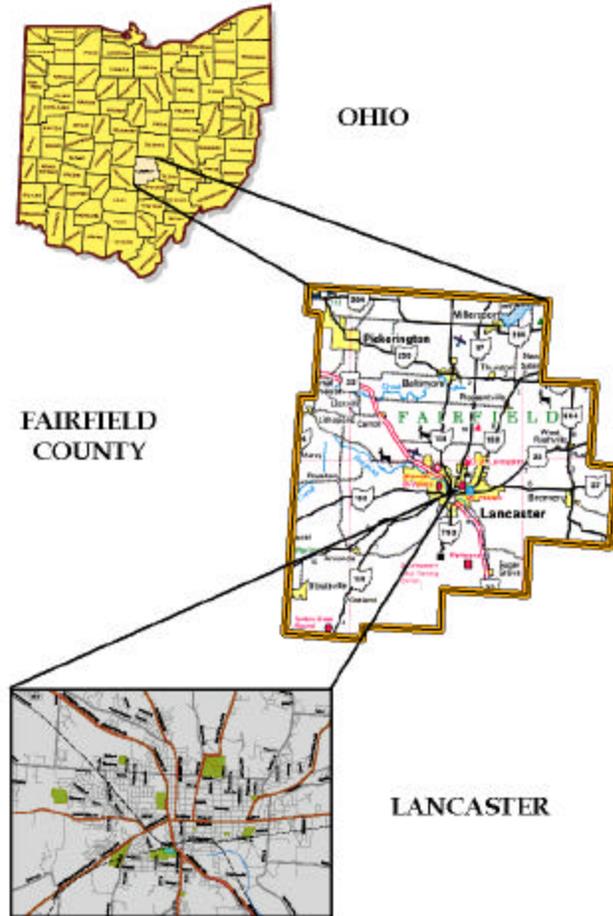


Access Management Guidelines



Prepared For:

City of Lancaster



Prepared by:

WILBUR SMITH ASSOCIATES

August 15, 2003

Access Management Guidelines

City of Lancaster, Ohio

Prepared for:



Prepared by:



6660 Doubletree Avenue Suite 18
COLUMBUS, OH 43229
Phone: (614) 888-9440
Fax: (614) 888-6021

STEERING COMMITTEE MEMBERS

Member Name	Affiliation
Frank Anderson	Fairfield County Engineering
Denise L. Crews	City Engineering Department
Brooks Davis	Fairfield County Regional Planning
Tim Dannemiller	ODOT District 5
Leonard Hajost	City Planning Committee
Carl Heister	HER Realtor
John Hilliard	City Division of Electricity & Communications
Norm Hoyt	Lancaster Glass/Chamber of Commerce
Kent Huston	City Engineering Department
Gary Lockwood	Lockwood Lanier Mathias & Noland
Rick Mark	City Engineering Department
Don McDaniel	Lancaster Police Department
Mitch Nusser	City Division of Streets
Mike Pettit	Economic Development Director
Steve Sells	Lancaster Fire Department
William Sitterley	Sitterley and Vandervoot

Public Involvement

The public involvement process includes interaction with steering committee members, public groups, business owners and media. The following meetings were conducted as part of the study:

Steering Committee Meetings

The following Steering Committee meetings were held as part of this project:

- Meeting 1 on October 4, 2002 - To introduce the Wilbur Smith Associates team and to give a brief overview on the scope of the study.
- Meeting 2 on December 6, 2002 – To discuss the responses from the first public meeting and to discuss access level definitions.
- Meeting 3 on January 3, 2003 – To present the basic guidelines of access management and to educate the Steering Committee on relationship between factors that influence access management.
- Meeting 4 on January 24, 2003 – To discuss and refine the basic guidelines on access management.
- Meeting 5 on March 21, 2003 – To discuss the access classification system and the administrative process for access management.
- Meeting 6 on July 25, 2003 – To discuss the responses from the second public meeting and to gather final comments on the draft report.

Public Meetings

The following Public meetings were held as part of this project:

- Meeting 1 on November 7, 2002 – To introduce the study to the public and to gather their perception of problems.
- Meeting 2 on June 16, 2003 – To present the findings and recommendations of the study and to gather their comments before finalizing the report.

The public meetings were widely advertised using posters, press release, radio interview and website announcements. The questionnaires distributed at the above public meetings are included in Appendix A

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Appendix A – Public Survey

Appendix B – Access Classification Map

Chapter 1: Introduction

1.1 Purpose of the Report

The purpose of this report is to provide guidelines for implementing access management as a policy in the City of Lancaster.

1.2 Definition of Access Management

Access Management is a process that provides (or manages) access to land development while simultaneously preserving the flow of traffic on the surrounding road system in terms of safety, capacity, and speed.

1.3 Study Area

The guidelines prepared in this report are applicable to the entire area within the corporation limits of the City of Lancaster, Ohio. Figure 1-1 shows the location of the study area. Details of the study area are shown in Figure 1-2.

1.4 Background

The City of Lancaster, the county seat of Fairfield County, was established as the town of New Lancaster in 1800 and incorporated as a city in 1831. Lancaster is approximately 33 miles southeast of Columbus and encompasses approximately 18.1 square miles. The 2000 census indicates the population of Lancaster at 35,335 people. Lancaster is primarily a trade center for a farm region spreading across the county specializing in beef and dairy cattle as well as corn and other agricultural products. Lancaster is also home to manufacturers of products that include electric equipment, paper products, machinery, glassware, and container closures.

Given Lancaster's proximity to an ever expanding Columbus, its status as a trade center within the region, the mix of important state routes crisscrossing the city, and a need to accommodate future growth, it is important to preserve the functionality and capacity of the existing street system and also any future built street system in the city. Some of the corridors that are experiencing developments and traffic growth include U. S. Route (US) 33, US 22, State Route (SR) 37, SR 188, SR 793, Sixth and Fair Avenues.

A bypass is currently under construction for US 33 around the south and west sides of the city and is expected to be complete in 2005. It is expected that the bypass will enhance the economic growth along the existing US 33 by relieving the traffic congestion that currently exists. This in turn will attract future traffic growth and without a viable access management policy this growth cannot be sustained effectively.

Access management policy is a tool that can be used to preserve the capacity of the existing and future street system. As defined above, access management preserves

capacity and enhances safety. Figures 1-3 and 1-4 show the benefits of access management.

Figure 1-1: Location of the Study Area.

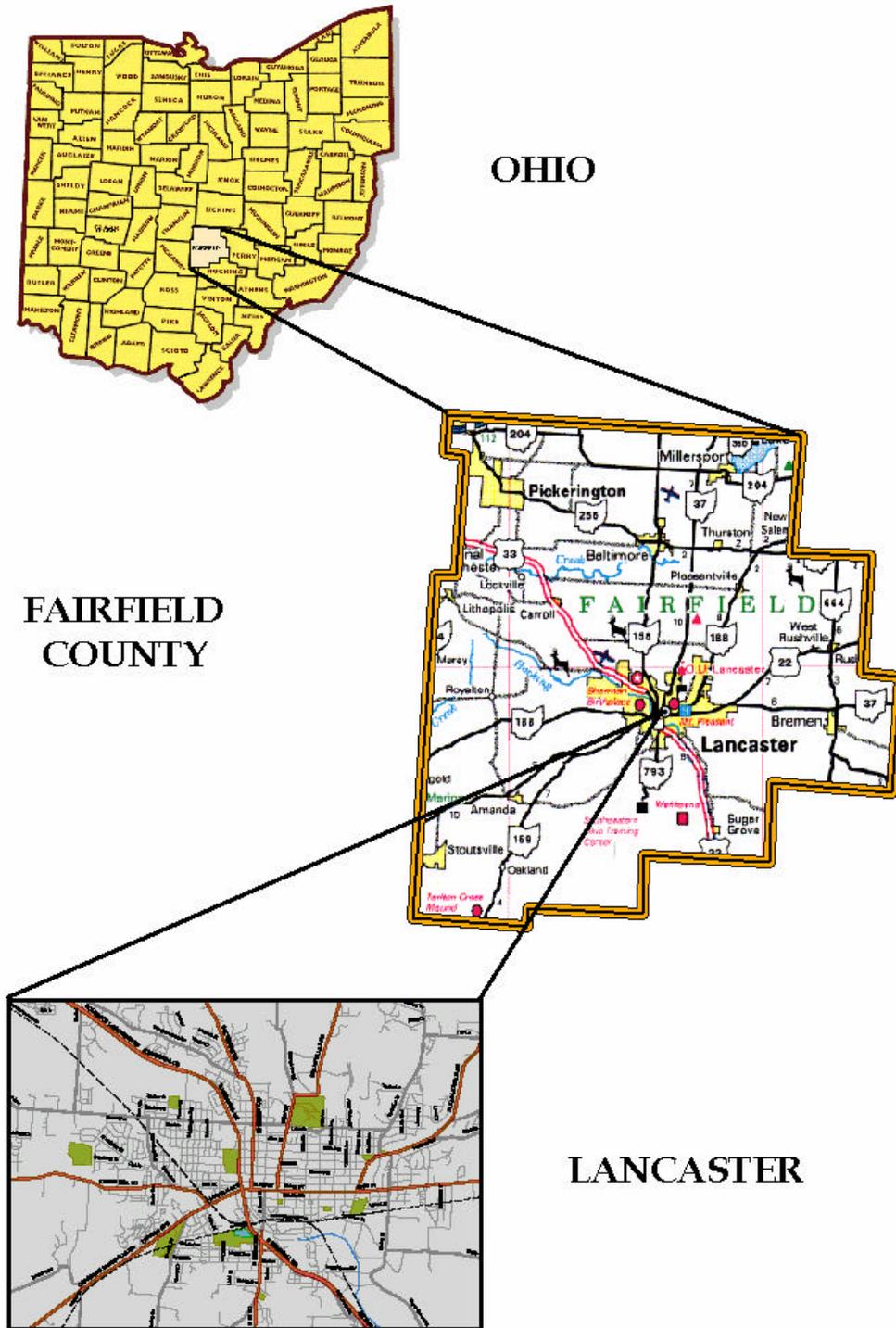


Figure 1-2: Study Area Details.

