



DOWNTOWN PLANNING STUDY CITY OF MARION, ILLINOIS NOVEMBER 2020

To ensure Downtown Marion is a safe, walkable, and economically viable district for entertainment, services, and living.



Downtown Planning Study City of Marion, Illinois

Prepared for:



The Southern Illinois Metropolitan Planning
Organization
3000 Deyoung Street
Marion, Illinois 62959
The City of Marion



1102 Tower Square Plaza
Marion, Illinois 62959

Prepared by:

Clarida & Ziegler Engineering Co

Brian Ziegler, P.E.
410 North Court Street
Marion, Illinois 62959
www.czengeer.com

Horner Schiffron

Brad Riechmann, P.E.
401 South 18th #400
St. Louis, Missouri 63103
www.hornerschiffron.com

Chastain & Associates LLC

Stephanie Brown, AICP
114 E. Main St.
Benton, Illinois 62812
www.chastainengineers.com



ACKNOWLEDGMENTS

Funding for this study was provided in whole or in part by the Federal Highway Administration and the Illinois Department of Transportation through the Greater Egypt Regional Planning and Development Commission and the Southern Illinois Metropolitan Planning Organization.

Study Oversight Team

Mike Absher, Mayor, City of Marion

Glenn Clarida, City of Marion Director of Economic Development & Municipal Planning

Cody Moake, City of Marion Chief of Staff

Doug Phillips, City of Marion Street Superintendent

Josh Benson, Executive Director, Marion Cultural and Civic Center





EXECUTIVE SUMMARY



"City-wide revitalization program to focus on the beautification of our town, dilapidated/neglected structure removal, signage and branding to better present ourselves to those that visit us."

Strategic Goal #1 from the City of Marion 2020 Vision

INTRODUCTION

Communities are complex; made up of many interrelated spaces. The spaces within which we live our lives are formed and changed over time by the interplay of economic, environmental and social forces. Decisions are made each day that impact the quality and function of these spaces, sometimes improving our lives and sometimes making it more difficult to meet our needs. In a sustainable community economic prosperity finds balance with environmental protection and quality of life considerations, and this balance is maintained over time. In a sustainable community, businesses thrive and people are out in public throughout the day and throughout the year, working, socializing and recreating. It's with these principles in mind, these guidelines are created.

Over the last several years, businesses and residents have been working hard to restore and rejuvenate Downtown Marion. In 2019, the City decided it was its turn to take action and improve the public infrastructure in and around the Downtown Tower Square. To that end, the City applied for and received a local grant to assist in the development of this Downtown Planning Study.

PLANNING PROCESS

A Study Oversight Team was formed and they worked alongside three consultants -- a civil engineer, a transportation engineer, and an urban planner -- to draft the conceptual changes for the project area. This group, along with the funding agency, SIMPO, decided to reduce the study area and stop at Calvert Street to the north after the first meeting. Also, based on the impacts of the COVID-19 global pandemic, it was decided that one stakeholder meeting was all that was needed. The changes discussed at the meeting were then presented to the general public, downtown business owners, and downtown building owners

at an Open House hosted July 9, 2020. The verbal and written feedback to the proposed changes were overwhelmingly positive which encouraged the City to move forward with its vision.

As a great first step in making the recommended changes, an Illinois Transportation Enhancement Grant was submitted in November of 2020. The submitted project, if awarded in the spring of 2021, would convert the alleyways into pedestrian pathways and convert the on-street parking on the Square into flexible event space.

THE VISION

The vision for the downtown is one that activates the Tower Square year round and provides flexible in use. It introduces a water feature for the warm months and an area for an ice rink in the winter months. It provides new parking areas that can convert to outdoor plazas. It transforms the alleyways into places for safe alternative transportation modes. It introduces safer traffic patterns and allows for accessibility of all users. It introduces more trees, shrubs and landscaping. And, it excites and ignites imagination and a desire to be downtown.

CONCLUSION

Ultimately, this plan is intended to serve as a guide for the proposed physical safety improvements and aesthetic enhancements to the downtown area. This plan frames the community character and gives suggestions to address any negative conditions of the downtown. The enhancements will ensure a unique built environment and provide a high quality of life for residents and visitors alike. It will establish Marion as a place and following these guidelines will ensure an enhanced look and feel to the Square and rejuvenation in investment and interest in the Hub of the Universe.





DOWNTOWN CHARACTER

This section contains objectives, policies, and programs to identify characteristics and qualities that make Downtown Marion unique and that are important to the district's heritage, vitality, and quality of life. This section also has an emphasis on the existing on- and off-street parking conditions.

DOWNTOWN MARION

For centuries, civilizations have thrived around a central core that provided a strong sense of place and which was vital to the health and prosperity of the community. In fact, it was not until the 1830's that the term "downtown" was even coined. But no matter the name, this was always the heart, identity and place of pride for a group of people.

Unfortunately, the advent of the car, changes in consumer habits, changes in the market, changes in culture, changes in lifestyle, and changes in family structure, have caused a decline in downtowns over the last few decades. This plan works to adapt to these continuously changing factors through flexible enhancements to the built environment.

A distinctive place embodies a character, heritage, look, feeling, and flavor that are not found in other locations, especially within the surrounding region. By being distinctive, a district can provide a viable alternative to its competition and swing the changes in markets and lifestyles in its favor. To best enhance its distinct qualities, a Downtown should build upon its historic, economic, natural, and cultural amenities. It should also strengthen, integrate, and promote the following six elements, few of which are found in other commercial settings.

Through these six elements, Downtown Marion will hone in on its unique identity in the region and (re)establish itself as a cultural center for Marion. From these elements, the over arching goals on the following page were created. Moreover, it is from these elements and goals that the streetscape concepts presented in the following sections were created.

1. Historic Character

The City's historic built elements--from the Tower Square to the Bank Building and many others--represent an earlier era of architectural design, and are an invaluable assets when attempting to establish a discernible place. This notion was continuously reinforced throughout the planning process as stakeholders value the historic character of Downtown Marion, most of which is centered around the Tower Square.

Building preservation, or replication, as in the reconstruction of the Civic Center, is both dependent upon and necessary to continued success in the Downtown area.

Goal 1: The City should preserve their architectural heritage and help owners protect and restore these buildings over time.

2. Diversity of Uses & Functions

The Downtown provides a greater range of functions than any other location in a community. Looking at the existing uses in Downtown Marion, it serve as a place for employment, shopping, worship, tourism, housing, government services, dining, entertainment, and cultural attractions. These multiple functions give a wider variety of users a reason to visit Downtown, which enhances activity levels throughout the day and week.

Moreover, in a small-city Downtown, all of these activities are usually situated within a compact, intimate area that is easily walkable.

Goal 2: Downtown Marion will continue to expand its functions and uses while enhancing a safe, walkable area.

3. Housing Mix & Options

Retail follows the housing and economic market--it does not lead--so it is essential to foster increased residential and workforce density in Downtown Marion to fuel retail sales growth.

Goal 3: The City will explore options to provide a healthy mix of housing options of varying formats and densities to help spur retail development.

4. Safe, Comfortable & Accessible for All Users

As a pedestrian-oriented district, people walking, interacting and socializing is part of the Downtown experience. However, if the customer experience is high-effort and low-quality (e.g. deteriorating sidewalks, cannot find convenient parking, can't find the store), the customer will shop, dine or find an experience elsewhere, on-line included.

Goal 4: Downtown Marion will be an environment that is friendly to all modes of transportation. It will be safe, comfortable, and accessible for all user types from children to disabled and elderly.

5. Attractive, Quality Place

The more interesting and attractive you make the place, the more people are willing to get out of their homes and cars to be a part of the experience.

Conversely, Downtowns with an abundance of surface parking lots, buildings set back from the sidewalk, vacant or blank-walled structures, neglected storefronts, and/or poorly maintained, unadorned sidewalks will be far less desirable places to walk. Without a sense of an attractive memorable place, it will be difficult for small city's to have a thriving Downtown that can compete with big box retailers, commercial corridors, and on-line shopping.

Goal 5: Downtown Marion will establish a unique and attractive sense of place within the region through the improvement of both public and private assets.

6. Diversity of Uses & Functions

Regardless of its aesthetic qualities, a built environment requires the presence of people to produce a desirable, appealing place. Successful Downtowns do just that, as they attract people and give people reasons to linger. The longer people choose to stay Downtown, the more establishments they will visit, resulting in an economic benefit as well.

Goal 6: Downtown Marion will be the City social center for all ages and abilities.

