

# Parks, Trails & Greenway Framework

## INTRODUCTION

Arnold has a park system that embraces its unique geographical attributes and that can help to shape the quality of its future. The City of Arnold is located at the confluence of the Meramec and Mississippi Rivers and includes riparian areas, floodplains, streams, scenic views, and wetlands. As population growth and development continues, protecting Arnold’s natural open space should serve as the “connective tissue” between developed areas of the City and County. Through the implementation of sustainable practices, the open space that is protected in individual residential neighborhoods can be linked to a larger system through greenway corridors and trails, thus providing seamless recreational experiences for residents while preserving the ecological health of the City.

In the future there is an opportunity to tie all the pieces together in a comprehensive parks, trails, and greenway system that compliments the existing parks system, leverages the Meramec Greenway, and also protects and manages stormwater, vegetation, and natural resources. The Parks, Trails and Greenway Framework recommends a concept to continue to build a parks system that will incorporate the best of Arnold for future generations. The Framework has been developed through an understanding of the planning context, existing conditions, and community input.

Rivers and stream corridors, natural habitat areas, parks, and other open space resources are key to Arnold’s character and quality of life. Open space also provides economic benefits by enhancing the value of individual properties, developments, and communities as a whole. Future preservation of open space is a central theme.

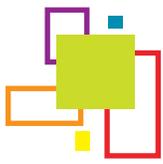
### Framework Structure

This chapter includes a Parks, Trails and Greenway Framework for a system that connects Arnold’s older areas with future growth areas, preserves its natural systems and environment for the continuing fitness of its citizens. The framework includes:

- Existing conditions and opportunities summary of Arnolds 400-acre park system.
- A recreational guideline developed by the National Recreation and Parks Association (NPRA) for parkland classification relative to population.
- The “Central Green” concept, connecting existing parks with future parks and neighborhoods, as well as schools.



Arnold City Park.



## EXISTING CONDITIONS & OPPORTUNITIES

The park system for the City of Arnold comprises over 400 acres with four City owned parks, one golf course, and two State owned properties. The parks range in size from the 25 acres (Ferd B. Lang and David Collins) to 121 acres (Strawberry Creek Nature Area). State owned land (Teszars Woods Conservation Area and Flamm City Access) provide an additional 90 acres of natural open space within the City of Arnold. Teszars Woods adjoins Flamm City, David R. Collins, and the Ziegler tract.



Ferd B Lang Park



Flamm City Park



Arnold Athletic Association  
Ball Fields



Strawberry Creek Nature Area

- Three of the four parks (Arnold, Ferd B. Lang, and Flamm City) and the golf course are all located within the 100-year floodplain. Flamm City provides the primary point of access for boaters to the Meramec River. A secondary access point is located on the northern side of Arnold City Park, just south of the Jeffco Blvd. bridge. This secondary access does not appear to be maintained with the park, as is the case with the Flamm City Access. A secondary access point is desirable and should be achievable at Arnold City Park.
- Two dog parks, one is located in the rear of the Arnold City Park and the other is located in Ferd B. Lang park, both are “off-leash” areas.
- Two private parks are located within City limits. Ronquest Field is a small neighborhood sized park (6.5 acres) owned by the Catholic Church. Arnold Athletic Association Fields is a community sized park (22 acres) that is leased from the Public Water District and managed by the Arnold Athletic Association.
- Strawberry Creek Nature Area and Flamm City/Teszars Woods provide the largest blocks of natural open space within city limits, not including the Meramec Greenway. The City has partnered with the Missouri Department of Conservation for management assistance for Strawberry Creek.
- The Pomme Creek Golf Course provides over 119 acres of open space in the southeastern portion of the City. Pomme Creek flows through the golf course.
- The Arnold Recreation Center 23-acre facility features a two court gym, indoor leisure pool, fitness center, party room, track, locker rooms, three meeting rooms, outdoor leisure pool, outdoor concession stand, and a lounge.
- The 425-acre Mastodon State Historic Site, owned and managed by the Missouri Department of Natural Resources, is located approximately 1.5 miles south of the City of Arnold off of I-55.
- The Meramec River 100-year Floodplain was designated by ordinance as a no-build zone.

### **Arnold Meramec River Greenway Master Plan (1999)**

The “Arnold Meramec River Greenway Master Plan” (Master Plan) was adopted by the City in November 1999. The Master Plan was developed as a result of the Mississippi and Meramec Rivers and the yearly inundation that occurs on their floodplains. A number of steps have been taken to establish the greenway. First, the City of Arnold Zoning Ordinance designates two land use districts that limit the development of the Meramec River floodplain and assist in the preservation of natural areas. The Park and Scenic District “encompasses land which has recreational, scenic and health value.” The Floodplain District encompasses land along the watercourse of the Mississippi and Meramec Rivers and their tributary streams. Most of the land that lies in the Meramec River 100-year Floodplain was



designated within these two districts. Second, the City of Arnold *Flood Plain Management Plan* recommends the incorporation of all land in the 100-year floodplain into a greenway area. And third, adoption of this Plan.

