



MEMORANDUM

TO: Knoxville-Knox County Planning Commission
FROM: Amy Brooks, Planning Services Manger
DATE: December 30, 2019
SUBJECT: **11-F-19-OB:** Consideration of amendments to the Knoxville-Knox County Administrative Rules and Procedures
CC: Gerald Green, Executive Director

STAFF RECOMMENDATION:

APPROVE consideration of amendments to Appendix A and Appendix B of the Administrative Rules and Procedures of Knoxville-Knox County Planning (previously known as Knoxville-Knox County Metropolitan Planning Commission- MPC). A summary of proposed updates is attached.

Administrative Rules & Procedures

Summary of Proposed Updates

12/30/2019

Appendix A: Addressing Guidelines and Procedures

OVERVIEW

A comprehensive update to Appendix A: Addressing Guidelines and Procedures has been made to bring the guidelines up to date with current addressing procedures and to clarify existing guidelines. Changes are identified by section.

Appendix A:

1. Changed references from the “Metropolitan Planning Commission” to “Knoxville-Knox County Planning”
2. Changed references from “Addressing Department” to either “Planning” or “Planning staff”
3. Included new term “subaddress number” to replace “unit/suite/apartment number”

Introduction and Section 1:

1. Combined and reworded to create a new Section 1
 - a. Corrected title of Ordinance Number O-280-90
 - b. Added two City Ordinances that apply to addressing guidelines

Section 2 and Section 3:

1. Combined portions and reworded to create a new Section 2
 - a. Changed requirement of an approved development plan to a requirement for a site plan
 - b. Added requirement to identify the location of centralized mailboxes on a site plan
 - c. Added Planning staff may consult with outside agencies regarding address assignments

Section 3 and Section 4:

1. Combined portions and reworded to create a new Section 3
 - a. Changed references from “certified address” to “official address”
 - b. Added statement that official address will not be assigned over the phone

Section 5:

1. This has become Section 4
2. Changed references from “unit/suite/apartment number” to “subaddress”
3. Added condition that existing addresses with alpha-characters may be changed. The City and County ordinances should be updated to reflect this condition also.
4. Clarified the streets that create the four quadrants of Knox County
5. Eliminated reference to a “Street Address Master Plan” (5.B.3)
6. Added a requirement to post address numbers

Section 6:

1. This has become Section 5
2. Eliminated the prohibition of descriptive terms as part of the base name (6.A.2.d)
3. Eliminated the prohibition of street names created by linking personal names (6.A.2.h)
4. Added statement discouraging the use of business names as the street base name
5. Changed references from “easements to “rights-of-way”
6. Eliminated reference to Post Suffix (6.A.4). This must be updated in City/County ordinance also
7. Added statement discouraging the naming of private rights-of-way for a single address

Section 7:

1. This has become Section 6
2. Included the review of subdivision names, in addition to street names, to prevent duplicates

Section 8:

1. This has become Section 7
2. Included the reserving of subdivision names, in addition to street names
3. Changed the length of time a name can be reserved from five years to correspond to the time a concept plan is valid

New Section 8:

1. Added reference to requesting a street or subdivision name change
2. Updated Article V pertaining to street and subdivision name changes

Section 9:

1. Eliminated section 9.A.5 and 9.A.7

Section 10:

1. No change

Section 11:

1. Minor rewording

Section 12:

1. Minor rewording

Section 13:

1. Minor rewording

Section 14:

1. Reworded to describe the appeals process more clearly
2. Removed the table of Standard Abbreviations for Road Name Types

Appendix B: Traffic Impact Analysis Guidelines

OVERVIEW

In 1995, the Traffic Access and Impact Study Guidelines and Procedures were adopted as Appendix B of the Administrative Rules and Procedures of Knoxville-Knox County Planning, previously Knoxville-Knox County Metropolitan Planning Commission (MPC). This was implemented to provide an understanding to staff, Planning Commissioners, and applicants of the potential impacts that a proposed development may cause to the existing transportation system along with any specific measures that may be needed to mitigate those impacts as part of the review process.

Since these Guidelines have not been significantly changed in over the past 24 years, Planning, City and County Engineering staff felt it was imperative to clarify some aspects and policies that have been unclear previously as well as include certain procedures that have already been in practice but not formally addressed in the Guidelines. Staff from both the City of Knoxville Engineering Department and Knox County Department Engineering & Public Works have reviewed and provided input into these revised Guidelines. The following is a summary of the major changes and additions to the updated Guidelines:

1. Guidelines title has been changed from “Traffic Access and Impact Study Guidelines” to “Transportation Impact Analysis Guidelines”. Most references of “Traffic” have been changed to “Transportation” for a multimodal approach (including bicycle, pedestrian, and transit users instead of just motor vehicles) with the analysis more apparent, which is currently what our guidelines call for.
2. Two types of transportation impact analysis have been identified depending upon the particular situation and conditions involved – a “Transportation Impact Letter” (TIL) and a “Transportation Impact Study” (TIS).
3. The addition of the TIL adds flexibility to the guidelines by allowing a less detailed analysis, as opposed to a full Transportation Impact Study (TIS). There will not be a trip generation threshold for this type of analysis.
 - a. A TIL could be used in the following type of scenarios: Rural Retreat Use-on-Review proposals from a non-classified local roadway, an update to a previous TIL/TIS, change in land use from a previous development plan, minor additions to previous development plans, or in other situations requiring less analysis than a TIS.

4. Requiring all development with direct access to a State Highway to consult with TDOT Region 1 Traffic Office to determine if TDOT regulations will apply.
5. Addressing how to handle redevelopment and phased developments.
6. The addition of a clause that allows the Executive Director of Knoxville-Knox County Planning to have the authority to require a Transportation Impact Analysis (TIA) if conditions are determined necessary to warrant it, regardless of the proposed development's projected trip generation.
7. Scope of studies broadened to allow discretion for review staff to require additional intersections to be studied if needed.
8. Submitting a Pre-Submittal Transportation Analysis Determination form to Planning staff is strongly encouraged prior to submittal of a development application (a new form for applicants is attached to the end of Appendix B). This form is to determine whether a transportation analysis is required, the level of analysis, and which intersections will need to be studied. The TIA shall be submitted with an application for development, as currently required.
9. A requirement for developments with vehicular trip generators of either a Level 2 or 3 is a Pre-Study Scoping meeting. A TIL or Level 1 TIS may require a pre-scoping meeting at the discretion of the review staff. This would ensure the applicant has a complete study with their application and has included the agreed upon study parameters and assumptions within their analysis. This would typically be completed after the Pre-Submittal Transportation Analysis Determination form and before the submittal of a transportation analysis with the application. A table that distinguishes the different analysis requirements has been created and attached to the back of Appendix B.
10. Added the requirement of a comment response document, which is what we currently require. This allows for faster review of the corrections/revisions requested for an analysis.
11. Providing further clarification on the following:
 - a. Traffic count data (i.e. count to be no more than two years old and not during school closures)
 - b. Summer traffic counts
 - c. Trip Generation for Local Apartment and Shopping Center rates (which developments warrant those specific land use rates)
12. Creation of a TIL/TIS guide and TIA review process diagram.



Gerald Green
Executive Director
Knoxville-Knox County Planning
400 Main Street, Suite 403
Knoxville, Tennessee 37902

Dear Executive Director Green:

Thank you for an opportunity to participate in the development of the proposed Transportation Impact Analysis Guidelines. City staff worked closely with members of your staff, as well as staff from Knox County Engineering, to create these guidelines. These guidelines will promote greater consistency in the development planning process and will provide flexibility when necessary. The City of Knoxville Department of Engineering supports these guidelines.

Sincerely,

A handwritten signature in black ink, appearing to read "James R. Hagerman". The signature is fluid and cursive, with a long horizontal stroke at the end.

James R. Hagerman, P.E.
Director
City of Knoxville Department of Engineering



OFFICE OF COUNTY MAYOR GLENN JACOBS

Department of Engineering & Public Works

Codes Administration • Fire Prevention • Fleet Services • Highway Maintenance • Planning & Development
Soil Conservation • Solid Waste • Stormwater Management • Traffic Engineering

December 11, 2019

Amy Brooks
Planning Services Manager
Knoxville Knox County Planning
City County Building, Suite 403
400 Main Street
Knoxville, TN 37902

RE: Transportation Impact Analysis Guidelines

Dear Amy,

Knox County Engineering and Public Works has reviewed the proposed modifications to the Knoxville-Knox County Planning's Traffic Access and Impact Study Guidelines and Procedures, also known as Appendix B of the Administrative Rules and Procedures. We appreciate your team's hard work on this matter and believe the revisions provide for a streamlined development process and are beneficial to the clients we serve. We recognize the bulk of these revisions are currently in existing practice, but this document clarifies them for the benefit of both parties.

Therefore, please consider this letter a statement of support for these modifications on behalf of Knox County Engineering and Public Works.

Sincerely,

A handwritten signature in blue ink, appearing to read "J. Snowden".

Jim Snowden, P.E.
Senior Director

APPENDIX A

ADDRESSING GUIDELINES AND PROCEDURES

SECTION 1 –OVERVIEW

Knoxville-Knox County Planning (Planning) is mandated by the following ordinances to ensure street names and addresses within Knox County, Tennessee, including the City of Knoxville and Town of Farragut, conform with existing regulations.

The following documents, together with these guidelines, provide the basis for the Planning's addressing guidelines and procedures.

Knox County Ordinance Number O-91-1-102, establishing a Uniform Street Naming and Addressing System within Knox County, approved February 19, 1991 by the Knox County Commission.

City of Knoxville Ordinance Number O-280-90 establishing a Uniform Street Naming and Addressing System within the City of Knoxville, approved September 18, 1990 by the Knoxville City Council.

City of Knoxville Ordinance Number O-458-92 permitting an appropriate degree of flexibility and discretion to City Council with regard to the numbering of residences within the City of Knoxville, approved October 27, 1992 by the Knoxville City Council.

City of Knoxville Ordinance Number O-211-00 decreasing the time for appeal of street names and property addresses from thirty to fifteen days, approved May 30, 2000 by the Knoxville City Council.

Planning staff is responsible for maintaining the official street name and address database, which is used to:

1. Maintain a valid street name database;
2. Assign block ranges to streets; and
3. Assign addresses to all parcels, properties, and structures as needed.

SECTION 2 – ASSIGNING AND ISSUING ADDRESSES

Addresses of tracts, subdivision lots, and structures shall be assigned by Planning and issued to applicants upon the provision of the following:

- A. Property Location Information – the county map/group/parcel number (tax ID number); or the subdivision name, unit/phase, and lot number; or the instrument number assigned by the Register of Deeds. New subdivision plats must be certified for recording before addresses are assigned. A site plan must be provided for large lots, corner lots or multi-tenant buildings.

