access point since the permit confers no private rights to the permittee over the control of the highway design.

The District Deputy Director acts for and on behalf of the Director in issuing and carrying out the provisions of all access permits. The District Deputy Director has full authority to ensure that all provisions of the access permit are complied with fully and to reject any materials, design, and workmanship that do not meet applicable Department standards.

Failure on the part of the permittee to comply fully with the provisions and conditions of the access permit will be cause for suspension, revocation, or annulment of the permit thereby rendering the access connection illegal and subject to Departmental action.

The acceptance of the permit by the party or parties to whom the permit was granted constitutes an agreement to comply with all conditions, terms, and restrictions printed or written on or attached to the permit.

The permittee shall save harmless the Department, the State of Ohio, and all of its representatives from all suits, actions, or claims of any character, brought on account of any injuries or damages sustained by any person or property in consequences of any neglect or on account of any act or omission as a result of the issuance of the permit.

The District Deputy Director may require a performance bond as a prerequisite to the issuance of a permit.

10.3 Construction and Compliance with Access Permits

All work authorized under the conditions of the permit shall be performed to the satisfaction of the Department, and the entire expense shall be borne by the permittee. No work shall be performed as

authorized by the permit, until the permittee has contacted the office or the individual named on the permit, as the Department's appointed representative, and received instructions.

Any significant work (such as through lane or turn lane additions, signal installation, etc.,) conducted under a permit, must be designed and performed by pre-qualified ODOT consultants/contractors. The District Deputy Director, or their appointed representative, has the discretion to override the need for prequalification for minor permit projects.

Applicants are responsible for compliance with all environmental regulations and requirements. ODOT will not be responsible for violations of environmental requirements or necessary permits.

The Department's appointed representative shall inspect all work covered by the permit and ensure that the work is being performed in accordance with the permit conditions and plan specifications. If the work is not being performed as specified, the work shall be stopped and the Department's representative shall complete the Permit Inspection Certificate, Form No. MR 678 reporting the action and the circumstances to the District Deputy Director. The permittee shall be notified of the Department's action and its causes, and given an opportunity to correct the problem.

All work to be performed as authorized by the permit shall be completed within the time frame specified on the permit. A permit shall be considered void if the work is not completed within the required time frame, thereby rendering the access connection illegal and subject to Departmental action. The permittee may request an extension from the District Office. The request must be in writing and must explain why the extension is necessary and when the work is expected to be completed.

If the permittee performs any work contrary to the orders of the District Deputy Director or appointed representative or contrary to the conditions and provisions of the permit, and after due notice of the violation fails to correct such work, the District Deputy Director shall notify the permittee that the permit is void, thereby rendering the access connection illegal and subject to Departmental action.

Access Permits involving construction impinging on the roadway or shoulders shall include a Maintenance of Traffic Plan in accordance with the OMUTCD. Any needed closure of lanes or shoulders shall be described in terms of location, duration, time of day, etc. Lane and shoulder closures and other work shall not commence until all Traffic Control Devices are in place. Traffic Control Devices shall be removed immediately when they are no longer needed. Lane or shoulder closures or other hazards existing for a longer time period than necessary may be cause for the Department to order revocation of the permit and immediate closure of the work areas, removal of all hazards, and removal of all equipment.

Upon completion of the work authorized by the permit, the permittee shall leave the highway clean of all rubbish, excess materials, temporary structures and equipment, and all parts of the highway shall be left in a condition acceptable to the Department.

Upon satisfactory completion of the work authorized by the permit, the Department's appointed representative shall complete the Permit Inspection Certificate, Form No. MR 678 certifying that the permittee has complied with the terms of the permit.

Appendix A - ODOT District Contacts

1) Identify the county in which the requested access is located;
2) Determine which ODOT District (District 1-12) contains the county of interest;
3) Call the provided contact number and request to speak with the District Permit Coordinator

District 1	419-222-9055	1885 N. McCullough St. Lima, OH 45801
District 2	419-353-8131	317 East Poe Rd., Bowling Green, OH 43402-1330
District 3	800-276-4188	906 Clark Ave., Ashland, OH 44805
District 4	800-603-1054	2088 S. Arlington Rd., Akron, OH 44306
District 5	740-323-4400	9600 Jacksontown Rd., Jacksontown, OH 43030
District 6	800-372-7714	400 E. William St., Delaware, OH 43015
District 7	937-492-1141	1001 St. Marys Ave., Sidney, OH 45365
District 8	800-831-2142	505 South State Route 741, Lebanon, OH 45036
District 9	740-773-2691	650 Eastern Ave., Chillicothe, OH 45601
District 10	740-568-3900	338 Muskingum Dr., Marietta, OH 45750
District 11	330-339-6633	2201 Reiser Ave., New Philadelphia, OH 44663
District 12	216-581-2100	5500 Transportation Blvd., Garfield Hts., OH 44125

