ARTICLE 24

TRANSPORTATION MANAGEMENT REGULATIONS

SECTION 2400 – Intent

To promote effective modes of transportation, including safe and reasonable access between public roadways and adjacent land, transit service, bicycle, and pedestrian travel. These regulations aim to improve the convenience and ease of movement of travelers on public roads and provide for the reasonable speeds and economy of travel while maintaining the capacity of the roadway. The location and design of transportation facilities shall be in accordance with the following regulations. These regulations shall apply to all existing, planned, or proposed transportation facilities.

SECTION 2402- Provision For Pedestrian Network

Sidewalk connections to adjacent developments and/or public rights-of-way shall be encouraged and provided along public roads. New developments or re-development of existing sites should provide sidewalks along public roads. Where adequate right-of-way does not exist, right-of-way or public sidewalk easements shall be granted. The width of the sidewalks shall be in conformance with the requirements of the Decatur County Subdivision Regulations. At intersections and pedestrian crosswalks, wheelchair ramps shall be installed.

SECTION 2404 - Functional Roadway Classification

The functional classifications of roadways are necessary to differentiate between separate operating systems. The Decatur County transportation system of roadways is classified by operating class. The classification of highways by operating system in Decatur County is determined by several factors.

- **Geometric Characteristics** – The physical design of the roadway including, lane width, pavement width, grade etc.
- **Traffic Volumes** – the volume of Average Daily Traffic the roadway serves.
- **Connectivity** – the level of connectivity and access the roadway provides. Higher design roadway classifications generally connect inter-county or inter-state roadways. Lower level classifications generally provide local access.
- **Access Control** – the level of access that is permitted on the roadway.

Each roadway in Decatur County provides a particular function. In general these functions are differentiated by a hierarchy of traffic movements which includes, from highest to lowest function,

local access roads, collection systems, distribution facilities and primary movements. Each roadway in the county is classified by one of these operational functions.

1. ROADWAY CLASSIFICATIONS

The procedure to classify roadways follows a two-phase process.

1) *Classification by Access* - A determination made based on the interconnectivity of the roadway and the importance of the route not only within the county but externally as well. This establishes the roadway category; arterial, collector or local roadway.

2) *Classification by Traffic Volumes* - Analysis of the Average Daily Traffic (ADT) sub-classifies each facility determining the design parameters appropriate to that level of roadway.

A. Arterial System

There are two types of arterials, the principal arterial and the rural arterial. A principal arterial is generally identified as a facility which serves corridor movements adequate for statewide or interstate travel. The roadways in this category can be identified as the interstate system within the county.

Principal Arterial Roadways
I-74

Arterials are categorized by their linkages to cities or larger towns and they generally provide interstate or intercounty service. They are capable of attracting travel over long distances and have a spacing that is consistent with the population density in the county. All developed areas should generally be within a reasonable distance to an arterial.

Arterial Roadways	
SR 46 SR 3 SR 421.	

To further classify the roadways in this category, three (3) sub-categories are used based on the ADT volumes on the facilities. A list of these sub-categories is listed in Table 24.1. As each sub-category serves a separate level of traffic, design criteria has been developed separately to accommodate these differences. For example, a high-volume arterial's design standards will be greater than that of a low-volume arterial.

Table 24.1 – Rural Arterial Sub-Categories

Sub-Category	Average Daily Traffic (ADT)
Rural Arterial Category I	ADT < 400
Rural Arterial Category II	400 < ADT < 3,000
Rural Arterial Category III	3,000 < ADT < 5,000
Rural Arterial Category IV	ADT > 5,000

Along an arterial roadway, the provision of direct access to abutting land is **subordinate** to providing service to through traffic as facilitated through the following conditions:

a. Direct private access to arterial roadways shall be permitted only when the property in question has no other reasonable access to the public roadway network;

b. The design and location of allowable private access points must comply with all applicable sections of this regulation;

c. Direct private access points to arterial roadways may be designated as "Temporary" and all requirements of Section 2460 shall apply.

B. Collector System

The collector system generally serves intracounty travel as opposed to statewide movements. The trips associated with a collector are predominantly shorter than those associated with arterial routes. Consequently, lesser design speeds are used and the design standards are generally less than that of arterial routes. Collector routes provide service to smaller communities and provide connections to the arterial system. They are categorized as serving the more important intracounty routes.