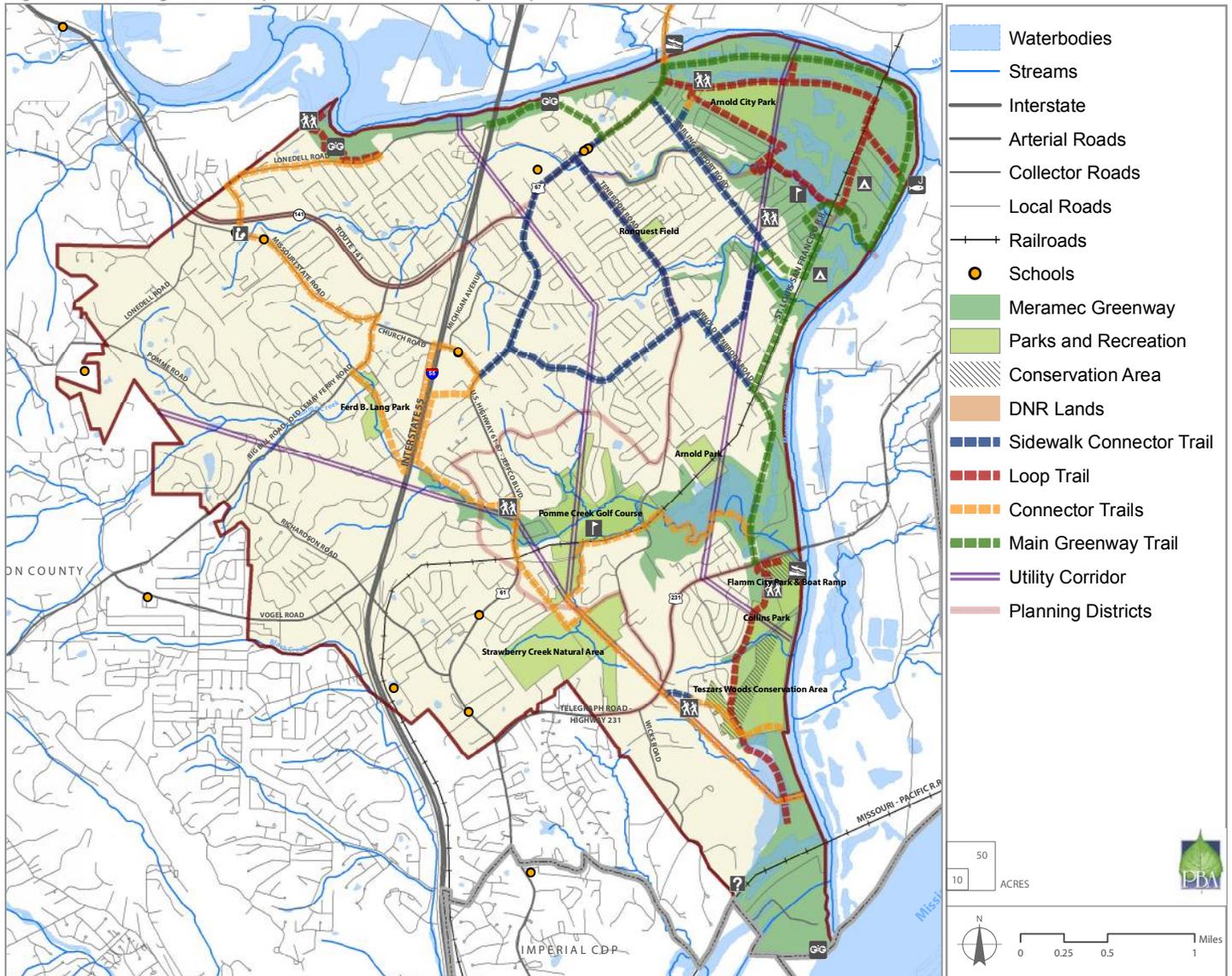
Throughout the entire greenway, a trail was proposed that will provide pedestrian access to many areas along the river; handicapped access to a loop trail; opportunities to link the greenway to other city parks; recreational access for residents to the City of Arnold's most prominent and spectacular geographical attribute, and link the Arnold Meramec River Greenway to other trails along the Meramec and eventually the Ozark Trail. The proposed Arnold Meramec River Greenway trail was intended to be the future terminus of the Ozark Trail at the Mississippi River. The Meramec Greenway is adjacent to 8 miles of the Meramec River and comprises approximately 1,597 acres (94%) of the 1,694 acres of 100-year floodplain located within the Arnold city limits. The Master Plan includes close to 30 miles of trails throughout the City including: sidewalks (6 miles); loop (6 miles) and connector (10 miles) trails, and the main greenway trail (6 miles). See map below.

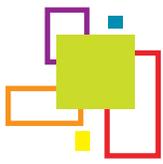


Paw Park at Arnold City Park.

## Existing Parks, Proposed Trails and Greenways Map (2011)

Figure: 37 Existing Parks, Proposed Trails and Greenways Map





### The Great Rivers Greenway District (2011)

The Great Rivers Greenway District is one of the largest districts of its kind in the nation and is developing a well-planned, interconnected system of greenways, parks, and trails, known as the River Ring, that will join Missouri and Illinois and cover an area of 1,216 square miles. The Greenway District was established in November 2000 and is funded by a 1/10th of 1 cent sales tax. Eventually, The River Ring will comprise a 600-mile web of more than 45 greenways that will crisscross the region. In 2002, the Great Rivers Greenway District incorporated the Meramec Greenway into the region-wide system. Since then, the Great Rivers Greenway District has acquired nearly 200 acres of land in the Meramec Greenway, and negotiations are underway for more. These include riverfront properties that will be restored and protected, helping to improve water quality and enhance the river’s visual setting. Thus far, over \$6 million dollars has been committed to the Greenway.