Appendix B – Traffic Count Restrictions

Traffic counts will normally be taken Tuesday through Thursday, or Saturday and Sunday. In those instances when the requested access will serve a land use where the traffic counts utilizing the access are significantly higher on the weekend the applicant should consult with the DPC for direction on days and times to perform traffic counts.

Applicants should consult with the district regarding the most appropriate hours to count related to their specific access request. A traffic count duration will normally be 4 consecutive hours broken out into 15 minute increments for both the AM and Peak periods. The goal is to count the occurrence of the existing highest peak hour volumes; this normally occurs in the AM Peak (6A-10A) and PM Peak (2P-7P). The AM and PM peaks would normally be the hours of interest, however, this can vary based upon the land use the proposed access would support. In some cases, different or additional hours will be required. In the case of access requests that include proposals for traffic signals, the number of hours requiring counts could be 8 or more hours. Turning movement counts should capture all intersection movements.

Based on the specific land use, however, a more appropriate peak hour may be necessary such as midday/lunch (11a-1p) or on the weekends. ODOT's web site (ODOT TMMS) can be used to locate nearby traffic counts that can indicate the peak volume period. Land uses such as schools, theaters, churches and shopping centers potentially have peak hours other than the adjacent roadway. Consult with the DPC if uncertain of the required peak hours that require counting.

From the 16 15-minute count periods (4 hours) the traffic volume used will be the 4 consecutive - 15 minute counts that produce the highest volume for both peak periods.

No count should be collected within 36 hours of an extended weekend formed by a Federal, State, or Local holiday unless otherwise noted. Identified holidays are included as follows:

a. New Year's Day
b. Martin Luther King Day
c. Presidents Day
d. Memorial Day
e. Independence Day
f. Labor Day
g. Columbus Day
h. Veterans Day
i. Thanksgiving Day
j. Christmas

Counts should not be taken between Christmas Day and New Year's Day. No part of a count should be collected within 24 hours of a school closure due to a snow event or other natural disaster (e.g. flooding, tornado, etc.). In addition, counts should not be taken when any local construction may significantly affect the results.

Appendix C – References and Resources

The standards and specifications applied in the State Highway Access Management Manual are based on engineering judgment and the following standard, engineering references used by the Department. The citation of standard, engineering references always refers to the latest publication or edition of the work as amended.

a. **A Policy on Geometric Design of Highway and Streets**, American Association of State Highway and Transportation Officials, Washington, D.C.

b. **Transportation and Traffic Engineering Handbook**, Institute of Transportation Engineers, Washington D.C.

c. **Manual on Uniform Traffic Control Devices for Streets and Highways**, (M.U.T.C.D.), U.S. Department of Transportation and Federal Highway Administration, Washington, D.C.

d. **Ohio Manual of Uniform Traffic Control Devices**, (OMUTCD), Ohio Department of Transportation, Columbus, Ohio.

e. **Location and Design Manual**, Ohio Department of Transportation, Columbus, Ohio.

f. **Construction and Materials Specifications Manual**, Ohio Department of Transportation, Columbus, Ohio.

g. **Standard Construction Drawings**, Ohio Department of Transportation, Columbus, Ohio.

h. **Trip Generation Manual**, Institute of Transportation Engineers, Washington, D.C.

i. **Roadside Design Guide**, American Association of State Highway and Transportation Officials, Washington, D.C.

j. **Highway Capacity Manual**, Transportation Research Board, Washington, D.C.

k. **Ohio Traffic Forecasting Manual**, Ohio Department of Transportation, Columbus, Ohio

l. **Property Management Manual** for the Real Estate Disposal Function, Ohio Department of Transportation, Columbus, Ohio.

m. **Appraisal Manual** for the Office of Real Estate, Ohio Department of Transportation, Columbus, Ohio.

n. **ODOT Analysis and Traffic Simulation Manual**, (OATS), Ohio Department of Transportation, Columbus, Ohio.