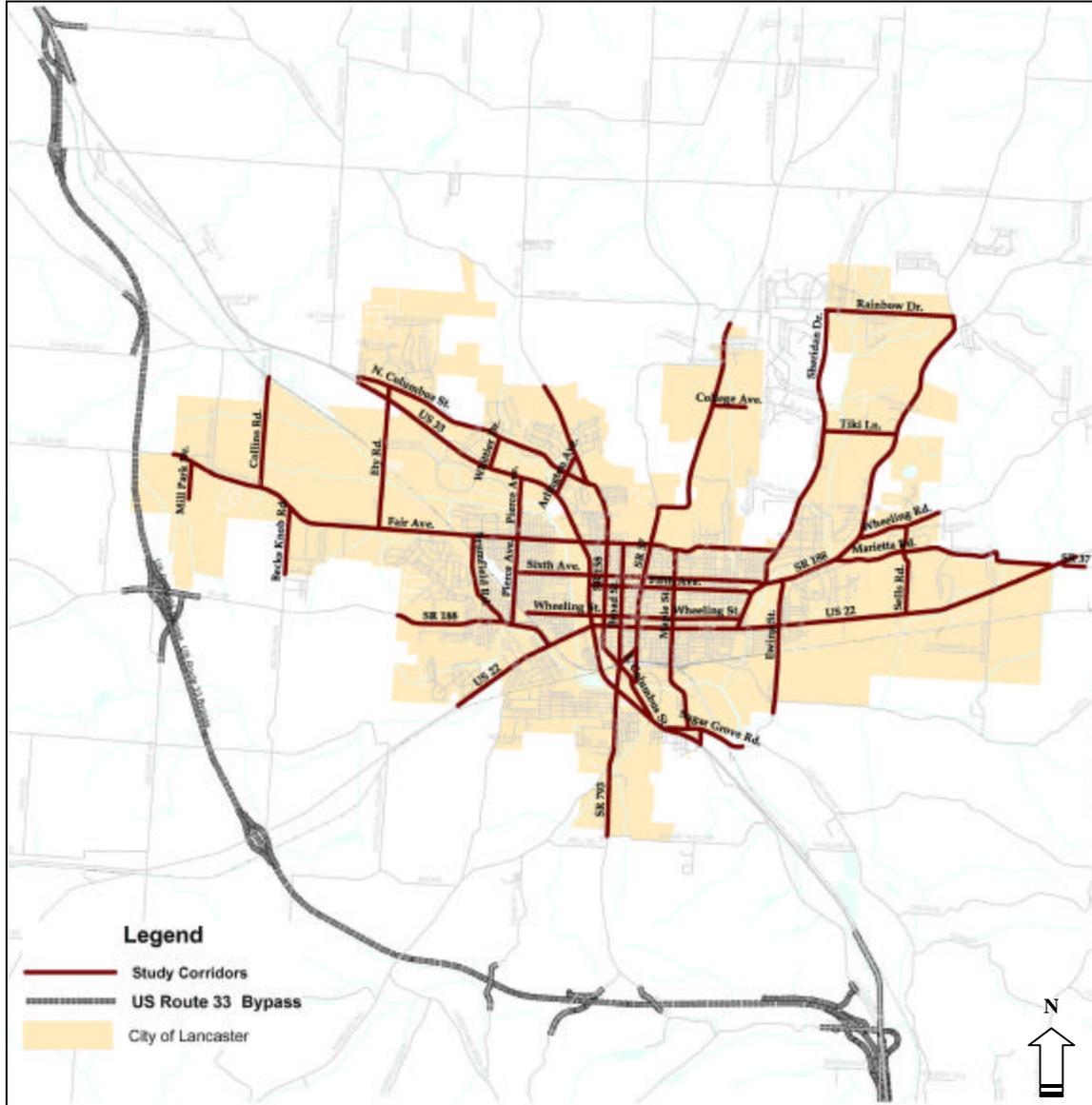
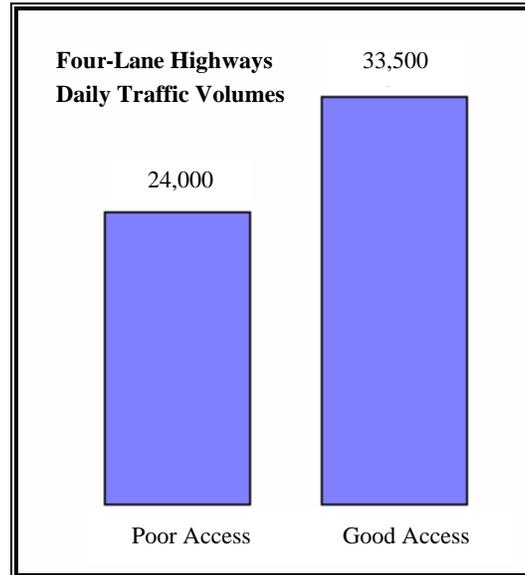
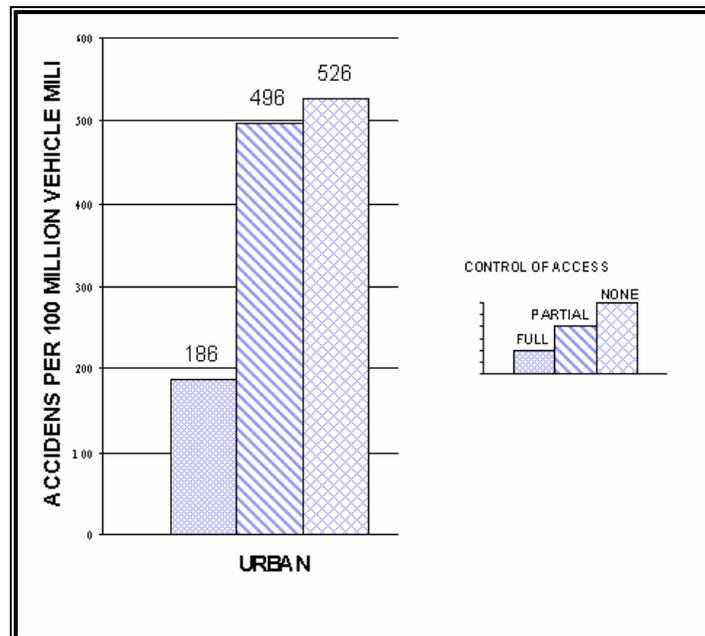


Figure 1-3: Capacity with and without Access Management



SOURCE: "Access Management – A key to Safety and Mobility: An ITE Information Report", Institute of Transportation Engineers.

Figure 1-4: Safety with and without Access Management



SOURCE: "Access Management for Streets and Highways", Federal Highway Administration, Report FHWA-IP-82, June 1982.

As shown in Figure 1-3, research indicates that a four-lane highway with good access management can carry approximately 10,000 more vehicles per day. As shown in Figure 1-4, research indicates that the safety of a highway can be improved significantly with access management.

The city currently does not have a documented access management policy. Having an access management policy not only helps the city staff but also developers. When a policy is developed, it becomes a transparent process to get an access point approved.

Without having a policy document, access point approval process ignores or does not account for several issues that are crucial to access management. Some of the issues that are critical in access management include:

- Functionality of the highways –Major thoroughfares would require larger driveway spacing than collector or local streets.
- Left turn restrictions –Left turn restrictions are crucial for some highways and driveways, requiring a separate set of access management guidelines.
- Speed - A 45 MPH speed-limit highway should have a higher driveway spacing requirement than a 35 MPH speed-limit highway.
- Size of development - The spacing between driveways of a large shopping mall should be higher than that of a small restaurant.
- Driveway design standards – Any access point that will be approved by the city needs to meet a standard set of requirements in addition to the American Association of State Highway and Transportation Officials (AASHTO) and Ohio Department of Transportation (ODOT) standards. Such requirements are for type of design vehicle, driveway width, turning radii, driveway profile, and storage lengths.
- Lot frontage – The number of allowable driveways under the existing policy is not based on the lot frontage. It is disadvantageous and restrictive to properties with a larger lot frontage to have the same policy as a property with a smaller lot frontage. A larger lot frontage may need to have multiple driveways and access management guidelines should take this into account.
- Permit application and approval/denial process - Any access management guidelines should include a set procedure for access permit application and a due process for either approving or denying access. Such a process would not only be beneficial to land developers but also enable city officials in making the appropriate decision in approving or denying access.

Due to the lack of several of the above issues in the existing process, the city officials often face difficulties in implementing access management in a consistent manner. Therefore, it is important for the city to have a well defined and documented access management policy.

1.5 Access Management Issues and Concerns

A public survey questionnaire was designed to gather input from the citizens of the City of Lancaster. The survey was designed to look at the citizens' perspective in terms of potential improvements in access management policies. The questionnaire included both subjective responses where respondents described their concerns, as well as objective ones where respondents selected answer(s) from a list of responses to a question in the survey. The questions ranged from identifying major access problems to identification of what issues are perceived to be causing these problems. A copy of the survey questionnaire is included in Appendix A.