### The Great Rivers Greenway Map (2011)

Figure: 38 The Great Rivers Greenway Map



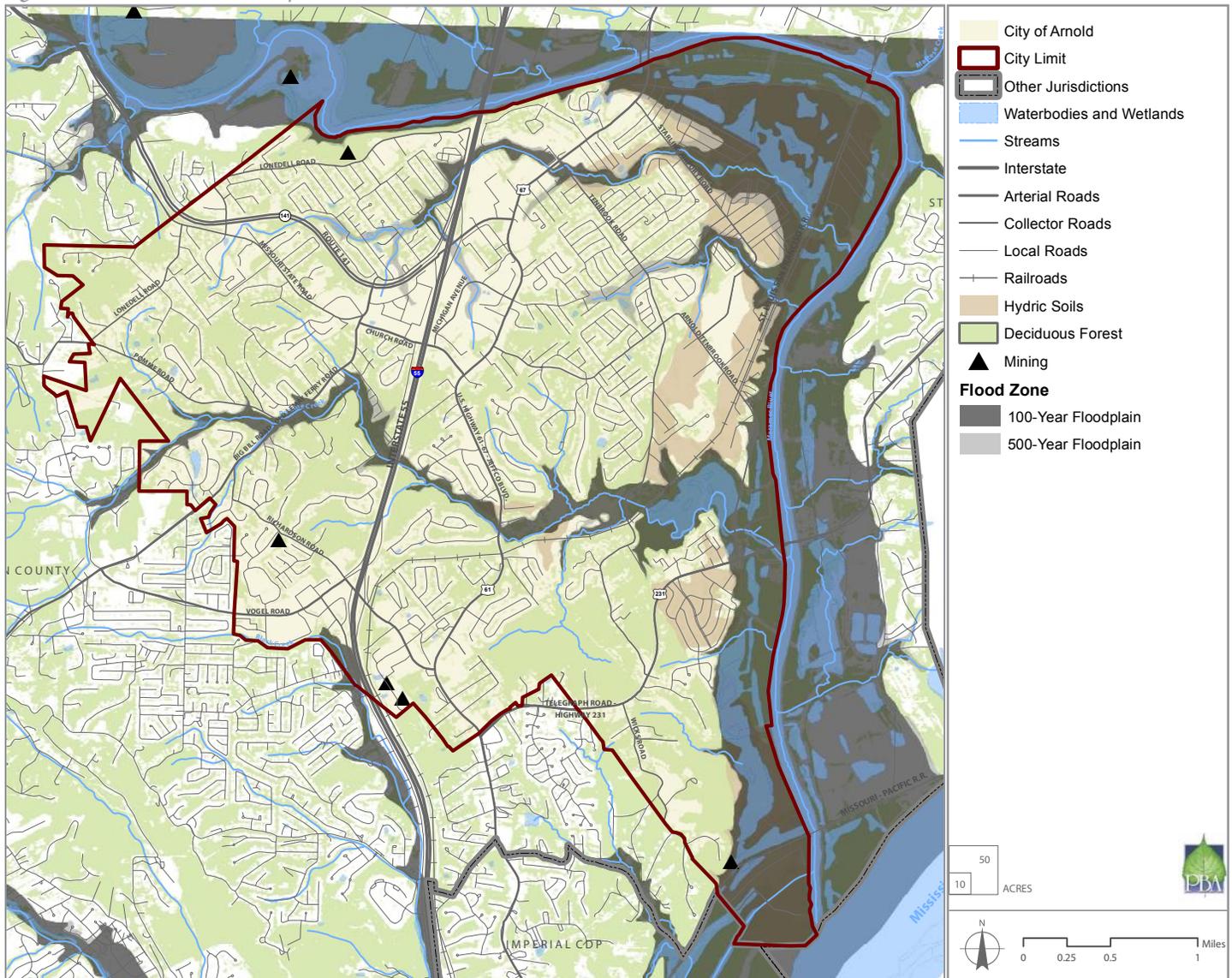


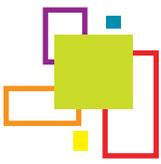
## Natural Resource Opportunities

The dynamics of the Meramec River and Pomme Creek severely limits development possibilities; however, the size and beauty of the river and its basin creates an extraordinary potential for river oriented recreation. The combination of the land available and the efforts to reclaim floodplain property by the City of Arnold is unparalleled. With 8 miles of river frontage, the City of Arnold has undertaken establishment of a park and trail system that is simply a unique and an extraordinary opportunity for the future.

