

Screening Criteria for the Development of Free-Standing MVOB Uses

SCREENING CRITERIA FOR THE DEVELOPMENT OF MOTOR VEHICLE ORIENTED BUSINESSES

The following report discusses our efforts to develop traffic and land use standards that can be used to govern the approval of free-standing Motor Vehicle Oriented Businesses (MVOBs) in the City of Ellisville. These standards may be used to judge the feasibility of requests for certain types of commercial development at specific locations throughout the City. They are not intended to supplant the need for traffic impact studies but rather, can be used as a preliminary indication of the potential effects of a particular development. We believe that these standards are relatively easy to apply and understand from the viewpoint of both City officials and developers and, therefore, are useful as a guideline for potential development projects.

DEFINITION OF A MOTOR VEHICLE ORIENTED BUSINESS

Motor Vehicle Oriented Businesses (MVOB's) shall be defined as any free-standing commercial use or activity which as a principal part of its operations provides goods or services to customers or to motor vehicles in a short time span or which provides goods or services to occupants of motor vehicles remaining within the vehicles, including but not limited to:

1. Fast Food Restaurants
2. Drive-Through Facilities
3. Convenience Store/Market
4. Pharmacies
5. Gas Stations
6. Dry Cleaners
7. Automatic Teller Machines
8. Car Wash Facilities
9. Video Rental
10. Banks
11. Automobile Service Stations

RECOMMENDED SCREENING CRITERIA

A traffic and land use database was established along Manchester, Clarkson, Clayton and Old State Roads for the purpose of evaluating the relationship between land use and street characteristics and the extent to which traffic hazards currently exist. An effort was also made to identify their relationships to traffic congestion, safety hazards or other negative impacts to adjoining properties such that they should be avoided in the future. The criteria that were selected for determining the applicability of a free-standing MVOB development included:

- Traffic volumes along Manchester, Clayton, Clarkson and Old State Roads during the midday and p.m. peak hours of a weekday, and the midday peak hour of a Saturday.
- Traffic generation rates for proposed commercial uses that would qualify as free-standing

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MVOB uses.

- Proximity of the free-standing MVOB site to nearby traffic generators or nearby public streets.
- Sight distance requirements for motorists on side-street approaches.
- Accident information from the most recent 12-month period (1/1/2007 to 1/1/2008).

RECOMMENDED SCREENING PROCEDURE

The following paragraphs present a procedure for screening applications for the development of free-standing MVOB uses to determine if the use is appropriate for a particular site. This procedure should be used as a guideline or a screening process only and not as a final determination of a development's impact. Several sources of information were used to prepare the criteria, and are as follows:

- 1) The traffic and land use database discussed previously; and
- 2) Zoning ordinances of other local municipalities; and
- 3) Access design standards established in the Traffic Engineering Handbook prepared by the Institute of Transportation Engineers.

The screening procedure proposes a three stage process to assess whether the site is appropriate for free-standing MVOB development. Each step considers an important aspect of the development's potential impact, as follows:

- Its location (effect on adjoining properties); and
- Its access (impact on nearby streets and/or access drives); and
- Its effect on traffic flows along the adjoining street.

Step 1- Location Requirements:

1. The location of the proposed free-standing MVOB should be reviewed to determine if it would be located in a high-hazard street segment (see Exhibit 1 below). The designated high-hazard segments are:

Manchester Road:

- Within 300' of the intersection of Reinke Road to East Meadow Lane
- Barnacle to Vesper
- Within 300' of the intersection with Clarkson Road
- Within 300' of the intersection with Old State Road
- Strecker Road to the west-most City limits

Clarkson Road/Kiefer Creek Road:

- Within 300' of the intersection with Manchester Road north to Froesel

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- Marsh to Virginia
- Ozark Trail to 300' north of the intersection with Clayton Road

Old State Road/Hutchinson Road:

- Within 300' of the intersection with Manchester Road

Reinke Road:

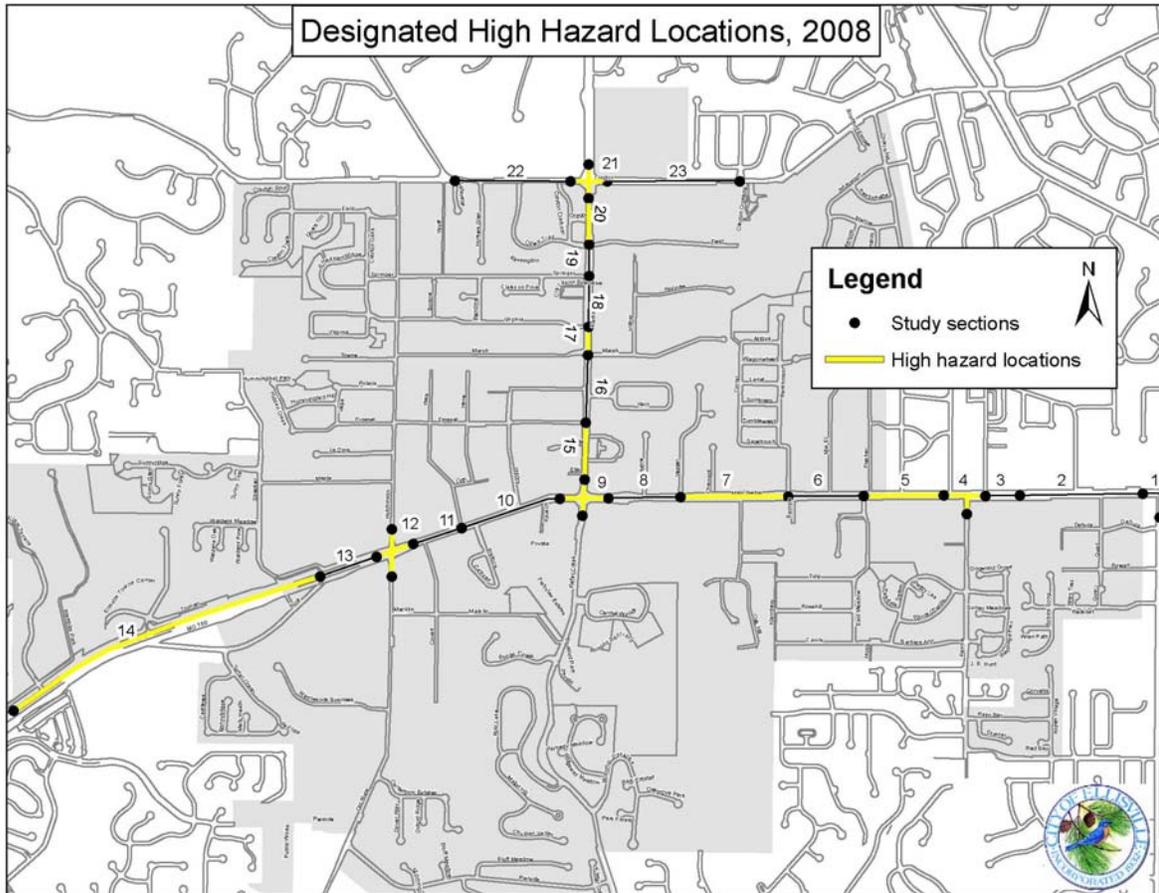
- Within 300' of the intersection with Manchester Road

Clayton Road:

- Within 300' of the intersection with Clarkson Road

If a proposed free-standing MVOB development is located within the limits of a designated high-hazard area, it shall not be permitted unless access can be provided to the site via a signalized intersection.