In order to further define the collector system the following sub-categories have been developed based on the ADT volumes on the roadway.

Table 24.2 – Rural Collector Sub-Categories

Sub-Category	Average Daily Traffic (ADT)
Rural Collector Category I	ADT <400
Rural Collector Category II	400 < ADT < 1,000
Rural Collector Category III	1,000 < ADT < 3,000
Rural Collector Category IV	3,000 < ADT < 5,000
Rural Collector Category V	ADT > 5,000

C. Local Roadways

The local roadway system in contrast to the arterial and collector system primarily provides access to adjacent land and to the wider network. It serves principally shorter trips and constitutes all roadways not classified as arterials or collector roads. To further designate this category and the design parameters required a set of sub-categories has been developed based on the roadway traffic volumes. These sub-categories are presented in Table 24.3 below.

Table 24.3 – Local Roadway Sub-Categories

Sub-Category	Average Daily Traffic (ADT)
Rural Local Category I	ADT <400
Rural Local Category II	400 < ADT < 1,000
Rural Local Category III	1,000 < ADT < 3,000
Rural Local Category IV	3,000 < ADT < 5,000
Category V	ADT > 5,000
Curb & Gutter Local Road (Urban Local Road)	NA

2. ROADWAY CLASSIFICATION VERIFICATION AND TRAFFIC COUNTS

It is important to note that the Roadway Functional Classifications will need to be continually reviewed and updated by the county. Functional Classifications can change over time due to new development and changing travel patterns. **The Plan Commission may require a 24-hour traffic count be conducted at the expense of the applicant on any roadway where an access point is requested.** The traffic count must be preformed by a firm approved by the Planning Director.

The functional classification of roadways within the county will change as the county develops and as road improvements and new roadways are constructed. Therefore development requests shall be reviewed to determine if the request will result in a functional change of the roadway. The classification of an existing or proposed roadway may be reviewed based upon a consideration of existing and projected traffic volumes, newly adopted transportation plans, changes in the existing and/or proposed character of lands adjoining the roadway, amended land use plans and zoning classification, and the availability of reasonable access to affected lands.

SECTION 2406 - Minimum Spacing of Driveways

In order to minimize the potential for accidents and delay to through vehicles, all adjacent driveways onto public roadways must be separated by the minimum distance shown in ***Table 24.4.*** These minimum spacing requirements may be adjusted slightly to better accommodate minimum sight distance requirements. Local residential streets shall be exempt from the driveway spacing

listed below.

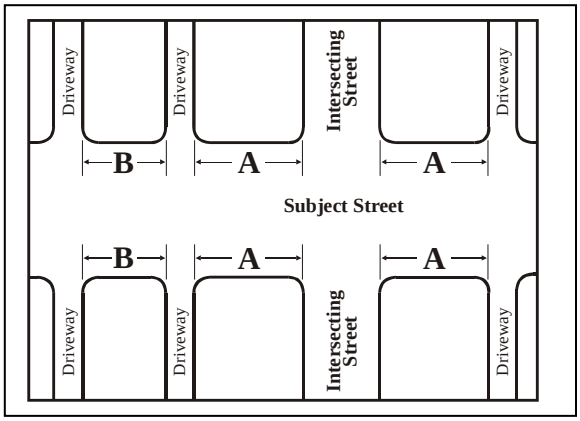
SECTION 2408 - Minimum Corner Clearance of Driveways from Intersecting Streets

Table 24.3 – Local Roadway Sub-Categories

The locations of driveways adjacent to intersecting streets shall conform to the minimum corner clearances provided in ***Table 24.4.***

ITEM A			
Type of Intersection	***Arterial***	***Collector***	***Local***
Signalized	230'	175'	50'
Non-Signalized	115'	75'	50'

ITEM B			
Speed Limit	***Arterial***	***Collector***	***Local***
< 40 MPH	275'	185'	N/A
≥ 40 MPH	275'	230'	N/A



Distances shall be measured from edge of pavement

SECTION 2410 – Minimum Sight Distances

All driveways and intersecting roadways for Residential use shall be designed and located so that the minimum sight distances as shown in ***Table 24.5*** are provided. The sight distance for speeds not located on the chart should be computed by dividing the speed limit by five (5) and multiplying that number by 35 feet [(speed limit / 5) 35].