EXISTING CONDITIONS

Relevant Plans & Studies

2020 Vision

Adopted in the fall of 2019, this study focused on funding the strategic goals set forth by the City Council. This study helps to realize the following goals:

1. City-wide revitalization program to focus on the beautification of our town, signage and branding to better present ourselves to those that visit us
2. Economic Development tools, including answering “what’s after TIF” to be able to redevelop blighted areas of town as those TIFs start expiring soon
3. Position our town and marketing ourselves aggressively to those that might seek to live here and bring their jobs here

The plan proposed a sustainable pathway to implement and achieve all of the priorities established.

Square Up

This City plan is based in the idea of incremental development, service oriented strategies or “grassroots” initiatives for revitalization throughout Marion. The City funds small grants which support volunteer-fueled solutions developed by the community.

Existing Characteristics of Downtown Marion

Strengths & Opportunities

- Unique and beautiful architecture in the buildings and structures
- Lots of public space
- Strong community identity of the Tower

Threats & Weaknesses

- Vacant and under utilized structures and lots
- Lack of art or unique identifiers
- Underutilized public space, especially around the Square
- Alleyways in need of improvement
- Lack of wayfinding for landmarks, recreation, civic operations, and parking
- Real and perceived lack of parking in parts of Downtown
- Lack of trees and softscape materials
- Non-ADA compliant sidewalks, ramps and crossings

Characteristics needed to elevate Downtown Marion

- Improve mobility and safety for all users
- Overall refresh of branding and messaging, including themes of history, present, and future
- Improve pedestrian experience throughout
- Install softscape materials such as trees and planters

Crash Data

Crash data was analyzed within the study area from 2005 to 2020. The crash data was then sorted and visualized to by crash type and severity. See the exhibit below. Three crash areas were identified with the highest number of crashes and concentration of severe crashes College Street, West Main Street, and the Traffic Circle were identified as these hot spots. The hot spots were investigated further to understand the root cause of these high crash locations.

The College Street hot spot was recently improved prior to this study. This may rectify the high number of crashes. Up until this past year, College Street east of Market Street allowed for two-way traffic with parking. It has since been turned into one-way only for WB traffic, while still maintaining parking. In theory, this will reduce the conflict points with traffic reducing accidents caused by the narrow drive lanes with parking nearby.

The West Main Street hot spot is currently two-way traffic with 12’ travel lanes and parking only on the south side. During the public meeting, comments stated in previous years parking was allowed on both side of West Main. With cars parked on both sides of West Main, this corridor was very tight, and caused issues with trucks passing. However, this also provided a benefit because the narrow feel forced drivers to slow down. In the current configuration, West Main Street has the right-of-way through the traffic circle. Also, the WB traffic does not have parking to contend with. So speeds are reported by locals as higher. To mitigate this, the design team plans to implement a modern roundabout with yield conditions for all legs coupled with splitter islands. This configuration should greatly reduce speeds on West Main Street. Also, the south parking areas are suggested to be better defined with “bump outs,” reducing available pavement and narrowing the width of the corridor at intersections and reducing speeds.

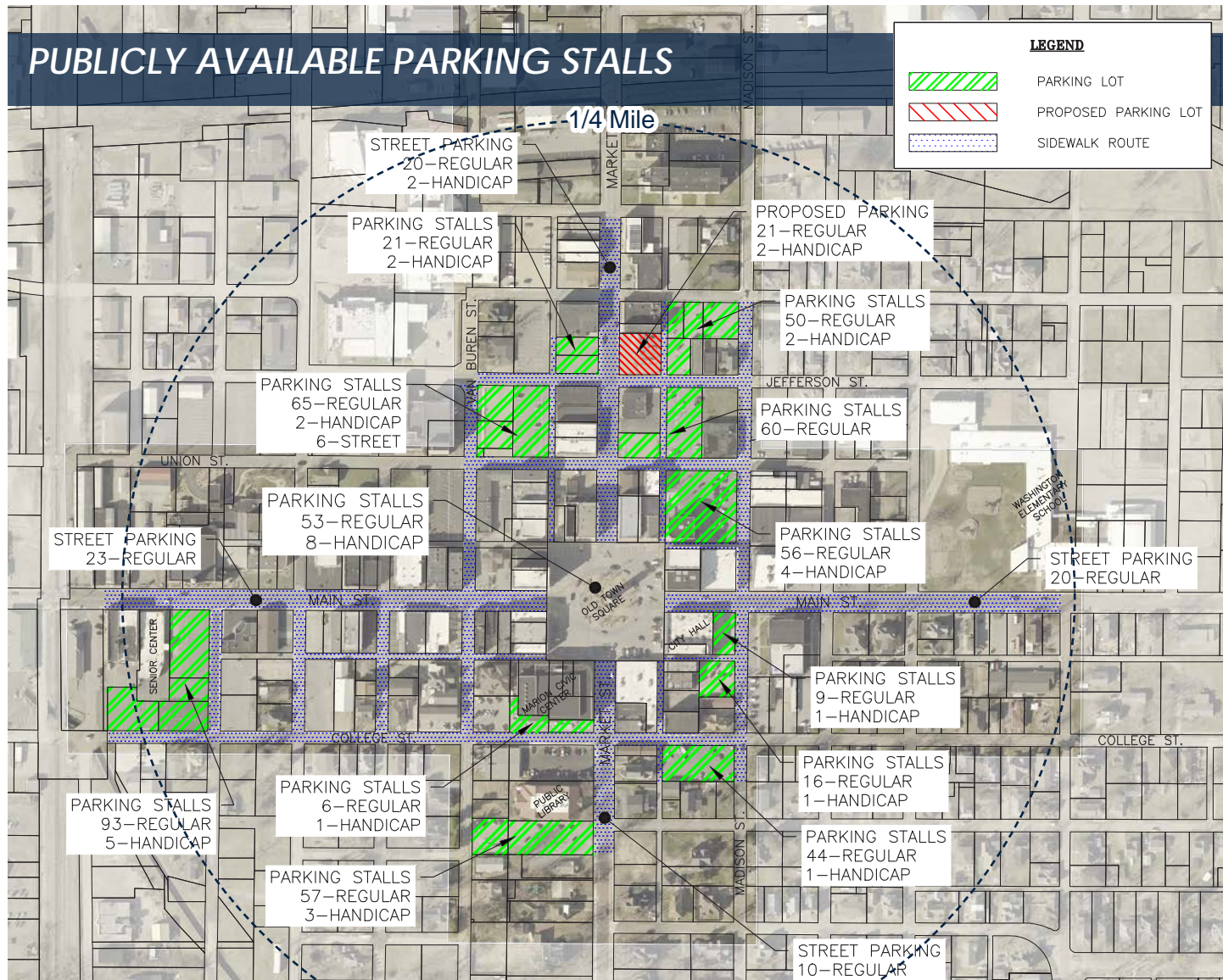
the bump-outs will also provide additional refuge for pedestrians and shorten the cross-walk lengths. As mentioned above, the current configuration of the roundabout allows for continuous flow for the Main street traffic, increasing the speeds exiting and entering the traffic circle from the east and west. The severity of the crashes within the circle are lower than a typical four-way intersection. This is to be expected, since the crash severity reduction of a circular style intersection over traditional intersection has lower speeds through the intersection itself. However, by adding modern roundabout yield conditions and improved channelization through the addition of splitter islands, further improvements can be realized to reduce the potential number of crashes at this intersection. Upgrading this intersection will provide consistency within the municipality and meet drivers' expectations. Marion residents currently navigate modern roundabouts within town, and they are expected to this adaptation for this intersection.



