



## ***Transportation and Circulation Plan***

Issues and concerns related to the City's roadways, traffic, and pedestrian and bicycle circulation were identified throughout the community outreach process for the Comprehensive Plan. Comments from the community indicated that the existing network of streets and trails is insufficient to accommodate the travel needs of the existing population. Several enhancements and new connections are needed to better serve current residents and businesses and ensure efficient circulation throughout the City in the future. The Transportation Plan, in conjunction with the Community-wide Land Use Plan, seeks to address these concerns and promote appropriate and necessary improvements within the City of Marion and its growth areas.

More specifically, the Transportation Plan establishes a long-range system of roadways and alternative transportation routes that efficiently supports existing and anticipated development and address key issues of the existing transportation network.

The Transportation and Circulation Plan builds upon the recommendations and policies outlined in the 1998 Comprehensive Plan, existing conditions analysis, input received from the community, Comprehensive Plan Advisory Committee, elected and appointed officials, City staff, and representatives from the Corridor MPO. The Transportation and Circulation Plan for the City of Marion strives to provide a balanced transportation system that ensures the safe and efficient movement of vehicles, pedestrians and cyclists.

### ***Connectivity***

The City's existing network of roadways has divided the community into segmented neighborhoods and hindered the flow of traffic throughout Marion. Input received from the community indicates that a lack of sufficient east-west and north-south routes is one of the primary issues facing the community and that the creation of a more complete and extensive roadway network would benefit the community in many ways.

Additional east-west and north-south connections would provide more convenient and efficient travel between residential neighborhoods and commercial areas. Public safety would be improved through the provision of more direct routes that lower emergency response times. Creating strategically placed linkages between currently discontinuous roadway sections would also create new arterial routes that accommodate higher volumes of traffic at higher speeds and increase the related potential for commercial development.

Figure 7 illustrates new roadways and roadway extensions that will improve connectivity throughout the City. These improvements are to take place at all levels including local streets, collectors, and major and minor arterials. Some roadways will also be enhanced and upgraded as a result of planned extensions that will increase the community's use of the roadway.

### **Streets**

The City should protect, enhance, and reinforce the existing functional hierarchy of its roadways which is comprised of local streets, collectors, and major and minor arterials. These different street types have different functions and characteristics and serve a specific purpose within the community. Streets can be designed to focus on accommodating pedestrians and bicyclists or to focus on accommodating the land uses bordering the street.

When designing, constructing, and classifying roadways by function, there are several factors to be taken into consideration including:

- Annual Average Daily Traffic (AADT) as provided by the Iowa Department of Transportation;
- Land uses abutting each street;
- The amount of signalized and controlled intersections, access points, driveways and curb cuts adjacent to the street;
- The purpose of the street;
- The design or layout of the street;
- Right-of-way width;
- The number and width of traffic lanes; and
- Connections a street has to other streets within the City of Marion and the region.

Streets within the City of Marion's transportation network can be divided into four functional classifications:

- Major Arterials
- Minor Arterials
- Collectors
- Local Streets

## ***Major and Minor Arterials***

Regarded as the backbone of the urban street network, arterial streets have a limited number of access points and signalized/controlled intersections. Arterials are designed to move large volumes of traffic at higher speeds than collector and local streets. Arterials are generally characterized by wider traffic lanes, increased speed limits, limited access points and curb cuts, and significant controlled intersections.

Major arterials carry higher volumes of traffic and minor arterials carry lower volumes of traffic. As a result of increased visibility and access, commercial and industrial uses often locate on or within close proximity to arterial roads for their functionality and high accessibility.

With regard to arterial streets, the Plan recommends:

1. Minimizing curb cuts on arterials and using intersecting collectors and local streets for access into properties; and
2. The continued enhancement of arterials through widening, the addition of new travel lanes, and the improvement of intersections when warranted and as needed.

## ***Collectors***

The function and purpose of collector streets is to collect traffic from the local street system and distribute traffic between neighborhoods within the community and provide access to the arterial street system. Collectors are intended to primarily serve vehicle trips generated to and from the neighborhoods within which they are located and not designed to be used as traffic routes to pass through the City or to travel lengthy distances.