All driveways and intersecting roadways for Commercial use shall be designed and located so that the minimum sight distances as shown in ***Table 24.5*** are provided. The sight distance for speeds not located on the chart should be computed by dividing the speed limit by five (5) and multiplying that number by 50 feet [(speed limit / 5) 50].

State Roads must receive an access permit from the Indiana Department of Transportation and meet their standard for sight distance. The sight distances shall be applied as demonstrated by Figure 24.1

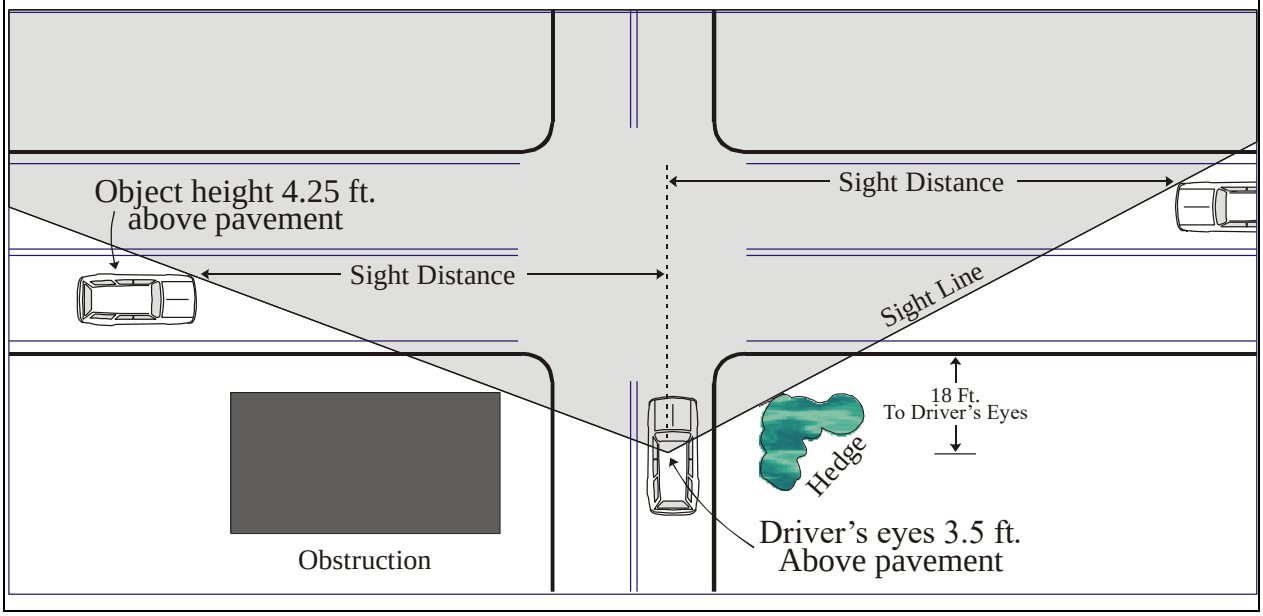
The Decatur County Highway Department can grant a 20% variance of the required sight distance if the street is: minimally traveled, located on a dead end street, contains little or no development, or is a gravel road.

Table 24.5 – Minimum Sight Distance Requirements

Operating Speed	25	30	35	40	45	50	55	60	65
Residential	175	210	245	280	315	350	385	420	455
Commercial	250	300	350	400	450	500	550	600	650

The chart is based on a numerical equation: for every 5-mph an additional 35 feet for residential or 50 feet for commercial sight distance is required in each direction.

Figure 24.1 - Sight Triangle



SECTION 2412 - Sight Triangle

In addition to the design and location of new access points with adequate sight distance, an adequate sight triangle shall also be maintained. Sight triangles are areas clear of visual obstruction to allow for the safe egress of vehicles from an access point, including an intersecting street onto a roadway. Sight triangles shall conform to the distances detailed in ***Figure 24.1***.

SECTION 2414 - Provisions for Maintaining the Level of Service of the Roadway

The Plan Commission may require that all traffic requiring access to and from a development shall operate in such a manner as to not adversely affect the level of service of the roadway. Provisions for the present or future construction of a frontage road restriction or channelization of turning movements or other improvements may be required, as a condition of approval, in order to maintain the level of service of any adjacent roadway.