Crash Spot Map



PUBLICLY AVAILABLE PARKING STALLS

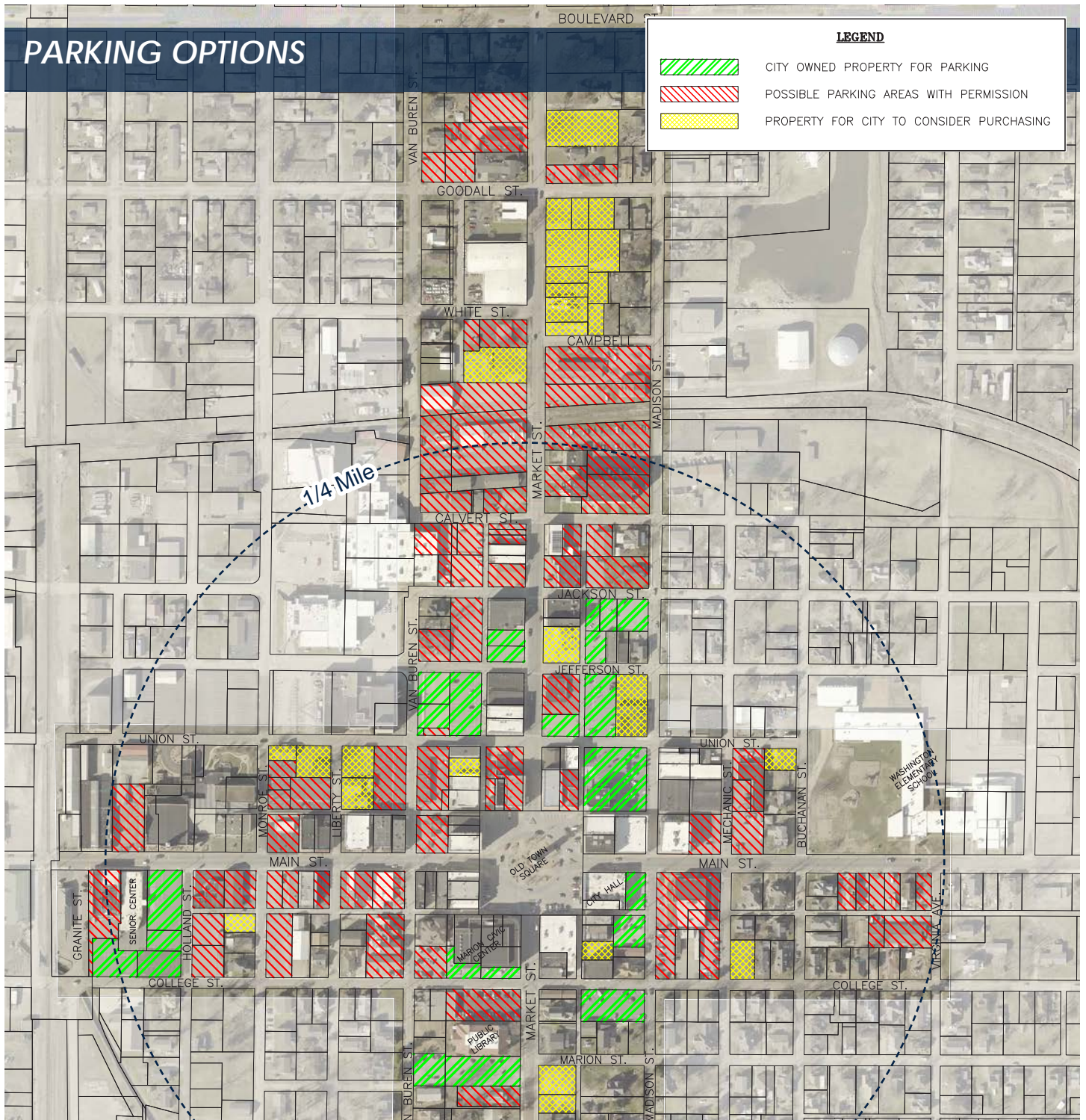


The map above shows the existing parking stalls owned by the City. These stalls total 630 parking spots, 34 of which are handicap stalls and 79 are on-street. The Tower Square was considered a parking lot for the purpose of this exercise and it boasts 53 stalls and 8 handicap stalls.

However, if more businesses and events continue to thrive and occur within the downtown district, more parking options may become necessary. The map on the following page demonstrates some potential areas for more surface parking lots.

One-quarter mile (0.25 mi) is the most commonly used standard for determining walkable access. It is not surprising, but Downtown Marion is still very walkable and accessible for those looking to drive downtown and find a parking space within a reasonable distance of their destination.

In total, with those existing parking stalls that are under private control, the City could work out a shared use parking agreement and nearly double their current numbers since a calculated 677 stalls are available within the project area. It is recommended to seek shared parking agreements where possible for the larger events.



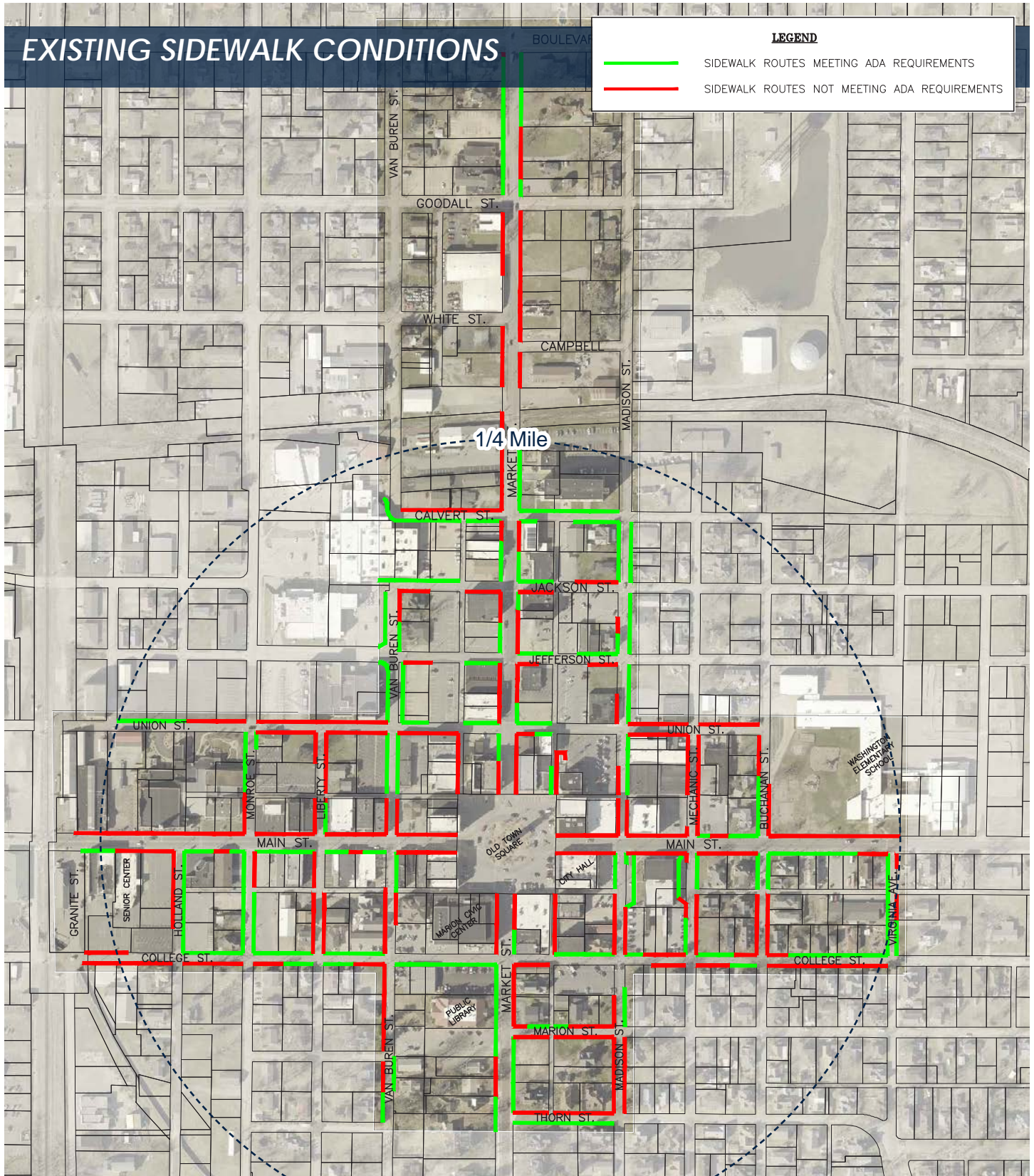
Based on existing conditions, the map above identifies potential areas to expand available parking for downtown patrons, residents, and businesses.

Based on the quarter-mile walking distance, and the fact the majority of activities happen on or around the Tower Square, it is recommended for the City to look at one of two options for increasing the necessary parking capacity:

Option 1 | Only improve lots within 1/4 mile of the Square. This will ensure walkability for residents and patrons of the downtown.

Option 2 | Implement a shuttle service. The vacant lots north of the railroad tracks / Campbell Street tend to be larger and more conducive to adequate surface parking. However, they are outside of the walkability standard. This opens the door for a shuttle service during large downtown events when parking demand is higher.

EXISTING SIDEWALK CONDITIONS



The condition of the existing sidewalks is another key factor in the ability and willingness of downtown shoppers, residents and visitors to walk around the area. The current sidewalks are aging and do not meet current ADA standards, nor do many of the ramps or crosswalks. Ensuring adequate sidewalks that meet the ADA requirements not only enforces

equitability for all system users, it encourages healthy communities, and promotes economic vitality.