Collector streets are often bordered by business and residential properties containing driveways to the street. The section of a collector street running through the corporate limits of a municipality is typically the responsibility of the municipality. Additional sections of a collector street within the planning boundary of a municipality, but outside of its corporate boundary, are generally the responsibility of the county or state.

## ***Local Streets***

A local street includes all remaining streets not classified in a “higher” street network. Local streets are shorter than other types and are often broken up by stop signs and other traffic control devices. Trips on local streets are typically short in length and often head to the nearest collector street. Uses not requiring a high rate of visibility like residences are most likely to be found along local streets. Offices and small industrial uses are also found along local streets. Of all the street types in the street “hierarchy”, local streets have the slowest speeds and the narrowest right of ways.

## Cross Sections and Roadway Design

In an effort to enhance existing roadways and ensure the construction of attractive and efficient new roadways, the City should implement guidelines that improve the design, appearance and connectivity of its streets. These guidelines may assist the City in achieving high quality, attractive streets that improve both vehicular and pedestrian circulation while unifying the appearance of the City.

In addition to adhering to a conventional street grid, there are several common elements that should be incorporated into roadway design throughout the City. These desirable cross section components should be combined in a context sensitive manner that responds to both the function of the roadway within the community and the needs of surrounding residential neighborhoods and commercial areas.

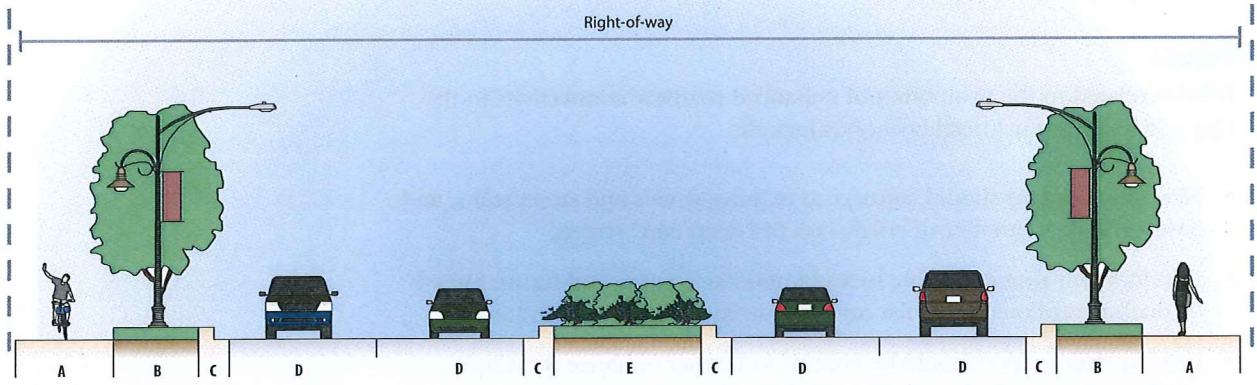
Generalized cross section illustrations have been created for both arterial roadways and collector streets. These illustrations highlight the key, desirable components of the City's roadways including:

### Cross Section

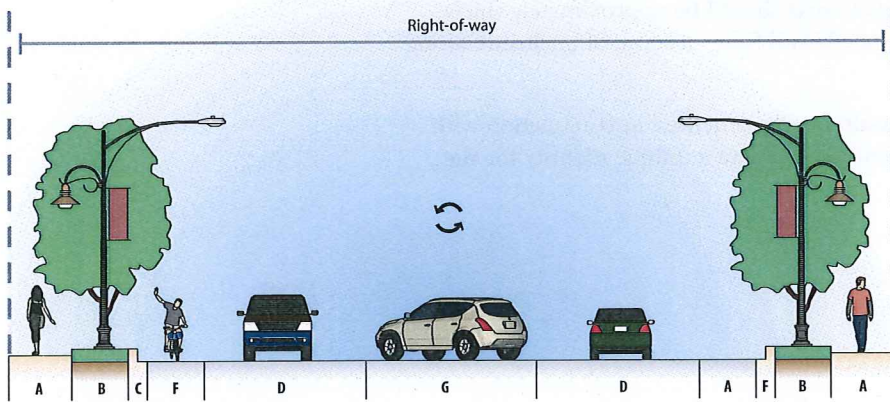
Element	Key	Description
Walkways	A	All roadways should accommodate pedestrian walkways along both sides of the right-of-way.
Parkways	B	Parkways should be enhanced with landscaping and attractive lighting at both a vehicular and pedestrian scale.
Curb and Gutter	C	All roadways should accommodate curb and gutter areas that provide sufficient drainage and safe driving conditions.
Travel Lanes	D	The number of travel lanes in either direction will vary based on roadway type and location.
Median	E	The roadway median should be landscaped with low level vegetation and shrubs. Landscaped medians separate opposing lanes of traffic and provide opportunities for pedestrian crossing islands, beautification, signage and wayfinding, gateway signage, and branding.
Bike Lane	F	Along roadways with slow moving traffic or lower traffic volumes, on-street bike lanes should be accommodated in both directions of travel. On major roadways with higher traffic volumes or fast moving traffic, bike lanes should be accommodated alongside pedestrian walkways.
Turn Lane	G	In instances where right-of-ways are narrow and traffic volumes are high, a turning lane may be required. Where feasible landscaped medians should be used to break-up portions of a corridor where turning lane use is extensive.

Right-of-way widths vary by roadway type and location and should adhere to the widths specified in the Cedar Rapids Metro Area Standard Details and Specifications for Public Improvements (August 2003) manual and as determined by the City Engineering Department. The City is currently working towards adopting Iowa Statewide Urban Design and Specifications (SUDAS) manual, right-of-way design should follow the specifications of this document once adopted. Adhering to these standards will permit many of the existing roadways to be improved without acquiring additional right-of-way, and provide key recommendations for any newly constructed roadways.

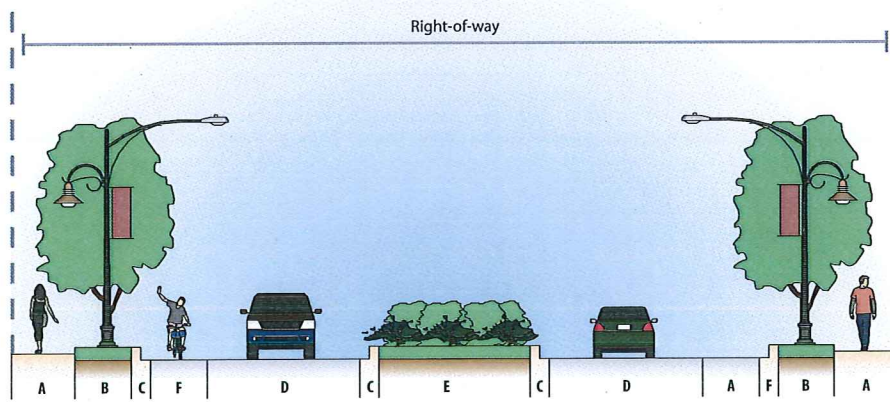
# Conceptual Cross Sections



*Arterial (Major/Minor)*



*Collector Street*



*Collector Street*

Consistent with many of the City's established residential neighborhoods and Traditional Neighborhood Design principles, a conventional grid street pattern with minimal use of cul-de-sacs should be enforced to promote efficient traffic circulation and connectivity between growing areas. A conventional street pattern may facilitate the efficient provision of infrastructure, create a walkable environment, and reduce the need to use local roadways to navigate through the City.

### **Policies**

Policies related to the promotion of enhanced roadway connectivity in the City and its individual neighborhoods include:

- New development should connect to existing streets and street stubs, and have a minimal number of cul-de-sacs or "dead end" streets.
- Development should be able to accommodate change and future growth through exceptional vehicular and pedestrian linkages and circulation.
- Inviting streetscapes should be created to further enhance the City's roadways and foster the creation of distinctive neighborhoods.
- The City should be proactive in encouraging narrow, landscaped streets to provide an intimate atmosphere in each neighborhood.
- Local streets through residential areas should be approximately thirty (30) feet wide to slow traffic speeds and foster a sense of enclosure along a street.
- A conventional street grid should be implemented in conjunction with various other streetscape amenities to create a unique identity for the City's public realm.