Exhibit 1: Designated High Hazard Locations, 2008



2. All free-standing MVOB developments must be a minimum of 100 feet from any other free-

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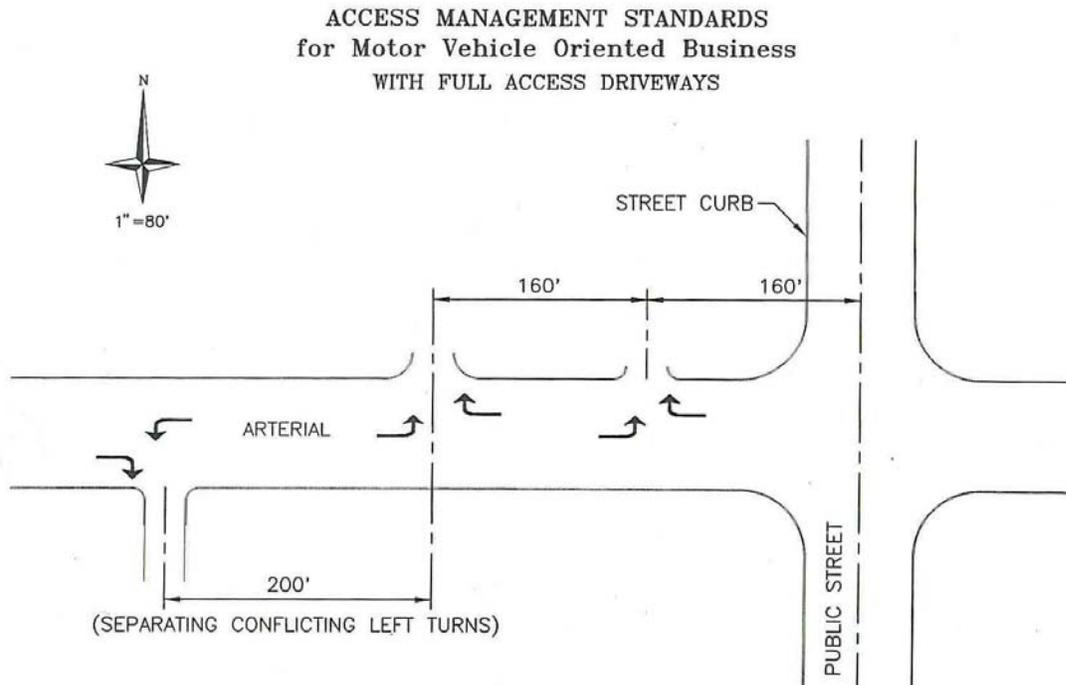
standing MVOB located on the same side of the street. The distance shall be computed one of two ways:

- The distance measured between the two closest property lines.
- Where a free-standing MVOB is a part of a larger development, the 100 feet shall be measured from the limits of the outparcel. If an outparcel is not designated, the distance shall be measured from the boundary of the area which would normally be required for the operation of said free-standing MVOB.

Step 2- Access Requirements for a free-standing MVOB development with full-access driveway(s):

- 1 . Proposed free-standing MVOB driveways must comply with the following minimum standards, as illustrated in Exhibit 2:

Exhibit 2: Access Requirements for Free-Standing MVOB Uses



- Full access driveways located on the same side of the street must be separated by a minimum of 160 feet, measured from centerline-to-centerline of the driveways.
- Full access driveways located on opposite sides of the street must line up directly in front of each other.
- If full access driveways located on opposite sides of the street cannot line up, then they must be separated by a minimum of 200 feet, measured from centerline-to-centerline of the driveways, if the left-turn movements into those driveways could potentially conflict with each other.