It is recommended that the sidewalks, ramps and crosswalks within the project area be brought up and maintained to meet the current ADA requirements in a phased and progressed manner.



STREETSCAPE CHARACTER

In addressing the Downtown Character and goal 4 of this plan, it is important to keep the following best management practices in mind. Much of this will be addressed in the development concepts section.

Streetscape Features

A major step in revitalizing Downtown Marion is to make public improvements that show residents and business owners that the City is taking the initiative and making the investment. These key improvements in the right-of-way in Downtown Marion would be ADA accessible sidewalks and ramps, crosswalks, ornamental fencing, light fixtures, trees, planters, trash and recycling receptacles, service areas, benches, wayfinding signage for places and parking, and an improved public gathering space around the Tower Square. While no one single component will help meet the goal, a balanced mix can lead to a successful rehabilitation of the district and will separate Marion from neighboring communities and the region.

Pedestrian Environment

Commercial areas that are friendly to both vehicles and pedestrians have proved to be highly successful. This is even more apparent in downtown districts, as foot traffic is just as important as vehicle traffic. In general, a friendly street has features that provide safety, comfort, and mobility. Examples of these features are described and illustrated on the following pages.

Guidelines in this section are intended to assist in the future reconstruction of the streetscape in the project area with the goal of improving safety conditions, creating a sense of place, and bolstering the business and entertainment environment.

SAFETY

Good sight distance

- Limit obstructions at crossing (electrical boxes, over grown vegetation, signage, etc.)

Separation & buffering from other modes of travel

- Parking areas
- Sidewalk terrace
- Wide sidewalks
- Limit curb-cuts

Pedestrian visibility

- Minimum adequate lighting

Adequate height clearance

- Limit obstructions between 3' and 6'
- Keep landscaping well-maintained (trim tree branches and bushes)
- Adequate awning heights

Limit crossing distances

- Reduce corner radii
- Provide bump outs
- Provide refuge medians at pedestrian crossings

MOBILITY

Clear path

- No obstructions within areas of travel

Accessible to all citizens

- ADA-Compliant sidewalks, ramps, and building entrances

Clear connections

- Pedestrian pathways to building

COMFORT

At human scale

- Establish a 1:3 - 1:2 street width to building height ratio

Soften the urban hardscape

- Add planters, street trees, landscaped spaces, etc.

Buildings designed with pedestrian friendly features

- Awnings, large and clear windows (70% of ground floor), building entrances, view of products/activities, etc.

Limit automobile/truck traffic issues

- Lower vehicle speed limits
- Provide traffic calming devices

Provide pedestrian amenities

- Add benches, table and chairs, bike racks, etc.

Well-maintained infrastructure

- Well-maintained sidewalks, streets, street fixtures, and street trees.



GUIDELINES FOR STREETScape DESIGN ELEMENTS

The following section provides a series of general guidelines to address the form, function and safety of the streetscape improvements and changes within Downtown Marion. The principals and presented features are based on the best practices described herein and on the desires of the City residents. The City should consult these recommendations prior to any changes within the Downtown public right-of-way. Following these recommended elements will ensure a cohesive ethos for the area as well as continuity in placemaking for the identity of Downtown Marion.

Sidewalks & Streets

- At a minimum, sidewalks should be 8' wide, from back of curb to lot line. However, more than 8' where possible is desirable to provide ample pedestrian space. Six of those feet should be dedicated as a clear path.

- It provides additional space for light and electrical poles, outdoor seating, landscaping, display, fire hydrants, traffic lights, and street furniture.
- The clear path zone prevents obstructions for pedestrians and creates distinct zones for activities.
- It promotes walkability and street activity.
- Ensures ADA compliance for accessibility.



See conceptual layouts in the following section for recommended changes to sidewalk widths.

- Provide bump-outs at street corners.

- This shortens the pedestrian crossing length and increases visibility around corners. This is especially important around the alleyways where buildings have zero foot setbacks at the corners.
- Bumpouts also provide space for urban trees, minimal landscaping, and minimal wayfinding signage.



See conceptual layouts in the following section for recommended bump-out locations.

- Clearly mark (and maintain) crosswalks *This heightens the awareness of pedestrian crossing.*

- Contrasting colors and materials slow drivers making it safer for pedestrians.

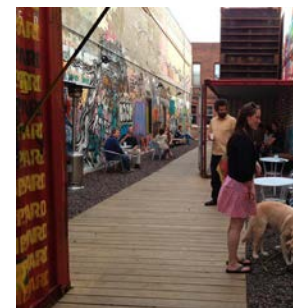


See conceptual layouts in the following section for recommended crosswalk locations and treatments.

- In the core of downtown, around the Square, the use of a decorative brick or stamped concrete is recommended.
- For the corridors of Main and Market Streets, a white ladder design stripping is recommended.

- Maintain alleys for safe and easy access. Explore ways to enhance these small public spaces with art.

- Maintained alleyways promote walkability, provide comfort, and provide additional pedestrian pathways.
- They provide the option for more outdoor dining, seating, and gathering spaces.
- Improving the surfaces of alleys by using brick, asphalt or concrete will reduce dust and enhance the look of downtown.
- Improved alleys are easier to maintain for snow removal and are safer for pedestrians and those requiring ADA improvements.



See conceptual layouts for the recommended alley enhancements and locations.

Landscaping

1. Downtown Marion is mostly void of trees and shrubs. It is recommended that trees be introduced to the right-of-way. There should be no pavement in a 12-foot circumference around tree trunks to allow for growth, and include a 7 foot height clearance when maintained within the 6 foot clear path zone. Prune trees that impede visibility in this zone.

- Trees break up the downtown hardscape by providing visual interest.
- Trees provide much needed shade to enhance the pedestrian experience.
- Trees reduce the urban heat island effect and reduce temperatures in the area.
- Shrubs screen parking areas and reduce the effect of headlights.



See conceptual layouts for the recommended location of trees, shrubs, and planters in Downtown Marion.

- In places where the building is not on the front property line, hardscape materials, such as planters, ornamental fencing, retaining walls, etc, and or/native plants should be used to provide visual interest and a comfortable pedestrian environment.
- Indigenous plants with low water and pesticide needs are strongly encouraged. Working with a local nursery will ensure this recommendation is met.
- Landscaping should be placed along any street frontages and parking areas, in the islands of large parking lots, and between incompatible uses.
- Parking lot islands should be planted and maintained with a variety of shrubs, trees, and perennials.
- Continue and expand seasonal planting in Downtown. The Square currently boasts several concrete planters. More planters should be introduced along the Main and Market Street Corridors.
 - Planters provide color, texture and interest throughout the year. They can be maintained by either the City or by businesses through an agreement program.

- Planters can be used as safety barriers between vehicular and pedestrian zones.

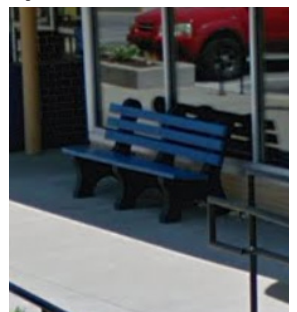


Pictured above, clockwise, from the top left: Black Eyed Susans, Blue False Indigo, Purple Prairie Clover, and Bee Balm.

Street Furniture

1. Install low-maintenance benches on at least every other block and trash / recycling receptacles at high-volume pedestrian crosswalks and gather places. Bolt the benches to pavement to prevent vandalism.

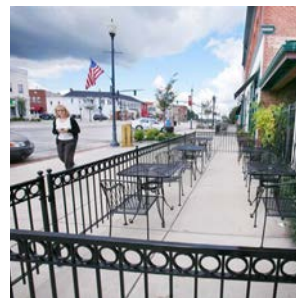
- Benches provide opportunities for leisure and rest as well as to add interest through color in the downtown.
- Trash receptacles help maintain a clean downtown and should be emptied frequently.



- Provide bike racks at major destinations and in larger parking lots. Consider attractive bike racks that allow the bike frame to be locked to the rack.
 - Promotes biking and reduces chances of bikes being locked to trees, poles, fences, etc.
 - Can be an opportunity for public art or to add subtle color to the area.
 - Can coordinate with the high school shop class for designs unique to Downtown Marion, adding community character and placemaking.

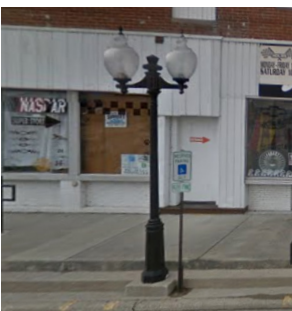


3. Install ornamental fencing throughout downtown where appropriate.
 - This provides screening of unsightly lots.
 - Protects pedestrians between the sidewalk and the street or the sidewalk and a parking lot.
 - Can be used as a barrier for outdoor dining.