SECTION 2416 - Number and Location of Access Points

A driveway permit shall be obtained from the State or County for the road that is to be accessed. Each existing tract of land is entitled to one access point provided that its location and design fulfill, as a minimum, the requirements of these regulations including the following:

1. Where an undeveloped parcel adjoins another undeveloped parcel on a collector or an arterial roadway, access points shall be located along common property lines of such parcels, providing the potential access meets other applicable portions of these regulations. When the second undeveloped parcel is developed, it shall utilize the common access. Where access is provided along common property lines, an easement granting common access shall be provided. In addition, such access easements shall be of sufficient depth to provide adequate stacking distance for vehicles entering the access point from a public street, and shall also provide for dedication of right-of-way if the access should ever be developed into a public street.

2. Where the frontage of a tract of land is greater than 500 feet, an additional access point is permitted for each additional 500 feet of frontage, provided all access points are otherwise in compliance with all applicable sections of these regulations.

3. If a property has frontage on more than one street, access will be permitted only on those street frontages where standards contained in this ordinance and all other regulations can be met.

4. If a property cannot be served by any access point meeting these standards, the Plan Commission will designate one or more access point(s) based on traffic safety, operational needs, and conformance to as much of the requirements of these regulations as possible.

SECTION 2418 - Coordination of Access Points

Access points on opposite sides of roadways shall be located opposite each other. If not so located, turning movement restrictions may be imposed as determined necessary by the Plan Commission. In addition, in order to maximize the efficient utilization of access points, access drives shall be designed, located, and constructed in a manner to provide and make possible the coordination of access with and between adjacent properties developed (present or future) for similar or compatible uses. As a condition of approval for construction, use, or reuse of any access point, the Plan Commission may require that unobstructed and unencumbered access, in accordance with the provisions of this ordinance, be provided from any such access point to adjacent properties if the uses are similar or compatible and such connection is physically possible.

SECTION 2420 - Change in Property Use

Whenever the use of a parcel of land changes, or two or more parcels of land are assembled under one purpose, plan, entity, or usage, the existing access permit(s) shall become void. The Plan Commission may require the reconstruction, relocation, or closure of the access point(s), based on the new property use. Any such new or re-authorized access point must be in compliance with all applicable sections of this regulation, and may require the submission of a traffic study in accordance with Section 2448 of this ordinance.

SECTION 2422 - Existing Access

Existing access points, even if not in use, may not be relocated, altered, or developed without approval of the Plan Commission.