## ***Boulevards***

Along many of the City's roadways, opportunities exist to enhance the center of the street through landscaped boulevards. Landscaped boulevards could offer several benefits to the City, including:

- **Safety:** Boulevards separate lanes of oncoming traffic and can reduce traffic speeds.
- **Environmental:** Landscaped boulevards incorporate trees and other plant material that can reduce the urban heat island effect.
- **Stormwater Management:** Boulevards can be designed to collect and store stormwater, reducing the amount that enters storm sewers.
- **Aesthetics:** Boulevards can contribute to the "greening" and beautification of the City, enhancing the sense of place for Marion residents and visitors. They should incorporate street trees, shrubs and other plant materials in key accent areas to achieve maximum impact while keeping maintenance expectations within reason.

To bring a new level of traffic calming and an enhanced appearance to the City's roadway network, a series of landscaped medians should be installed where feasible along major arterials, minor arterials and collector streets.



## ***Street Trees***

Street trees are one of the most effective ways to enhance a streetscape and beautify a roadway because they add four-season color, visual interest and texture to a street. They can also be used as a visual buffer between oncoming traffic lanes or to screen adjacent land uses.

The City of Marion should encourage the planting of street trees in all parkway areas along major and minor arterials, collectors and local streets, and in the center of landscaped boulevards and roundabouts where feasible and appropriate.

## ***Sidewalks***

Sidewalk and trail connectivity are important and should be maintained throughout the City. There are portions of the community where the installation of sidewalks was either not required or has been deferred, or where sidewalks simply do not exist. Marion's existing manufactured housing communities lack sidewalks entirely and are poorly connected to adjacent residential neighborhoods.

Sidewalk and trail connections should be completed in conjunction with development and other improvements to public right-of-way. Incremental improvements should be made to eventually eliminate gaps or inconsistencies in the City's pedestrian infrastructure.

Specific policies related to sidewalks and connectivity can be found in the Residential Areas Plan.

## ***Attractive Streetlights***

Street lighting is an important contributor to the overall character of an area and provides for a safe and attractive environment. Streetlights are used to illuminate roadways and signs for motorists, as well as sidewalks and other pedestrian amenities for pedestrians and bicyclists. As illustrated in the cross section graphics, the City should incorporate visually appealing streetlights at different lighting levels to accommodate a variety of users.

Major and minor arterial roadways are generally designed to accommodate high vehicular traffic volumes, causing the pedestrian realm to be secondary. The City should strive to maintain a pedestrian friendly atmosphere along its roadways, regardless of the roadway's functional class, by incorporating pedestrian scaled lighting. This can be achieved by affixing a pedestrian scaled light to a roadway light; or, by using an attractive, mid-sized streetlight along local streets where intensive roadway lighting is unnecessary. Street lights should be ornamental in style, and used to create a desirable character along City streets.

The spacing of streetlights should be uniform along a roadway, with additional lighting available at intersections with high pedestrian activity. Additionally, streetlights should be located between street trees so that the tree canopy does not interfere with illumination coverage. To further enhance the appearance of the City's streetlights, hardware for banners should be included along key corridors in the City.



## **Gateway Signage**

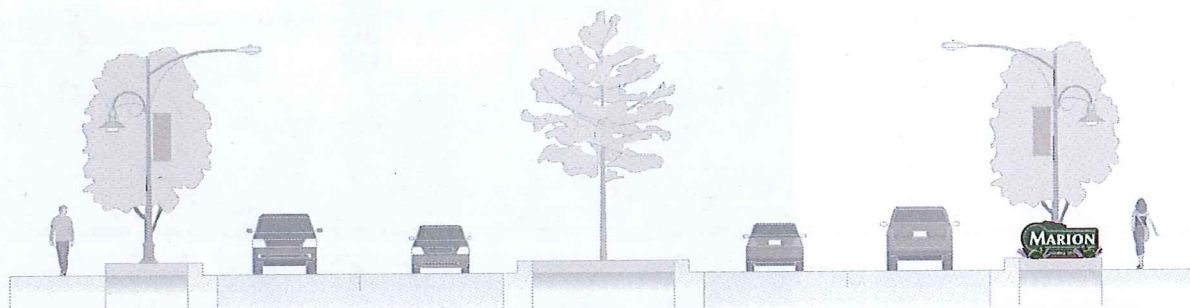
In an effort to announce one's arrival into the City, gateway features should be employed in key locations. Gateway features can be achieved through signage or sculptures at the ground level. Attractive landscaping and lighting should complement the City's gateways to contribute positively the community's character.

