

TRANSPORTATION

Hamel is a strategically located community at the intersection of Interstate 55 and IL State Route 140. The highway interchange at this location provides immediate access and visibility to the Village. There are two other important routes that pass through the center of Hamel including State Routes 140, running on an east to west axis and 157 (also known as Old Historic Route 66) intersecting State Route 140 on a north to south axis.

State Route 140 is an important regional transportation corridor linking the Village to Interstate 255 approximately thirteen (13) miles west of the Village.

State Route 157 is also an important regional transportation corridor linking the Village to Edwardsville approximately eight (8) miles to the south of the Village.

These routes provide immediate access to the commercial and residential sectors of the Village and create vital links to communities around the vicinity some of which have little to no direct highway access.

Primary Arterial Transportation Corridor

Interstate 55: Most of the land adjacent to the on and off ramps at Interstate 55 and State Route 140 is currently agricultural or vacant. Presently, this land is zoned highway commercial. As the demand for commercial services increase, these parcels will provide a great opportunity for Hamel to attract critical commercial services, hotels, traditional highway development and offices. Currently the traffic count near the interstate ramps that serve Hamel is around 50,000 cars per day. There seems to be a demand for highway type commercial development such as fast food restaurants, grocery stores and filling stations near the highway due to Interstate traffic. However, the land around the ramps is owned by a handful of landowners and any future growth will depend on their decision to work with the Village to develop the land. Madison County has recently completed a study for the I-55 Corridor and determined that the land is appropriate for future office/commercial development. Implementation of the plan is being lead by The Alliance of Edwardsville and Glen Carbon.

Secondary Arterial Transportation Corridors

State Route 140: Most of the businesses in Hamel are currently located along State Route 140 on the west side of Interstate 55. The traffic count for this location is approximately 7,000 to 8,000 automobiles per day. The importance of this corridor is significant

Map 03: I-255 Connection to State Route 140



Source: IDOT Arcturis

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to the growth of Hamel due to the intersection of State Route 140 with the newly constructed Interstate 255 approximately 13 miles due west of the Village¹. (See Map 03: I-255 Connection to State Route 140, on Page 3-1 Completion of Interstate 255 is expected to increase the current traffic flow through the Village, thus, making it an attractive location for businesses to locate and grow.

Presently, businesses are scattered along State Route 140 corridor and retail locations are lost in a mix of uses including residential and commercial development. Little attention to tenant mix placement and commercial growth strategies has been applied. Strategic placement of businesses and developing density along the corridor will be key to making the west side of Highway 140 a vibrant Village focal point and a desirable area for regional businesses and commercial activity.

In order to create a stronger commercial core and insure long term success, it is recommended that future businesses be strategically located along this corridor to create a critical mass of businesses and services. The density created by this kind of planning related to retail mix and amenities may be enhanced by the development of attractive streetscapes including sidewalks, planted medians, tree lined streets, public gathering areas, and attractive signage.

Currently, there are no continuous sidewalks along Route 140 and traffic signaling and signage need to be improved in order to make the environment pedestrian safe and customer friendly. The intersection of State Route 140 and State Route 157, the commercial center of the Village, is in need of enhancement due to the complex traffic use of this location including, but not limited to:

- Increased traffic moving east and west from Interstate 55 to Interstate 255 along State Route 140
- Industrial traffic moving south along State Route 157 to the intersection at State Route 140 then eastward to Interstate 55
- Small commercial and residential traffic movements northward along State Route 157 converging with the subject intersection, then turning east or west to gain access to Interstates 55 and 255
- Westbound traffic movement attempting to turn left at the intersection onto Route 157
- Visitor traffic from Interstate 55
- Pedestrian traffic seeking to cross at the intersection

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¹ I-255 Updates available in the IDOT website. Available at <u>http://www.dot.state.il.us/il255project.html</u>, Accessed on Nov 1, 2006



- Bike traffic which can be expected to increase as greenways and trails are constructed throughout the area
- Periodic peak traffic created by school bus movement throughout the area, emergencies on Interstate 55, and daily peak hour intersection transactions

Careful study and State of Illinois design guidelines are recommended for consideration related to these complex traffic conditions. It is assumed that driving conditions along these routes will become more complicated as the Village grows and additional commercial development impacts the area.



Source: Arcturis

State Route 157 (Historic Route 66): State Route 157, known as Historic Route 66, is presently developed as a local commercial strip with interesting opportunities to attract businesses that cater to tourists celebrating the glory days of Historic Route 66. In response to the recognized need to preserve the rich resources of this historic highway, in 1999 Congress passed an act to create the Route 66 Corridor Preservation Program. Administered by the National Park Service, it provides cost-share grants to successful applicants for the preservation and restoration of the most significant and representative properties dating from Route 66's period of outstanding historical significance: 1926 - 1970². The properties along Historic Route 66 in Hamel may qualify for this Funding opportunity.