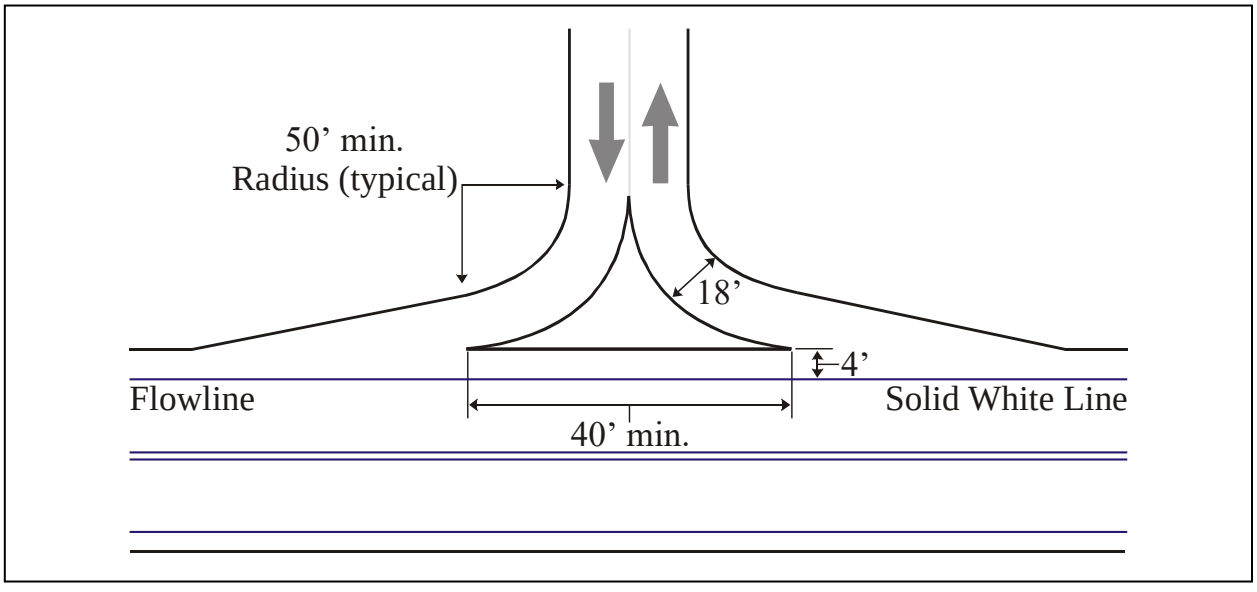
SECTION 2424 - Temporary Access Points

Any access point that does not comply with one or more sections of this regulation may be designated as "Temporary" upon approval by the Plan Commission. Any access point so designated may be terminated, reduced, limited to certain turning movements, or caused to be relocated by the Plan Commission at such time as the particular use served by an access point changes and/or the property is otherwise provided an alternate means of access via a frontage road, an intersecting street, or a shared common driveway. In all cases where said access points are classified as "temporary", such designation shall be duly noted on the plan submitted for approval and also recorded as a Certificate of Land Use Restriction at the Decatur County Recorder's Office with the expiration date noted. A driveway permit shall be obtained from the State or County for whichever road is to be accessed.

SECTION 2426 – Restriction of Turning Movements

Where necessary for the safe and efficient movement of traffic, the Plan Commission may require access points to provide for only limited turning movements (see ***Figure 24.2***). Access points with restricted turning movements must still meet requirements for number and location of access points as specified in these regulations.

Figure 24.2 - Right Turn In / Out Access Design



SECTION 2428 - Construction Access Points

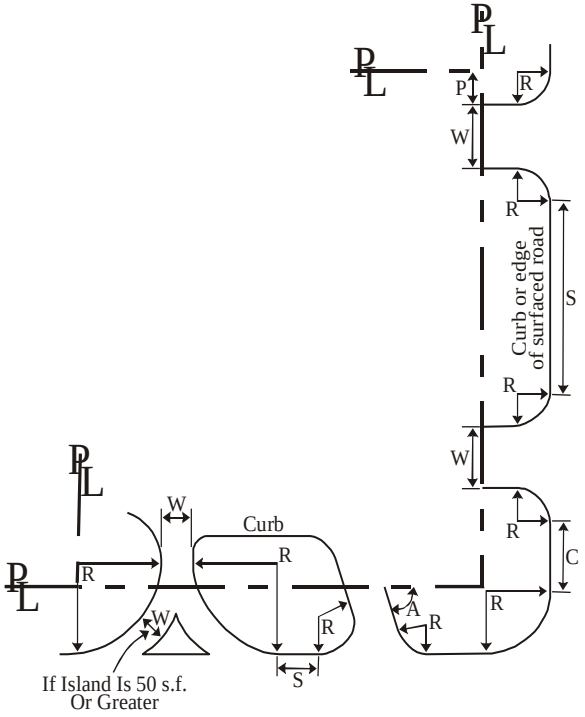
Construction access may be granted to undeveloped property prior to development of a site plan if access is needed for construction or preliminary site access. Construction accesses are subject to removal, relocation, or redesign after final site plan approval.

SECTION 2430 - Driveway Design

The design of driveway width, angle, grade, and curb radii shall comply with the provisions of this section. ***Figure 24.3*** and ***Figure 24.4*** presents the required dimensions and detail for driveway design based or rural or urban conditions. These dimensions shall be adjusted upward as necessary to accommodate design vehicles. If center-channelizing islands are used in a 2-way driveway, clearance widths of 1.5 to 2 feet should be added on both sides of the center island.

Figure 24.3 and 24.4 - Recommended Basic Driveway Dimension Guidelines

DIMENSION		*URBAN*			*RURAL*		
		Res.	***Bus.***	***Manuf.***	***Res.***	***Bus.***	***Manuf.***
Width (W)[1]	Minimum	10 ft.	15 ft.	20 ft.	10 ft.	15 ft.	20 ft.
	Maximum	30 ft.	35 ft.	40 ft.	30 ft.	40 ft.	40 ft.
Right Turn Radius (R)[2]	Minimum	5 ft.	10 ft.	15 ft.	10 ft.	15 ft.	25 ft.
	Maximum	15 ft.	20 ft.	25 ft.	25 ft.	50 ft.	50 ft.
Angle (A)[3]		45 ft.	45 ft.	45 ft.	45 ft.	45 ft.	45 ft.