- B. Site plan – a complete and legible plan showing the name of the street on which the property is located, the location of the building within the tract or lot, and the driveway providing access to the building.
1. If the property contains multiple buildings, the site plan must identify the location of each building and the primary access to each building.
 2. For multi-tenant buildings, floor plans of all suites or residential units within each building are required. Depending on the layout of the tenant spaces, base numbers or subaddress numbers may be assigned.
 3. The location of centralized mailboxes for a subdivision or large development must also be identified, if applicable.

If necessary, Planning staff may consult with outside agencies such as E-911 and the fire department to determine the appropriate address assignment.

SECTION 3 – VERIFICATION OF ADDRESS

All addresses must be certified by Planning before a building permit is issued. Depending upon the information provided by the applicant in Section 2, one of the following certifications will be assigned:

- A. Official Address – An address assigned to a structure based on a current site plan. This address may be changed in the future if access to the building is changed or the site plan is revised or the street name is changed.

Note: Official addresses will not be assigned over the phone unless there are extenuating circumstances.

- B. Temporary Address – Time limited address issued when an official address cannot be assigned at the time a request is made. Examples of when a temporary address may be assigned include:
1. Plans review submittal,
 2. Variance request,
 3. Shell building,
 4. Demolition request,
 5. Utility cost estimate,
 6. Driveway or grading permit,

7. Temporary construction trailers, display tenants, etc.; or
 8. Other situations as deemed appropriate by staff.
- C. Change of Address – A new official address is assigned when an existing address does not meet current addressing guidelines (See Section 9, 10 and 11) or the property owner/applicant has requested a change.

SECTION 4 – ADDRESSING METHODOLOGY

New address numbers assigned by Planning shall follow the methodology described as follows:

- A. Address Number – A valid address number may consist of two parts: the base number and subaddress number, as shown in the following examples:

	<u>Base Number</u>	<u>Subaddress Number</u>
Example	800	12
Example	3058	201 (2 nd floor)
Example	10008	105 (1 st Floor)

1. Base Number – A unique base number shall be assigned to all occupied structures and shall consist of a numeric value between 100 and 99999. The base number shall be in sequence with surrounding structures and within the block range of the street.

Exception to subsection A.1. The base number assigned on Market Square and Emory Place may consist of a numeric value less than 100.

- a. No half numbers (1/2) are allowed as base numbers.
2. Subaddress Number - A unit, suite or apartment number shall be assigned as needed for multifamily residential dwellings or multi-tenant commercial buildings, lots in a mobile home park or other structures such as power poles, billboards, cellular tower collocations, etc. upon review of a site plan (See Section 2B).
 - a. The subaddress number must be included with the base number, and if assigned, may consist of up to four (4) digits.
 - b. A single- and double-digit number shall be assigned to lower level units when accessed by going down stairs. Ground floor units are assigned a three-digit number ranging from 100 to 199. Second floor units are assigned a three-digit number ranging from 200 to 299. This numbering technique shall continue to the upper-most floors.

Exception to subsection 2.b. Non-repeating subaddress numbers may be assigned upon request for developments with multiple buildings. Unique subaddress numbers representing both the building number and floor may be assigned following the remainder of the addressing guidelines.

- c. No half numbers (1/2) are allowed as subaddress numbers.
 - d. Characters of the alphabet (A, B, C,) may only be assigned to utilities and telecommunications towers. Existing addresses with alpha-characters may be changed before an address is certified for a building permit.
- B. Method of Numbering – Knox County is divided into four quadrants for address numbering purposes as follows:
- 1. North to South – The north-south division line is Heiskell Road, Central Avenue Pike, N Central Street, S Central Street, S Gay Street, E Blount Avenue and Chapman Highway.
 - 2. East to West – The east-west division line is Asheville Highway, Martin Luther King Jr. Avenue, McCalla Avenue, E Jackson Avenue, W Jackson Avenue, Southern Railway and Kingston Pike.

Block numbers within Knox County are assigned beginning at the intersection of N/S Central Streets and E/W Jackson Avenues. The first block beginning at this intersection and proceeding north, south, east, or west, has been designated the 100 block; each succeeding block is numbered consecutively to the county line.

- 1. Block numbers are assigned to street sections that, ideally, extend from one intersection or endpoint to another. A new block range shall be assigned to street segments of approximately 1000 feet in length.
 - 2. Address numbers are assigned approximately every 25 feet and sequentially within the block range.
 - 3. Streets running primarily north and south are assigned even numbers on the east side and odd numbers on the west side.
 - 4. Streets running primarily east and west are assigned even numbers on the south side and odd numbers on the north side.
- C. Posting Address Numbers – Assigned address numbers must be posted on the structure to which they are assigned in accordance with the current building code as adopted by either the City of Knoxville Plans Review and Inspections Department or the Knox County Codes Administration.

SECTION 5 – STREET NAME METHODOLOGY

Planning reviews proposed street names for public streets and private rights-of-way/accesses serving six or more lots, dwellings or multi-tenant buildings. Street names shall be reviewed prior to certification of the final plat.

- A. Format of Street Name – A valid street name may consist of up to three parts:

	<u>Prefix</u>	<u>Base Name</u>	<u>Road Type</u>
Example:	N	Weisgarber	Road

1. Prefix – A prefix will be applied to any street name that meets the specifications outlined in Section 3 of the *“Uniform Street Naming and Addressing System Ordinance”*.
2. Base Name – The base name is the primary part of a street name and should be kept simple and logical to foster clarity and efficiency for emergency responders. Use of frivolous or complicated words, or unconventional spellings in base names should be avoided. In all cases, names which might be perceived to be offensive will not be permitted.
3. The following restrictions apply to proposed base names:
 - a. The base name shall be comprised of recognizable words as found in a standard dictionary. References to a number such as “Ten”, “10”, “First”, and “Tenth”, as part of the base name, are prohibited.
 - b. The base name shall not exceed two words and shall not exceed twenty-six (26) characters.
 - c. Base names that are spelling or phonetic duplicates are prohibited (see Section 6).
 - d. Directional designators such as “North”, “East”, “Southwest” as a part of the base name are prohibited.
 - e. Current road types as outlined in Section 4 of the *“Uniform Street Naming and Addressing System Ordinance”* shall not be used as a part of the base name. Previous road types, such as “Bend” or “Place”, are acceptable as part of the base name.
 - f. Abbreviations of words or personal names, such as initials and single alphabetic characters, are prohibited as part of the base name.

Examples: “St Edward Pike”, “V Walker Lane”, “Salem Sch Road”,

Special exceptions may be allowed for names such as “O Malley” where the single letters are due to lack of punctuation.

- g. All forms of punctuation as part of the base name are prohibited.

<u>Prohibited Usage</u>	<u>Acceptable Usage</u>
Martin-Woodson Road	Martin Woodson Road
O’Malley’s Street	O Malleys Street
St. John’s Avenue	Saint Johns Avenue

- h. The word “Private” shall not be used as a part of the base name.

Example: Elm Private Drive

- i. Foreign language names can be used in the base name if they are easily pronounced, do not sound like an existing street name, and have been reviewed and approved by Planning and E-911 staff.

<u>Prohibited Usage</u>	<u>Acceptable Usage</u>
Magdos	Casa Grande
Randelli	Belle Capri

- m. Use of names protected by copyright are prohibited, unless approved in writing by the owner of the copyright, subject to the provisions of this section.

Examples: Harley Davidson, Hewlett Packard

- n. The use of business names is discouraged, as the existing business may be relocated in the future causing a new business to pursue a street name change.

4. Road Type - The road type must conform to the specifications outlined in Section 4 of the “*Uniform Street Naming and Addressing System Ordinance*”. The following guidelines shall apply to road types:
- All public streets generally extending easterly/westerly shall be designated Drives or Avenues.
 - All public streets generally extending northerly/southerly shall be designated Streets or Roads.
 - Dead-end public streets that cannot be extended shall be designated Lanes.
 - Private rights-of-way serving six (6) or more lots or dwelling units in residential or non-residential developments must be named and shall be designated Ways. When a private right-of-way serves fewer than six (6) dwelling units or lots and there are no available numbers, the private right-of-way may be named and if named, shall be designated Way.

Note: Naming private rights-of-way for a single address is discouraged, unless necessary for safety reasons.

Exception to subsection 4.d. A base name ending in “Park” is prohibited to eliminate confusion with the name “Parkway”.

- e. Streets designed with a median separating the lanes of traffic or a street that serves as the entrance into a subdivision and has the appearance of a boulevard street, may be designated Boulevard upon request and approval by Planning Commission.
- f. Streets designed to be a closed loop that begin and end at the same intersection or where the looped street closes onto itself and is not intersected by another street, may be designated Circle upon request and approval by Planning Commission.
- g. Existing and proposed streets constructed by the Department of Transportation shall be designated Freeway, Highway, Interstate, or Parkway according to the Tennessee Code.

SECTION 6 – DUPLICATE STREET NAMES OR SUBDIVISION NAMES

Duplication of street or subdivision names within Knox County shall not be permitted. If necessary, Planning staff may consult with E-911 about the proposed name. The following apply to all proposed street and subdivision names submitted to addressing staff for approval:

- A. Duplicate names are prohibited – A proposed street name or subdivision name is considered to be a duplicate when its base name is spelled exactly the same or has a similar word spelling as another existing street or subdivision name.
- B. Phonetic duplications are prohibited – A proposed street name or subdivision name is considered to be a phonetic duplicate when its base name sounds similar to another base name. For example, “Oak Ranch” will be denied if “Oak Branch” is an existing street or has previously been reserved (see Section 7).

Examples of existing phonetic duplicates:

Grayland	Greylan	Lindal	Lynndell
Grayston	Grayson	Maple Trace	Maple Chase
Greeley	Greenley	Mays	Mayes
Hanley	Handley	McClellan	McMillan
Henley	Hensley	Mellen	Mellon
Heiskell	High School	Michael	Michaels
Hellerd	Hillard	Montview	Montvue
Scheel	Shell	Pickel	Pickle
Gem	Jim	Queensboro	Queensbury

- C. Repetition of first word in street name – Proposed street names within the same subdivision shall not repeat the first word of another proposed street name for public safety purposes. For example, if “Wood Lake” is approved for a street in a particular subdivision, “Wood Cave” will be denied for that same subdivision.