## Natural Resources Map (2011)

Figure: 39 Natural Resources Map





## Pedestrian & Bicycle Opportunities

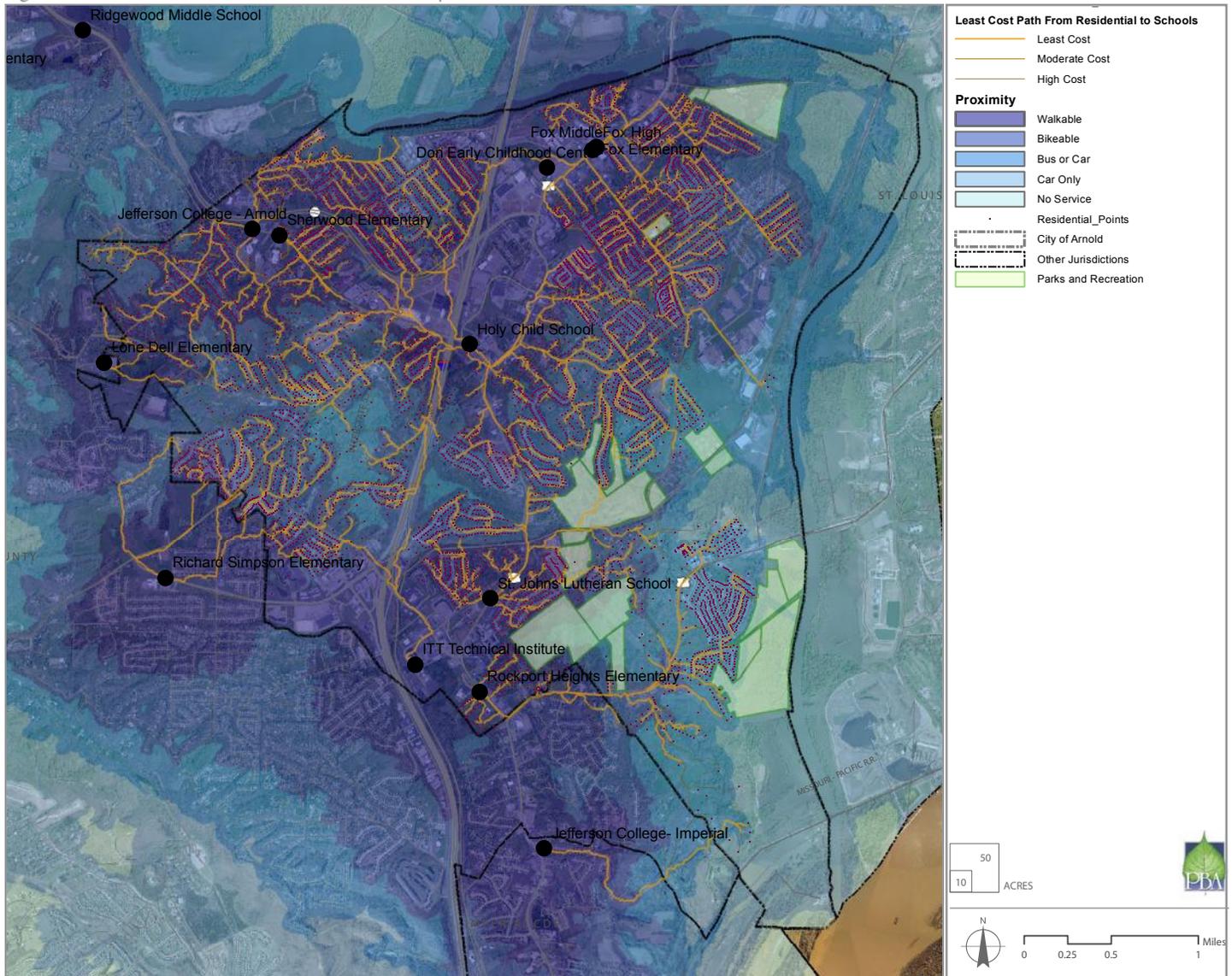
One of the chief problems identified in the 2001 Arnold Comprehensive Transportation Plan is the general lack of sidewalks and trails for pedestrians and bicycles. Research suggests that individuals are willing to walk up to one-quarter (1/4) mile within urban environments. Living within one-eighth (1/8) mile of neighborhood retail establishments increases the likelihood of walking compared with living at least one-half (1/2) mile from retail. The community as a whole can be made walkable by establishing an interconnected trail and bicycle network that encourages walkability and makes it a safe and pleasurable experience.

### Residents to Schools

The map graphic (below) indicates areas well served by schools in dark blue and the least cost path of travel from residential units to schools in orange. Areas in light blue are not well served by schools and dark line segments indicate a difficult travel path.