1. The minimum width of commercial driveways is intended to apply to one-way operation. In high pedestrian areas, the maximum basic width should be 30 feet.

2. On the side of a driveway exposed to entry or exit by right-turning vehicles. In high pedestrian areas, the radii should be half the values shown. The maximum radii for major generator driveways can be higher than the values shown.

3. Minimum acute angle measured from edge of pavement, and generally based on one-way operation. For two-way driveways, and in high pedestrian areas, the minimum angle should be 70 degrees.

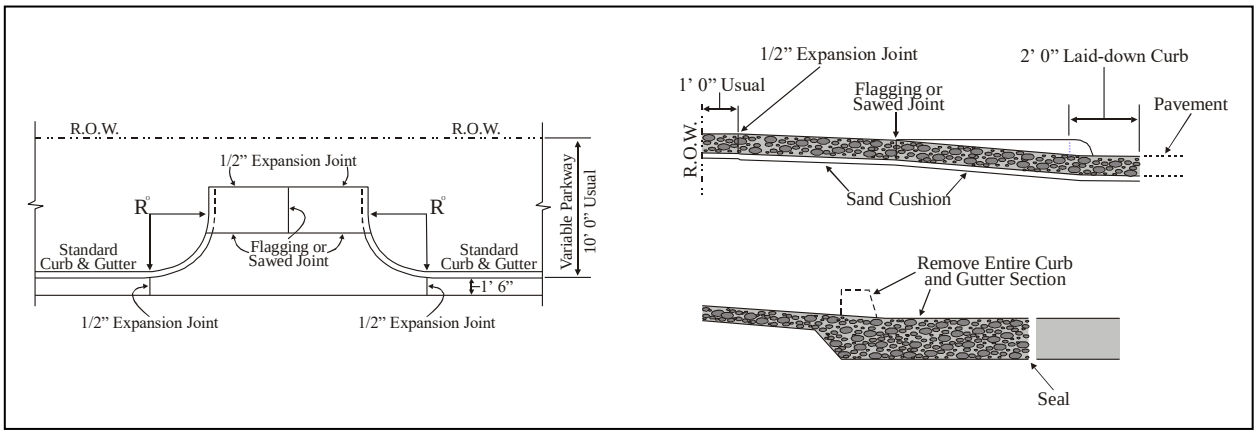
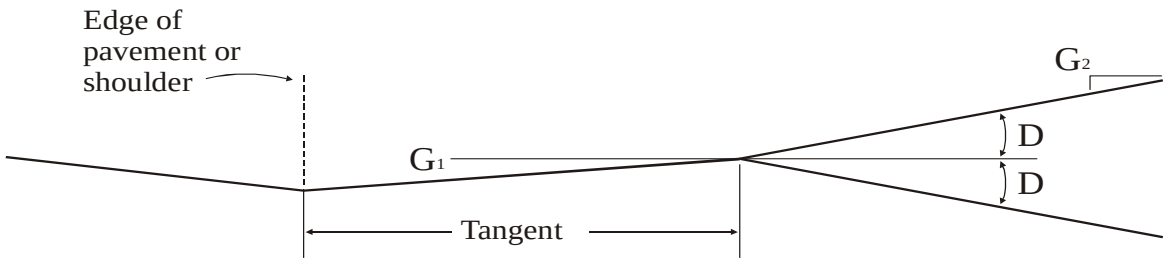


Figure 24.5 - Recommended Driveway Grades



D = Suggested Max. Grade Change

Level of Traffic	Desirable	Maximum
High Volume	0%	+/- 3%
Low Volume on Major or Collector Streets	+/- 3%	+/- 6%
Low Volume on Local Streets	+/- 6%	Controlled by vehicle clearance (+/- 15%)