The Access Management survey elicited the following responses from 11 respondents:

- Locations having major access problems: Memorial Drive (too many access points), Main Street (parallel parking), Sixth Avenue, US 22 (east of Ewing Street).
- Significant changes in number of accidents: Most respondents felt that during their time of residency in Lancaster, they noticed an increase in accidents along the major commercial thoroughfares through the city, i.e., Memorial Drive and Main Street. Respondents felt the increase was primarily in the vicinity of River Valley Mall.
- Major access management issues along US 22 (in order of number of responses): too many access points, lack of access control, inadequate turn lanes, slow speeds along routes, accidents at driveways and too many traffic signals. Lack of turn lanes was the major concern that respondents felt had to be specially addressed to improve access management along U.S. 22. Respondents also felt that action must be taken to prevent US 22 (and SR 188) from becoming “another Memorial Drive”.
- Major access management issues along US 33 (in order of number of responses): too many access points and traffic signals, lack of turn lanes and slow speeds of travel, inadequate turn lanes and high traffic volume.
- Questions regarding specific concerns about access management along US 33 elicited responses to make US 33 right-turn access only, restoring curbs, improving traffic signal operations and cutting down the high number of access points between Sixth Avenue and Schorrway Drive. The McDonalds and Thorton Gas Station driveway was also specifically mentioned.



- General concerns related to access management included suggestions to reduce and adequately space or consolidate access points, better controls on residential streets also, traffic signal coordination for the posted speed limit on Main Street, Sixth Avenue and Fair Avenue and to consider restricting certain streets to one-way travel only.

1.6 Scope of Services

The access management guidelines that will be developed as part of this document will include the following tasks:

- Develop an access classification system that defines the type of access levels that are applicable to the city and corridors where the left-turn movements need to be restricted.
- Develop driveway spacing standards which are based on access level of the street, speed of the highway, and size of the development including lot frontage.
- Develop an access permit and approval/denial process.
- Work with the Steering Committee to develop these standards and guidelines.
- Inform the public of the process and recommendations through Public Meetings as needed.

Chapter 2: Access Classification System

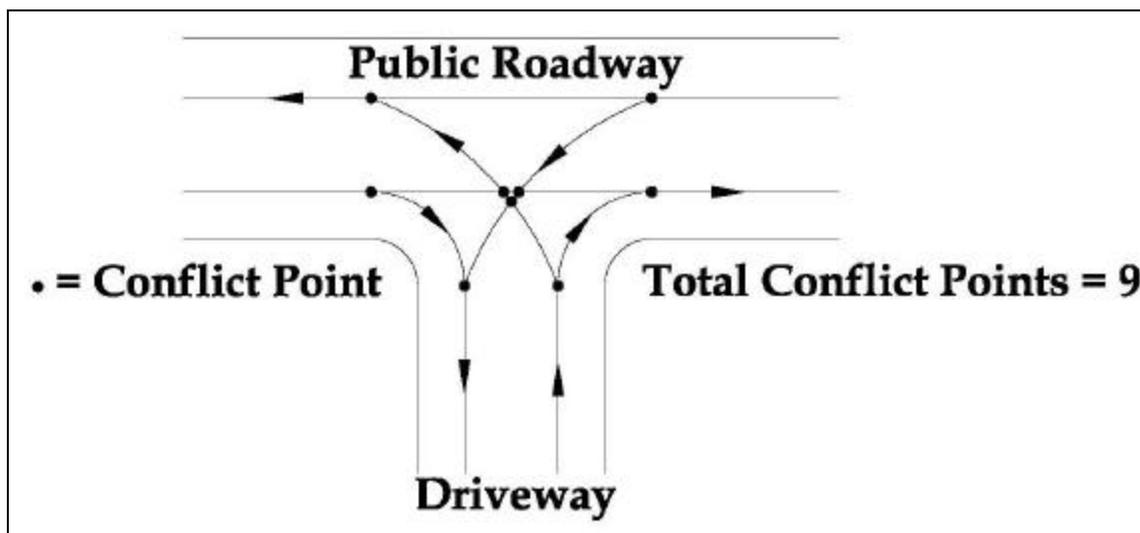
The access classification system forms the basis for access management, defining where direct access can be allowed from public highways to proposed developments and where it should be denied or discouraged. It also defines where access should be limited to certain turning movements, for example right turns into and out of the driveways leading to or from developments. Allowable access correlates with a roadway's purpose and importance, functional characteristics, design features, and access spacing standards.

The key and initial step in access classification involves defining access levels for the various functional characteristics of highways. This allows the city to apply access controls in a reasonable manner consistent with the intended purpose of the roadway under consideration. Accordingly, this chapter defines access levels for various roadway types and assigns each access level to a particular functional class of roads.

2.1 Access Level Definitions

The access levels defined in this section are based on the number of conflict points created by an access point at an adjoining public roadway. A typical driveway approach onto a highway, with no access control, would have 9 conflict points as shown in Figure 2-1. Each conflict point is a potential for delays and a hazardous location in terms of safety.

Figure 2-1: Conflict Points at a Typical Driveway Approach.



Reducing the conflict points at each driveway approach on a given roadway would improve the operating condition and safety of that roadway. The reduction in conflict points should be based on the functionality of the roadway with highest priority for freeways and lowest priority for local streets. A total of six (6) access levels are recommended for the City of Lancaster to reduce the number of conflict points on public

roadways. These six (6) levels are customized for the City of Lancaster based on the seven (7) access levels defined in the National Highway Cooperative Research Program (NCHRP) guidelines.

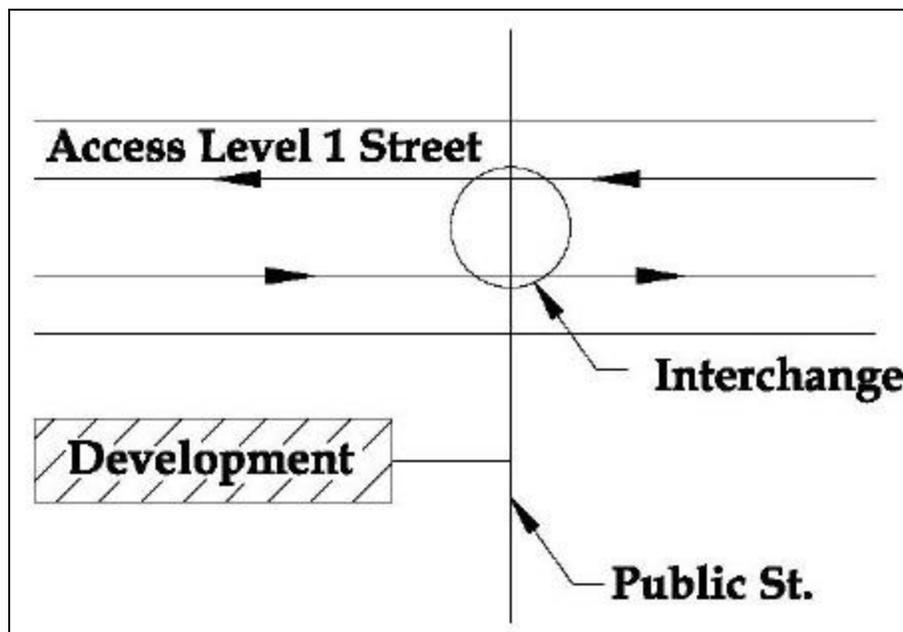
The six allowable access levels between public highways and developments, range from full control of access with no conflict points (Level 1, freeways) to access control only for safety reasons with 9 conflict points (Level 6, collector and local streets).

Access Level 1 governs limited access highways, while Levels 2 through 6 apply to “controlled access” roadways.

2.1.1 Access Level 1 – Access at Interchanges Only

Access Level 1, the most restrictive, applies to freeways. All access for Access Level 1 category would be provided via grade-separated interchanges from public streets. No direct access is allowed from developments. Figure 2-2 shows the typical access level 1 situation.

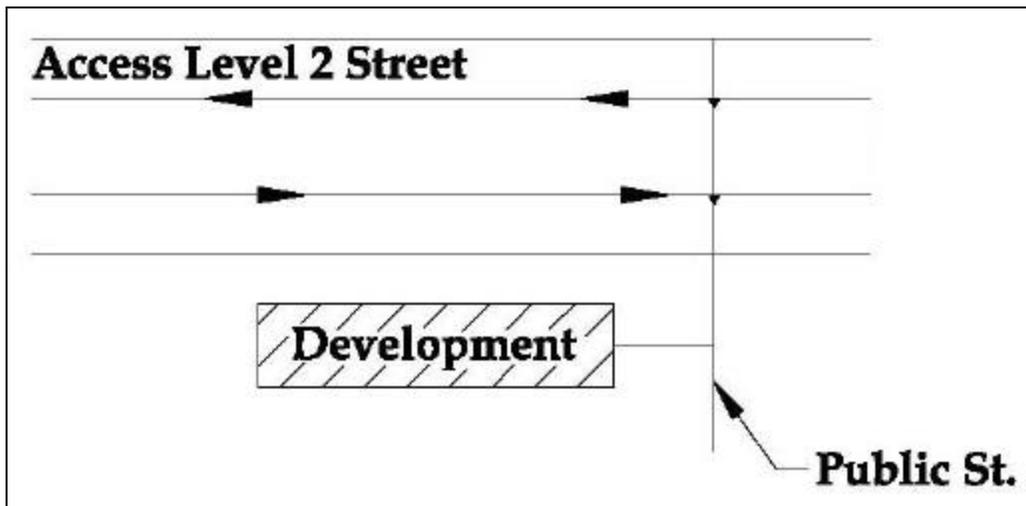
Figure 2-2: Access Level 1.



2.1.2 Access Level 2 – Access via Public Street Intersections

This access level applies primarily to divided multi-lane arterials of major significance. In this access level, developments would have to obtain indirect access from an intersecting (or parallel) public road. No direct access is allowed from developments unless no other reasonable access is available. Figure 2-3 shows the typical access level 2 situation.