Appendix D - Definitions and Abbreviations

These definitions are provided and adopted to explain technical words, phrases, and abbreviations used in this document.

1. **Access** or **access connection** means any driveway or other point of entry and/or exit such as a street, road or highway that connects to the general street system. Where two public roadways intersect, the secondary roadway shall be considered the access.

2. **Access Management Plan** means a roadway design plan which designates access locations and design for the purpose of bringing those portions of roadway included in the access management plan into conformance with the identified access category to the extent feasible.

3. **Access operation** means the utilization of an access for its intended purpose, and includes all consequences or characteristics of that process, including access volumes, type of access traffic, access safety, time of the access activity, and the effect of such access on the state highway system.

4. **ADT** means the annual average two-way daily traffic volume. It represents the total traffic for the year, divided by 365. For purposes of the State Highway Access Management Manual, references to AADT in other resources and publications shall be considered synonymous with ADT.

5. **Adjacent Street** means the roadway directly servicing the proposed development. If the development is serviced by multiple adjacent streets, the adjacent street for peak hour determination is that with the highest counted peak hour volume.

6. **Applicant** means any person, corporation, entity or agency applying for an access permit.

7. **Appropriate local authority** means the board of county commissioners or township trustees if the access is to be located in the unincorporated area of a county, or the governing body of the municipality if the access is to be located within an incorporated municipality. Also referred to as the local authority, and local government.

8. **Auxiliary lane** means any additional special purpose lane such as: speed change lanes, hill climbing lanes, and turning lanes.

9. **Capacity** means the ability of the highway to provide service to the volume of vehicles seeking to use the highway. Capacity is most often considered the maximum volume of traffic that can be accommodated by a highway during a specified unit of time. Sometimes it refers to the entire roadway and sometimes to a single lane.

10. **Control of access** means the condition in which the access right of owners or occupants of land abutting or adjacent to a roadway is controlled by public authority.

11. **Controlled-access highway** means every street or highway in respect to which owners or occupants of abutting lands and other persons have no legal right of access to or from the same except at such points only and in such manner as may be determined by the public authority having jurisdiction over such street or highway. [Chapter 4511.01 (CC), O.R.C.]

12. **County roads** include all roads which are or may be established as a part of the county system of roads as provided in sections 5541.01 to 5541.03, inclusive, of the Ohio Revised Code, which shall be known as the county highway system. Such roads shall be maintained by the board of county commissioners. [Chapter 5535.01 (A), O.R.C.]

13. **Department** means the Ohio Department of Transportation.

14. **Design Hour Volume** (DHV) means the hourly traffic volume used in the geometric design of highways. In Ohio, the DHV is the 30th highest hour vehicular volume experienced in a one-year period. See **the Ohio Traffic Forecasting Manual** for the methodology to determine DHV.

15. **Design Speed** for the purposes of the State Highway Access Management Manual should equal the posted speed plus 5 mph.

16. **Divided highway** means a highway with separated roadways for traffic in opposite directions, such separation being indicated by depressed dividing strips, raised curbing, traffic islands, or other physical barriers so constructed as to prevent or discourage crossover vehicular traffic or otherwise indicated by standard pavement markings or other official traffic control devices as prescribed in the Ohio Manual of Uniform Traffic Control Devices.

17. **Driveway** or **Private road** means every way or place in private ownership used for vehicular travel by the owner and those having express or implied permission from the owner but not by other persons. [Chapter 4511.01 (DD), O.R.C.]

18. **Driveway Spacing** refers to the desired distance between adjacent driveways on the side of the roadway, as measured from centerline to centerline, considered necessary for the safe ingress and egress of vehicles and the safe operation of the highway at its posted speed.

19. **Expressway** means a divided arterial highway for through traffic with full or partial control of access with an excess of fifty percent of all crossroads separated in grade. [Chapter 4511.01 (ZZ), O.R.C.]

20. **Freeway** means a divided multi-lane highway for through traffic with all cross roads separated in grade and with full control of access. It is a highway especially designed for through traffic and over which abutting property owners have no easement or right of access by reason of the fact that their property abuts upon such highway, and access to which may be allowed only at highway intersections designated by the Director of Transportation, board of county commissioners, or municipal authorities on roads within their jurisdiction. [Chapter 4511.01 (YY), O.R.C.], [Chapter 5511.02, O.R.C.], [Chapter 5535.02, O.R.C.]