SECTION 2432 - Driveway Grades

In high traffic areas the grade of a driveway should reflect the design illustrated in ***Figure 24.5***. Existing curbing should be completely removed to insure a safe and efficient access to the development. Where drainage of water flowing onto a roadway is anticipated, a trench drain shall be installed as part of the driveway, ***Figure 24.5*** indicates recommended driveway grades. The value of G1 is limited by shoulder slopes and the presence of a sidewalk. In general G1 should not exceed 8% and the change in grade between the driveway grade and street cross-slope should not exceed 10%. Driveway grades, G2 should not exceed 15% for residential driveways and 8% for commercial or industrial driveways. A level "landing" area should be provided at the approach to the roadway. However, the effect of a vertical curve on sight distances should also be considered. Concrete sidewalk sections are to be provided through curb cuts where existing sidewalks exist or are required.

SECTION 2434 - Vehicle Storage/Circulation

No access will be approved for parking or loading areas that require backing maneuvers in a public street right-of-way except for single-family, duplex or townhouse residential uses on local streets. Any parking facility must have full internal vehicular circulation and storage. Vehicular circulation must be located completely within the property. In addition, each portion of the development must have access to all other portions without using the adjacent street system. Where a proposed development includes a truck loading operation, adequate space must be provided such that all truck maneuvering is performed off street, except as permitted by Article 21 Section 2170.

Adequate stacking capacity must be provided for both inbound and outbound vehicles to facilitate safe movement. Inbound vehicle storage areas must be of sufficient size to ensure that vehicles will not obstruct the adjacent street, sidewalk, or circulation within the development. Outbound vehicle storage areas must be provided to eliminate backup and delay of vehicles within the development.

SECTION 2436 - Spacing Restrictions for Signalized Access Points

Access points shall be designed such that those which will warrant signalization shall be spaced a minimum distance of one quarter mile apart. The location and design of the signalized access points shall be determined by a traffic engineering study, as detailed in Section 2448, prepared by the developer and subject to the approval of the Planning Department. If the installation of a traffic signal is approved, the developer may be responsible for the cost of purchasing, installing operating, and maintaining the signal equipment.

SECTION 2438 - Provision of Exclusive Turning Lanes and Deceleration Lanes

At those access points where vehicles turning to and from the roadway will affect the capacity of the roadway, the developer shall dedicate sufficient right-of-way and construct turning lanes or deceleration lanes as necessary to maintain the capacity of the roadway. If the roadway in question has bike lanes, the developer shall also include adequate right-of-way for the bike lane and continue the bike lane through the access point.

SECTION 2440 - Provision of Frontage Roads

The Plan Commission may require the use of frontage roads to provide access to property adjacent to arterial and collector roadways. The landowner/developer may be required to construct the frontage road to the side and/or rear property lines or reserve sufficient right-of-way to allow future construction of such road.

As adjacent property develops, the landowner/developer shall be required to interconnect the individual portions of frontage roads as appropriate. Access to the roadway via an intersecting street or a common driveway may be required if the use of a frontage road is not feasible, as may be the case in the interconnecting of parking lots.

SECTION 2442 - Approval of Access Points Along State-Maintained Routes

A copy of the plans for all access points to be constructed along a state-maintained or controlled route shall be submitted to the Indiana Department of Transportation (INDOT) for review and approval at the same time as plans are submitted to the Plan Commission. Permission for the construction of access points along state-maintained roadways is subject to the approval of plans by both the local and state agencies. If any requirements within this Article are less restrictive or in conflict with INDOT requirements, then the INDOT requirements shall be followed. In situations where the requirements of this Article or Ordinance are more restrictive than INDOT requirements then the more restrictive standards shall apply if permitted by State Law.

SECTION 2444 - Approval of Access Points

All access to roadways for development purposes requires zoning permit, site plan or subdivision approval from the Plan Commission and the Decatur County Highway Department, Indiana Department of Transportation, or agency with appropriate jurisdiction. Access to collector and arterial roadways will only be permitted if no other reasonable access is possible. The Plan Commission will review plans for development to verify compliance with these regulations at the earliest practical stage of application review.

SECTION 2446 – Waiver of Requirements

The Plan Commission may reasonably waive or modify, with conditions, the requirements of this Article, if it is determined that such action is warranted given the nature of an individual project and such action will serve to preserve the purpose and intent of these regulations.