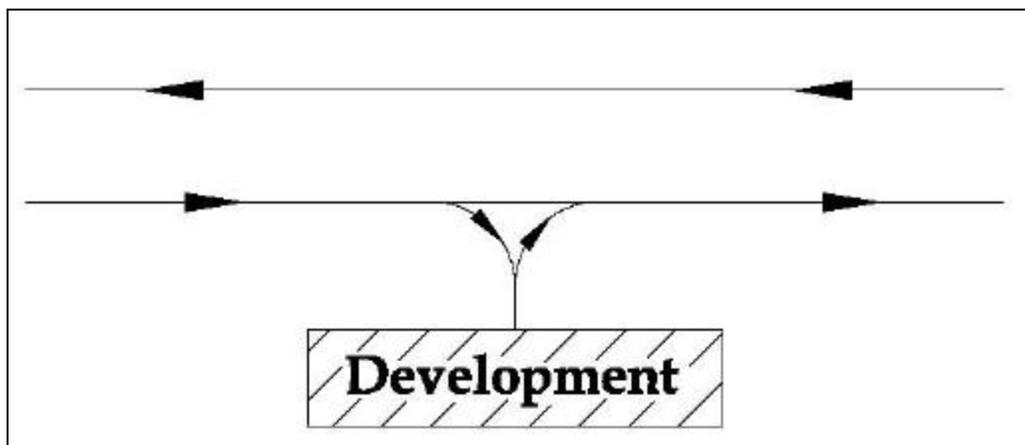
Figure 2-3: Access Level 2.



2.1.3 Access Level 3 – Access via Right-Turn In and Out Only

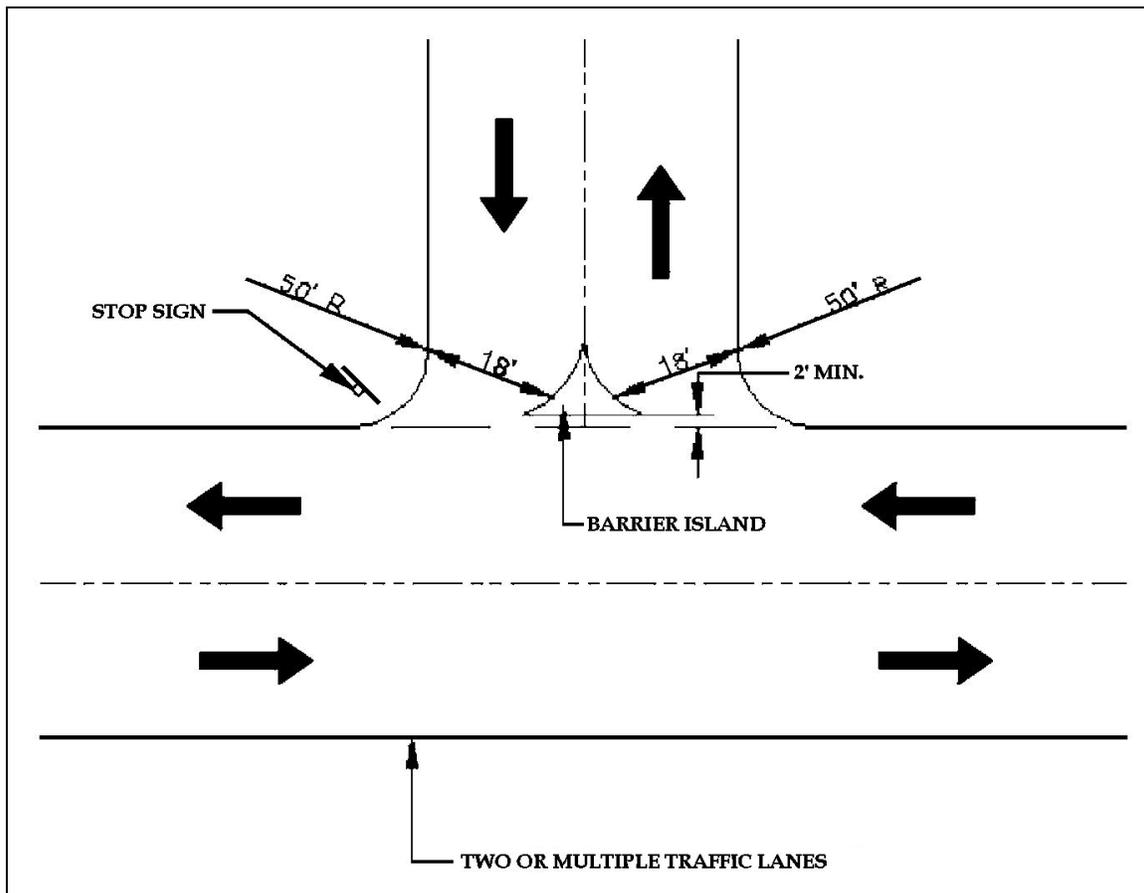
This access level also applies primarily to divided multi-lane arterials of major significance. But in this access level, right-turns are allowed from developments onto Access Level 3 streets i.e., right-turns into and out of the developments are permitted. Figure 2-4 shows the typical access level 3 situation.

Figure 2-4: Access Level 3.



When this access level is used on undivided highways, a typical physical barrier shown in Figure 2-5 should be used at driveway access points to prohibit left turn movements into and out of the access.

Figure 2-5: Barrier Island for Un-divided Access Level 3 Highways.



On Access Level 3 streets, alternatively, left-turn access may be provided via rear access streets or frontage roads. Access from intersecting or parallel streets with lower access classification should be encouraged.

2.1.4 Access Level 4 – Access via Right-Turn In and Out, Left-Turn In Only

Access level 4 applies for divided and undivided multi-lane arterials. Both left-turn and right-turn access into developments is provided. But, exits from the access are limited to Right-Turns only. A left turn deceleration lane is required for traffic entering the development. Figure 2-6 shows the typical access level 4 situation.

When this access level is used on undivided highways, a typical physical barrier shown in Figure 2-7 should be used at driveway access points to restrict left turn movements out of the development.

Figure 2-6: Access Level 4.

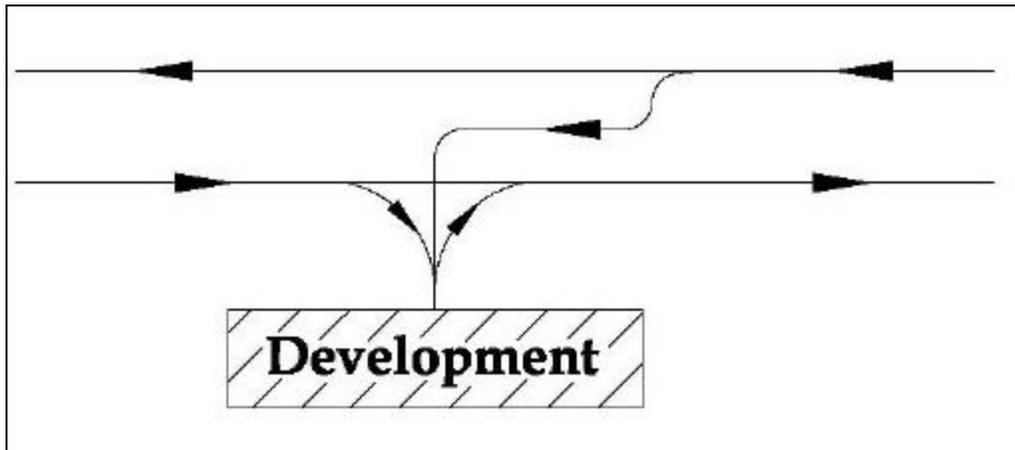
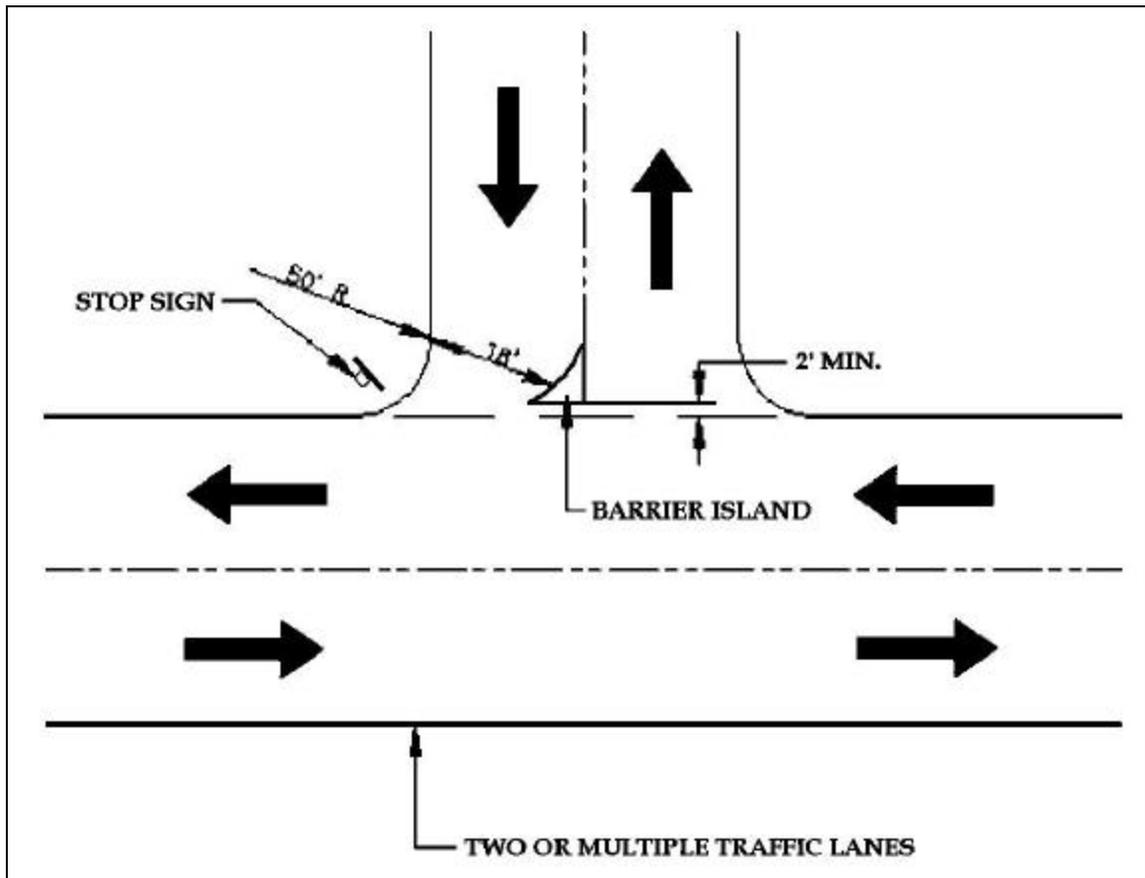


Figure 2-7: Barrier Island for Un-divided Access Level 4 Highway.