## Residents to Schools Cost Distance Map

Figure: 40 Residents to Schools Cost Distance Map





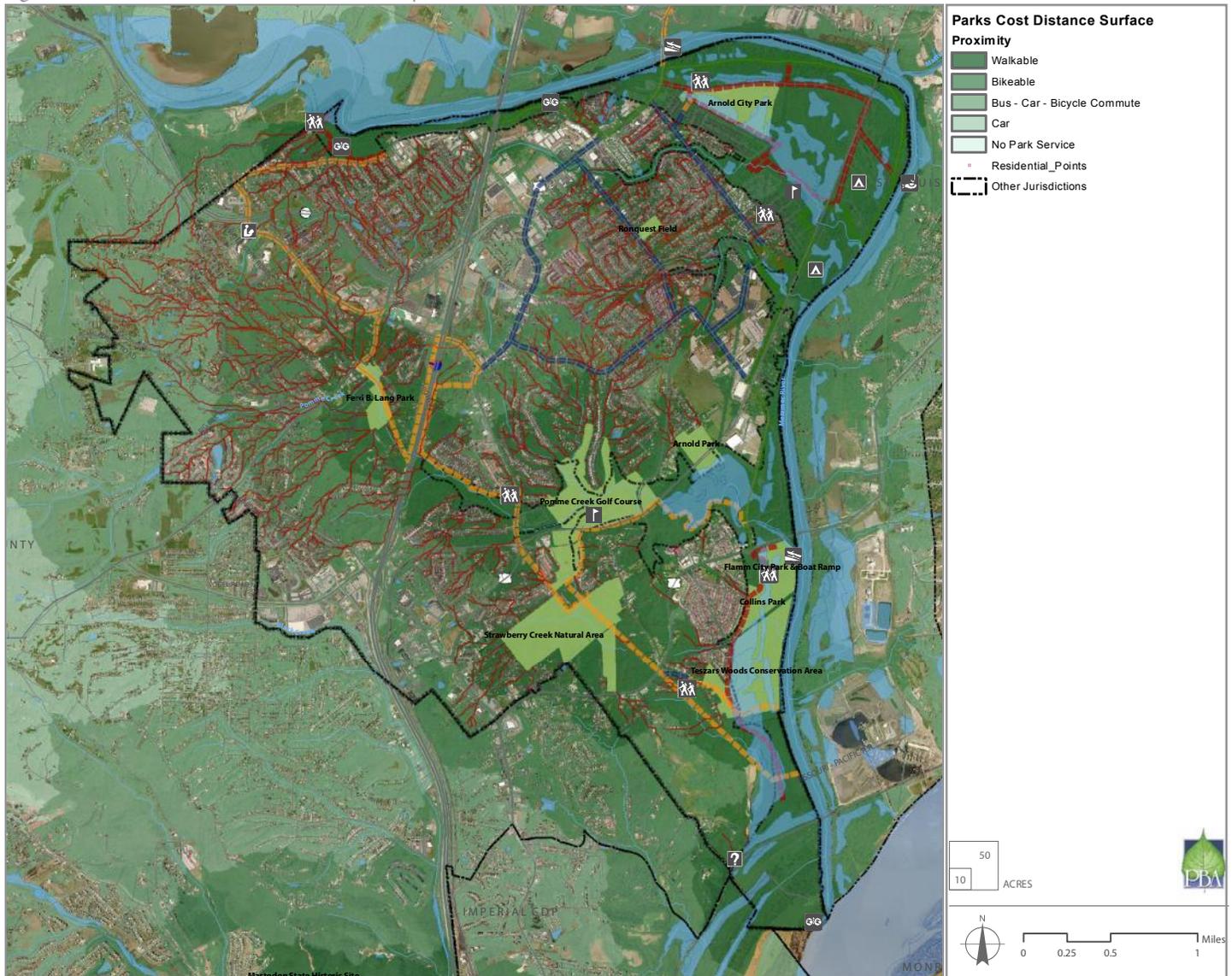
## Residents to Parks

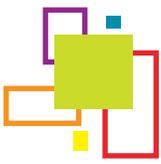
The map graphic (below) indicates areas well served by parks in dark green and the least cost path of travel from residents to parks as a red line. Areas in light green and brown lines indicate areas not well served by parks or residential units with a more difficult path of travel to a park.

See the Transportation Framework for a more detailed description of this analysis.

## Residents to Parks Cost Distance Map

Figure: 41 Residents to Parks Cost Distance Map





## PARK SYSTEM NEEDS

### *Parks National Standards and Guidelines*

The National Recreation and Parks Association (NRPA) classification system of 1996 serves as a recreational guideline for parkland relative to population. The system describes several categories of parks, recreational areas and open spaces, which in combination make up a unified municipal park network in Arnold.

#### Natural Resource Area

Natural Resource Areas serve lower intensity uses. Lands are set aside to preserve unique natural resources and remnant landscapes and may include open or green spaces and areas of visual/aesthetic buffering serving the entire community.

#### District Facilities/Parks

District Facilities supplement neighborhood and community parks, serving broader based recreation needs. These parks are generally 75-200 acres in size and serve up to a 5-mile radius. The larger size permits development of both passive and active facilities.

#### Community Facilities/Parks

Community facilities serve groups of neighborhoods within a one to three-mile radius of the site. The minimum desirable size is 20-25 acres; although smaller sites may be appropriate. Development typically includes picnic shelters, playgrounds, tennis courts, soccer and/or baseball fields, bike or pedestrian trails, restrooms, and auto parking. Park services at the community level are provided in a variety of ways.

#### Neighborhood Parks

Neighborhood Parks are intended to serve residential areas within walking distance of one-half (1/2) to one (1) mile radius. Access is mostly by pedestrians or bicyclists, and park sites are located so that residents do not have to cross a major street to get to the site. The sites are generally 5-15 acres in size.



Example Neighborhood Park.

#### Mini-park

Mini-parks address limited, isolated or unique recreational needs, serving an area of one-fourth (1/4) mile radius.

#### Greenways

Greenways serve to form interconnected park systems, tying park system components together with green corridors. Greenways range in size from 25 foot to 200 feet or more in width.

#### Sports Complex

Sports Complex serves to consolidate a single purpose use, often including concentrations of programmed athletic fields to larger and fewer sites which service entire communities.



### Current Supply of City Parks

The following table shows the NRPA guidelines for the recommended acreages of the park types per 1,000 population of the community. There are generally four park classifications in the national standards that pertain to Arnold.

Arnold’s population according to the 2010 Census is 20,808, and is expected to grow in population to 21,570 by 2030. The current park system has 400 acres of parkland or 40 acres/1000 population. Amenities within the parks generally include: shelters, picnic areas, ponds, playgrounds, athletic fields and tennis courts, parking lots, and trails. There is a large gap in service with regards to the amount of parkland, open space, greenways, and trails between the western and eastern sides of the City. There is a notable lack of parkland on the western side of the City, although Arnold’s Recreation Center is located on the northwestern side.

- Current community parks tend to be undersized and would need at least 15 to 80 acres to meet national standards.
  - While Flamm City and David R. Collins Parks would individually fall within the Community Parks category, their adjacency to Teszars Woods Conservation Area places the whole park complex within the district park category.
  - Ferd B. Lang is the only park west of I-55 and by size is a community park.
- There are no standard sized neighborhood parks or mini-parks throughout the city. Adding 22 - 43 acres of neighborhood parks and 5 - 10 acres of mini-parks by the year 2030 would place Arnold in an excellent position relative to national standards.
- The majority of existing parks are within the 100 year floodplain, therefore reliability of use is limited.