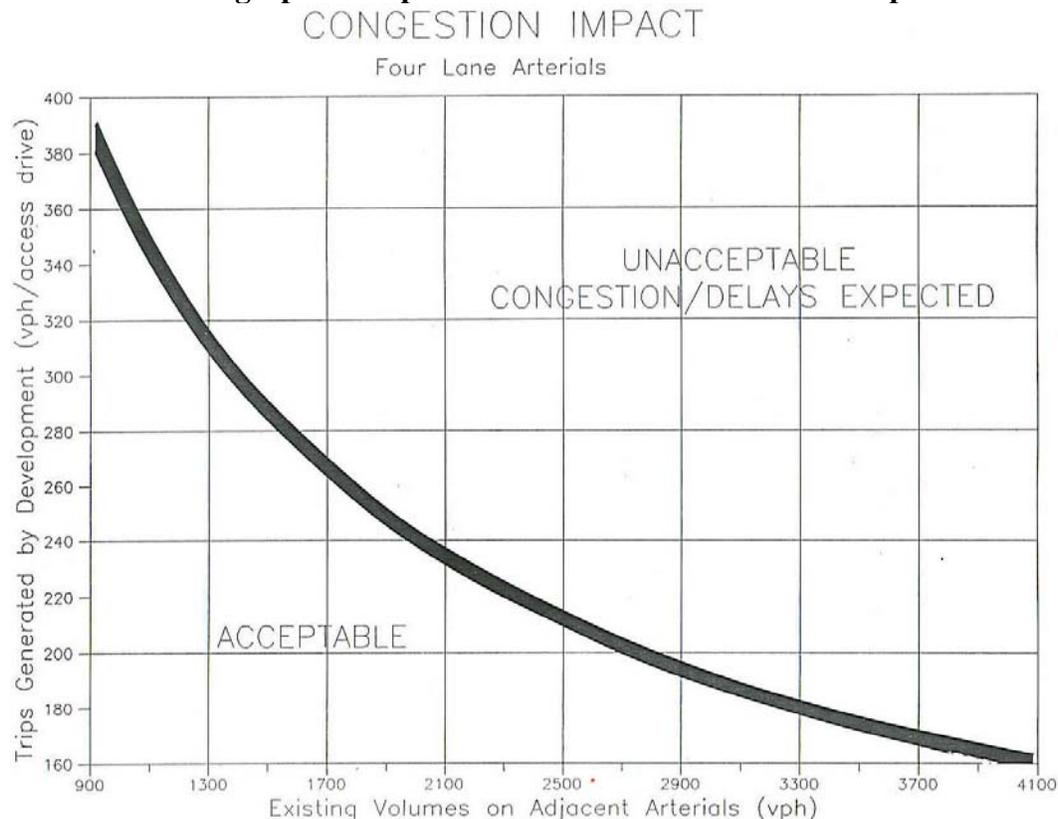
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2. Proposed free-standing MVOB full access driveways must be a minimum of 160 feet from the nearest public street, measured from centerline-to-centerline.
3. Proposed free-standing MVOB development should not be permitted to have full access access drives to the adjoining arterial if access is available through a shopping center or via an adjoining service road.
4. Restricted access driveways and drives are subject to review and positive recommendation from the City's Third Party Traffic Consultant and City Council approval.
5. A minimum of 275 feet of sight distance must be provided in either direction along the adjacent arterial for motorists exiting the free-standing MVOB use's full access driveway.
6. Throat widths for commercial driveways must be a minimum of 30 feet for two-way operation and 15 feet for one-way operation. If centered channelizing islands are used in a two-way driveway, clearance widths of 1 ½ to 2 feet should be added on both sides of the center island. The minimum radii required for a commercial driveway is 15 feet.

Step 3- Congestion Impact:

The following nomographs (Exhibits 3 & 4) can be used to determine acceptable limits for the number of trips generated by a proposed free-standing MVOB use.

Exhibit 3: Nomograph- Acceptable Limits for the Number of Trips Generated (4-Lane)