SECTION 7 – RESERVING STREET NAMES OR SUBDIVISION NAMES

Names for proposed streets and subdivisions must be submitted in writing for review by Planning. Following review of proposed names by addressing staff, and if necessary E-911, one of the following three designations are assigned:

- A. Denied – The proposed name is an exact or phonetic duplication of an existing name or the name does not conform to the naming conventions of the Addressing Guidelines and Procedures or the “*Uniform Street Naming and Addressing System Ordinance*”; or
- B. Approved and pending – The proposed name was approved by Planning staff but has yet to be reserved. If multiple names were approved, persons requesting the name have ten days to decide which approved street or subdivision name should be reserved; otherwise, the name is placed back into circulation; or
- C. Reserved – The proposed name is reserved for a subdivision, person, or group who requested the use of the name. A subdivision or street name may be reserved for the length of time a concept plan is valid.

SECTION 8 – REQUESTING A STREET NAME OR SUBDIVISION NAME CHANGE

Changes to existing street or subdivision names are permissible with support from affected landowners. Approval by the Planning Commission and Knoxville City Council or Knox County Commission may also be required. To request a name change within Knox County, refer to Article V of the Administrative Rules and Procedures of the Knoxville-Knox County Planning Commission.

Exception: If the recorded subdivision plat contains a misspelling of a street or subdivision name, a corrected plat with the new name must be approved by Planning and recorded with the Knox County Register of Deeds.

SECTION 9 – IDENTIFICATION OF EXISTING PROBLEMS

Planning is notified of existing problems by one of the following:

- A. Public complaint and identification of addressing and/or street naming problems; or
- B. Notification of discrepancies by governmental organizations, such as emergency services, fire departments, or postal service; or
- C. Review by Planning staff of internal documents, imagery, or field checks.

Persons wishing to call attention to addressing problems should contact Planning by telephone, email, or in person. Types of existing problems may include, but are not limited to, the following:

- A. Duplicate street names (see Section 6 of these Guidelines).
- B. Segments of the same physical street with the same base names but different road types (Example: “Sheehan Road” and “Sheehan Lane” both on a single continuous street).
- C. A street name’s official spelling is inconsistent with general public usage (e.g., “Meadowrun Lane” vs. “Meadow Run Lane”).
- D. Incorrect placement of street name parts within the street name, such as “Mall Road S”, where the “S” is placed incorrectly at the end of the name.
- E. An address change due to subdivision of the surrounding property, insufficient address number available, easements requiring a name, and other address discrepancies in disagreement with the “*Uniform Street Naming and Addressing System Ordinances*” or the Addressing Guidelines and Procedures.
- F. Other addressing related concerns brought to the attention of Planning.

SECTION 10 - EVALUATION OF EXISTING PROBLEMS

Each identified problem brought to the attention of Planning staff shall be reviewed and researched; field checks may be conducted. The following factors will be examined to determine how the problem will be resolved:

- A. The problem’s negative impact on the delivery of emergency services,
- B. Public complaints concerning the problem, and
- C. The likelihood the problem will impair other governmental or non-governmental services.

Assuming one of the above three factors has been met, Planning staff will try to resolve the identified problem.

SECTION 11 – RESOLUTION OF EXISTING PROBLEMS

Planning will examine each of the identified problems on a systematic basis. No one, single type of problem or geographic area will be consciously targeted for, or excluded from, resolution. The original submitter(s) of the problem will be notified by Planning of the recommended solution. If Planning staff recognizes the need for a street name change, the original initiator will be asked to submit an official request for a street name change.

Planning will properly notify the residents of necessary street and/or address changes required to resolve the existing problem. Suggestions concerning the problem resolution will be gathered from the residents and other interested organizations/groups. Planning will then summarize the findings (if needed) and present the valid options. A single solution will be acted upon.

Any resolution to existing problems must conform to the specifications of this document and to the City and County “*Uniform Street Naming and Addressing System Ordinances*”. Planning will not recommend approval of any solutions that do not meet these requirements.

SECTION 12 – SPECIAL STREET NAMING RULES AND CONVENTIONS

When development results in the creation, relocation, closure or interruption of streets, existing street names may need to be changed and/or address numbers may need to be reassigned. Planning shall coordinate Federal, State, City, or County agencies.

- A. Use of “Old” in Street Names - The usage of the word “Old” as part of the street name is only allowed in cases where an existing street name problem is being resolved and the previously existing street name contained the word “Old”.

SECTION 13 – NOTIFICATION OF STREET/SUBDIVISION NAME AND/OR ADDRESS CHANGES

Planning maintains contact information for government agencies, utilities and individuals to be notified of changes in street names or addresses. After changes have occurred, Planning will notify all individuals and/or agencies on the most current contact list.

SECTION 14– APPEALS PROCESS

Any actions by Knoxville-Knox County Planning’s staff pertaining to street naming or addressing may be appealed to the Planning Commission or as provided in the appropriate ordinances. Appeals for addresses within the jurisdiction of the City of Knoxville must be filed at the Planning office within 15 days of the date of the decision being appealed. Appeals for addresses within the jurisdiction of Knox County must be filed at the Planning office within 30 days of the date of the decision being appealed.

Any appeals that are granted will remain in effect as long as the original applicant/owner maintains ownership of the property. If the property is sold or transferred the address will be reassigned to one that meets current addressing guidelines at that time.

APPENDIX A

ADDRESSING GUIDELINES AND PROCEDURES

The following documents, together with these guidelines, provide the basis for the Metropolitan Planning Commission staff address and road naming procedures.

Knox County Ordinance Number 0-91-1-102, establishing a Uniform Street Naming and Addressing System within Knox County, approved February 19, 1991, by the Knox County Commission.

City of Knoxville Ordinance Number 0-280-90 establishing a Uniform Street Naming and Addressing System within Knox County, approved September 18, 1990, by the Knoxville City Council.

Section 1—The Addressing DEPARTMENT

The Addressing Department of the Metropolitan Planning Commission is responsible for assigning addresses and verifying road names within Knox County, and ensuring their conformance with existing regulations and ordinances.

Section 2—Road Name/Address Information

The Metropolitan Planning Commission maintains the following information:

Official Road Names and Address Master Plan—This information shall be used to:

Assign block numbers (address ranges) to road sections.

Assign addresses to all parcels and properties.

Maintain a valid road name inventory.

Certified Copies of Subdivision Plats—These plats shall be used to record the street address assigned to each lot.

Approved Development Plans—These plans (as defined in the Knoxville and Knox County Zoning Ordinances) shall be used to assign addresses to each structure as shown on the Development Plan.

Section 3—Assigning, Recording and Issuing Addresses

Addresses of tracts, subdivision lots, and all structures shall be assigned and recorded by the Addressing Department, and shall be issued to applicants upon the provision of the following information:

Tracts—Applicants shall supply: the valid street name upon which the structure is located or to be located; the county map/group/parcel number; the distance of the structure in feet to the nearest property line; and whether that property line is on the north, south, east, or west side of the property.

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~~**One-Lot Subdivisions**—When the subdivision or deeded property has been recorded, the applicant shall supply the information required in Section 3A above.~~

~~**Subdivisions Other Than One Lot**—When the subdivision has been recorded, the applicant must supply: name of the subdivision; unit number; lot and block number; and street name upon which the lot is located.~~

~~**D. Structures**—New and existing commercial and/or office buildings, shopping centers/malls, apartments, condominiums, duplexes, mobile homes, park and recreation facilities, schools, churches, utilities, etc.. Applicants shall supply an approved development or site plan (as defined in the Knoxville and Knox County Zoning Ordinances). The plan must show the name of the street where access is located, the closest lateral street, the location of each building on the property and the layout of all suites or residential units within each building and within each floor of the building.~~

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~~**There are three types of address assignments:**~~

~~**Temporary Address:** Time limited addresses assigned only for:~~

~~Plans Review Submittal~~

~~Variance Request~~

~~Shell building~~

~~Demolition request~~

~~Special circumstances such as field check requirement~~

~~Special requests such as tent meetings, construction trailers~~

~~The time limit before a permanent address is assigned varies according to the type of request.~~

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~~**Permanent Address:** An official address assigned by the MPC Addressing Department.~~

~~**3. Address Change:** Required when a problem is identified. (See Section 9, 10, and 11)~~

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~~**Section 4— Verification of Street Address**~~

~~Street addresses shall be verified by the Addressing Division when the applicant provides the information required in Section 3 above.~~

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~~All street addresses must be verified and certified by the MPC Addressing Department before a building permit is issued.~~

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~~**Section 5— Addressing Methodology**~~

~~**Address Number**— A valid address number can consist of two parts:~~

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	Address Number	Unit Number or Suite Number
	<u>Address Number</u>	<u>Unit/Suite Number</u>
Example	800	# 12
Example	3058	-201 (2d floor)
Example	10008	-105 (1 st Floor)

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The address number is required. A unit or suite number may not be necessary, but it must be shown with the base number if assigned by the MPC Addressing Department.

The unit or suite number represents a unit in a business complex, office suite, an apartment, condominium, loft, penthouse, or mobile home/trailer pad. It can consist of up to four (4) numeric characters.

Multifamily residential or multi-tenant commercial unit/suite numbers are assigned upon review of a site plan. (See Section 3-D)

No half numbers (1/2) are allowed.

Characters of the alphabet (A, B, C,) are used only for utilities and telecommunications towers.

The address number must be in sequence and consist of a numeric value between 100 and 99999; a single alphabetic letter may be appended to the numeric value if no other solution is available.

Method of Numbering

Knox County is divided into four quadrants for address numbering purposes as follows:

North-South—The north-south division line is Heiskell Road, Central Avenue Pike, N. Central Street, S. Central Street, and Chapman Highway.

East-West—The east-west division line is Asheville Highway, Martin Luther King Jr. Avenue, McCalla Avenue, Jackson Avenue, Southern Railway and Kingston Pike.

Street Address Master Plan—A master plan of street addresses has been prepared assigning block numbers for Knox County beginning at the intersection of Central Street and Jackson Avenue. The first block beginning at this intersection and proceeding north, south, east, or west, has been designated the 100 block, each succeeding block is numbered consecutively to the county line.

Block numbers are assigned to road sections that, ideally, extend from one intersection or endpoint to another. A block range should never extend beyond 1000 feet.

A street address is assigned every 25 feet.

Streets running north and south are assigned even numbers on the east side, odd numbers on the west side.

Streets running east and west are assigned even numbers on the south side and odd numbers on the north side.