Infrastructure

1. Maintain and expand the number of decorative light fixtures. Consider the use of LED light bulbs.
 - Decorative lights enhance the streetscape and over all character and feel of a downtown.
 - To reduce glare and improve efficiency, full-cut off LED fixtures are recommended.
2. Work with Ameren to bury overhead wires when feasible and appropriate.
 - Reduces vertical clutter and improves the overall aesthetics of the area.



double armed light fixture, with an acorn bulb. It is recommended to keep this in the core of the downtown, around the Tower Square. Then to transition to a more efficient and modern fixture away from the core that contains pedestrian lighting, street lighting, banners, and planters on one pole.

Signs/Poles

1. Add wayfinding signage and make it consistent throughout downtown and Marion.
 - Adds to the downtown identity and helps direct driver/pedestrians to community destinations.
 - Promotes businesses and enhances community character.
 - Wayfinding Signs should reflect the character and nature of the Downtown and have a consistent design concept throughout the area.
 - Consider the following techniques:
 1. Wayfinding signage should direct people to key locations in and around Downtown Marion (e.g. City Hall, Court House, Civic Center, Carnegie Library, the Hub, restaurants, shops, parks, markets, etc.) as well as places within the region (trails, historic sites, outdoor recreation, etc.).
 2. Signage should be attractive and coordinated.
 3. The design should be easy to read and easy to update as changes occur.



2. Introduce Public Parking Signage consistent with the wayfinding signage.
 - The signage should integrate with the smart parking system (the next element).
 - Encourages people to park and walk.
 - Eases concerns of "lack of parking" downtown.
3. At historic destinations provide a plaque or informational sign to denote its historical significance and history, especially as it relates to the community.
 - Documents and promotes historic places within Marion.
 - Reinforces the historic identity of the community and downtown.
4. Reduce the overall number of poles within the right-of-way to prevent clutter and enhance the pedestrian experience.

Downtown Marion has already established a historic looking,

Stormwater

- Use on-site storm water management systems to help reduce the negative ecological impacts created by parking lots and other impervious surfaces (net gain, stormwater runoff volume, and contaminants).
- Consider the following techniques:
 1. Use rain gardens and bio-retention basins on-site (e.g. in parking islands) and within the streetscape in order to filter pollutants and infiltrate runoff, wherever feasible.
 2. Consider permeable surfaces, pervious asphalt, pervious concrete, or special paving blocks for alleyways and parking lots.
 3. Infiltration systems should be installed as part of improvements to the streetscape, alleyway or parking lot improvements.



Service Areas

1. Service areas should be screened from view, as much as possible, to improve the overall appearance of the downtown.
2. Consider the following techniques:
 - Trash and recycling containers, street-level mechanical, rooftop mechanical, outdoor storage, and loading docks should be located or screened so that they are not visible from a public street.
 - Screening should be compatible with building architecture and other site features.
 - Placement of service boxes with the right-of-way should be located away from the pedestrian clear zone.



Photo Courtesy: Marion Main Street



SMART PARKING SYSTEM

The City of Marion, IL, has outlined their priorities for a smart parking solution. The priorities outlined by the city consist of an underground remote sensor (puck) system to limit snow plows from being damaged or inability to plow parking lots, wayfinding in an app for smartphone users and dynamic signs around the city for non-smartphone users, and reporting on utilization, accessibility, improvements and safety.

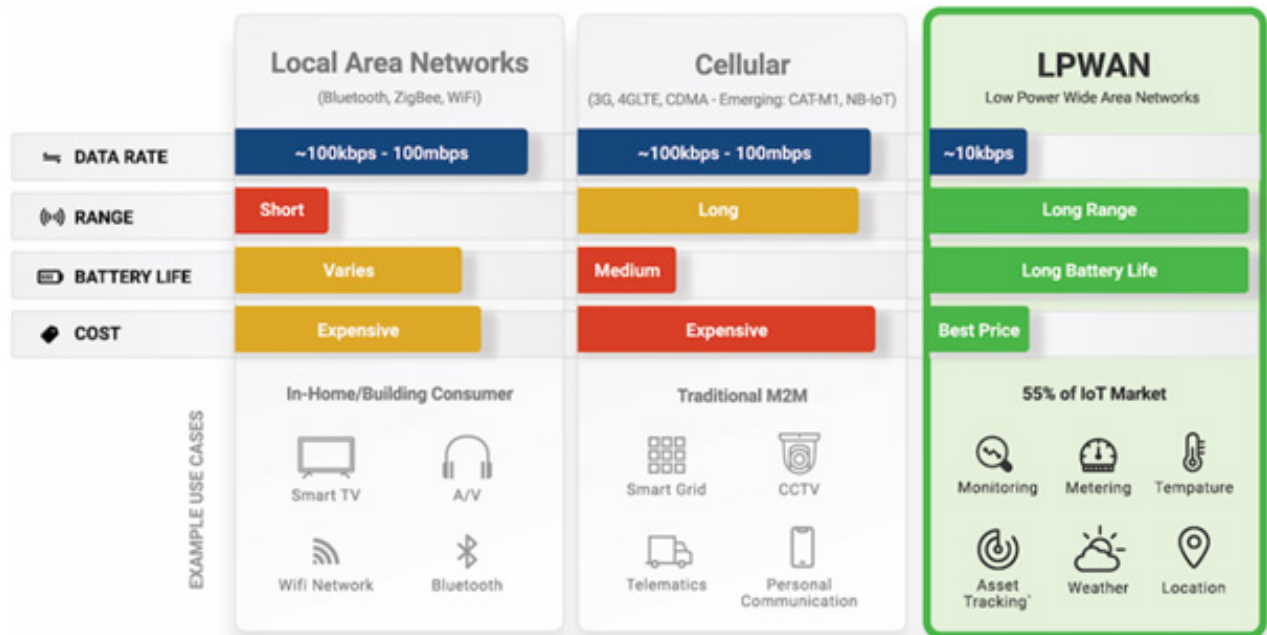
We have found a group of providers PNI (PlacePods remote sensors and API), Signal-Tech (Digital Signs), Multi-tech (Gateways/Wifi), SenetCo (Network), who have worked together in the past on other smart parking solutions that can provide the outlined priorities the city has asked for. As we step through each component and provider, we will review how they interact with each other and why they are all required. The design of the system will determine how many components are required and placement of each device. While a ballpark estimate can be provided, until the design is complete a true cost will not be known.

Network

The network that can either be placed on towers or building rooftops. This is not your typical network as it is a Long Range (LoRa) Low Power (LPWAN) network, compared to Cellular and other LAN systems similar to Marion's City-Wide Wi-Fi (See below for difference). These networks are specifically designed for wirelessly, battery operated devices to connect to the internet and uses the radio spectrum to enable secure communication between remote sensors and gateways connected to the network, which is why

the cities Wi-Fi will not work with this system, plus more cost effective. This network collects the signal from the gateways and communicates this data to the parking applications.

It is recommended to have two towers, depending on elevations, area required, and backup if one requires maintenance. Senet can provide towers and can install them. The other option is building rooftops installation, which Senet can provide the equipment and estimates 10-15 rooftop units based on the system design but requires a contractor to install. There is a separate cost for connectivity of devices that ranges from \$0.67 to \$0.87 per device per month with cost going down as you add more devices to the network.



Gateways

Gateways receive the signals from the remote sensors and sends the information to the LoRa network and parking signs. Before installation, PNI strongly recommends that the customer conduct a site survey in order to determine the number of gateways required for reliable network performance. The number of gateways needed depends on the signal strength (RSSI) and the noise level (SNR) of PlacePods in each parking space. Factors affecting the number of gateways required include location of gateways, density of gateways, nearby buildings and obstructions, antenna size, and choice of manufacturer. For small parking projects, a minimum of two gateways are recommended as redundancy protection. Generally, more gateways translate to better coverage. Deploying too few gateways will affect the network reliability due to weak signal strength at the gateways and a lack of redundancy. These devices require a power source from a tower, building or pole. Multi-tech provides the equipment but must be installed by a contractor.



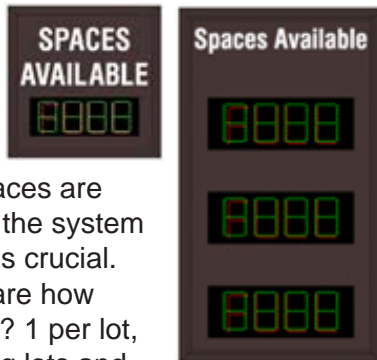
with a 5-7-year lifespan. Each puck has a unique ID for easy provisioning, tracking and management.