Recreation Center



Ferd B Lang Day Camp

Park Area Guidelines					
Park Type	Acreage	Acreage/1000 people	Service Area	Existing Parks Acreages	Park Needs (acres)
District	75 - 200	5 to 10	5-mile radius	391	0
Community	10 - 50	5 to 8	3-mile radius	93	15 - 80
Neighborhood	1 - 10	1 to 2	1/2 mile radius (10 min. walk)	0	22 - 43
Mini-park	0 - 1	1/4 to 1/2	1/4 mile radius (5 min. walk)	0	5.39 - 10.7

Source: NPRA Guidelines



Ferd B Lang Shelter

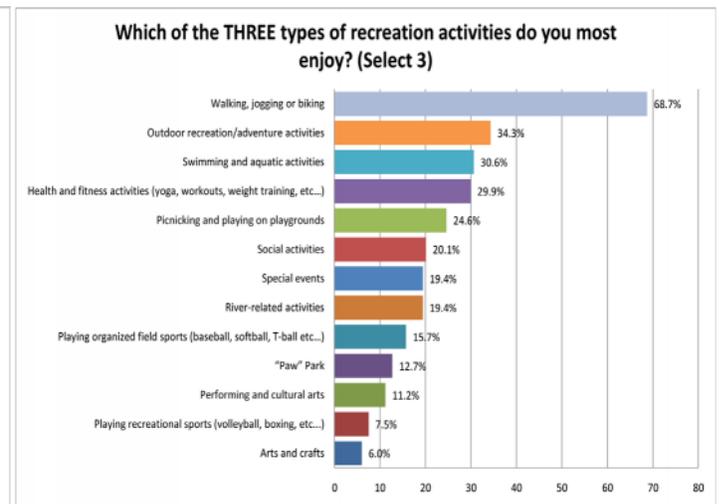
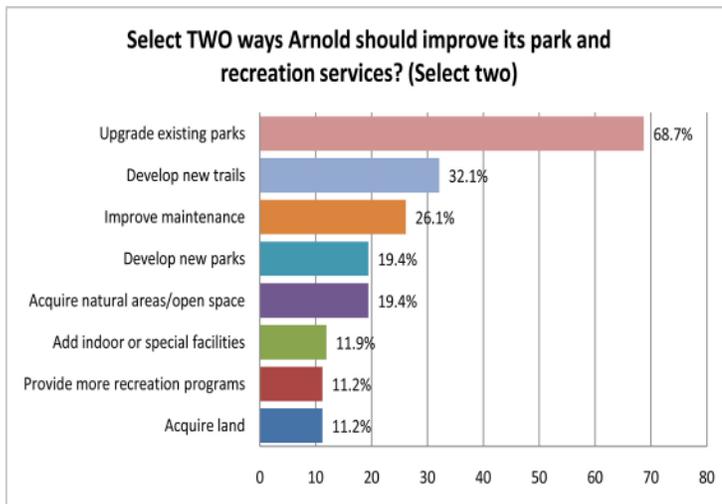
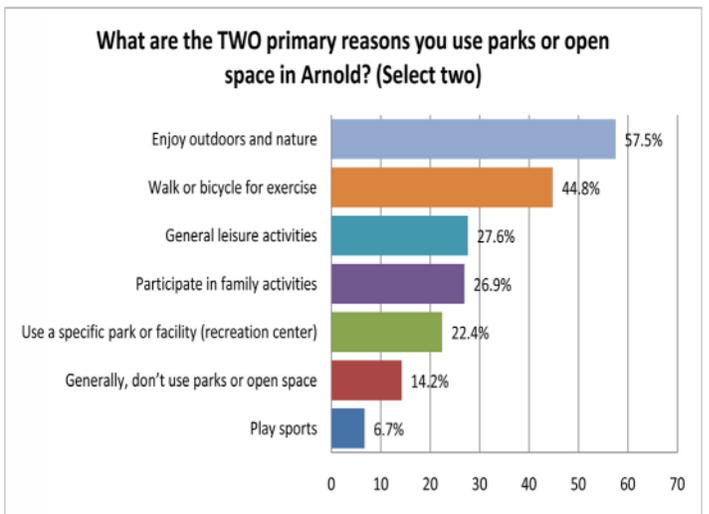
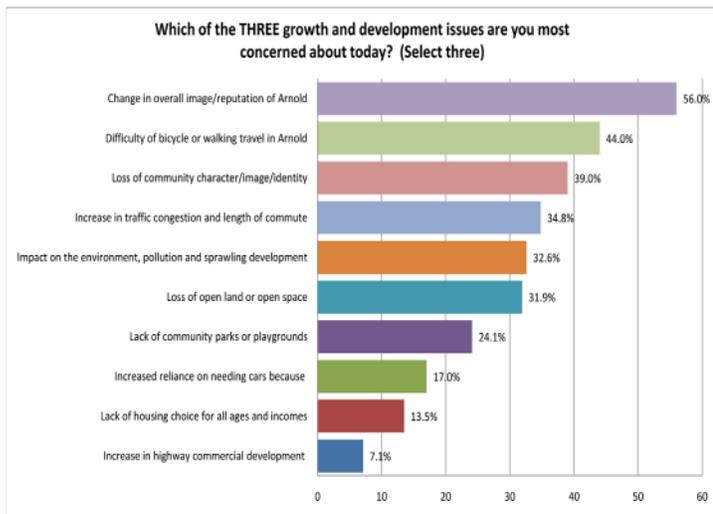


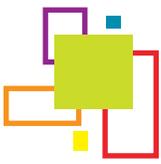


## Community Survey Results

Residents were asked to complete a multiple-choice demographic, market, and policy survey. The survey questions ranged in subject but primarily dealt with current conditions and a variety of development priorities. Topics included shopping patterns, economic development, traffic and commuting patterns, ratings of public services, neighborhoods and housing, urban design, and parks, trails and open space. The survey results shown below indicate that respondents want new households to locate close to existing parks and open space and/or be within walking distance of new parks and open space.