21. **General street system** means the interconnecting network of city streets, county roads, township roads, and state highways in an area.

22. **Grade separation** means a crossing of two roadways, or a roadway and a railroad, or a roadway and a pedestrian walkway or bike path in such a way that neither facility interferes with the operation of the other.

23. **Highway** or **Street** means the entire width between the boundary lines of every way open to the use of the public as a thoroughfare for purposes of vehicular travel. [Chapter 4511.01(BB), O.R.C.]

24. I**nterchange** means a facility that provides ramps for access movements between intersecting roadways that are separated in grade. The ramps and any structures used to accomplish the movement of traffic between the roadways are considered part of the interchange.

25. **IMS** means Interchange Modification Study.

26. **IOS** means Interchange Operations Study.

27. **Intersection** means: (1) The area embraced within the prolongation or connection of the lateral curb lines, or, if none, then the lateral boundary lines of the roadways of two highways which join one another at, or approximately at, right angles, or the area within which vehicles traveling upon different highways joining at any other angle may come in conflict; (2) Where a highway includes two roadways thirty feet or more apart, then every crossing of each roadway of such divided highway by an intersecting highway shall be regarded as a separate intersection. If an intersecting highway also includes two roadways thirty feet or more apart, then every crossing of two roadways of such highways shall be regarded as a separate intersection; (3) The junction of an alley with a street or highway, or with another alley, shall not constitute an intersection. [Chapter 4511.01 (KK), O.R.C.]

28. **Intersection Sight Distance** means the distance at which a motorist attempting to enter or cross a highway should be able to observe traffic in order to make his desired movement. The required distance varies with the speed of the traffic on the main highway.

29. **Issuing authority** means the government entity which issues access permits.

30. **Lane** means the portion of a roadway for the movement of a single line of vehicles. It does not include the gutter or shoulder of the roadway.

31. **Level of Service** (LOS) is a qualitative measure describing a range of traffic operating conditions such as travel speed and time, freedom to maneuver, traffic interruptions, and comfort and convenience as experienced and perceived by motorists and passengers. Six levels are defined from A to F, with A representing the best range of conditions and F the worst.

32. **Limited access highway or freeway** is a highway especially designed for through traffic and over which abutting property owners have no easement or right of access by reason of the fact that their property abuts upon such highway, and access to which may be allowed only at highway intersections designated by the Director of Transportation.

33. **Local government** means the board of county commissioners or the township trustees if the highway section is located in an unincorporated area of a county or the governing body of the municipality if the highway section is located within an incorporated municipality.

34. **Median** means that portion of a highway separating the opposing traffic flows.

35. **Median Island** means a curbed island which prevents egress traffic from encroaching upon the side of the drive used by ingress traffic. The island ensures that ingress traffic has the necessary maneuvering space.

36. **MPH** means a rate of speed measured in miles per hour.

37. **OMUTCD** means the Ohio Manual of Uniform Traffic Control Devices.

38. **OATS** means the ODOT Analysis and Traffic Simulation Manual

39. **Peak Hour Volume** refers to the highest traffic volume in 60 consecutive minutes in one (or both) of the two traditional peak periods of traffic, typically the weekday morning peak is between 7 a.m. and 9 a.m. and/or the evening peak is between 4 p.m. and 6 p.m. This volume is generally based on 60-minute, 30-minute, or 15-minute periods. While traffic may peak near the noon hour, trip generation rates do not usually exist for this period.

40. **Permit issue date** also known as "date of issue" means the date when the authorized Department official signs the permit.

41. **Permittee** means any person, unit of government, public agency or any other entity that can own property, to whom an access permit is issued. The permittee, normally the property owner served by the access, is responsible for fulfilling all the terms and conditions of the permit.

42. **Person** means every natural person, firm, co-partnership, association, or corporation. [Chapter 4511.01 (W), O.R.C.]

43. **Potential for signalization** means an access that has the potential to meet any of the warrants for a traffic signal as defined by the OMUTCD.

44. **Right-of-Way** is a general term denoting land, property, or the interest therein, usually in the configuration of a strip acquired for or devoted to transportation purposes. When used in this context, right-of-way includes the roadway, shoulders or berm, ditch, and slopes extending to the right-of-way limits under the control of the state or local authority. [Chapter 4511.01(UU), O.R.C.]