Parking Applications

There are a few options for applications as PNI have a parking application that cities can connect to and/or an API that the city can add to an existing managed site. Once configured these applications will provide real-time parking status and availability, customizable and detailed reporting, sensor monitoring and management, and a mapping aspect. A Parking Application is a dashboard for visualizing and managing parking data, including installation and verification, diagnostics, monitoring, and reporting. The choice of a Parking Application will determine the customer's user experience and can be part of a stand-alone service or larger Smart City applications. A parking application is available through PNI development partner WMW.

Signs

The signs provided by Signal-tech, connect to the gateways, and retrieve data from the remote sensors to display how many spaces are available. The design of the system and placement of signs is crucial. Some questions to ask are how many signs are required? 1 per lot, on the street of upcoming lots and how many spaces are ahead? These devices require a power source and a contractor to install.



Remote Sensors (Pucks)

The Place Pod remote sensors (pucks) provided by PNI connect to the gateways which report data to the signs and apps and must be installed by a contractor. The pucks register whether a vehicle space is in one of two states: occupied or available. The in-ground pucks can function in snow and extreme weather conditions







DOWNTOWN CONCEPTS

The section contains concepts for changes and improvements to the project area in Downtown Marion. These concepts were created with the intent of creating complete streets, meeting the goals of the City, and creating a safe and unique user experience for residents and visitors alike.

DEVELOPMENT CONCEPTS

The concepts and representative images on the following pages were created to serve as a general guide to improve the overall safety and identity of Downtown Marion. Generally, the concepts are aimed at improving the downtown users experience through safety enhancements, improvements to transportation systems, and accessibility for all. Additionally, this experience will be enhanced through changes in materials, pathways, street furniture, lighting, and pavements. All of which create a unique identity and experience for Downtown Marion.

Development Zones | Downtown Marion



DOWNTOWN MARION CORE COMMERCIAL CORRIDORS & ALLEYWAYS

The Downtown Marion Core, generally speaking, contains the Tower Square and the commercial blocks, in all cardinal directions from the Square, down Main Street and Market Street. See map on previous page.



Zone A

2' Transition Area

- Located between Building and Clear Pathway Area
- ADA Compliant Access to buildings
- May contain planters, benches, bistro tables, sandwich boards, and business displays

6' Clear Pathway Area

- Meant for Pedestrian Traffic
- To remain obstruction free for ease of flow

1.5' Service Area

- Provides a protective barrier between Clear Pathway and Traffic
- Provides opportunity for placemaking and community identity
- Contains trees, landscaping, street and pedestrian lights, planters, benches, bistro tables, recycling and trash receptacles, sandwich boards, business displays, and wayfinding signage

Zone B

7' Parking Lane

- Meant for on-street parking
- Designed as a flex-Space to also be used for additional public space for festivals, seasonal outdoor dining, or a parklet

Zone C

12' Drive Lanes

- Used for 2-way vehicular traffic
- Shared Land for bicyclists

Zone D

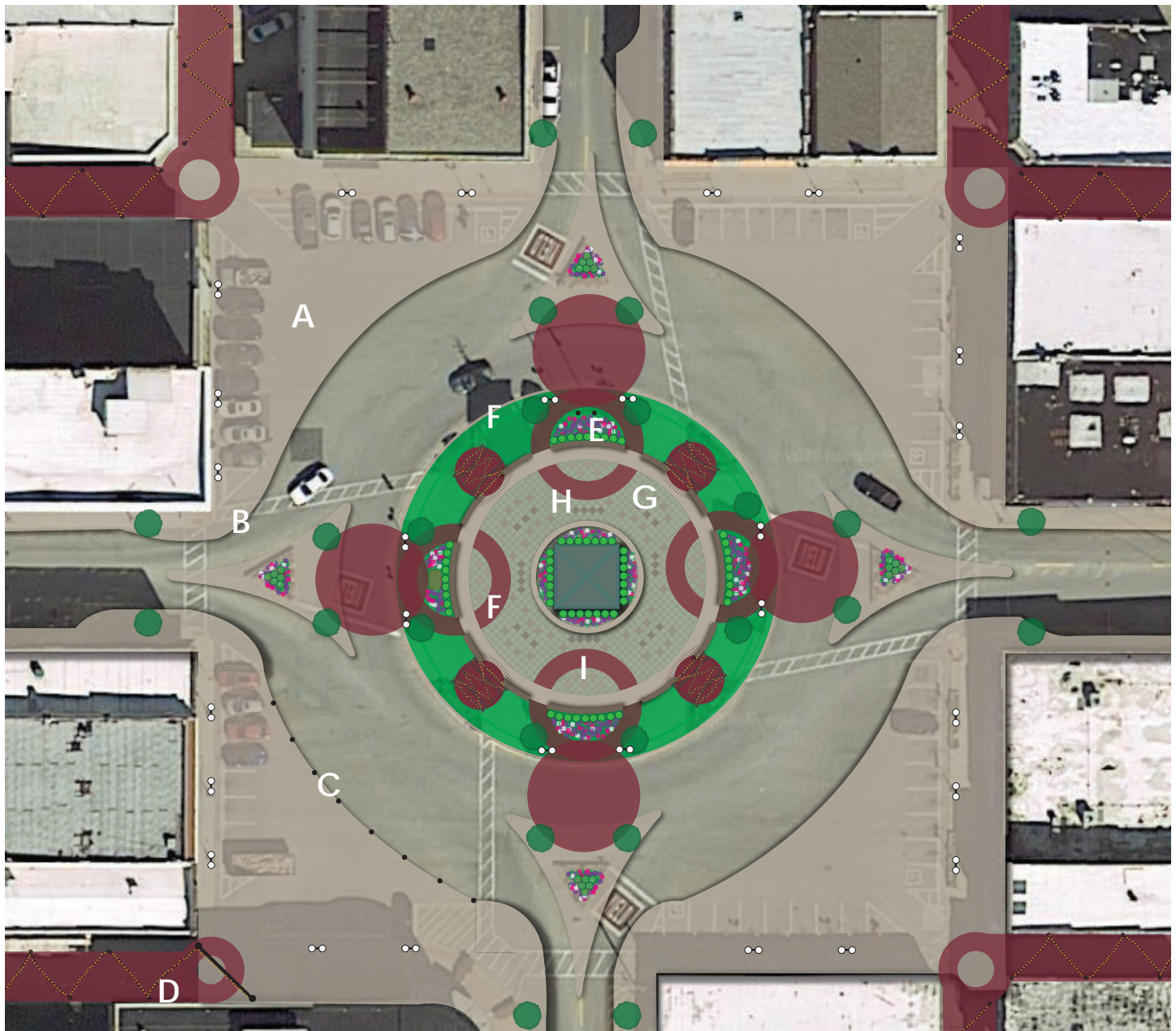
11' Multi-modal Alley Pathway

- An impervious, paved pathway for pedestrian, bicyclists, and motorists
- String Light for aesthetics, safety, and nighttime interest
- Signage promoting the sharing of space
- Can be closed to motorists after hours

2' Transition Area

- Located between Building and Multi-modal Pathway
- ADA Compliant access to buildings
- Space for utilities and service areas

DOWNTOWN MARION TOWER SQUARE



The above concept was the first rendition of the potential changes to the Tower Square. It envisions a more walkable, flexible, area that is activated by year-round uses in the center and supported by areas on the periphery. Primary elements include:

- A. Pavers/Stamped Concrete Circle Crosswalks
- B. Curbed landscape median/pedestrian island
- C. Flexible Parking Area / Plaza Space
- D. Improved Alleyway; paved; overhead decorative lights.
- E. Seasonal spray pad / ice rink
- F. Pergolas with overhead decorative lights, tables, and benches
- G. Seat-wall
- H. Landscaping around the Tower
- I. Landscaping

THE TOWER SQUARE



- 1. Pavers / Stamped Concrete Crosswalks
- 2. Curbed Landscape Median/Pedestrian Island
- 3. Flexible Areas for Parking or Outdoor Gathering
- 4. Removable Bollards

- 5. Seasonal Spray Pad / Ice Rink
- 6. Shade Structures
- 7. Seatwall / Benches
- 8. Rain Gardens

Chastain & Associates LLC

Decorative Spray Pad in the Summer - Converts to Ice Rink in Winter



The area around the Tower should be converted to a space that invites activity throughout the year. The introduction of a spray pad or water feature brings whimsy and fun to space. For large events, it can be turned off to make room for paved space. These spray pads can run on a timer or be turned on with the push of a button by a user. All or part of the spray pad can then be converted into an ice rink during the winter months. The activation of the space year round invites users and improves the economic climate for surrounding businesses.