Parkways and landscaped boulevards provide attractive locations for gateway signage. Their prominent location along the roadway allows gateway signage to be highly visible to motorists traveling through a corridor. City boundaries and key intersections may provide ideal locations for gateways features to be installed.

Gateway signage should be implemented in a tasteful manner, so that it is easy to read and eye catching without being overly intrusive to the surrounding landscape.



**Gateway Signage Location : Option A**



**Gateway Signage Location : Option B**

## ***Intersection Improvements***

As roadway improvements occur and the City's transportation network is enhanced and expanded, several intersections will need to be improved to better accommodate the efficient flow of traffic. Existing traffic signals should also be synchronized with one another to coordinate the flow of traffic within the City especially along the main commercial corridors and within Uptown which have a significant volume of vehicular trips. Improved intersections should include design elements that enhance pedestrian mobility and safety such as crosswalks (potential painted markings or brick pavers), pedestrian scaled lighting and signage.

New signals and intersection improvements are illustrated on Figure 7. Many of the intersection enhancements represent new intersections in areas where roadway enhancements and extensions are proposed. Other intersections enhancements are located in areas where it is anticipated that new development will increase local traffic and related the need for controlled access.

## ***Realignments***

The City's network of roadways is oriented in a grid, however many of the roadways passing through the community divert from this grid. Although a 90 degree intersection is ideal for efficient traffic flow, roadways must curve and bend to accommodate Marion's varied local terrain, creek corridors, and rail corridors. There also instances where changes in elevation in areas adjacent to intersections limit visibility. While the City should work to improve some problematic intersections through realignment, others can be enhanced with traffic signals, signage, and landscaping improvements that improve traffic flow and visibility. Improvements should be prioritized based on a number of factors including traffic volume and the severity of the misalignment.

*Landscaped Medians help transform ordinary streets into public spaces. They help reduce pedestrian crossing distances, provide a buffer between traffic traveling in opposite directions, and also serve as areas to introduce landscaping and other streetscaping features. The City should consider enhancing existing roadways, and requiring new roadways, to incorporate landscaped medians where feasible.*



## ***Other Plans***

### **Corridor Metropolitan Planning Organization**

The City of Marion is located within the planning jurisdiction of the Corridor Metropolitan Planning Organization (MPO). The Corridor MPO is responsible for fulfilling the requirements of regional transportation planning as directed by the U.S. Department of Transportation. The primary function of Corridor MPO is the development of two plan documents:

1. A *long-range transportation plan (LRTP)*, which is a plan with a 20+ year time horizon that is updated every five years and guides the planning and investment of the federal funds and other public funds the Corridor MPO receives. The Corridor MPO is currently developing *Connections 2040*, the agency's LRTP for the year 2040 which is scheduled for adoption in June 2010.
2. The *Transportation Improvement Program (TIP)*, which is six-year plan that details the programming of the yearly federal funds for transportation projects such as transit, road improvements, and trail development.

The Corridor MPO's Transportation Improvement Program has several projects that will significantly impact Marion:

- 29th Avenue Extension – Connects Indian Creek Road to N 10th Street providing an east-west connection over Indian Creek for a growing area of Marion through the Linn-Mar Community School District campus. This project was completed in November 2009.
- Marion Trail – Connects the Grant Wood Trail to the Boyson Trail along the recently acquired railroad right-of-way. This project is currently funded for the portion between the western terminus of the Grant Wood Trail (near Hwy. 13) and 35th Street.
- Tower Terrace Road Extension – Extends Tower Terrace Road (35th Avenue) west to 10th St. and includes the construction of a bridge and extensive excavation and borrow, water main relocation, and traffic signals at each end which also bisects the Linn-Mar Schools campus. This project is a component of a larger project that is planned to extend Tower Terrace Road from its current terminus at Interstate 380 to Highway 13.