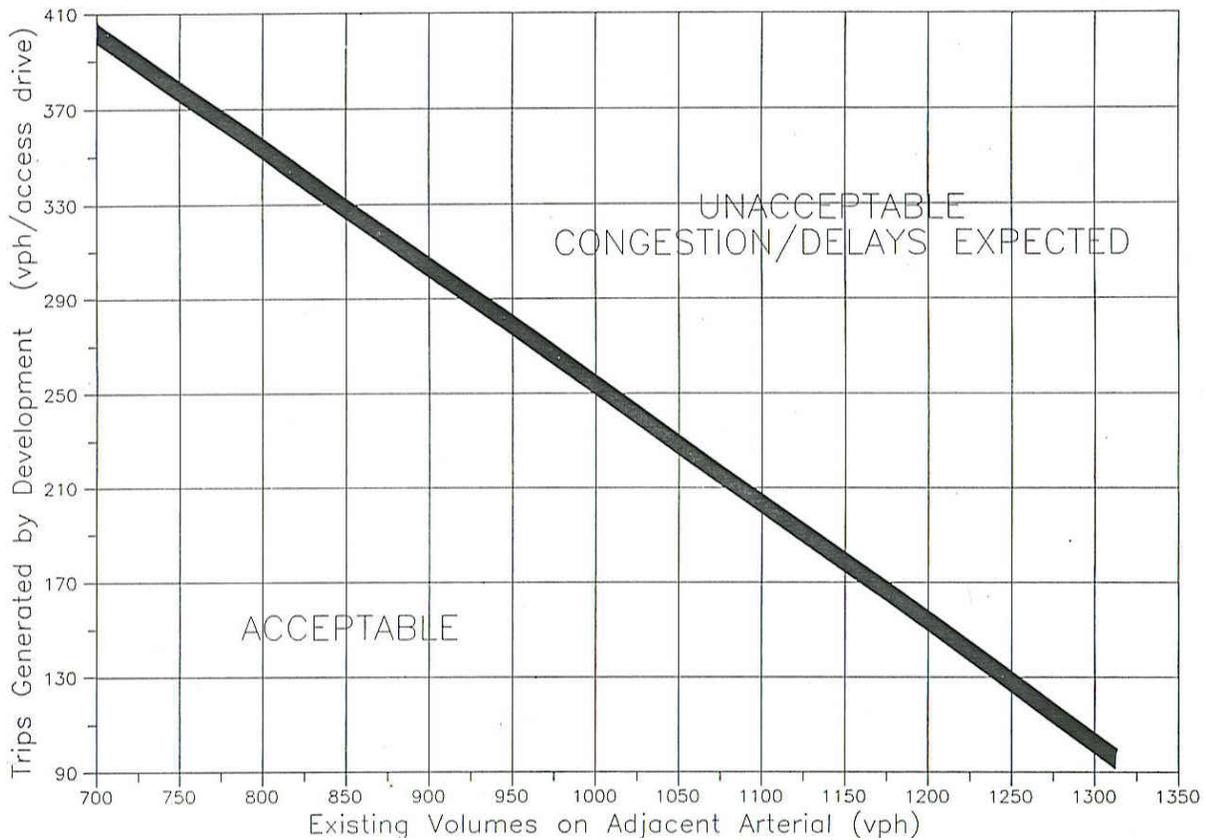
vph= vehicles per hour

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Exhibit 4: Nomograph- Acceptable Limits for the Number of Trips Generated (2-Lane)

CONGESTION IMPACT

Two Lane Arterials



vph= vehicles per hour

Based upon traffic volumes on the adjacent arterial (Exhibit 5), an upper limit on the number of trips generated by any free-standing MVOB was established. For the purpose of using the nomographs, an access drive is defined as the combination of one entrance and exit. The total number of trips (per access drive) should not exceed the determined limit during the Midday or PM Peak Hour as plotted on the attached nomographs.

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Exhibit 5: Traffic Volumes on Arterials