Alleyway treatments



There are alleyways at all four corners of the square. These alleys connect to crucial parking opportunities as well as other businesses and residential areas just off the core commercial district. Improving these alleyways by introducing light will encourage their use as well as upkeep by building owners. Pictured above are two potential options for Marion. The one on the left demonstrates the traditional festival lights which can be attached to small poles throughout the edge of the right-of-way. The lights on the right are a more modern led application. In this particular instance, cooperation with building owners would be required. The alleys can be marked for no cars during after hours or on the weekends when pedestrian traffic count is higher. Additionally, these spaces can be used as canvases for large murals as well as utilized as an extension of the adjacent businesses for outdoor dining or seating.

Decorative brick/Stamped Concrete, ADA compliant “Circle” Crosswalks



For the ADA crosswalks around the Tower Square, a “circle” crosswalk of decorative brick or stamped concrete is suggested. This application works to reduce traffic speed and shorten the street crossing distance, ensuring better safety for a pedestrian. This also works to add another layer of texture and introduce a new material, breaking up the asphalt for an aesthetic improvement to the Tower Square.

Flexible Parking Areas



Flex Spaces are a great way for communities to utilize spaces multiple ways, depending on the occasion. Pictured above are two spaces where parking is allowed during normal business hours. However, they were designed with the ability to block parking and allow for pedestrian ease around the space. Features include stamped concrete, movable planters, rolled or no curb, and decorative pavers to mark boundaries. These stamped concrete areas would be more comfortable during events as they are cooler than asphalt and would accommodate most accessibility issues. Removable bollards or planters would ensure an easy transition between parking and plaza for events.





COST ESTIMATES & FUNDING SOURCES FOR IMPLEMENTATION

Although some funds are available through the City's Downtown TIF District, there is the potential for outside funding to further the enhancements. The City should always be on the lookout for more potential funding through Local, State, and Federal grants as well as private business. The following pages are a comprehensive, but not all inclusive list of potential grants.

COST ESTIMATES

MARION DOWNTOWN ENHANCEMENTS 2020

CITY OF MARION, ILLINOIS

20-Nov-20

STREETSCAPE & TOWER SQUARE PLAZA IMPROVEMENTS

OPINION OF PROBABLE PROJECT COSTS

PAY ITEM	QUANTITY	UNIT	UNIT PRICE		TOTAL COST	
			Low	High	Low	High
PAVERS/STAMPED CONCRETE CROSSWALKS (WITHIN TRAFFIC CIRCLE)	1,980	SF	\$ 12.00	\$ 15.00	\$ 23,760.00	\$ 29,700.00
PAVERS/STAMPED CONCRETE (PLAZA)	8,667	SF	\$ 12.00	\$ 15.00	\$ 104,004.00	\$ 130,005.00
LANDSCAPING	1	LS	\$ 10,000.00	\$ 15,000.00	\$ 10,000.00	\$ 15,000.00
STAMPED CONCRETE (FLEXIBLE PARKING / PLAZA AREAS)	3,400	SY	\$ 105.00	\$ 140.00	\$ 357,000.00	\$ 476,000.00
REMOVABLE BOLLARDS	60	EACH	\$ 400.00	\$ 750.00	\$ 24,000.00	\$ 45,000.00
SEASONAL SPRAY PAD/ICE RINK	1	LS	\$ 350,000.00	\$ 550,000.00	\$ 350,000.00	\$ 550,000.00
SHADE STRUCTURES	4	EACH	\$ 3,500.00	\$ 7,500.00	\$ 14,000.00	\$ 30,000.00
SEATWALL / BENCHES	1,510	SF	\$ 10.00	\$ 24.00	\$ 15,100.00	\$ 36,240.00
PLAZA ELECTRICAL	1	LS	\$ 20,000.00	\$ 30,000.00	\$ 20,000.00	\$ 30,000.00
WATERMAINS	1,450	LF	\$ 50.00	\$ 100.00	\$ 72,500.00	\$ 145,000.00
STORM SEWERS	780	LF	\$ 50.00	\$ 60.00	\$ 39,000.00	\$ 46,800.00
SANITARY SEWERS	500	LF	\$ 35.00	\$ 40.00	\$ 17,500.00	\$ 20,000.00
POLE LIGHTS	88	EACH	\$ 550.00	\$ 650.00	\$ 48,400.00	\$ 57,200.00
STREETSCAPING (INCLUDING CURB, GUTTER, SIDEWALKS, PAVERS, AND LIGHTING)	7,000	LF	\$ 500.00	\$ 750.00	\$ 3,500,000.00	\$ 5,250,000.00
ALLEYWAY STRING LIGHTING & ELECTRICAL	2,410	LF	\$ 4.00	\$ 5.00	\$ 9,640.00	\$ 12,050.00
ALLEYWAY PAVEMENT REMOVAL/REPLACEMENT	36,000	SF	\$ 13.00	\$ 16.00	\$ 468,000.00	\$ 576,000.00
SIDEWALK REMOVAL/REPLACEMENT	13,000	SF	\$ 13.00	\$ 16.00	\$ 169,000.00	\$ 208,000.00
Existing Pavement Removal	6,900	SY	\$ 8.00	\$ 10.00	\$ 55,200.00	\$ 69,000.00
RB Curb and Gutter	2,200	LF	\$ 30.00	\$ 40.00	\$ 66,000.00	\$ 88,000.00
RB Pavement PCC 10"	2,800	SY	\$ 60.00	\$ 90.00	\$ 168,000.00	\$ 252,000.00
RB Island PCC 4"	700	SY	\$ 5.00	\$ 7.00	\$ 3,500.00	\$ 4,900.00
RB Paint Marking	2,500	LF	\$ 2.00	\$ 3.00	\$ 5,000.00	\$ 7,500.00
CONSTRUCTION CONTINGENCIES (15%):					\$ 831,000.00	\$ 1,212,000.00
CONSTRUCTION TOTAL:					\$ 6,370,604.00	\$ 9,290,395.00
DESIGN SERVICES (8%):					\$ 510,000.00	\$ 744,000.00
CONSTRUCTION SERVICES (8%):					\$ 510,000.00	\$ 744,000.00
TOTAL:					\$ 7,390,604.00	\$ 10,778,395.00

Ameren Costs for Removing power poles in Study Area	\$ 747,000.00
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Estimated prepared by: Clarida & Ziegler Engineering Co., Chastain & Associates LLC, and Horner & Shifrin

This estimate does not include the following:

1. Potential building demolition.
2. Construction of new parking lots.
3. The purchase of property for new parking lots.
4. Smart parking system.
5. Replacement of all ADA non-compliant sidewalks in the greater downtown area.






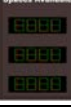
The final cost for the elements within this plan on contingent upon external market factors and the exact materials and design chosen. For this reason, an estimate low and high cost were provided to give a budgeting range.

Additionally, this total project and associated costs were broken down into more manageable phases which aligned with anticipated funding sources. See table below.

During this planning process, Phase 1 was more thoroughly fleshed out and used to apply for the Illinois Transportation Enhancement Program funding. The awards are anticipated to be announced in the spring of 2021. Other potential funding sources are also anticipated. The

PROPOSED FUNDING	
ITEP PHASE 1	\$ 1,600,000.00
ITEP PHASE 2	\$ 1,600,000.00
IDOT STU	\$ 964,000.00
LOCAL FUNDING	\$ 6,614,395.00