Source: Arcturis

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² National parks service 1999. *Route 66 Corridor Preservation Program*. Available at <u>http://www.cr.nps.gov/rt66/prgrm/index.htm</u>, Accessed August 07, 2006.



Additionally, the new SAFETEA highway funding legislation has included a special funding source for Scenic Byways, of which Route 66 is included as an eligible corridor.

The northern portion of State Route 157 is primarily industrial. Lack of sidewalks, designated bike crossing locations and other pedestrian amenities coupled with heavy truck traffic and higher speeds makes it difficult for the pedestrians to walk in this area. These conditions work to physically and psychologically detach this sector of the Village from the rest of the community. Also lack of street lights makes it dangerous to drive at night and appears to be unsafe, although that is only a perception.

It is recommended that this section of the street system in Hamel be enhanced with lighting, attractive signage, and planned curb cuts designed specifically for truck traffic, in order to create a more attractive and safe environment in this economically vital sector of the Village.

South of Route 140, State Route 157 begins to change in character as it continues southward to Edwardsville. Development ranges from small commercial investment at the intersection to residential and then agricultural land.

There is an existing right of way alignment running along the eastern side of this route that is planned for trail development extending from Edwardsville, northward through the Village of Hamel and terminating in Springfield.

Collectors & Local Residential Transportation Corridors

Arterials/Collectors/Local Residential Streets: Most streets in Hamel, except State Route 140 and 157 serve as either collector or local residential streets. While the new subdivisions have concrete streets most of the older residential -streets are oil and chipped paved roads. Most of the local streets are not pedestrian friendly and local streets are generally devoid of sidewalks.

The new subdivisions lack trees while older areas have streets lined with mature trees. Typical new construction does not require builders to install sidewalks and the older residential areas lack this same amenity. In summary, the Village is not as safe and attractive as it might be with planned sidewalks, trails, landscaping and pedestrian amenities.

It is recommended that new road construction include an amenities package to enhance both residential and commercial investment throughout the Village.

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Photograph F, G:, and H:, respectively



Source: Arcturis (Existing Local Roads)

STREET FUNCTIONAL CLASSIFICATION

In order to review and evaluate Hamel's roadway system, the streets have been classified into functional categories. The Functional Classification System is a structure used to categorize the design and operational standards of roadways according to their purpose in the movement of vehicles. The classification system adheres to a hierarchical structure to describe the operation of roadways within a transportation system. (See Table 05). A higher functional classification implies higher traffic capacity and speeds, and typically longer traveling distances. The hierarchy of street types in descending order includes:

- Arterial: Primary, Secondary and Tertiary
- Collector: Major and Minor
- Local Roads

Individual streets do not serve trips independently. Rather, most trips involve movement throughout a network and system of roadways. Roadway networks serve the dual purpose of travel mobility and access to individual properties. Different roadways serve different functions within the overall network. The role that any one individual roadway plays within the network is indicated by its "functional classification" as an Arterial, a Collector, or a Local Road. An individual roadway may provide good mobility or good access; however, these are conflicting functions, as indicated in Figure 06: Mobility versus Access on this page.

In general, an Arterial provides the highest level of mobility, while a Collector combines functions of mobility and access, and Local Roads serve primarily to provide access. The functional hierarchy among arterials, collectors, and local streets should be maintained in order to insure a proper balance between the movement of traffic and access to abutting land. CP Map D: Functional Classification Map, located at the end of this document, shows the functional classification of roads in Hamel. The description of the basis of each classification is provided below.

Arterial Roads: Arterials provide the highest level of mobility; direct access to property is either non-existent or limited. This

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Existing Transportation Analysis 3-5

Table 05: Street Hierarchy

Roadway Functional Classes		
	Interstate	
	Freeway/	
Primary	Expressway	
Secondary	Other Principal	
	State Routes	
Collector		
Local		

Source: <u>www.ewgateway.org</u>, Accessed November 20, 2006

Figure 06: Mobility versus Access





Figure 07: Typical Cul-de-sac

Development vs. Traditional Grid

Typical Cul-de-sac

Traditional Grid

http://www.cnu.org/cnu_reports/daisa.pdf,

Source:

Accessed Sept 01, 2006.

category includes interstates, freeways, multilane highways, and other important roadways and parkways that connect urbanized areas, cities, and industrial centers. Arterials have the highest speeds over the longest uninterrupted distances. This category can be further subdivided into Principal Arterials and Minor Arterials. Interstate 55 falls in this category of road networks. Typically, dense more urban type development occurs along arterial roads due to the value of the land created by the infrastructure, limited access, and greater numbers of traffic counts.