## Community Survey Results: Parks, Trails and Open Space





## EXTEND THE MERAMEC GREENWAY

Extension of the existing Meramec Greenway is a pivotal piece of this Plan bringing together resource preservation, greenway development, and improved water quality with bicycle and pedestrian improvements. The results keep Arnold safe, clean, and green while providing connections locally and regionally.

The creation of a community-wide greenway framework or “Central Green” is a concept for future development of the Parks system. The “Central Green” is intended to increase pedestrian travel, encourage active lifestyles and expand year-round park and recreation options for all ages. The implementation of a linear park system is an effective way to create a “preservation corridor” that provides multi-generational open space and recreational opportunities. Equally important is its ability to integrate the city’s natural areas with its urban areas and key traffic generators.

The “Central Green” should be the basis for future detailed park planning, through which Arnold’s park system would be continually improved. As with land use, the pattern is a balance of managing development and preservation of natural features and areas. Trail locations and sidewalk improvements should link to the City’s roads, “new” downtown, schools, colleges, churches, businesses, recreational facilities and neighborhoods.

### *The Planning Principles*

The following Planning Principles are provided as a guide for development of the “Central Green” greenway system. These principles are:

- Develop a 40-mile loop as the framework of the Central Green Plan and provide trails from neighborhoods to act as connectors to the loop.
- Connect the Central Green to the larger regional trail system.
- Protect, enhance, and utilize Arnold’s stream corridors by developing trails and bikeways through these corridors and other scenic areas. Preserve other natural corridors for both resource and recreational value and combine with greenway development to identify those natural areas that have significant aesthetic value.
- Recognize greenway preservation as a contributor to quality of life for citizens of Arnold by connecting people and neighborhoods to businesses, schools, shopping, and parks.
- Promote alternative modes of transportation through practical long-range planning of trail corridors.
- Eliminate major barriers to walkers and cyclists by developing crossings for interstate, arterials and collectors.
- Define mechanisms for implementation of greenway preservation and trail construction, and management.
- Emphasize bus transit corridor destination points for trail hubs. (i.e. Park and Ride, long range mass transit improvements?)