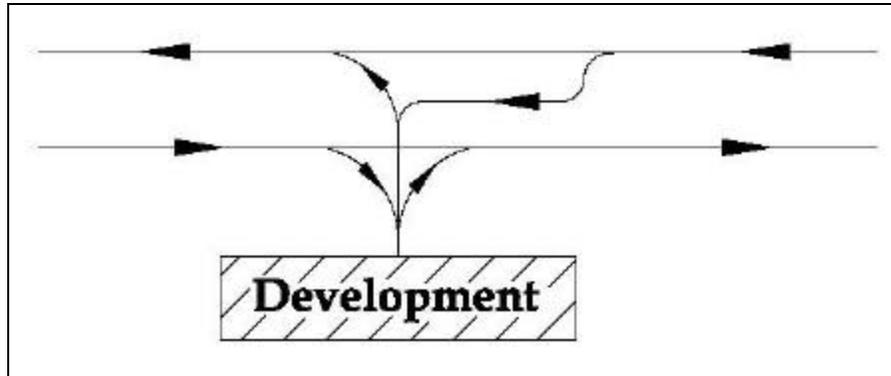


On Access Level 4 streets, alternatively, left-turns out of the access may be provided via rear access streets or frontage roads.

2.1.5 Access Level 5 – Access via Right-Turn In and Out, Left-Turn In and Out (Left-Turn Lanes Required)

Access level 5 applies for minor arterials and major collector streets. Full access would be provided between Access Level 5 public highways and developments. Exclusive left turn lanes for entering and exiting traffic would be required. Figure 2-8 shows the typical access level 5 situation.

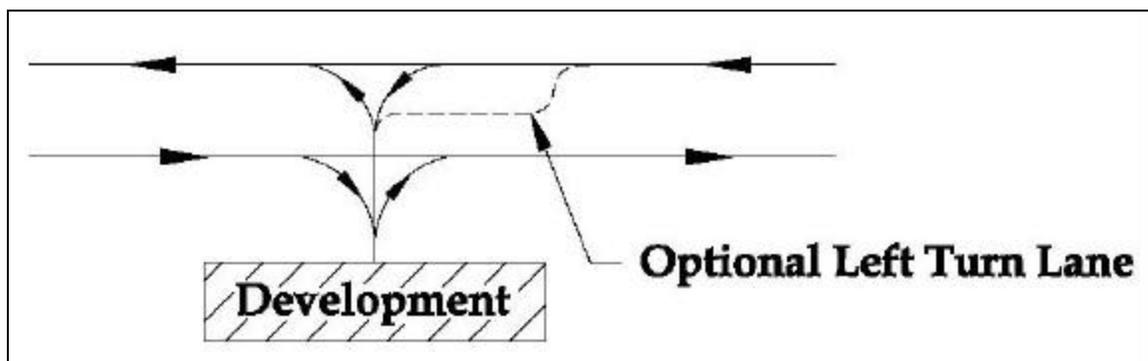
Figure 2-8: Access Level 5.



2.1.6 Access Level 6 – Access via Right-Turn In and Out, Left-Turn In and Out (Left-Turn Lanes Optional)

Access level 6 applies to major and minor collector streets. Access Level 6 roadways permit full access to and from developments. Left-turn lanes for entering and exiting traffic would be optional, depending on the size of the development and signalization requirement for the left-turn movement. Figure 2-9 shows the typical access level 6 situation.

Figure 2-9: Access Level 6.



The requirement of exclusive left-turn lanes should be based on Level of Service analysis and/or safety reasons. Section 401.71 in “Location and Design Manual, Volume One, Roadway Design”, ODOT can be used as a guideline to determine left turn lanes requirement for traffic into/out of the activity centers.

2.1.7 Summary of Access Levels

The six access levels are summarized in Table 2-1.

Table 2-1: Summary of Six Access Levels

ACCESS LEVEL	TYPE OF ACCESS	IMPACT ON THROUGH TRAFFIC
Level 1	Access at Interchanges Only	Uninterrupted Flow
Level 2	Access at Public Street Intersections	Uninterrupted Flow
Level 3	Right-turn In and Out only	Uninterrupted Flow
Level 4	Right-turn In and Out; Left-turn In only; (Left-Turn Out allowed for only driveway per property); exclusive Left-turn lane required	Interrupted Flow – One direction only
Level 5	Right-turn In and Out; Left-turn In and Out; exclusive Left-turn lanes required (Left Turn lane In is exempted for Minimum-use and Minor Generators)	Interrupted Flow – Both directions
Level 6	Right-turn In and Out, Left-turn In and Out; exclusive Left-turn Lanes optional	Interrupted Flow – Both directions

2.2 Access Classification Map

An access classification map is prepared by assigning an access level from 2 through 6 for each street in the City’s network. Access level 1 which is defined for freeways is not utilized in the classification since there are currently no freeways in Lancaster. The access classification map for the City of Lancaster is depicted in Figure 2-10 below. A bigger version of the map in black and white (that can be photocopied) is also included in Appendix B.

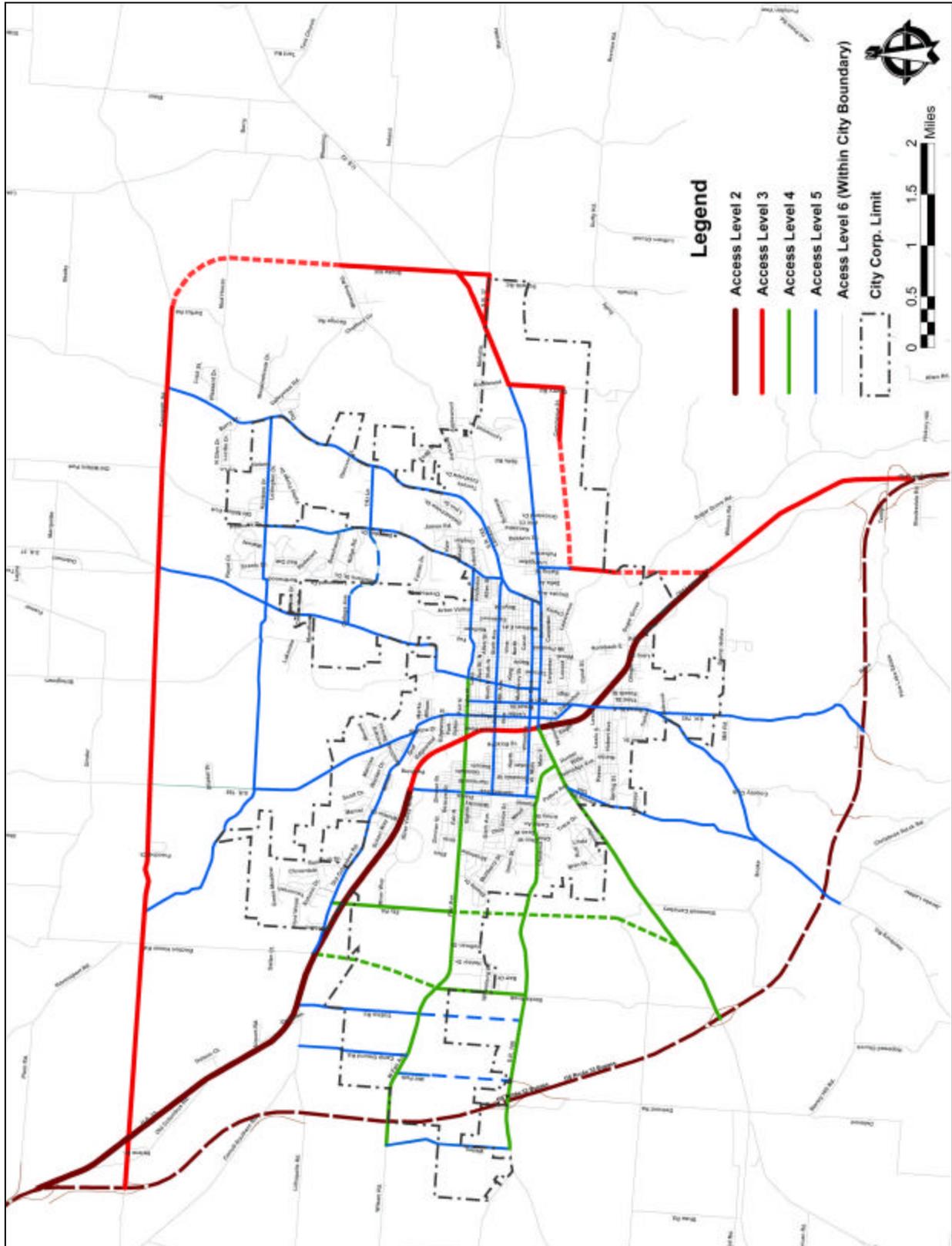
2.2.1 Traffic Generator Types

An access level assigned to a street determines the types of turning movements (left or right turns from exclusive or shared travel lanes) permitted to or from any land use having direct access to that street. Though the streets in the City are assigned an access level, as depicted in Figure 2-10, there are certain exceptions that enable flexibility in determining types of turning movements allowed based on the land use served by the access.