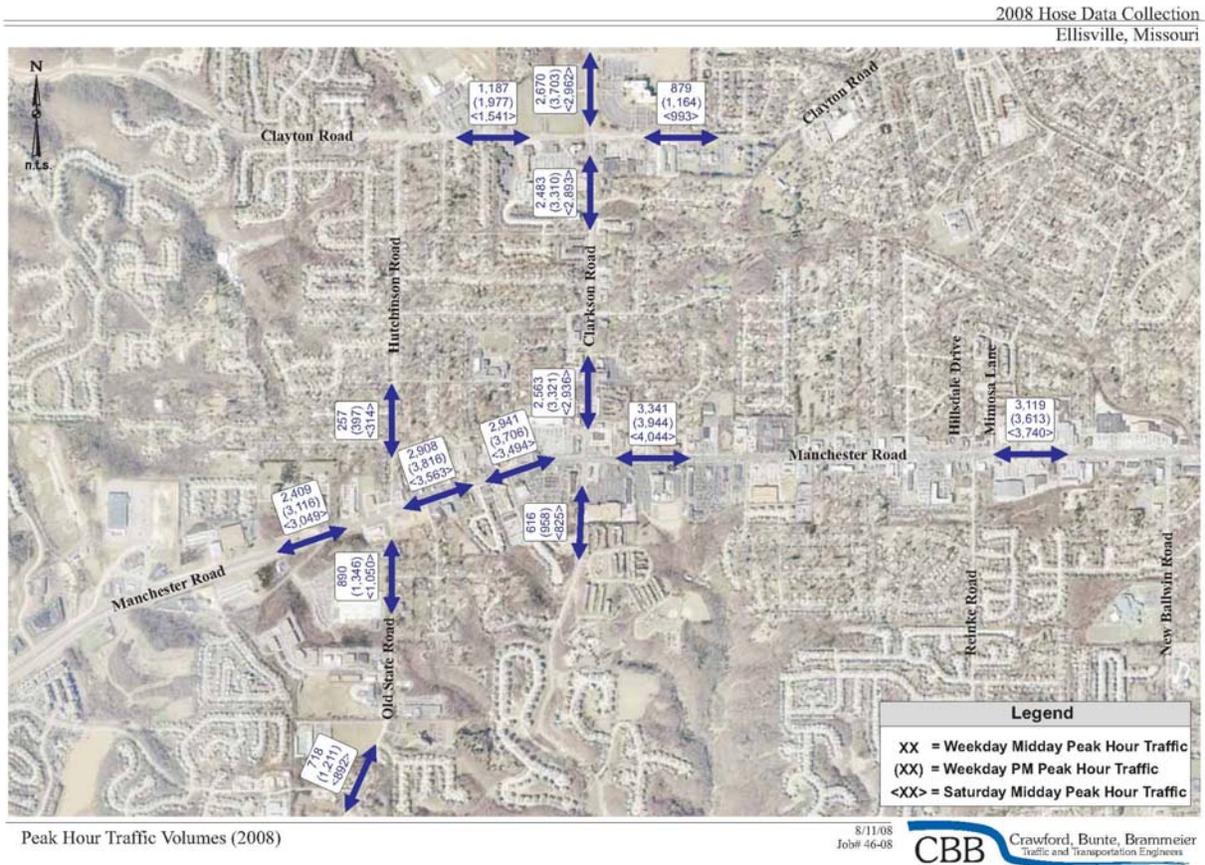


Table 1, below, provides the trip generation rates for typical free-standing MVOB uses. The table indicates the number of trips typically generated by a particular type of MVOB and can be used to determine whether or not the proposed free-standing MVOB development would satisfy the above requirement. After determining the number of trips generated by a proposed free-standing MVOB use, the nomograph is used to determine if the point falls above or below the “acceptable” limits.

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Table 1: MVOB Uses and Typical Trip Generation

Trip Generation Rates Motor Vehicle Oriented Businesses			
<i>Land Use</i>	<i>Rate Per</i>	<i>AM Peak Hour</i>	<i>PM Peak Hour</i>
Post Office	1000 ft ²	8.02	10.89
24 Hour Convenience Market	1000 ft ²	67.03	52.41
Convenience Market with Gas Pumps	1000 ft ²	45.58	60.61
Video Rental Store* PM Employee = 6.0	1000 ft ²	N/A	13.6
Pharmacy/Drugstore without Drive-Through*	1000 ft ²	3.20	8.42
Pharmacy/Drugstore with Drive-Through*	1000 ft ²	2.66	8.62
Bank without Drive-Thru*	1000 ft ²	4.07	33.15
Bank with Drive-Thru	1000 ft ² OR Per Lane	12.34 OR 19.8	45.74 OR 51.08
Fast Food without Drive-Thru *	1000 ft ²	43.87	26.15
Fast Food with Drive-Thru	1000 ft ²	53.11	34.64
Fast Food with Drive-Thru & No Indoor Seating*	1000 ft ²	NA	153.85
Quick Lubrication Shop*	Servicing Positions	3.0	5.19
Gas/Service Station	Fueling Positions	12.07	13.86
Gas/Service Station with Convenience Market	1000 ft ²	77.68	96.37
Gas Station with Convenience Market and Car Wash	Fueling Positions	10.64	13.33
Self-Service Car Wash*	Wash Stalls	N/A	5.54 Sat= 20.60
Automated Car Wash*	1000 ft ²	NA	14.12

* Note the data is based on less than 10 sample nationwide studies

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Exhibit 6 is a map illustrating the location of existing free-standing MVOB uses located within the high-hazard street segments and any free-standing MVOB uses located outside of the high-hazard street segments, but within 200-feet of such segments.

Exhibit 6: Location of Existing Free-Standing MVOB Uses