Section 6 – Road Name Specifications

Definition/Format of Road Name

A valid road name can consist of up to four parts:

	<u>Prefix</u>	<u>Base Name</u>	<u>Road Type</u>	<u>Post Suffix</u>
Example:	N	Weisgarber	Road	NW

Other commonly used designators for the four parts include:

<u>MPC Designations</u>	<u>Other Commonly Used Designations</u>
<u>Prefix:</u>	<u>Directional, Pre-Directional</u>
<u>Base Name:</u>	<u>Primary Name, Street Name</u>
<u>Road Type:</u>	<u>Suffix, Extension</u>
<u>Post Suffix:</u>	<u>Directional, Post-Directional, Suffix</u>

Using the example of the road name “N Weisgarber Road NW”, the four parts consist of the following:

PREFIX: “N” (North), BASE NAME: “Weisgarber”, ROAD TYPE: “Road” and POST SUFFIX: “NW” (Northwest).

A road name must have, at a minimum, a Base Name and a Road Type.

Prefix – A Prefix will be applied to any road name that meets the specifications outlined in Section 3 of the “Uniform Street Naming and Addressing System Ordinance” (City of Knoxville, 0-280-90, Knox County 0-91-1-102).

Base Name – The Base Name is the second part of a road name and is the primary name. Road names should be kept as simple and logical as possible to foster clarity and efficiency. Use of frivolous or complicated words or unconventional spellings should be avoided. In all cases, names which might be

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~~perceived to be offensive will not be permitted. The following restrictions apply to assigned base names:~~

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~~The base name shall not exceed twenty-six (26) characters.~~

~~The base name shall not exceed two words.~~

~~Prohibited Usage Acceptable Usage
Brown Mountain Loop Road Mountain Loop Road
Prince-George Parish Way Prince-George Way~~

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~~Prefix and/or Post Suffix (directional) designators as a part of the Base Name are prohibited.~~

~~Examples: North, South, East, West, Southwest~~

~~References to "Old" or "New", "Little", "Big", or other descriptive terms as a part of the Base Name are prohibited, except when resolving existing road name duplications (see Section 12A).~~

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~~References to a number as part of the Base Name are prohibited.~~

~~Examples: 10, Ten, First, Tenth~~

~~Road Types (as outlined in Section 4 of the "Uniform Street Naming and Addressing System Ordinance") shall not be used as a part of the Base Name.~~

~~Examples: Avenue, Boulevard, Circle, Court, Drive, Highway, Lane, Parkway, Pike, Road, Street, Way.~~

~~Abbreviations of words or of personal names, such as initials, are prohibited as part of the Base Name.~~

~~Prohibited examples include: "Salem Sch Road", "Salem Ch Road", "Gov John Sevier Highway", "JR Lane", "St Edward Pike".~~

~~Street names derived by linking portions of personal names together that do not form a recognizable word as found in a standard dictionary are prohibited.~~

~~Examples: Tompat, Kaydee, Bartlebe, Kaymeg, Anderkenn, Delegal~~

~~All forms of punctuation as part of the Base Name are prohibited.~~

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~~Prohibited Usage Acceptable Usage
Martin Woodson Road Martin Woodson Road
O'Malley's Street O Malleys Street
St. John's Avenue Saint Johns Avenue~~

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~~i. References to single alphabetic characters, such as "K", as a part of the Base Name are prohibited. Examples of prohibited usage includes: "A Drive", "Duncan B Road", "V Walker Lane".~~

~~Special exceptions may be allowed for names such as "O Malleys Road" or "Man O War Street", where the single letters are due to lack of punctuation.~~

~~j. The word "Private" shall not be used as a part of the Base Name.~~

~~Example: Elm Private Drive~~

~~k. Foreign language names can be used as a street name if they are easily pronounced, do not sound like a previously assigned street name, and have been reviewed and approved by MPC and E-911 staff.~~

Prohibited Usage

Acceptable Usage

~~Magdos~~

~~Casa Grande~~

~~Randelli~~

~~Belle Capri~~

~~Oeylana~~

~~Mona Lisa~~

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~~Use of names protected by copyright are prohibited, unless approved in writing by the owner of the copyright, subject to the provisions of this section.~~

~~Examples: Harley Davidson, Hewlett Packard~~

~~Road Type—The road type must conform to the specifications outlined in Section 4 of the “Uniform Street Naming and Addressing System Ordinance” (City of Knoxville #O-280-90; Knox County #O-91-1-102). The Ordinances state:~~

~~Henceforth, the following street designation guidelines shall apply to street names, street signs, and addresses:~~

~~All public streets generally extending easterly/westerly shall be designated Drives or Avenues.~~

~~All public streets generally extending northerly/southerly shall be designated Streets or Roads.~~

~~Deadend public streets that cannot be extended shall be designated Lanes.~~

~~Private easements serving six (6) or more lots or dwelling units in a residential development or lots/buildings in non-residential developments shall be designated Ways. Such easements must be named. When the easement serves fewer than six (6) dwelling units or lots and there are no available numbers, the easement must be named.~~

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~~Other designations such as Boulevard, Pike, Circle, etc., may be requested by application to the Knoxville/Knox County Metropolitan Planning Commission. The Planning Commission shall consider such requests in their monthly public meetings and approve or deny the request after consideration of the public interest.~~

~~Post Suffix — A Post Suffix will be applied to any road name that meets the specifications outlined in Section 3 of the “Uniform Street Naming and Addressing System Ordinance” (City of Knoxville O-280-90, Knox County O-91-1-102).~~

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~~Section 7 — Duplicate Road Names~~

~~In conformance with the established policy of not allowing duplicate road names to exist within Knox County, the following apply to all Base Names submitted to the Addressing Division for approval:~~

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~~Duplicate Base Names are prohibited. A road name is considered to be a duplicate whenever its Base Name is spelled exactly the same as another road’s Base Name.~~

~~Phonetic duplications are prohibited. A phonetic duplicate results when a Base Name sounds similar to another Base Name. For example, “Oak Ranch” will be denied if “Oak Branch” has previously been approved.~~

Examples of existing phonetic duplicates:

Grayland	Greylan	Lindal	Lynndell
Grayston	Grayson	Maple Trace	Maple Chase
Greeley	Greenley	Mays	Mayes
Hanley	Handley	McClellan	McMillan
Henley	Hensley	Mellen	Mellon
Heiskell	High School	Michael	Michaels
Hellerd	Hillard	Montview	Montvue
Scheel	Shell	Pickel	Pickle
Gem	Jim	Queensboro	Queensbury

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C. A word may be used in the Base Name even though previous approval has been given to Base Names that contain that word. For example, "Oak Ranch" will be considered although previous approval has been given to "Oak Gate", "Oakmont", "Oak Carriage Wheel", etc.

Exception to Subsection C: Names of roads that are spelled similarly or have similar parts of Base Names will not be approved for the same subdivision. For example, if "Wood Lake" is approved for a road in a particular subdivision, "Wood Cave" will be denied for that same subdivision.

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Section 8 – Reserving Road Names

After road names are checked by the staff, the names are assigned one of the following three designations:

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Denied. The road name is an exact or phonetic duplication or the name does not conform to the naming conventions of the MPC Addressing Guidelines and Procedures or the addressing/street naming ordinances of the City of Knoxville and Knox County.

Approved and pending. The road name is approved but has yet to be reserved. Persons requesting a name verification have up to ten days to place an approved road name on the reserved list; otherwise, the name is placed back into circulation; or

Reserved. The road name is reserved for a subdivision, person, or group who requested the use of the name. A road name may be reserved for five years which corresponds to the length of time a concept plan is valid.

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Section 9 – Identification of Existing Problems

Identification Methods. The Addressing Department of the Metropolitan Planning Commission is notified of existing problems through one of the following methods:

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"In-house" (MPC Addressing Department) inspection of addressing and road name documents,

~~General public complaints/identification of addressing and/or road naming problems, or
Notification of problem areas by governmental organizations, such as emergency services, fire
departments, or post office.~~

~~Persons wishing to call attention to addressing problems should contact the Addressing Department
by telephone, fax, e-mail, or by coming to the office in person. Types of existing problems may
include, but are not limited to, the following:~~

~~Duplicate road names (see Section 7 of these Guidelines).~~

~~Segments of the same physical road that have the same Base Names yet have different Types (e.g.,
“Sheehan Road” and “Sheehan Lane” both on a single continuous street).~~

~~A road name’s official spelling is not consistent with general public usage (e.g., “Meadowrun Lane” vs.
“Meadow Run Lane”).~~

~~Incorrect placement of road name parts within the road name, such as “Mall Road S”, where the “S” is
placed incorrectly at the end of the name.~~

~~5. Any road names not conforming to the established *Uniform Street
— Naming and Addressing System Ordinances* (City #O-280-90,
— County #O-91-1-102) or to the provisions of the *Addressing
— Guidelines and Procedures* found in Sections 5 and 6.~~

~~6. Any address that needs to be changed due to subdivision of the
— surrounding property, no available numbers, easements that require
— a name, and any other address or road name occurrence that is not
— in agreement with the *Uniform Street Naming and Addressing
— System Ordinances* or the *Addressing Guidelines and Procedures*~~

~~7. Any road name that is part of a project that has not met the
— Addressing Department’s prior approval.~~

~~8. Other addressing related concerns brought to the attention of the
— MPC Addressing Department.~~

Section 10 – EVALUATION of Existing Problems

~~Each identified problem that is brought to the attention of the addressing staff shall be reviewed and
verified. Field checks may be conducted. The following factors will be examined in determining how
the problem will be resolved:~~

~~The problem’s negative impact on the delivery of emergency services,~~

~~Public complaints concerning the problem, and~~

~~The likelihood that the problem will impair other governmental or non-governmental services.~~

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~~Assuming that one of the above three factors has been met, the addressing staff will begin to resolve the identified problem.~~

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Section 11—Resolution of Existing Problems

~~The Addressing Department will examine each of the identified problems on a systematic basis. No one, single type of problem or geographic area will be consciously targeted for, or excluded from, resolution. The original submitter(s) of the problem will be notified by the MPC Addressing Department of the recommended solution. If the Addressing Department recognizes the need for a road name change, the original initiator will be asked to submit an official request for a street/road name change.~~

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~~The MPC Addressing Department will properly notify the residents of necessary road and/or address changes required to resolve the existing problem. Suggestions concerning the problem resolution will be gathered from the residents and other interested organizations/groups. The Addressing Department will then summarize the findings (if needed) and present the valid options. A single solution will be acted upon.~~

~~Any resolution to existing problems must conform to the specifications of this document and to the City and County Addressing Ordinances. The Addressing Department will not recommend approval of any solutions that do not meet these requirements.~~

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Section 12—Special Road Naming Rules and Conventions

~~Use of “Old” in Street Names—The usage of the word “Old” as part of the Street Name is only allowed in cases where an existing road name problem is being resolved and when the previously existing road name contained the word “Old”.~~

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~~Road Development Projects—When road development results in the creation, relocation, closure or interruption of streets, existing street names and/or house numbers may need to be reassigned.~~

~~The Addressing Division shall coordinate Federal, State, City, or County agencies.~~

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Section 13—Notification of Road Name Address Changes

~~The Addressing Division maintains mailing lists of government agencies, utilities and individuals to be notified of changes in road names or addresses. After changes have occurred, the Addressing Division will notify all individuals and/or agencies on the most current mailing list.~~

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APPENDIX B

TRAFFIC ACCESS AND IMPACT STUDY GUIDELINES AND PROCEDURES

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Section 1—Purpose for Submission of Traffic Access and Impact Studies

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These traffic access and impact study guidelines and procedures define when proposed concept subdivision plans, Uses on Review, or development plans warrant a detailed traffic study and what information should be included in it. All applicants will be required to follow the MPC guidelines and will be treated equally under the same or similar circumstances.