The land use determines the amount of traffic the access point would attract and this is used to define the type of traffic generator the land use is expected to be. There are four magnitudes of traffic generators which are defined as follows:

- Minimum-Use Generator – Developments that generate up to a total of 25 vehicle trips in the peak hour in both directions (to and from the generator).

Figure 2-10: Access Classification Map.



- Minor Generator – Developments that generate a total of 26 to 100 vehicle trips in the peak hour in both directions (to and from the generator).
- Medium Generator – Developments that generate a total of 101 to 300 vehicle trips in the peak hour in both directions (to and from the generator).
- Major Generator – Developments that generate a total of more than 300 vehicle trips in the peak hour in both directions. Note that these generators sometimes warrant signals for some or all of its driveways (to and from the generator).

The latest Trip Generation Manual published by the Institute of Transportation Engineers (ITE) should be used as a tool in determining the type of generator. The manual includes data/methods to estimate the number of trips generated for a developments based on the land use and size of the center. Based on the estimated number of trips, the development can be classified under one of the four generators. The peak hour to identify the number of trips is defined as the peak hour of the generator as apposed to the peak hour of the adjacent street traffic. Such a peak hour can fall on any day of the week and any time of the day.

2.2.2 Access Level Exceptions

The type of traffic generator determines exceptions to the turning movement restrictions on different access levels. These exceptions are as follows:

- Medium Generators on access level 4 streets may have their access provided as if they were on an access level 5 street.
- Minor and Minimum-use Generators on access level 4 or 5 streets may have their access provided as if they were on access level 5 or 6 streets respectively.

It must be noted that the above exceptions are for allowable turning movements only. To ensure safety, driveway spacings for different generator types must be maintained as specified in the following chapter, i.e., there are no exceptions to adequate driveway spacing.

Chapter 3: Access Spacing Guidelines

This section presents guidelines for Access Spacing. The guidelines are for unsignalized driveways; and signalized intersections/driveways.

3.1 Unsignalized Driveways

Unsignalized driveways are far more common than signalized driveways. Unsignalized driveways create side friction, primarily in the outside traffic lane of the main road. This friction reduces capacity, since through traffic avoids this lane. This necessitates wider spacing of driveways.

Guidelines developed for unsignalized driveways are based on speed and access level of the main road, and the magnitude of traffic generator.

Minimum spacing guidelines for unsignalized driveways for minimum-use, minor, medium and major generators are shown in Tables 3-1, 3-2, 3-3, and 3-4 respectively. The development of these minimum spacing requirements is based on the NCHRP guidelines. As shown in the tables access levels 1, and 2 are not included. Access levels 1 and 2 do not allow direct access on to the highways that are designated as access levels 1 or 2. Therefore, there are no driveways spacing guidelines for access levels 1 and 2.

Table 3-1: Driveway Spacing (in feet) for Minimum-Use Generators

Access Level	Speed in MPH						
	25	30	35	40	45	50	55
3, 4	100	120	140	160	180	200	220
5	75	90	105	130	145	160	175
6	50	60	70	80	90	100	100

SOURCE: Wilbur Smith Associates

Table 3-2: Driveway Spacing (in feet) for Minor Generators

Access Level	Speed in MPH						
	25	30	35	40	45	50	55
3, 4	130	160	190	220	250	280	310
5	100	120	140	160	180	200	220
6	75	90	105	130	145	160	175

SOURCE: Wilbur Smith Associates

Table 3-3: Driveway Spacing (in feet) for Medium Generators

Access Level	Speed in MPH						
	25	30	35	40	45	50	55
3, 4	175	210	245	280	315	350	385
5	125	150	175	200	225	250	275
6	100	120	140	160	180	200	220

SOURCE: Wilbur Smith Associates

Table 3-4: Driveway Spacing (in feet) for Major Generators

Access Level	Speed in MPH						
	25	30	35	40	45	50	55
3, 4	230	275	320	365	410	455	500
5	175	210	245	280	315	350	385
6	125	150	175	200	225	250	275

SOURCE: Wilbur Smith Associates

These tables show that spacing requirement increases as the size of generators and operating speed increases. Conversely, required spacing decreases as access level number increases.

For corner lots, access spacing for the first access point from cross-streets of access level 3 though 6 should also meet “lateral” access restrictions. Table 3-5 shows the lateral access restrictions. The distance between the first access point of a corner lot from a cross-street should be the maximum of a relevant value from Tables 3-1 to 3-4 and the value from Table 3-5.

Table 3-5: Minimum Lateral Clearance (in feet) for Corner Lots

Generator Type	Access Level of Cross Street			
	3	4	5	6
Minimum-Use	100	100	50	50
Minor	125	125	75	75
Medium	150	150	100	100
Major	330	330	150	150

SOURCE: Wilbur Smith Associates

On undivided roadways, access on both sides of the road should be aligned. Wherever this is not possible, driveways should be off-set based upon the generator types on both sides of the road as shown in Table 3-6. Minimum-use generators should be exempted from this requirement.

Table 3-6: Minimum Off-sets between Opposing Driveways

Generator Type on Accessing Side	Generator Type on Opposite Side	Minimum Off-set
Minor	Minimum- Use	N/A
Minor	Minor	150 to 200 feet
Minor	Medium	150 to 200 feet
Minor	Major	300 to 400 feet
Medium	Minimum- Use	N/A
Medium	Minor	150 to 200 feet
Medium	Medium	150 to 200 feet
Medium	Major	300 to 400 feet
Major	Minimum- Use	N/A
Major	Minor	300 to 400 feet
Major	Medium	300 to 400 feet
Major	Major	300 to 400 feet

3.2 Signalized Intersections

Intersection/driveway signalization in conjunction with highway access shall be permitted only when the signal is warranted. Traffic signal warrant analysis shall be based upon the latest *Ohio Manual of Uniform Traffic Control Devices* (OMUTD) published by the Ohio Department of Transportation (ODOT).

Turn lane requirements at signalized locations should be based on capacity analysis using the latest *Highway Capacity Manual* (HCM) methods.

Chapter 4: Administration

This chapter provides the administrative procedures and related information for the implementation of access management guidelines for the following issues:

- Permit Application Process
- Location and Number of Driveways
- Variances
- Necessity for Traffic Impact Studies
- Access Permit/Deny Process
- Access Classification Changes

4.1 Access Permit Application Process

A permit for access onto a public street is required for a parcel or lot under the following conditions:

1. Lot splits occur;
2. New access connection is requested;
3. Substantial enlargements or improvements are planned by developers; or
4. Significant change in trip generation figures is anticipated from the existing developments.

In addition to the above conditions, City of Lancaster Engineering Department should implement access management guidelines on any roadway when substantial improvements are proposed for such roadway. Under these circumstances, property owners should not be required to obtain a permit.

The applicant requesting an access point should comply with the following steps:

1. Prior to the initial request for site plan approval or a building permit, the applicant should obtain a copy of the access requirements of the City of Lancaster Engineering Department.
2. It is recommended that the applicant submit a preliminary permit application before the detailed engineering site plan is submitted. As a preliminary submittal, the applicant should provide at a minimum, a letter of explanation and request for consideration with the following information to the City Engineer:
 - A preliminary site map showing the requested access at a scale no smaller than 1 in. = 50 ft. unless otherwise approved by the City Engineer
 - The name, address and telephone number of the owner(s) and that of the applicant, where the applicant is an agent (contractor, tenant, consultant) of the owner.
 - The name of the property or development and the lot number if applicable

- A location map with an appropriate scale showing the location of the property with respect to the area.
 - All existing and approved access points within approximately 500 ft. of the property on both sides of the road.
 - The identification of any legal rights-of-way or easements affecting the property as it relates to the roadway and proposed right-of-way acquisitions plus alternate access arrangements if appropriate (i.e., an access easement across neighboring property to a secondary road).
 - The existing and proposed dimensions of the highway including through and turning lanes, shoulders, curbs, medians, bike paths, sidewalks, etc.
 - Location and dimensions of the proposed access.
3. Upon review of the preliminary submittal by the City Engineer, the applicant should submit the final site plan(s) and, if required, the necessary support documentation. This documentation can include engineering plans, a traffic impact study, a cost estimate for highway improvements, and other supplemental studies.

NOTE: The City Engineer has the right to waive any of the above information for a minor access point or for a temporary access situation, if the City Engineer determines that such information is not needed to secure a safe, low-impact access permit.

4. Any application that involves access to the Limited or Controlled Access State Highway System shall be reviewed by the Ohio Department of Transportation for conformance with state standards.
5. The applicant has the right to withdraw the application at any time during the application process.

4.2 Location and Number of Unsignalized Driveways

Each property is allowed one access point either independent or shared at the discretion of the City Engineer. For any additional access points, the applicant needs to provide enough justification that the additional access points improve the safety and traffic operations of the traffic movements from or into the development and do not deteriorate the traffic operations on the street. When more than one driveway is requested, the property should have enough lot frontage to meet the minimum spacing requirements shown in Tables 3-1 through 3-4.