45. **Relocate** means to remove and establish in a new place, and may include, if necessary to conform a property's access to the provisions of the State Highway Access Management Manual, merging or combining non-conforming access with other existing access so as to eliminate the non-conformance. In such event, the property owner or permittee, if applicable, may be required to remove all physical elements of the non-conforming access, such as curb cuts and surfacing material, and install curbing, barriers, or other physical separators to prevent continued use of the access.

46. **Roadside** means that area between the outside shoulder edge and the right-of-way limits.

47. **Roadway** means that portion of a highway improved, designed or ordinarily used for vehicular travel except the berm or shoulder. If a highway includes two or more separate roadways, the term "roadway" means any such roadway separately but not to all such roadways collectively. [Chapter 4511.01 (EE), O.R.C.]

48. **Rural** means areas the outside the boundaries of urban areas. See the definition for Urban.

49. **Signal** means a traffic control signal.

50. **Signalization** means installing or modifying a traffic control signal.

51. **Signal progression** means the progressive movement of traffic at a planned rate of speed without stopping through adjacent signalized locations within a traffic control system.

52. **Speed change lane** means a separate lane for the purpose of enabling a vehicle entering or leaving a roadway to increase or decrease its speed to a rate at which it can safely merge with or diverge from through traffic. Acceleration and deceleration lanes are speed change lanes.

53. **State highway** means all state highways as established by law and part of the state highway system as established by law excepting those state highway routes into and through municipal corporations. [5511.01, 5501.11 O.R.C.]

54. **State roads** include the roads and highways on the state highway system. [Chapter 5535.01 (A), O.R.C.]

55. **Stopping sight distance** means the distance required by a driver of a vehicle, traveling at a given speed, to bring the vehicle to a stop after an object on the roadway becomes visible. It includes the distance traveled during driver perception and reaction times and the vehicle braking distance.

56. **Storage length** means additional lane length added to a deceleration lane to store the maximum number of vehicles likely to accumulate in the lane during a peak hour period to prevent stored vehicles from interfering with the function of the deceleration lane or the through travel lanes.

57. **Township roads** include all public highways outside municipalities other than state or county roads. The board of township trustees shall maintain all such roads within its township. The board of county commissioners may assist the board of township trustees in maintaining such roads. This section does not prevent the board of township trustees from improving any road within its township.

58. **Traffic Analysis** (TA) is a study which is required to be completed before an access permit can be approved and issued for any development or land use which generates or has the potential to generate traffic volumes exceeding the threshold value specified in **Section 7.1**. The purpose and need for the TA is to determine more precisely the impacts of the access usage, to mitigate these impacts through the proper location, design, and construction of the access connection(s), and to ensure the continued functional and operational integrity of the highway. See **Section 7.11**.

59. **Traffic Forecast Management System (TFMS)** is a web-based tool for simplified forecasts on the state roadway network.

60. **Traffic Impact Study** (TIS) is a study which is required to be completed before an access permit can be approved and issued for any development or land use which generates or has the potential to generate traffic volumes exceeding the threshold value specified in **Section 9.0**. The purpose and need for the TIS is to determine more precisely the impacts of the access usage, to mitigate these impacts through the proper location, design, and construction of the access connection(s), and to ensure the continued functional and operational integrity of the highway. See **Section 9.0**.

61. **Trips** means the number of vehicles entering and exiting a proposed access.

62. **Turn Lane Warrant Analysis** means a methodology used in determining if turn lanes are required due to applicants proposed/existing traffic volumes.

63. **Urban** means (1) places with a population of 5,000 or more, that are incorporated as cities, villages, and towns but excluding the rural portions of extended cities; (2) census designated places with 5,000 or more persons; and (3) other territory, incorporated or unincorporated, included in urbanized areas. Extended cities are those cities whose boundaries include territory that is essentially rural in character (e.g., uncurbed pavement with open drainage, where a rural typical section would be more consistent with the existing roadway). Urbanized areas consist of one or more places (central places) and the adjacent densely populated surrounding territory (urban fringe) that together have a minimum population of 50,000. The urban fringe generally consists of contiguous territory having a density of at least 1,000 persons per square mile. Rural areas are those outside of the boundaries of urban areas.

64. **Variance** is a granting of permission to depart from the standards and requirements of the State Highway Access Management Manual because of unique circumstances or existing special conditions. (See **Section 2.4**)

65. **Warrant(s)** means the criteria by which the need for a treatment or improvement can be determined.