SMART PARKING SYSTEM

Marion, IL Smart Parking Cost Estimate						
		Qty.	Unit Cost	Unit	Lead Time	
In-ground Sensors/Pucks (Provided by PNI, installed by Contractors)		414	\$ 175.00	each	10 Weeks	\$ 72,450
Signage (Basic 4 digit spaces available sign provided by Signal-Tech, 1 Display installed by Contractors)		7	\$ 2,310.00	each	6 Weeks	\$ 16,170
Signage (LoRa Network node required provided by Signal-Tech installed by Contractors)		7	\$ 450.00	each	6 Weeks	
IP67 Gateways (Est. 6-10 provided by Multi-tech, installed by Contractors)		10	\$ 1,238.00	each	6 Weeks	\$ 12,380
LoRa Network Towers (Provided by Senet)		2	\$ 3,500.00	each	?	\$ 7,000
LoRa Network Towers Install Costs (installed by Senet)		2	\$16,000.00	each	?	\$ 32,000
Senet Connectivity Cost (monthly fee)		500	\$ 0.87	monthly	?	\$ 435
Contractor installation cost for pods, gateways, signage (estimate, not actual cost)		1	\$60,000.00	each	?	\$ 60,000
GIS Annual Application Maintenance provided by H&S		1	\$ 2,500.00	annual	?	\$ 2,500
API Integration into Marion Skyview GIS application provided by H&S		160	\$ 125.00	hourly	?	\$ 20,000
Project Management of Smart Parking System Installation provided by H&S		120	\$ 150.00	hourly	?	\$ 18,000
					Subtotal	\$ 240,935
10% Adjustment for additional/unforseen cost		10%		percent		\$ 24,094
PROJECT EST. FEE						\$ 265,029
OPTIONAL EQUIPMENT						
Signage (Basic 4 digit spaces available sign provided by Signal-Tech, 2 Display installed by Contractors)		7	\$ 3,765.00	each	6 Weeks	\$ 26,355
Signage (Basic 4 digit spaces available sign provided by Signal-Tech, 3 Display installed by Contractors)		7	\$ 5,195.00	each	6 Weeks	\$ 36,365
IP67 Gateways w/WiFi/BT (Est. 6-10 provided by Multi-tech, installed by Contractors)		10	\$ 1,341.00	each	?	\$ 13,410
LoRa Network Building Rooftops in place of towers (Provided by Senet)		15	\$ 2,600.00	each		\$ 39,000
LoRa Network Building Rooftop Install Costs (installed by Contractors)		15	\$5,000	each	?	\$ 75,000
					Subtotal	\$ 190,130
OPTIONAL PROJECT EST. FEE						\$ 387,609

Assumptions:

All devices require power source and a network connection with exception of pods. LoRa Network and Gateways are required for communication for all devices. City-wide WiFi not supported with this system.

Remote Sensors (Place Pods)

Pods life span based on frequency of communication with gateways. Typical 5-7 years.



Signs and LoRa Network Node

See Spec sheets for details.

Single Display <https://www.signal-tech.com/product/file/48334.pdf>

Double Display <https://www.signal-tech.com/product/file/53750.pdf>

Triple Display <https://www.signal-tech.com/product/file/42479.pdf>

Extrusion: 550H1 5.5"

UL/cUL Listed: Wet Locations

Finish: Duranodic Bronze

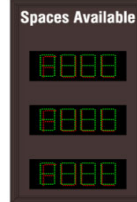
SA Display Type Construction: SA Display Construction

Voltage (SA): 120-277 VAC

Warranty: 2 Year Warranty

Note: For sizing/layout/pricing purposes. Can be customized with lot name, handicap symbol, colors, graphics, etc.

Note: This is a custom unit and is not cancellable/returnable.



Gateways

Gateways receive the signals from the remote sensors and sends the information to the LoRa network and parking signs.



LoRa Network

Tower gateways are approx \$3500 for HW and install costs are \$16k. This is our core business and could do this work for the install. You would prob need 2 minimum gateways at high elevations.

2. Building rooftops are \$2600 for the MTECH HW and range from \$3k- \$5k for installation. We outsource this work based on Covid (hospital rooftops) and other real estate. You prob need approx 10-15 of



Photo Courtesy: Marion Main Street

FUNDING SOURCES

GRANT PROGRAMS

An important source of funding for the enhancements to Downtown Marion are grant programs offered by state and federal agencies, especially including the Illinois Department of Transportation (IDOT) and the Illinois Department of Natural Resources (IDNR). A summary of the applicable sources can be found on the following page. It should be noted that at the time of this master plan, the State of Illinois, like the rest of the world, was beginning to recover from the financial ramifications of the COVID-19 crisis. While funding was being released for economic recovery, some funding sources, like the IDNR's Open Space and Land Acquisition Development program, were suspended until further notice.

OTHER FUNDING SOURCES

In many cases, community groups and civic organizations may be willing to organize fundraising efforts to assist with these costs. They may also be able to volunteer labor to assist with small development projects such as cleaning up the alley ways and planting landscaped areas.

Despite hard economic times, support from local businesses and corporations should be sought. Both non-profit and for-profit organizations can be rewarded for their support with acknowledgment on a plaque or sign at the site.

TRANSPORTATION FUNDING	MAXIMUM AWARD AMOUNT
ILLINOIS TRANSPORTATION ENHANCEMENT PROGRAM (ITEP)	
Helps expand transportation choices and enhance transportation through 12 eligible transportation enhancement surface transportation activities, including pedestrian & bicycle infrastructure and safety programs, landscaping beautification, historic preservation, and environmental mitigation.	80% of project costs up to \$2,000,000
SAFE ROUTES TO SCHOOL (SRTS)	
Funding to improve sidewalks, crosswalks, bicycle infrastructure, and street improvements near elementary and middle schools.	\$25,000 to \$200,000, no match required

PARKS & RECREATION	MAXIMUM AWARD AMOUNT
PEOPLE FOR BIKES COMMUNITY GRANTS	
Funds bicycle infrastructure projects: bike paths, lanes, trails, and bridges, in addition to mountain bike facilities, bike parks and pump tracks, BMX facilities, end-of-trip facilities (bike racks, storage), and more. https://peopleforbikes.org/our-work/community-grants/	50% of project costs up to \$10,000
OPENS SPACE LANDS ACQUISITION AND DEVELOPMENT (OSLAD) PROGRAM	
A combo soccer/football fields, combo baseball/softball fields, park pavilions, picnic tables, grills, basketball and tennis courts, interpretive trail signage, fishing piers, wetland observation decks, extensions of rail loops, parking lot expansions, splash pads, trails with fitness stations, water quality basins with native plantings, shelters with picnic tables; preservation/biological improvement of permanent wetlands, outdoor classroom/tree house shelters, adventure / educational play structures and interpretive prairie gardens. https://www2.illinois.gov/dnr/grants/Pages/OpenSpaceLandsAcquisitionDevelopment-Grant.aspx	Up to 50% (90% for distressed communities). Grant awards up to \$750,000 are available for acquisition projects, while development/renovation projects (OSLAD programs only) are limited to a \$400,000 grant maximum.
PARK AND RECREATIONAL FACILITY CONSTRUCTION (PARC) GRANT PROGRAM	
Capital Expenditures for additional indoor/outdoor recreational purposes may include, but are not limited to, demolition, site preparation/improvements, utility work, reconstruction or improvement of existing buildings/facilities, expansion of buildings/facilities and new construction. Land Acquisition projects such as the construction of new public indoor/outdoor recreation buildings, structures and facilities; expansion of existing public indoor/outdoor recreation buildings, structures and facilities; general park purposes such as regional/community/neighborhood parks; frontage on public surface waters for recreation use; open space/conservation purposes to protect floodplains, wetlands, natural areas, wildlife habitat and unique geologic/biologic features and additions to such areas. https://www.dnr.illinois.gov/AEG/Pages/Illinois-Youth-Recreation-Corps-Grant.aspx	Reimbursement basis providing up to the following maximum percentages for funding assistance: the State will provide up to 75% of approved project costs, with the exception of those local governments defined as "disadvantaged", which will be eligible for up to 90% funding.
FEDERAL RECREATIONAL TRAILS PROGRAM	
Trail construction and rehabilitation; restoration of areas adjacent to trails damaged by unauthorized trail uses; construction of trail-related support facilities and amenities; and acquisition from willing sellers of rail corridors through easements or fee simple title. https://www.dnr.illinois.gov/AEG/Pages/FederalRecreationalTrailsProgram.aspx	The RTP program can provide up to 80% federal funding on approved projects and requires a minimum 20% non-federal funding match.
BIKE PATH GRANT PROGRAM	
Linear corridor land acquisition costs, including associated appraisal fees, and bicycle path development or renovation including site clearing and grading, drainage, surfacing, bridging, fencing, signage and directly related support facilities such as potable water and restroom facilities. https://www.dnr.illinois.gov/AEG/Pages/BikePathProgram.aspx	Financial assistance up to 50% of approved project costs is available through the program. Maximum grant awards for development projects are limited to \$200,000 per annual request; no maximum exists for acquisition projects. Revenue for the program comes from a percentage of vehicle title fees collected pursuant to Section 3-821(f) of the Illinois vehicle code.
GENERAL GRANTS	
The Illinois Association of Park Districts provides links to all grants available in the State. The grants are project and location based, therefore, a project should be fully flushed out prior to seeking these grants.	Varies based on grant.



DOWNTOWN PLANNING STUDY

CITY OF MARION



CLARIDA & ZIEGLER
ENGINEERING CO.