The location and number of driveways should be based on the following factors:

1. Size of the development (Minimum-use, Minor, Medium, or Major Traffic Generator)
2. Access level of the accessing street (Access level 1 through 6. Access levels 1 and 2 do not allow direct access)

3. Speed limit of the accessing street (25 MPH to 55 MPH)
4. Available lot frontage
5. Location of lot (interior vs. corner)
6. Location of opposite driveways.

Figures 4-1 through 4-4 show the typical locations of driveways. Figures 4-1 and 4-2 are the conditions for properties with a single driveway requirement – interior and corner lots respectively. Figures 4-3 and 4-4 are the conditions for the properties with multiple driveway requirements – interior and corner lots respectively. As shown in the figures, the following parameters are used to define the location of driveways. These parameters will help in determining not only the location but also the number of allowable driveways based on the available lot frontage.

- L_1 – Minimum distance between driveways. Minimum requirements are shown in Tables 3-1 through 3-4.
- L_2 – Minimum distance from the Property Line (P/L). The values are one-half of L_1 .
- L_3 – Minimum distance from the cross-street Right-of-way (R/W). Minimum requirements are shown in Table 3-5.
- L_4 – Acceptable distance from the cross-street R/W line. The values are maximum of L_1 and L_3 .
- L – Minimum required lot frontage.

Figure 4-1: Typical Location of Driveway – One Driveway – Interior Lot

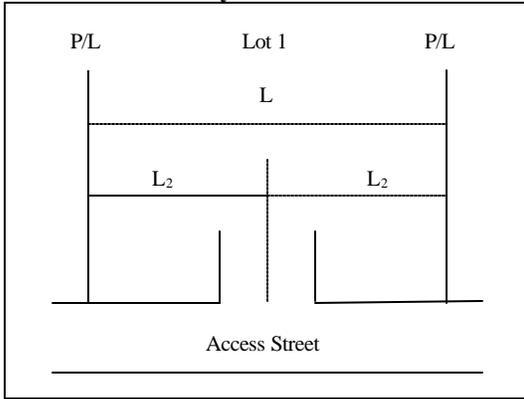


Figure 4-2: Typical Location of Driveway – One Driveway – Corner Lot

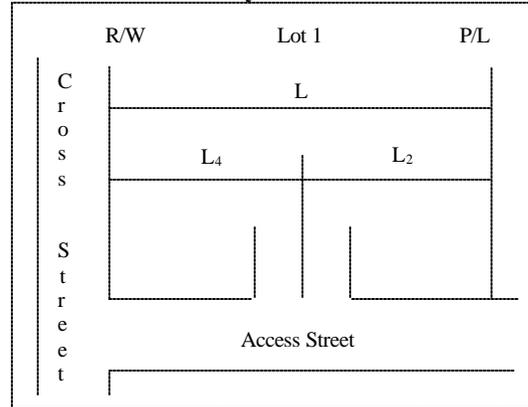


Figure 4-3: Typical Location of Driveway – Multiple Driveways – Interior Lot

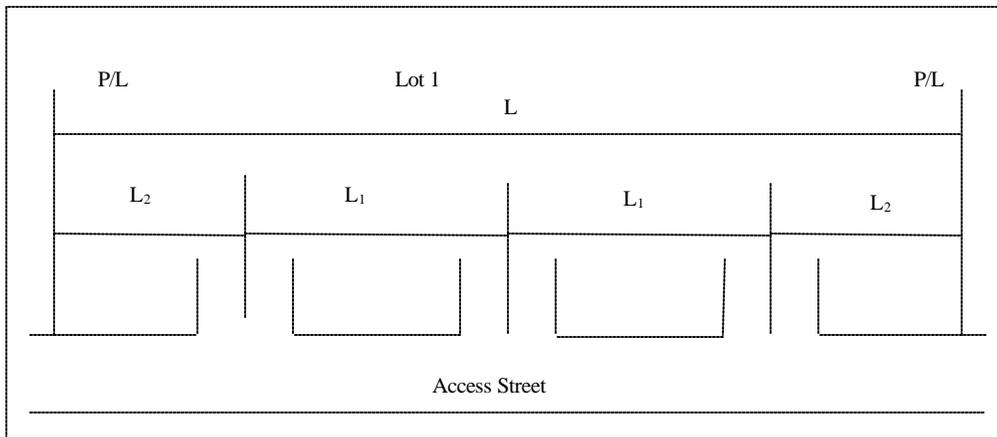
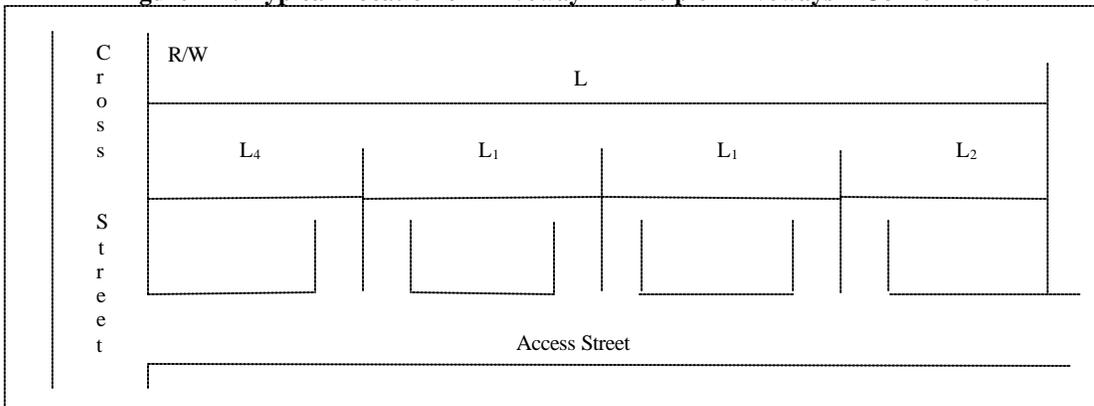


Figure 4-4: Typical Location of Driveway – Multiple Driveways – Corner Lot



Where: L = Minimum Lot Frontage $L_2 = L_1/2$ $L_4 = \text{Maximum of } L_1, L_3$
 L_1 = Unsignalized driveway spacing L_3 = Lateral Clearance
(Value from Tables 3-1 to 3-4) (Value From Table 5-1)

When determining the location and number of unsignalized driveways, special attention should be given to the following conditions:

- The size of generator should be computed based on:
 - Land use of the whole parcel (parcels which are proposed to be split into smaller lots).
 - Land use of the lot itself (for all existing and approved lots).
- Minimum-use generators shall be restricted to a single driveway unless justified.
- If the property has alternative access possibilities, the access should be encouraged on to the highway with lower access classification.
- If any property shares the driveway's of another property, the value of $L_2=0$ in figures 4-1 through 4-4 applies only on the shared side. Therefore, minimum lot frontage requirements for such properties can be reduced by the value of L_2 .
- L_2 requirement may be waived for minimum-use generators at the discretion of the City Engineer.
- Access points into three legged signalized intersections should not be allowed unless it is justified through a traffic impact study.
- Wherever the unsignalized approaches on both sides of the accessing street are not aligned, safe off-sets as shown in Table 3-6 should be maintained as agreed by the City Engineer. Minimum-use generators are exempted from this requirement.
- If an undivided roadway becomes divided, left-turn access should be subject to elimination in one or both directions.
- The location of a driveway is subject to safety issues over and above the minimum spacing guidelines, for e.g., spacing should take in to account corner and stopping sight distances, vertical or horizontal curves in the roadway, etc.
- As per definition, on access level 5 streets, all developments need to provide an exclusive left-turn lane for traffic to access their properties. However, the City may approve an access point to the property without an exclusive left-turn lane on a condition that the developer will contribute to the construction of this exclusive turn lane at a later date as determined by the City. If the Traffic Impact Study determines an immediate need for the exclusive left turn lane, then the developer has to construct it for the opening year of the development

4.3 Variances

When the property owner believes that the approved access requirements may result in extraordinary hardships or practical difficulties, the property owner may apply for a variance to the access management requirements. The variance request should be submitted to the Staff Safety Committee which consists of the following members:

- City Engineer
- Superintendent, Division of Streets
- Superintendent, Electrical Department
- Police Chief
- Fire Chief
- Service-Safety Director or his/her designee
- Mayor or his/her designee

In order to review a request for a variance, the Staff Safety Committee may require a Traffic Impact Study or other information or studies. For any variance, the applicant should submit a written petition to the City Engineer. The Staff Safety Committee will review and make recommendation based on the following conditions:

1. The granting of the variance would not result in undue delay or congestion or unsafe conditions to the motoring public using the roadway.
2. The applicant must provide proof of unique or special conditions that would not allow the development to develop reasonable access as per the guidelines. Note that the City Engineer will not grant a variance if any of the following can be applied to the proposed access:
 - Where reasonable alternate access by an existing road or street other than the primary road is possible.
 - Where indirect or restricted access can be obtained.
 - Where reasonable engineering or construction solutions can be applied to mitigate the condition.
3. The applicant must provide proof that access is essential to the development needs and clear documentation of the practical difficulty or unnecessary hardship. No variance should be granted where such difficulty or hardship is self-created in the opinion of the City Engineer.

Upon receipt of relevant information, facts, documentation, and necessary data, studies, and recommendation from the Staff Safety Committee, the City Planning Commission will review the information and inform the applicant concerning its finding and conclusions on granting a variance. In order to grant a variance, a simple majority of the City Planning Commission members shall be in favor of the variance.

4.4 Traffic Impact Studies

A traffic impact study may be an integral part of the access permit process. It should generally deal with site-generated traffic, the directional distribution of traffic and the assignment of the site traffic onto existing and/or proposed roadways. In certain circumstances, for Traffic Impact Studies, the City Engineer may require the inclusion of off-site traffic from other proposed developments that will impact area roads.