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The purpose of performing a traffic impact and access study, as defined by the Institute of Traffic Engineers (ITE), is to:

- Provide guidance for short and long range planning of site access;
- Provide guidance for on-site circulation and the interface between on-site circulation and off-site traffic;
- Provide guidance for off-site improvements needed to permit the roadway system to function satisfactorily so as to accommodate site and non-site traffic;
- Assist developers and landowners in making land use site planning decisions regarding traffic;
- Identify the contribution a particular development makes to roadway system traffic volumes;
- Provide a basis for estimating roadway improvement requirements attributable to a particular project;
- Assess the compatibility with local transportation plans;
- Enable staff to better evaluate zoning changes and development plans;
- Allow appointed and elected officials to know implications of their voting decisions.

Section 2—Scope of Required Traffic Access and Impact Studies

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Three levels of study have been identified based on the number of trips that a development is projected to generate in a 24-hour period:

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Level 1 studies require analysis of each access that the development has to an existing roadway. Access points to be analyzed include public roads, joint permanent easements, and private driveways. This level of study is commonly required for large residential subdivisions, office developments, and smaller commercial developments.

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Level II studies require analysis of each access that the development has to an existing roadway, and to the first control point beyond those access points. A control point is an intersection controlled by a traffic signal or stop sign on the existing roadway onto which the development has access. For cases where a traffic control device does not exist, MPC staff will determine the extent of the study. If a freeway interchange is near the property to be developed and is not signalized, MPC staff will determine if the ramps need to be included in the study. This level of study is commonly required for moderately sized commercial developments and larger office complexes.

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Level III studies require a complete traffic access and impact study, addressing each access point, the first control point beyond each access point, and the nearest collector/collector intersection or street of higher classification or as determined by MPC staff. The exact area to be studied will be determined by MPC with input from the study preparer. Level III studies are uncommon, as they are usually warranted only with very large mixed use and commercial developments.

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Section 3 – When Traffic Access and Impact Studies are Required

Traffic access and impact studies shall be submitted along with applications for Concept Subdivision Plan, Use on Review, and Development Plan requests which fall within the following 24-hour trip generation ranges:

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24 HOUR TRIP GENERATION	TRAFFIC STUDY SCOPE
750-3000 ADT	LEVEL I
3000-6000 ADT	LEVEL II
> 6000 ADT	LEVEL III

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Trip generation rates for proposed uses shall be calculated using the ITE Trip Generation Manual, or using local data when it is available.

Upon being provided proof by the developer's traffic engineer that a lower level traffic impact study would be adequate for a proposed development, or that a traffic impact study is not warranted, the Executive Director of the Planning Commission staff may reduce the level of study required or waive the requirement.

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Section 4 – Submission and Review Procedures for Traffic Access and Impact Studies

Applicants should conduct a preliminary trip generation assessment of any proposed Concept Subdivision Plan, Use on Review, or Development Plan to determine if a traffic study will be required. This preliminary assessment should be conducted well in advance of the actual submission of plans.

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If the preliminary assessment indicates that a traffic study will be required, the applicant should immediately consult with MPC staff to verify a development's projected trip generation, and to

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confirm whether or not a study will be required. If a study is required, the required level can be determined at that time.

The applicant shall then select a traffic or transportation engineer to prepare the study, who may need to consult with MPC staff periodically to review the collected data and any assumptions made in the draft report.

Ten copies of the completed draft traffic study shall be submitted along with the development application and all other materials required for submission.

MPC staff, along with local and state government, shall review the draft traffic study in conjunction with the other elements of the development application. If the draft traffic study is not of the proper scope or is executed improperly, the applicant shall be notified of the deficiencies and be required to submit corrections on the same schedule that applies to the other elements of the development application. Failure to submit corrections in a timely fashion may lead to a postponement of the application until the next regularly scheduled MPC meeting.

Note: Since a completed traffic study must be submitted at the same time as the application for a development, it is critical that the applicant conduct steps 1-3 early in their planning of a proposed development. Failure to submit a traffic study, or submission of an inadequate study, is likely to slow the review process and may lead to postponements.

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Section 5 – Required Qualifications for Preparers of Traffic Access and Impact Studies

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Traffic access and impact studies shall be prepared under the supervision of a qualified engineer who has specific training in traffic and transportation engineering and several years of experience related to preparing traffic studies for existing or proposed developments. The study shall be signed and sealed by the supervising engineer. The ability to forecast and analyze traffic needs for both developments and roadway systems is essential. All traffic operations and design work shall be completed under the supervision of a registered professional engineer.

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Section 6 – Required Specifications for Traffic Access and Impact Studies – Report Requirements – Level I and II Studies

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Introduction

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Description of site including a location map

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Type of project

If residential, number and type of dwelling units

If commercial or industrial, square footage and type of development

Other planning data which may be pertinent

Map of project with proposed access points shown

Existing Conditions

**Directional traffic counts on roads adjacent to property with access to development
Traffic counts should be not more than one year old**

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**Level of service of intersection(s) (if applicable)
Highway capacity software is recommended
Other nationally recognized software can be used**

Trip Generation Rates

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Listing of trip generation rates

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Listing of sources for rates used

ITE 5th Edition of Trip Generation manual or latest edition

**if the type of proposed development is not addressed in the ITE manual, then other rates may be used
as long as they are documented and have been approved by MPC staff.**

**Calculation of trip ends by type of generator
Traffic generated by phase.
100 percent occupancy and development.**

Trip Distribution

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Assumptions as to the directional distribution of traffic to and from the development.

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Assumptions as to the peak hour percentages.

Assumptions as to the peak hour directional splits.

Assumptions as to the pass-by trips if applicable — must be approved by MPC staff.

Analysis

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Level of Service (LOS) and capacity analysis for peak periods

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**Compute the projected LOS and capacity analysis for each access point and control point to the
adjacent road system based on the development by phase**

Highway Capacity Software is recommended

Other nationally recognized software can be used

Compare LOS before development to LOS after development, if applicable

Link Analysis, if applicable

**Intersection and roadway geometry—existing and proposed
Distances from existing streets, driveways, and/or median cuts
Alignment with existing streets, driveways, and/or median cuts**

Intersection layout

Sight distance

Right-of-way width

Lane width(s)

Site Circulation

D.—Pedestrian facilities

Sidewalks

Transit stop(s)

School bus stops

Recommendations

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Site access

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Intersection improvements

- Traffic control device(s) — modify existing or need for new
- Left and/or right turn lanes
- Acceleration and/or deceleration lanes
- Length of storage bays

Off-site improvements

- Modification to existing traffic control device(s)
- Additional traffic control device(s)
- Additional lanes at major intersections
- Additional roads

Improvements by phasing (if applicable)

Appendix

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Raw traffic count data

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Documentation of analysis

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Report Requirements — Level III Studies

In addition to the preceding information required for Level I and II studies, the following information on Trip Assignment shall be provided in the report prior to the Analysis and Recommendation sections:

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VIII. Trip Assignment

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Show existing ADTs, proposed development traffic and total traffic for all affected links on map which identifies the project and the surrounding roads.

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Show AM and PM peak hour turning movements for the existing traffic, the proposed development traffic, and the combined traffic at all project entrance intersections, and affected intersections within the study area.

Discuss the effects of phasing of the proposed project.

Section 7 — Additional Technical Information on Traffic Access and Impact Studies

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Additional information on Traffic Access and Impact Studies can be obtained from *Traffic Access and Impact Studies for Site Development — A Recommended Practice* by the Institute of Transportation Engineers.

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APPENDIX B

TRANSPORTATION IMPACT ANALYSIS GUIDELINES**SECTION 1 – PURPOSE FOR SUBMISSION OF TRANSPORTATION IMPACT ANALYSES**

These transportation impact analysis guidelines and procedures define when applications for developments warrant a detailed transportation analysis and what information should be included in it. “Transportation” is viewed from a multimodal perspective to evaluate all transportation modes to include vehicular, pedestrian, bicycle, and transit.

All applicants will be required to follow the Knoxville-Knox County Planning Commission guidelines and will be treated equally under the same or similar circumstances. The purpose of performing a transportation impact analysis is to:

1. Provide guidance for short and long-range planning of site access;
2. Provide guidance for on-site circulation and the interface between on-site circulation and off-site transportation;
3. Provide guidance for off-site improvements needed to permit the roadway system to function satisfactorily so as to accommodate site and non-site transportation;
4. Assist developers and landowners in making land use site planning decisions regarding transportation;
5. Identify the contribution a particular development makes to roadway system traffic or motor vehicle volumes;
6. Provide a basis for estimating improvement requirements attributable to a particular project;
7. Assess the compatibility with local transportation plans;
8. Enable staff to better evaluate the impact from zoning changes and development plans;
9. Allow appointed and elected officials to know implications of their voting decisions.
10. Identify measures to be taken to improve accessibility and safety for all modes of travel, particularly for alternatives to the car such as walking, cycling, and public transit.