Collector Roads: Collectors, which represent an intermediate functional category, serve to provide both mobility and access. Collectors include major and minor roads that connect local roads and streets with arterials. They provide less mobility than arterials at lower speeds and for shorter distances. This category can be further subdivided into Major Collectors and Minor Collectors. State Route 140 and State Route 157, sometimes known as Historic Route 66 are classified as collectors in Hamel. Collector roads tend to attract regional development such as grocery stores and large box stores by example. They draw from a wider regional field and experience higher traffic counts as development is increased and matures.

Local Roads: Local roads, as the lowest functional category, provide limited mobility and are the primary access to residential areas, business, and other properties. All roads in Hamel except Interstate 55, State Routes 140 and 157 fall into this category of road networks. Local Roads attract lower density development which can include multi-family as well as single-family residences. Depending upon the population counts within a given area, local roads can also attract corner retail development such as coffee shops and other small retail. When located in areas that attract high tourist traffic or transient traffic moving through an area from one major location to another, local roads can also attract smaller Village type development.

The Functional Classification System defines the hierarchy of road networks, but it is the pattern of roads and their connectivity that ensures smooth traffic flow and safe driving conditions within the system. Better connectivity leads to reduced traffic impact and smoother movement along major roads.

The Village of Hamel currently has a traditional rectilinear grid pattern that provides high connectivity and multiple routes with a central commercial business district. This allows the major traffic flow to disperse onto the arterial and collector routes and to distribute traffic evenly throughout the local streets, thus reducing impact and delays on major roads (See Figure 07). It is

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Existing Transportation Analysis 3-6



recommended that Hamel continue to follow this pattern of growth in the future. Some benefits of grid pattern roadway networks are listed below³.

- Reduced arterial traffic volumes with more internal neighborhood trips
- Less need for ever-wider arterial streets
- Reduced traffic with optional modes of transportation such as walking and bicycling
- Reduce accident severity by lowering speeds
- Lower vehicular travel miles

LEVEL OF SERVICE

Level of service (LOS), as described in Figure 08, shown below, is a means by which to rate traffic operations. Traffic conditions are divided into various categories ranging from LOS A (very good travel condition) to LOS F (very poor, congested travel). A roadway that is generally operating at an acceptable level will fall in the range of

Figure 08.: Level of Service

I	_evel of Service	Description
A		FREE FLOW. Low volumes and no delays.
В		STABLE FLOW. Speeds restricted by travel conditions, minor delays.
C		STABLE FLOW. Speeds and maneuverability closely controlled due to higher volumes.
D		STABLE FLOW. Speeds considerably affected by change in operating conditions. High density traffic restricts maneuverability, volume near capacity.
Ε		UNSTABLE FLOW. Low speeds, considerable delay, volume at over slightly over capacity.
F		FORCED FLOW. Very low speeds, volumes exceed capacity, long delays with stop-and-go traffic.

Source:

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ARCTURIS

Existing Transportation Analysis 3-7

³ Fehr & Peers Associates Inc. *Traditional Neighborhoods Street Design and Connectivity*. http://www.cnu.org/cnu_reports/daisa.pdf, Accessed Sept 01, 2006.



LOS A to LOS C. As the traffic capacity of a roadway becomes unacceptable, it will generally fall into LOS E and LOS F, which reflects congested travel conditions. LOS D is frequently found to be acceptable in major metropolitan areas, but is generally not acceptable in communities the size of Hamel.

Communities can follow traditional neighborhood designs to maintain high levels of service. Some design principles are listed below⁴:

- Street grid or modified grid patterns
- Vehicular connections every 300 to 1,000 feet
- Pedestrian connections every 200 to 500 feet
- Small block sizes (200x400)
- Reduced hierarchy of internal streets
- Narrower streets
- Alleys
- Pedestrian amenities
- Lower design speeds
- More connections to arterial streets
- Transportation System Management and access management

In summary, the Village of Hamel is enhanced by its immediate access to Interstate 55. In addition, the Village is well served by the east to west axis created by State Route 140 as it provides regional development opportunities and connectivity to Interstate 255. Route 157 provides access to Edwardsville and additional market benefits provided by this connectivity. If these connections follow traditional trends, the traffic along these corridors will continue to increase as the community grows.

⁴ Fehr & Peers Associates Inc. *Traditional Neighborhoods Street Design and Connectivity*. <u>http://www.cnu.org/cnu_reports/daisa.pdf</u>, Accessed Sept 01, 2006.