SECTION 2448 - Traffic Studies

Traffic studies may be required by the Plan Commission in order to assess the impact of a development proposal on the existing and/or planned street system. The primary responsibility for assessing the traffic impacts associated with a proposed development will rest with the developer, while the Plan Commission serves in a review capacity.

The traffic study will be the responsibility of the applicant and must be prepared by a professional individual or firm with adequate experience in Transportation Engineering and Planning. Upon submission of a draft traffic study, the Plan Commission will review the study data sources, methods, and findings. Comments will be provided in a written form. The applicant/developer will then have an opportunity to incorporate necessary revisions prior to submitting a final report. All studies must be approved by the Plan Commission before acceptance.

The applicant should be notified at the pre-application stage whether a traffic study will be required provided adequate information is available to the Plan Commission. If the proposed development

appears to generate significant impact on the infrastructure, the applicant will be informed that a traffic study is required.

Transportation consultants are required to discuss projects with the Plan Commission prior to starting the study. Topics for possible discussion at such meetings will include trip generation, directional distribution of traffic, trip assignment, definition of the study area, intersections requiring critical lane analysis, methods for projecting build-out volume, and needs analysis of pedestrian/bicycle facilities. Specific requirements will vary dependent upon the specific site location being reviewed. No traffic study will be accepted unless the traffic study requirements of this regulation are met, and the applicant has a pre-application meeting with the Plan Commission.

In order to provide consistency and to facilitate Staff review of traffic studies, the format that is described in ***Table 24.6***, shall be followed by transportation consultants in the preparation of such studies. The analysis shall be presented in a logical sequence with footnotes where appropriate. A detailed description of the content of a study is detailed in Traffic Access and Impact Studies for Site Development, published by the Institute of Transportation Engineers. The outline in ***Table 24.6*** was taken from that document, and indicates the information that shall be included in a transportation study.

Table 24.6 - Sample Table of Contents-Site Traffic Access Impact Study Report

Traffic Study Format

I. Introduction and Summary

A. Purpose of Report and Study Objectives

B. Executive Summary
   1. Site location and study area
   2. Development description
   3. Principal findings
   4. Conclusions
   5. Recommendations

C. Qualifications and experience of firm or individual(s) who prepared the study.

II. Proposed Development (Site and Nearby)

A. Off-site development

B. Description of on-site development
   1. Land use and intensity
   2. Location
   3. Site plan
   4. Zoning
   5. Phasing and timing

Ill. Area Conditions

A. Study Area

1. Area of influence
2. Area of significant traffic impact (may also be part of Chapter IV)

B. Study Area Land Use
   1. Existing land uses
   2. Existing zoning
   3. Anticipated future development

C. Site Accessibility
   1. Area roadway system (a. Existing; b. Future)
   2. Traffic volumes and conditions
   3. Transit service and Pedestrian/Bicycle facilities
   4. Existing relevant transportation system management programs
   5. Other as applicable

IV. Projected Traffic

A. Site Traffic (each horizon year)
   1. Trip generation
   2. Trip distribution
   3. Modal split
   4. Trip assignment

B. Through Traffic (each horizon year)
   1. Method of projections
   2. Trip generation
   3. Trip distribution
   4. Modal split
   5. Trip Assignment

C. Total Traffic (each horizon year)

V. Traffic Analysis

A. Site Access
B. Capacity and Level of Service
C. Critical Lane Analysis
D. Traffic Safety
E. Traffic Signals
F. Vehicle~Bicycle1Pedestnan Circulation and Parking

VI. Improvement Analysis

A. Improvements to accommodate base traffic
B. Additional improvements to accommodate site traffic
C. Alternative improvements
D. Status of improvements already funded programmed$_1$ or planned
E. Evaluation

VII. Findings

A. Site accessibility
B. Traffic impacts
C. Need for any improvements

D. Compliance with applicable local codes

VIII. Recommendations

A. Site access/circulation plan
B. Roadway improvements
    1. on-site
    2. off-site
    3. phasing, if appropriate
C. Transportation System Management Actions
    1. off-site
    2. on-site operational
    3. on-site
D. Other

IX. Conclusions

The executive summary should be a one or two-page synopsis that concisely summarizes the study purpose, conclusions, and recommendations. Throughout the study, assumptions must be detailed and described. The study should also specify which transportation improvements will be the responsibility of the developer to complete.