SECTION 2 – APPLICABILITY

- A. All applications are subject to review to determine if a transportation impact analysis will be required. The requirement for a transportation impact analysis is primarily driven by the expected number of motor-vehicle trips, i.e. “traffic”, that will be generated by a proposed development in a 24-hour period with a specific minimum threshold of 750 generated trips. There may be other special circumstances related to factors including, but not limited to, the location of the development, current traffic patterns, safety-related issues or previous development on the property that warrant an analysis of transportation impacts. The volume of expected traffic also affects the level of analysis that is required, with higher volumes of traffic necessitating greater study scopes and detail. For more information on the thresholds and levels of a transportation impact analysis, go to Section 3 – Types and Levels of Transportation Analysis.
- B. A requirement for a transportation impact analysis applies to not only applications involving entirely new standalone developments, but also to the following:
1. All proposed redevelopment (i.e. proposed modifications to existing developments or completion of previously approved development) that meet minimum trip generation thresholds for the whole development as defined by Table 1.
 2. All proposed older developments (greater than 5 years since the original concept or Use on Review approval) may require a transportation impact analysis if the overall development is over the 750 trips threshold or if significant changes in the area have occurred. The overall development is defined as including all interconnected access points, and significant changes to an area are defined as, but not limited to, increase in new development or redevelopment within a half mile radius or an increase in ADT vehicular traffic by 5% or more to adjacent streets.
 3. All proposed phased development (or adding onto existing development).
 - a. For developments with a previous transportation impact analysis completed early in the development stage process, it may need to be updated with a level of analysis approved by Knoxville-Knox County Planning Staff to include more detail of the land uses as the site plans become specific. Even if the number of estimated trips

generated in an original study is not exceeded in the later proposal, Planning staff may require some level of analysis to be performed for the development.

- b. For developments without a previous transportation impact analysis, any outparcels or future development area created and not included in the original project scope may require an analysis for the overall development, especially if evaluation of the additional development indicates the entire site exceeds the daily trip threshold.
- C. If an applicant submits a development plan that is under the daily trip threshold for the requirement of a transportation impact analysis and the applicant has ownership or control of additional property that is zoned to allow a larger development project that would meet the threshold, the Executive Director can require a transportation impact analysis. An applicant of a proposed development shall not avoid the intent of these requirements by submitting piecemeal/phased applications for development (separate applications for a larger development that do not necessarily meet the daily trip threshold individually).
- D. If a development has direct access to a State Highway then the Tennessee Department of Transportation (TDOT) Region 1 Traffic Office staff must be consulted. TDOT Traffic Office staff will determine whether the TDOT “Traffic Impact Studies” regulations apply in addition to or separate from what is required in these guidelines. Refer to TDOT Traffic Design Manual, Chapter 2 - Traffic Impact Studies (latest approved).
- E. Upon being provided proof by the applicant’s transportation engineer that a transportation impact analysis is not warranted due to insignificant impact of the proposed development, the Executive Director of Knoxville-Knox County Planning may either reduce the level of analysis required or waive the requirement. Any waiver requests shall be made in writing and shall include the data and analysis necessary to support the request.
- F. The Executive Director of Knoxville-Knox County Planning has the authority to require a transportation impact analysis regardless of the proposed development’s projected trip generation if conditions are determined necessary to warrant it. This will be in coordination with the Director of Engineering for Knox County and/or the City of Knoxville. Documentation of the specific warranting conditions will be prepared and provided to the applicant.

SECTION 3 – TYPES AND LEVELS OF TRANSPORTATION ANALYSIS

Two types of transportation impact analysis have been identified depending upon the particular situation and conditions involved – a “Transportation Impact Letter” (TIL) and a “Transportation Impact Study” (TIS). The required type of transportation impact analysis will be determined by Planning staff in consultation with the staffs from the other affected jurisdictions based on the location of the proposed development and its points of access. The particular aspects and levels of analysis involved with a TIL and TIS are outlined in the remainder of this Section.

A. Transportation Impact Letter (TIL) – A TIL involves a broader-level review of transportation impacts from the proposed development that can be submitted in a less formal, letter-type format. A TIL does not have an associated trip generation threshold requirement as its trigger, but is rather based on specific circumstances that warrant a different type of transportation analysis that is often less detailed than a standard TIS. There are differing types of a TIL depending upon the specific situation involved with the development application. Following are specific examples of situations that may result in a TIL request for an application, with other possible situations also warranting a TIL as determined by Planning staff in consultation with affected stakeholder jurisdictions.

1. Rural Area Traffic Assessment – Rural Retreat Use on Review proposals (on a local classified roadway) and Rural Area (as defined by the “Growth Policy Plan”) residential density increase proposals. This type of TIL is used to provide an overall assessment of a roadway’s sufficiency to accommodate increased densities and development in rural portions of Knox County and specifically to address the requirements from:

- The Knoxville Farragut Knox County Growth Policy Plan, Section 1: Policies, 3.5 (d) or as amended.
- Knox County Code of Ordinances, Appendix A, Section 4.104.02: Standards for the Use on Review approval of Rural Retreats.

2. Update of Previous TIL/TIS – A TIL may be allowed/required in cases when a development approval with a TIL/TIS has expired and a new application is being submitted. The TIL would be used to determine whether any conditions have changed that may warrant revised recommendations and document any other updated information.

3. Change in Land Use from Previous Development Plan – A TIL may be allowed/required in cases where an overall development plan is modified from the original application. An example of this situation is when an overall Concept Plan and TIS is submitted for a large commercial subdivision that assumes various land uses for each parcel and a differing land use is ultimately submitted for a subsequent development application. The TIL would be used to document the difference in projected trip generation and determine any associated change in recommendations needed from the original TIS.

4. Minor Additions to Previous Development Plans – A TIL may be allowed/required in cases where a minor addition to a development is being proposed, i.e. new outparcels or new residential units to a subdivision. In general a “minor change” means when the number of units or square footage increases less than 20% (< 20%) of the original number.

5. Other Situations Requiring Less Analysis than a TIS – A TIL may be allowed/required in cases where the daily trip threshold is exceeded but less analysis has been determined to be needed to evaluate the transportation impact of the proposed development. The specific required scope of the TIL in this situation will be provided to the applicant as determined by Planning staff in consultation with the other affected reviewing jurisdictions.

Section 6 of these guidelines provides additional information on the required content and format of a TIL report document.

B. Transportation Impact Study (TIS) – A TIS involves a detailed documentation of transportation impacts from the proposed development and is compiled into a formal report format for review. There are three levels of a TIS that define the required study area parameters based upon the projected 24-hour trip generation of the proposed development as indicated by the threshold values in Table 1 below.

Table 1 – Transportation Impact Study Level Trip Generation Thresholds

24-Hour Trip Generation	Transportation Impact Study (TIS) Thresholds
750 – 2,999 ADT	Level 1 TIS
3,000 – 5,999 ADT	Level 2 TIS
>6,000 ADT	Level 3 TIS

Trip generation values are to be determined based on the procedures and rates documented in the Institute of Transportation Engineer’s (ITE) Trip Generation Manual, latest edition or from an approved local study unless otherwise requested and approved by Planning staff.

1. Level 1 studies require analysis of each access that the development has to an existing roadway at the minimum. Access points to be analyzed include public roads, private rights-of-way, and private driveways. This level of study is commonly required for residential subdivisions, office developments, and smaller commercial developments. Planning staff, in consultation with the review team, reserve the right to require additional intersection(s) or substitute intersections for access points to be evaluated due to known geometric or safety-related issues.
2. Level 2 studies require analysis of each access that the development has to an existing roadway and to the first control point beyond those access points at the minimum. A control point is an intersection controlled by a traffic signal or stop sign on the existing roadway onto which the development has access. For cases where a traffic control device does not exist, Planning staff will determine the extent of the study. If a freeway interchange is near the property to be developed and is not signalized, Planning staff will determine if the ramps need to be included in the study. This level of study is commonly required for moderately sized commercial developments and larger office complexes. Planning staff, in consultation with the review team, reserve the right to require additional intersection(s) or substitute other intersections for an access or first control point to be evaluated due to known geometric or safety-related issues.

3. Level 3 studies require a complete Transportation Impact Study addressing each access point, the first control point beyond each access point, and the nearest collector/collector intersection(s) or street(s) of higher classification as determined by Planning staff and in consultation with the review team. The exact area to be studied will be determined by Planning staff and the review team with input from the study preparer. Level 3 studies are uncommon, as they are usually warranted only with very large mixed-use and commercial developments.

Section 7 of these guidelines provides detailed information on the required content and format of a TIS report document.

SECTION 4 – PRE-SUBMITTAL AND SUBMISSION PROCEDURES

A pre-submittal consultation with Planning staff to determine the need (requirement) for and scope of transportation impact analysis associated with an application is strongly encouraged in order to avoid delays and postponements in the review process. If required, a completed transportation impact analysis must be submitted at the same time as the application for a development. Therefore, a preliminary assessment of the development's transportation impact should be conducted well in advance of the actual submission of plans or application to Planning staff to allow time for the required level of transportation analysis to be completed by the applicant's transportation engineer.

The following is a typical listing of steps conducted to determine the need for and scope of a transportation impact analysis.

1. The applicant shall fill out the "Pre-submittal TIS Checklist" form and submit to Planning staff for review. This form will be used to calculate a development's projected trip generation, review other conditions in the area that may warrant a specific transportation analysis and determine if previous transportation studies have been performed for the site.
2. Planning staff will coordinate review of the completed form submitted by the applicant with City of Knoxville Engineering, Knox County Engineering and/or TDOT, and inform the applicant if an analysis is required and the type of analysis under the categories of TIS or TIL. If a transportation analysis is determined to be required, the applicant will be provided a written statement of the minimum required scope in terms of study area intersections and other major parameters to be addressed by the

analysis. If three (3) or more agencies are involved in the review, then more time may be required to complete review. At any time, Planning staff may require a Pre-Study Scoping Determination Conference to determine if further analysis needs to be included in the TIL or TIS.

3. Once a TIL or TIS is determined to be required by Planning staff, the applicant must select a transportation engineer meeting the qualifications of Section 5. The transportation engineer may need to consult with Planning staff periodically to review the collected data and any assumptions made for a draft report.
4. For each TIL or TIS reviewed by Planning staff, the formal submission by the applicant or their consultant shall include the following:
 - a. An electronic copy of the full letter or study, including data analysis files that match the analysis presented in the TIL or TIS.
 - b. A minimum of four (4) signed and sealed printed hard-copies. Confer with Planning staff on the number of printed copies required prior to submittal since multiple agencies may be involved.
5. Draft reports are due at the time development applications are submitted.
6. Planning staff, along with local and state government, shall review the draft TIL/TIS in conjunction with the other elements of the development application. If the draft transportation analysis is not of the proper scope or is executed improperly, the applicant shall be notified of the deficiencies and be required to submit corrections on the same schedule that applies to the other elements of the development application. Failure to submit corrections in a timely fashion will lead to delays or postponement of the application.
7. Any changes or corrections requested by the review team must be submitted as a complete revised TIL/TIS unless otherwise noted. Revised studies that are submitted without the minimum information below may be subject to significantly longer review periods, or may be sent back without being reviewed.