### **Tower Terrace Road**

The Tower Terrace Road Corridor Management Plan currently being developed by the Corridor MPO will guide development of Tower Terrace Road and land use within the corridor between Hwy. 13 on the east through Marion to I-380 on the west. Once adopted by the Corridor MPO, compliance with this plan will be a requirement for any Tower Terrace Road project that requests STP funds. The Corridor MPO strongly recommends the City of Marion incorporate this document, once complete, into the City's Comprehensive Plan.

There are also several projects recommended in the Corridor MPO's 2040 Transportation Plan that address connectivity and congestion issues throughout the Marion. These recommendations have been incorporated into the Transportation Plan and are illustrated in the Transportation Plan Map.

### **Central Corridor Plan**

The City completed the Central Corridor Master Plan in the fall of 2009. The plan is a detailed subarea plan for the properties located between 8th Avenue, 5th Avenue, 9th Street and 35th Street. In addition to detailed land use, building design standards, streetscape and utilities plans, the Central Corridor Master Plan includes recommendations for the realignment of 6th, 7th, and 8th Avenues. The Central Corridor Master Plan serves as an amendment to this Comprehensive Plan.

## ***Public Transit***

Public transit is provided to the City of Marion by the City of Cedar Rapids Transit Department. Two bus routes, Cedar Rapids Transit Routes 5N and 5S, service the residents of Marion. The Cedar Rapids Transit Department also provides Para-transit service to Marion residents through a contract with Linn County. This program provides door-to-door demand-response service to elderly and disabled residents of Cedar Rapids, Marion, Hiawatha, and Linn County who, due to their disability, cannot use the regular transit service. Regular and Para-transit bus services are provided along bus routes 5N and 5S, Monday through Friday from early morning to mid evening. Bus service is also provided on Saturdays for a shorter time period. The Cedar Rapids Transit Department also provides the Neighborhood Transportation Service (NTS) to residents of Marion which offers nighttime rides to and from work, school, and life skills classes to people with disabilities.

- The City should collaborate with the Cedar Rapids Transit Department to develop routes and service enhancements that will better serve the residents and employees of Marion.
- Public transit services should interconnect all existing and proposed residential neighborhoods, commercial, employment and shopping destinations, and neighboring regional destinations such as Squaw Creek County Park or Lindale Mall.

## ***Trails and Bike Routes***

An extensive network of sidewalks and multi-use trails will help ensure that pedestrian and bicycle mobility are provided for throughout the community. While local and regional trails are often thought of as a form of recreation, they also provide an alternative mode of transportation to area residents. The City of Marion is currently serviced by a number of local and regional trails and numerous trail segments are planned. The Marion Park and Recreation Department developed the Marion Master Trails Plan in 2006 to ensure the orderly development of a safe and continuous recreational trails system for Marion residents to enjoy.

This plan proposes a local trail network that interconnects parks and other community facilities as well as regional trail connections. It recommends that multi-use trails be installed along the City's three creek related greenways, the Illinois Central Gulf Railroad corridor passing through the center of the community, and in the rights-of-way of existing streets and proposed streets. Trails to be located in the public right-of-way will have designated lanes, shared lanes, or off-road widened sidewalks. Trails proposed in the Marion Master Trails Plan were also prioritized based on several factors including their connectivity to existing or proposed local and regional trail components, contribution to a continuous trail network within Marion, and the need/demand for trails in a given area.

The trail recommendations, and trail priority level, illustrated in Figure 8 are derived from the recommendations of the Marion Master Trails Plan and updated input from City staff and representatives of Corridor MPO and Linn County Trails Association (LCTA). Detailed policy recommendations and implementation techniques can be found in the Marion Master Trails Plan. The Plan provides design guidelines for trail construction, details a cost estimating process, and lists a number of potential funding sources for recreational trail planning, construction, and maintenance.