A Traffic Impact Study is required when:

1. All developments that can be expected to generate more than 100 peak-hour vehicle trips on the adjacent street, or for a lesser volume when the developments are in high accident locations, currently congested areas or areas of critical local concern.
2. When the original traffic impact study is more than three (3) years old, access decisions are still outstanding, and/or changes in development have occurred in the site environs.

The study should be prepared under the supervision of qualified traffic engineers with specific experience in the preparation of traffic impact studies.

The studies should be completed in accordance with the standards published by the Institute of Transportation Engineers in its latest *Manual of Transportation Engineering Studies*.

4.5 Access Permit/Deny Process

Upon review of all relevant information provided by the applicant for an access permit, the City Engineer has the right to either grant or deny the permit. A detailed process to be followed by the City Engineer for access approval/denial is shown in a flow chart as Figure 4-5. A bigger version of the flow chart is included in Appendix B. The process considers: (1) the size of development for which access is required, (2) the functional and access classification of the roadway to which access is requested, (3) the type of access requested to the allowable levels and types of access, (4) highway and intersection capacity, (5) geometric design considerations, (6) the type of proposed traffic control, (7) relevant spacing standards along with minimum lot frontage criteria, and (8) the need to, if required, apply a variance to the permit criteria.

If the application is approved with conditions, the applicant should resubmit the plan with the conditional changes made. The plan, with submitted changes, will be reviewed within 20 working days and either approved or denied.

If the access permit is denied, the City Engineer should provide a written accounting detailing why the application has been rejected.

If a lot or parcel has no means of access that would meet the requirements of these access management guidelines, one (1) access point shall be provided. However, all such access points shall be considered a temporary right-of-way and may be terminated, reduced, limited to certain turning movements, or caused to be relocated by the City Engineer at such time as the particular use served by the access point changes and/or the property is otherwise provided an alternate means of access via a frontage road, or an intersecting local street, or sharing of a common driveway.

4.6 Appeal Process

If the applicant does not agree with City Engineer's decision on the access permit, the applicant may appeal to the Staff Safety Committee. The appeal should be made within forty-five (45) calendar days from the date of receipt of the City Engineer's decision. Staff Safety Committee will review all appeals that are made at least five (5) working days before their scheduled meeting. Staff Safety Committee will make a recommendation to the City Planning Commission for the final decision.

4.7 Access Classification Change

The City should have its own defined access classification map within its jurisdiction as shown in Figure 2-10. The classification and regulations should be reviewed regularly for their reasonableness and practicality.

Any individual or group desiring a change in access classification should submit the following materials to the City Engineer for considerations:

- A description of the roadway involved, including relevant maps, zoning information, and desired changes in classifications
- a justification for the proposed change in terms of development intensity, safety, or other supportive reasons
- an analysis of the area-wide advantages and disadvantages associated with the reclassification
- a determination that the highway, with the proposed change, will meet, or will fail to meet, future capacity, and safety needs, and
- a determination if lowering the access classification adversely affects future capacity and operational viability, and an indication of how the capacity will be recaptured, and who will pay for the added capacity.

In addition to the above,

- if any new road is added to the existing city's street network in the future, such new roads should be classified as one of the access levels from 1 through 6 and be added to the access classification map shown in Figure 2-10.
- if any of the existing road characteristics are changed significantly and need to be reclassified, the access classification map will need to be revised accordingly.

Appendix A
Public Survey

PUBLIC SURVEY
Thoroughfare Plan Update
Access Management Policy

City of Lancaster
Lancaster, OH

November 7, 2002



The City of Lancaster has recently selected Wilbur Smith Associates which is a Transportation Planning firm to conduct two studies within Lancaster - a Thoroughfare Plan Update and an Access Management Policy Development. The Thoroughfare Plan Update is intended to develop a traffic management system, identify potential corridor improvements, and identify new links within the study area. The Access Management Policy will provide a strategy for accessing developments along study area routes while also preserving the safety, capacity, and speed along that route.

The City of Lancaster would like your comments and thoughts on these two studies. The project area consists of the entire City of Lancaster as shown in the attached map. Please complete this form so that the City can be fully aware of the concerns you may have. Let us know what transportation issues are most important to the residents and businesses of the City of Lancaster.

NAME	
BUSINESS NAME (If Representing a Business)	
STREET ADDRESS	
CITY	
STATE	
Phone (optional)	

Thank you for taking the time to help the City of Lancaster know what is important to you!
All comments are welcome! We appreciate your participation!

PLEASE RETURN THIS SURVEY BY NOVEMBER 15, 2002 TO

City of Lancaster
Department of Engineering
104 East Main Street
Lancaster, OH 43130

Or contact Wilbur Smith Associates at (614) 888-9440

Thoroughfare Plan Update

1) Which of the following are issues in the City of Lancaster? (check all the applicable boxes)

- | | |
|--|--|
| <input type="checkbox"/> Traffic congestion | <input type="checkbox"/> Narrow or no shoulder |
| <input type="checkbox"/> High speeds | <input type="checkbox"/> Bicycle or pedestrian traffic |
| <input type="checkbox"/> Poor sight distance | <input type="checkbox"/> High growth rates |
| <input type="checkbox"/> Dangerous curves | <input type="checkbox"/> Other _____ |
| <input type="checkbox"/> Narrow lanes | <input type="checkbox"/> Other _____ |

2) Can you identify areas of significant growth within the City of Lancaster? If so, can you name any transportation problems that exist as a result of that growth? Please be specific in location and description.

3) Are there any roadway locations that you feel are in need of *major* repair in order to maintain safe travel? Please be specific in location and description.

4) In the time that you have been a resident, have you noticed significant changes in traffic patterns? For example: changes in traffic speeds, preferred routes, congestion, rush hour times, etc. Please be specific in location, description, and time frame where changes, if any, have occurred.

5) Please list your major concerns with the existing streets in the project area. If possible, place them in order of importance.

6) Do you believe the construction of the US 33 Bypass will benefit you (please circle your answer)? Yes / No

If YES, How?

7) How often will you use the US 33 Bypass? (Please Check only one box)

- Rarely
- Few Days a Week
- Almost Every Day

8) When you use the US 33 Bypass, which of the following interchanges would you use? (Please Check the most appropriate box, one box only)

- | | |
|---|--|
| <input type="checkbox"/> At Coonpath Rd | <input type="checkbox"/> At Old US 33 South Side |
| <input type="checkbox"/> At SR 188 | <input type="checkbox"/> At Old US 33 North Side |
| <input type="checkbox"/> At US 22 | |

9) Do you believe there is a need for US 22 Bypass (please circle your answer)? Yes / No

Access Management Plan

Are there any other locations within the City of Lancaster that you feel have *major* access problems? Please be specific in location and description.

In the time that you have been a resident, have you noticed significant changes in the number of accidents that occur in Lancaster? If so, have you noticed any of these accidents at or around new land development access points (e.g., shopping center entrances)? Please be specific in location and description, if any, have occurred.

Which of the following are access management issues along US 22? (check all the applicable boxes)

- | | |
|--|--|
| <input type="checkbox"/> Too many access points | <input type="checkbox"/> Inadequate turn lanes |
| <input type="checkbox"/> Too many traffic signals | <input type="checkbox"/> No access control |
| <input type="checkbox"/> High number of accidents at driveways | <input type="checkbox"/> Other _____ |
| <input type="checkbox"/> Slow speeds along routes | <input type="checkbox"/> Other _____ |

Do you have any specific concerns that you would like to address about access management along US 22? If so, please list the location and description of this concern.

Which of the following are access management issues along US 33? (check all the applicable boxes)

- | | |
|--|--|
| <input type="checkbox"/> Too many access points | <input type="checkbox"/> Inadequate turn lanes |
| <input type="checkbox"/> Too many traffic signals | <input type="checkbox"/> No access control |
| <input type="checkbox"/> High number of crashes at driveways | <input type="checkbox"/> Other _____ |
| <input type="checkbox"/> Slow speeds along routes | <input type="checkbox"/> Other _____ |

Do you have any specific concerns that you would like to address about access management along US 33? If so, please list the location and description of this concern.

Do you have other concerns related to access management? If so, place them in order of importance.

PUBLIC COMMENTS
Thoroughfare Plan Update
Access Management Guidelines

City of Lancaster
Lancaster, OH

June 16, 2003



The City of Lancaster had selected Wilbur Smith Associates, a Transportation Planning firm, to conduct two studies within Lancaster - Thoroughfare Plan Update and Access Management Guidelines. The Thoroughfare Plan Update intended to develop a traffic management system, identify potential corridor improvements, and identify new links within the study area. The Access Management Guidelines provides a strategy for accessing developments along study area routes while also preserving the safety, capacity, and speed along that route. The City of Lancaster has held an initial Public Meeting on November 7, 2002 at the beginning stages of these studies to gather input from the citizens and general public.

The studies are now at the final stages with findings and recommendations documented in draft reports. This is the final Public Meeting and the City of Lancaster would like your comments. Please complete this form so that the City can be fully aware of your comments.

NAME	
BUSINESS NAME (If Representing a Business)	
STREET ADDRESS	
CITY	
STATE	
Phone (optional)	

Thank you for taking the time to help the City of Lancaster know what is important to you!
All comments are welcome! We appreciate your participation!

PLEASE RETURN THIS SURVEY BY JUNE 30, 2003 TO

City of Lancaster
Department of Engineering
121 East Chestnut Street
Lancaster, OH 43130
(740) 687-6614

Or contact Wilbur Smith Associates at (614) 888-9440

Appendix B

Access Classification Map