Please note that the comment response document must be:

A. Included as part of the information in the sealed, signed, and dated TIL/TIS submittal, and must be bound at the back of the of the document, or

B. Sealed, signed, and dated by the engineer if the comment response document is the only location where information is provided to address review comments.

The comment response document should state the reviewer's comment then provide a response to the comment. The response must include information on how the comment was addressed, where it was addressed, and, if applicable, provide a page number for where the revision was made. Simply stating the comment was addressed is not acceptable and will prevent the revised TIL/TIS from being reviewed.

Note: *Since a completed transportation impact letter or study must be submitted at the same time as the application for a development, it is critical that the applicant conduct steps 1 –4 early in their planning of a proposed development. Failure to submit a TIL/TIS or submission of an inadequate TIL/TIS will slow the review process and lead to delays or postponements.*

SECTION 5 – REQUIRED QUALIFICATIONS FOR PREPARERS

Transportation impact letters (TIL) or studies (TIS) shall be prepared under the supervision of a qualified engineer who has specific training in traffic and transportation engineering and several years of experience related to preparing transportation studies for existing or proposed developments. The study shall be signed and sealed by a professional engineer. The ability to forecast and analyze transportation needs for both developments and roadway systems is essential. All transportation operations and design work shall be completed under the supervision of a registered professional engineer.

SECTION 6 – SCOPE AND REPORT REQUIREMENTS – TRANSPORTATION IMPACT LETTER (TIL)

The specific contents of a TIL will vary depending on the type of analysis being performed as outlined in Section 3.A.

In general, the amount of documentation should be brief, with a technical emphasis, and should usually be limited to no more than 10 pages plus any supporting data/analyses included in an appendix. The following are the major types of TILs and their associated required content:

A. TIL for Rural Area Traffic Assessments. This type of TIL is only for areas within the unincorporated areas of Knox County.

1. Project description:

A. Rural Retreat

- i. General description of the type of proposed land use and activities that will be hosted, i.e. concerts, lodging, weddings, etc.
- ii. Typical hours of operation
- iii. Number of expected events per month/year with their average duration and typical day of the week
- iv. Number of expected attendees per event

B. Growth Policy Plan

- i. General description of the type of proposed land use and density

2. Existing Conditions Assessment (to be provided for the entire length of route(s) between development access and nearest collector/arterial roadway, specific routes required to be studied will be determined by Knoxville-Knox County Planning and Knox County Engineering staff if multiple routes to site exist)

- A. Distance from nearest collector/arterial roadway to site access
- B. Pavement width
- C. Pavement markings and signs
- D. Horizontal and vertical geometry along route (grades, curvature, sight distance, number of access points, etc.)
- E. Average daily traffic
- F. Intersection sight distance at the access route intersection with the collector/arterial
- G. Intersection sight distance at the proposed development driveway and the access route
- H. Crash history (3 - 5 years) and notable patterns/locations along route

3. Trip Generation based upon ITE Trip Generation Manual (latest edition); if land use is not available within the manual, then an alternative methodology will need to be reviewed and approved by Knoxville-Knox County Planning, Knox County Engineering staff, or City of Knoxville Engineering staff.

4. Other (Knoxville-Knox County Planning, Knox County Engineering staff, and/or study preparer may be aware of other issues that should be addressed)

5. Study Conclusions and Recommendations including:
 - A. Provide recommendations for any road improvements needed to mitigate issues identified from the existing conditions assessment
 - B. Statement of route's overall sufficiency in providing acceptable (meeting traffic engineering standards) access to the site based on the assessment of existing conditions with the addition of new trips from the proposed development.
6. Supporting documentation

B. TIL for Updates, Changes and Additions to Previous Development Applications – This section generally addresses the situation when a TIL is requested for a project application that is for a site that has had a previous review or is an ongoing development that may be undergoing changes from the original proposed plan that need to be accounted for to ensure previous recommendations are still valid.

1. Project Description and Overview of Changes from Original Plan (if applicable)
2. Comparison of Trip Generation between Original and Proposed Uses (if applicable)
 - A. If the Shopping Center land use is used then the net difference between the Shopping Center and other specific land uses needs to be discussed.
3. Evaluation of Surrounding Area Transportation Network Conditions and Changes
4. Status of Previous Transportation Analysis Recommendations
5. Evaluation of Need for Additional or New Recommendations

C. TIL for Other Situations Requiring Less Analysis than a TIS – The scope and format for this type of TIL will be determined on a case-by-case basis by Planning staff in consultation with other affected jurisdictions. An example of one situation where a TIL may be substituted for a full TIS is in the case where sufficient existing data (such as a recent traffic count) is available to conduct a type of “worst-case analysis” that shows no mitigation measures would be warranted based on the projected trip generation at full build-out of the development. There are other situations where a TIL may be justified that includes only a subset of the report requirements outlined in Section 7 for a Level 1, 2 or 3 TIS. This type of TIL should still include documentation of a basic site access evaluation such as sight distance verification and any recommended essential access design/site circulation principles to be implemented to safely accommodate all modes of transportation.

SECTION 7 – SCOPE AND REPORT REQUIREMENTS – LEVEL 1, 2, AND 3 TRANSPORTATION IMPACT STUDIES

A. Executive Summary

1. Purpose & objectives of the study
2. Site location & study area map
3. Description of the proposed development, to include all project accesses, roads, and driveways
4. Principal findings
5. Conclusions/Recommendations

B. Existing Conditions

1. Description of site including a location map
2. Type of project
 - a. If residential, number and type of dwelling units
 - b. If commercial or industrial, square footage and type of development
 - c. Key characteristics of existing roadways
3. Other planning data which may be pertinent
4. Site Plan with proposed access points shown
5. Directional and/or turning movement traffic counts on roads/intersections adjacent to property with access to development
 - a. Traffic count data – Traffic counts should be no more than two years old. If there have been significant changes in traffic patterns or changes in ADT by more than 5% within those two years, then a new traffic count may be required. If there is a request to not complete a new traffic count, supporting data must be provided.
 - b. Traffic counts during school closures – If a traffic count is done when one or more area schools are out of session, a new traffic count may be required after area schools have been re-opened for a minimum of 2 weeks following summer break or following 1 week after other breaks, e.g. Spring Break. This revised evaluation with school traffic

counts should verify any analyses and recommendations already completed for the TIL or TIS.

6. Level of service of intersection(s) (if applicable)
 - a. Recommended software programs for analysis are the latest versions of Highway Capacity Software (HCS) or Synchro
 - b. Other nationally recognized software can be used, subject to approval by review staff
- C. Background Conditions
1. Identification of historical ADT (average daily traffic) count locations close to development
 2. Evaluation of traffic growth and annual growth rate
 3. Application of the growth rate to the expected build-out year of the project on figure(s)
 4. Level of Service (LOS) of intersections at future year(s) without development
 5. Include any other large previously approved projects that directly affect main intersections
- D. Trip Generation
1. This section of the report is used to document the estimated number of daily and peak-hour motor vehicle trips that will be generated by the proposed project. Generally, the “peak-hour” analysis will include both peak periods occurring in the morning (7:00 to 9:00 a.m.) and afternoon (4:00 to 6:00 p.m.), but this can vary based on the particular circumstances and land uses that are involved. The specific analysis periods will be established during pre-study scoping consultation.
 2. Trip generation for the project shall be estimated for each required time period using the methods and rates contained in the ITE *Trip Generation Manual* (latest edition) with the exception of multi-family land uses. Procedures for special circumstances such as trip generation of multi-family uses and other situations are provided below.
 - a. A local study of trip generation rates at several apartment complexes in Knox County was conducted and used to formulate specific “Local Apartment” trip generation rates. Documentation of the study process and resulting rates is available from Knoxville-Knox County Planning. These rates shall be used for all land uses considered

to be a multi-family development including apartments, condos, townhomes, or other attached housing, but excluding developments whose primary market are college students that are typically leased by individual bedrooms. If the multi-family development is located in the downtown district, Planning staff may consider the use of Dense Multi-Use Urban or Center City Core (defined in the ITE Trip Generation Manual) as the location or setting instead of the Local Apartment rate.

- b. Trip generation for multiple retail land uses within the same proposed development will generally need to be calculated for each standalone business unless it can be demonstrated that the overall development meets the definition of the Shopping Center land use (ITE Land Use Code 820). These will be reviewed on a case-by-case basis in the pre-submittal consultation stage and use of the Shopping Center rates are subject to approval by Planning staff prior to the preparation of the transportation impact analysis. If specific retail types are not known at the time of submittal a land use must be assumed and approved by Planning staff that would be typical of a strip commercial development. The applicable trip generation rates for any out-parcels either included within the original development or added to a previously established shopping center will also need to be determined as part of the pre-submittal consultation process.
 - c. If the type of proposed development is not addressed in the ITE manual, then the study preparer can provide alternate trip generation rates for review and approval by Planning staff prior to beginning the study.
3. Calculation and documentation of trip ends shall be provided in tabular format broken out by individual land use and analysis period along with totals for each. If the development is planned to occur in phases then trip generation for each phase shall be documented separately along with the totals for complete build-out.

The specific methodologies used in the trip generation calculations shall be clearly documented including the independent variable that was used and whether the “Weighted Average Trip Rate” or “Regression Equation” was applied. The process documented in the ITE *Trip Generation Handbook* for selecting between using the regression equation or weighted average rates shall be used to determine the appropriate method.

Any adjustments to the calculated trip generation amounts to account for potential pass-by trips, internal trips or transit trip reduction, if applicable – must be documented according to the procedures identified in the ITE *Trip Generation Handbook* and approved by Planning staff. Table 2 provides the maximum allowed pass-by percentages for selected land uses that have been previously accepted for use in Knox County and will serve as default percentages.

Table 2 – Maximum Pass-by Percentages for Selected Land Uses in Knox County

Land Use	LUC	Maximum Pass-by %
Fast-food Restaurant	934	40
Supermarket	850	
<25,000 SF		55
25,000 – 50,000 SF		35
>50,000 SF		10
Convenience Market	945	
<10,000 ADT		60
10,000 – 20,000 ADT		65
20,000 – 30,000 ADT		70
30,000 – 40,000 ADT		75
>40,000 ADT		80
Shopping Center	820	30

Source: March 10, 1997 Memorandum to MPC Traffic Impact Study Reviewers and Preparers Group

A. Trip Distribution & Assignment

1. Assumptions with figures as to the directional distribution of traffic to and from the development
2. Assumptions with figures as to the peak hour percentages and directional splits (this may need consultation with Planning staff prior to initiation of TIL/TIS). Each land use may

justify a separate trip distribution, if the project is a mixed-use or shopping center development.

B. Analysis

1. Level of Service (LOS) and capacity analysis for peak periods
 - a. Compute the projected LOS and capacity analysis for each access point to the adjacent road system based on the development by phase
 - 1). Highway Capacity Software is recommended
 - 2). Other nationally recognized software can be used
 - b. Compare LOS before development to LOS after development, if applicable
 - c. HCM Link Analysis, if applicable
 - d. 95th percentile queuing length analysis for all unsignalized and signalized intersections (any reduction from the 95% percentile queue model percentage shall require prior approval from review staff)
2. Intersection and roadway geometry – existing and proposed
 - a. Distances from existing streets, driveways, and/or median cut
 - b. Alignment with existing streets, driveways, and/or median cuts
 - c. Intersection layout
 - d. Sight distance analysis (including field measurements at proposed access points)
 - e. Right-of-way width
 - f. Lane width(s)
 - g. Turn-Lane Warrant analysis, per design criteria for City of Knoxville, Knox County or TDOT
 - h. Intersection warrant analysis (signal or roundabout, if needed)
 - i. Spot Speed Study (if requested by review staff)
 - j. Crash history (if requested by review staff)
3. Site Circulation (analysis pertaining to compliance to access policy of the given jurisdiction)

4. Multimodal facilities
 - a. Sidewalks
 - b. Transit stop(s)
 - c. School bus stops
 - d. Bicycle lanes/routes
- C. Recommendations
1. Site access – including documentation of the controlling jurisdiction’s driveway/access policy and confirmation that site access meets the minimum requirements, i.e. access spacing, lane width, turning radii, etc....
 2. Intersection improvements
 - a. Traffic control device(s) – modify existing or need for new
 - b. Left and/or right turn lanes
 - c. Acceleration and/or deceleration lanes
 - d. Length of storage bays
 - e. Sight Distance improvements
 3. Off-site improvements
 - a. Modification to existing traffic control device(s)
 - b. Additional traffic control device(s)
 - c. Additional lanes at major intersections
 - d. Additional roads
 4. Improvements by phasing (if applicable)
- D. Appendix
1. Raw traffic count data
 2. Trip Generation worksheets
 3. Historical and Background growth data
 4. Bicycle, Pedestrian, & Transit data

5. Documentation of analysis (e.g. capacity analysis, right- & left-turn lane warrants, signal warrants, etc.)

Report Requirements – Level 3 Studies

In addition to the preceding information required for Level 1 and 2 studies, the following information on Trip Assignment shall be provided in the report prior to the Analysis and Recommendation sections:

- E. Trip Assignment
 1. Discuss the effects of phasing of the proposed project
 2. Other analysis requirements of the network may be required by Planning staff

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APPENDIX B

TRAFFIC ACCESS AND IMPACT STUDY GUIDELINES AND PROCEDURES

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Section 1—Purpose for Submission of Traffic Access and Impact Studies

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These traffic access and impact study guidelines and procedures define when proposed concept subdivision plans, Uses on Review, or development plans warrant a detailed traffic study and what information should be included in it. All applicants will be required to follow the MPC guidelines and will be treated equally under the same or similar circumstances.

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The purpose of performing a traffic impact and access study, as defined by the Institute of Traffic Engineers (ITE), is to:

- Provide guidance for short and long range planning of site access;
- Provide guidance for on-site circulation and the interface between on-site circulation and off-site traffic;
- Provide guidance for off-site improvements needed to permit the roadway system to function satisfactorily so as to accommodate site and non-site traffic;
- Assist developers and landowners in making land use site planning decisions regarding traffic;
- Identify the contribution a particular development makes to roadway system traffic volumes;
- Provide a basis for estimating roadway improvement requirements attributable to a particular project;
- Assess the compatibility with local transportation plans;
- Enable staff to better evaluate zoning changes and development plans;
- Allow appointed and elected officials to know implications of their voting decisions.

Section 2—Scope of Required Traffic Access and Impact Studies

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Three levels of study have been identified based on the number of trips that a development is projected to generate in a 24-hour period:

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Level 1 studies require analysis of each access that the development has to an existing roadway. Access points to be analyzed include public roads, joint permanent easements, and private driveways. This level of study is commonly required for large residential subdivisions, office developments, and smaller commercial developments.

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Level II studies require analysis of each access that the development has to an existing roadway, and to the first control point beyond those access points. A control point is an intersection controlled by a traffic signal or stop sign on the existing roadway onto which the development has access. For cases where a traffic control device does not exist, MPC staff will determine the extent of the study. If a freeway interchange is near the property to be developed and is not signalized, MPC staff will determine if the ramps need to be included in the study. This level of study is commonly required for moderately sized commercial developments and larger office complexes.

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Level III studies require a complete traffic access and impact study, addressing each access point, the first control point beyond each access point, and the nearest collector/collector intersection or street of higher classification or as determined by MPC staff. The exact area to be studied will be determined by MPC with input from the study preparer. Level III studies are uncommon, as they are usually warranted only with very large mixed use and commercial developments.

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Section 3 – When Traffic Access and Impact Studies are Required

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Traffic access and impact studies shall be submitted along with applications for Concept Subdivision Plan, Use on Review, and Development Plan requests which fall within the following 24-hour trip generation ranges:

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24 HOUR TRIP GENERATION	TRAFFIC STUDY SCOPE
750-3000 ADT	LEVEL I
3000-6000 ADT	LEVEL II
> 6000 ADT	LEVEL III

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Trip generation rates for proposed uses shall be calculated using the ITE Trip Generation Manual, or using local data when it is available.

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Upon being provided proof by the developer's traffic engineer that a lower level traffic impact study would be adequate for a proposed development, or that a traffic impact study is not warranted, the Executive Director of the Planning Commission staff may reduce the level of study required or waive the requirement.

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Section 4 – Submission and Review Procedures for Traffic Access and Impact Studies

Applicants should conduct a preliminary trip generation assessment of any proposed Concept Subdivision Plan, Use on Review, or Development Plan to determine if a traffic study will be required. This preliminary assessment should be conducted well in advance of the actual submission of plans.

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If the preliminary assessment indicates that a traffic study will be required, the applicant should immediately consult with MPC staff to verify a development's projected trip generation, and to

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confirm whether or not a study will be required. If a study is required, the required level can be determined at that time.

The applicant shall then select a traffic or transportation engineer to prepare the study, who may need to consult with MPC staff periodically to review the collected data and any assumptions made in the draft report.

Ten copies of the completed draft traffic study shall be submitted along with the development application and all other materials required for submission.

MPC staff, along with local and state government, shall review the draft traffic study in conjunction with the other elements of the development application. If the draft traffic study is not of the proper scope or is executed improperly, the applicant shall be notified of the deficiencies and be required to submit corrections on the same schedule that applies to the other elements of the development application. Failure to submit corrections in a timely fashion may lead to a postponement of the application until the next regularly scheduled MPC meeting.

Note: Since a completed traffic study must be submitted at the same time as the application for a development, it is critical that the applicant conduct steps 1-3 early in their planning of a proposed development. Failure to submit a traffic study, or submission of an inadequate study, is likely to slow the review process and may lead to postponements.

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Section 5 – Required Qualifications for Preparers of Traffic Access and Impact Studies

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Traffic access and impact studies shall be prepared under the supervision of a qualified engineer who has specific training in traffic and transportation engineering and several years of experience related to preparing traffic studies for existing or proposed developments. The study shall be signed and sealed by the supervising engineer. The ability to forecast and analyze traffic needs for both developments and roadway systems is essential. All traffic operations and design work shall be completed under the supervision of a registered professional engineer.

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Section 6 – Required Specifications for Traffic Access and Impact Studies – Report Requirements – Level I and II Studies

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Introduction

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Description of site including a location map

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Type of project

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If residential, number and type of dwelling units

If commercial or industrial, square footage and type of development

Other planning data which may be pertinent

Map of project with proposed access points shown

Existing Conditions

Directional traffic counts on roads adjacent to property with access to development
Traffic counts should be not more than one year old

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Level of service of intersection(s) (if applicable)
Highway capacity software is recommended
Other nationally recognized software can be used

Trip Generation Rates

Listing of trip generation rates

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Listing of sources for rates used

ITE 5th Edition of Trip Generation manual or latest edition

If the type of proposed development is not addressed in the ITE manual, then other rates may be used
as long as they are documented and have been approved by MPC staff.

Calculation of trip ends by type of generator

Traffic generated by phase.

100 percent occupancy and development.

Trip Distribution

Assumptions as to the directional distribution of traffic to and from the development.

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Assumptions as to the peak hour percentages.

Assumptions as to the peak hour directional splits.

Assumptions as to the pass-by trips if applicable — must be approved by MPC staff.

Analysis

Level of Service (LOS) and capacity analysis for peak periods

Compute the projected LOS and capacity analysis for each access point and control point to the
adjacent road system based on the development by phase

Highway Capacity Software is recommended

Other nationally recognized software can be used

Compare LOS before development to LOS after development, if applicable

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Link Analysis, if applicable

Intersection and roadway geometry—existing and proposed

Distances from existing streets, driveways, and/or median cuts

Alignment with existing streets, driveways, and/or median cuts

Intersection layout

Sight distance

Right-of-way width

Lane width(s)

Site Circulation

D.—Pedestrian facilities

Sidewalks

Transit stop(s)

School bus stops

Recommendations

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Site access

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Intersection improvements

Traffic control device(s) — modify existing or need for new

Left and/or right turn lanes

Acceleration and/or deceleration lanes

Length of storage bays

Off-site improvements

Modification to existing traffic control device(s)

Additional traffic control device(s)

Additional lanes at major intersections

Additional roads

Improvements by phasing (if applicable)

Appendix

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Raw traffic count data

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Documentation of analysis

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Report Requirements — Level III Studies

In addition to the preceding information required for Level I and II studies, the following information on Trip Assignment shall be provided in the report prior to the Analysis and Recommendation sections:

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VIII. Trip Assignment

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Show existing ADTs, proposed development traffic and total traffic for all affected links on map which identifies the project and the surrounding roads.

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Show AM and PM peak hour turning movements for the existing traffic, the proposed development traffic, and the combined traffic at all project entrance intersections, and affected intersections within the study area.

Discuss the effects of phasing of the proposed project.

Section 7 — Additional Technical Information on Traffic Access and Impact Studies

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Additional information on Traffic Access and Impact Studies can be obtained from *Traffic Access and Impact Studies for Site Development — A Recommended Practice* by the Institute of Transportation Engineers.

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