Community Top Priority  
Large Scale Natural Preferred



Community Top Priority  
Large Scale Natural Preferred



Community Top Priority  
Large Scale Natural Preferred

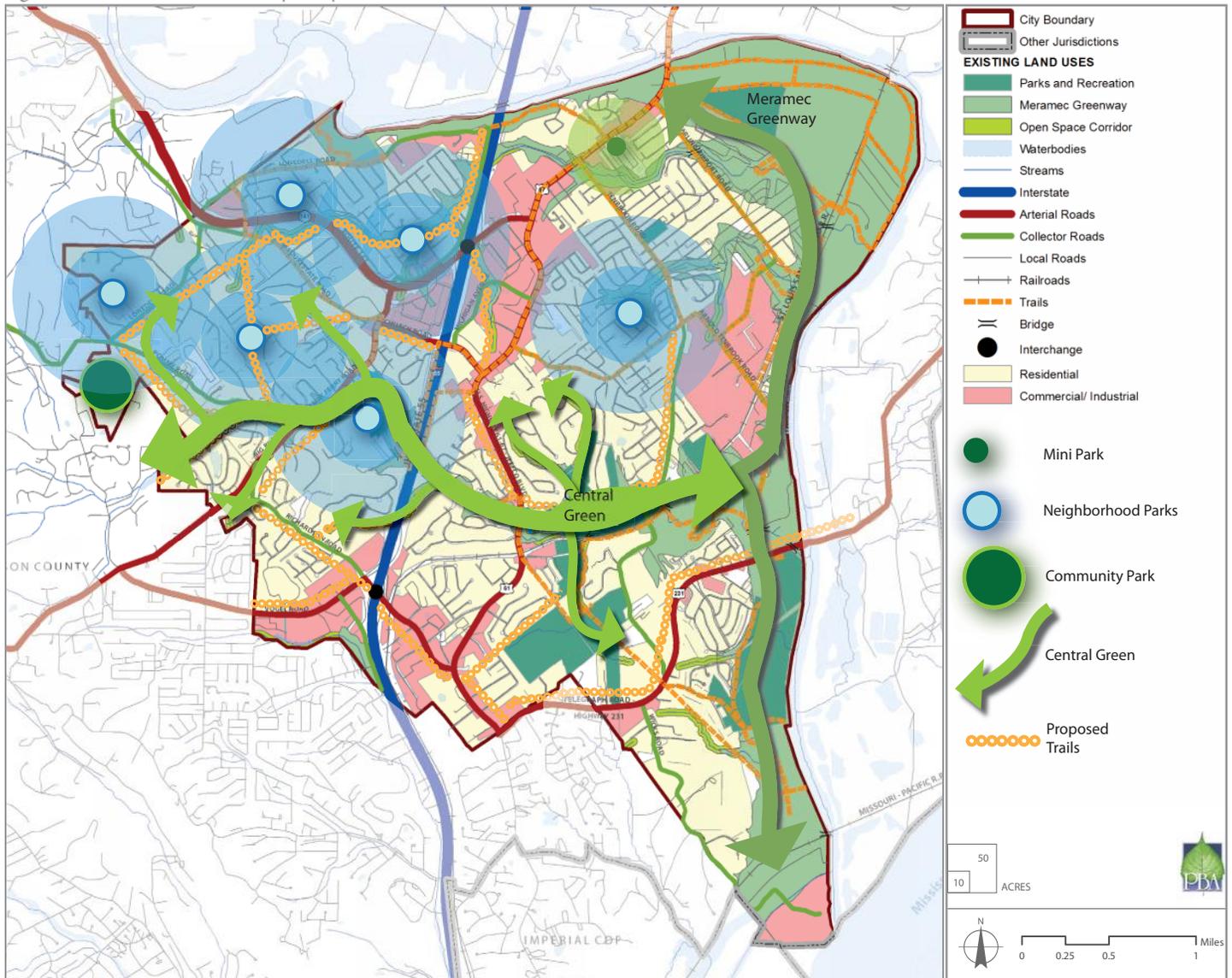


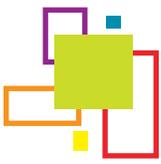
**Central Green Concept Map (2011)**

The proposed “Central Green” and park system improvements brings the existing *Meramec Greenway*, Floodplain Management Plan, future land use, and public input together into a unified, connected system. These elements, while capable of functioning separately, together provide an enhanced system that truly interconnects Arnold and its resources throughout the area. The general location of recommended trails and greenways are shown in the Central Green Concept map below.

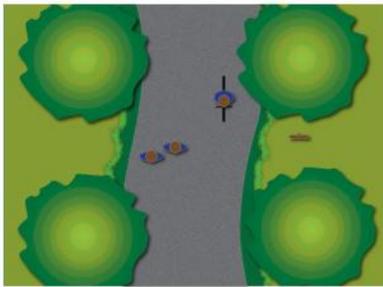
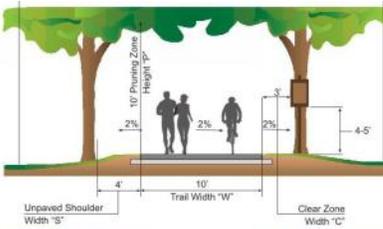
**Central Green Concept Map (2011)**

Figure: 42 Central Green Concept Map

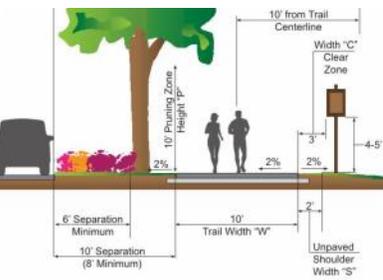




# The "Central Green" an extension



Example Greenway Trail Section.



Example Trail Section.

## The "Central Green" System

Adhering to the concepts of the original *Meramec Greenway Plan* developed in 1999, Arnold's concept for a "Central Green" is built around a Greenway Loop that is approximately 40-miles in length. This loop follows the major streams, riparian areas, and railway/utility corridors and connects the City's parks and beyond.

The "Central Green" is the result of a "layered analysis," beginning with the mapping of high priority conservation areas and stream buffers then adding future land use. Locations for prospective parks and connections were identified through the community input process and analysis. Analyzing all of these features together makes the best use of the community's resources.

## Community Connectors

Within the Greenway Loop, a system of Community Connectors along stream corridors, greenways, and roadways connect the loop to neighborhoods, schools, parks, and businesses. Community Connectors serve to form interconnected park systems, tying park system components together with green corridors. They range in size from 25-foot to 200-feet or more in width.

## Stream Buffers

- Limit development except trails and certain infrastructure a defined distance from the center-line of the stream.
- Improve water quality and reduce flooding by protecting streams and rainwater absorption areas.
- Provide a location for trails and linear parks.
- Preserve Arnold's natural beauty and functional landscape.



Example Stream Buffer.

## Greenways

- Locate along streams and through major forested areas.
- Improve water quality and reduce flooding by protecting streams and rainwater absorption areas.
- Provide a primary location for trails.
- Preserve Arnold's natural beauty and essential landscape .
- Connect regional parks.



Example Greenway Trail.



# of the Meramec Greenway

## Trails

- Opportunity to establish bicycle and pedestrian routes throughout the city.
- Designed to serve the whole city and growth areas in one connected system.
- Connect most parks.
- Consider potential for use of abandoned rail rights-of-way depending on costs, benefits, and feasibility.



Example Trail.

## Connecting Corridors

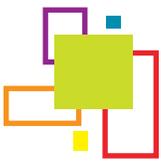
- Make a major contribution to the image of the city.
- Connect the city north/south and east/west.
- Help unite existing urban areas with growth areas.
- Are designed to be green and , heavily planted.
- Are designed to accommodate pedestrians and bicyclists as well as future transit, should it become available.



Example Connector.



Example Community Park.



# Proposed Community Park



Community Park location.

## Community Parks

Community parks are smaller than district parks but of sufficient size to serve several neighborhoods with both active and passive recreational facilities. Community activities are well accommodated. They may include highly used recreational facilities such as sports complexes, swimming pools and recreation centers. They may also contain large passive open spaces or preserve unique natural features. Most of the park should be visible from the adjoining streets. Linear parks or greenways are opportunities to connect the park to many neighborhoods and other parts of the city. The greenways can also serve as a neighborhood park to adjoining residential areas.

## Community Park Acreage:

Looking toward the future, population projections for Arnold supports the need for one additional community park of 20-25 acres in size.

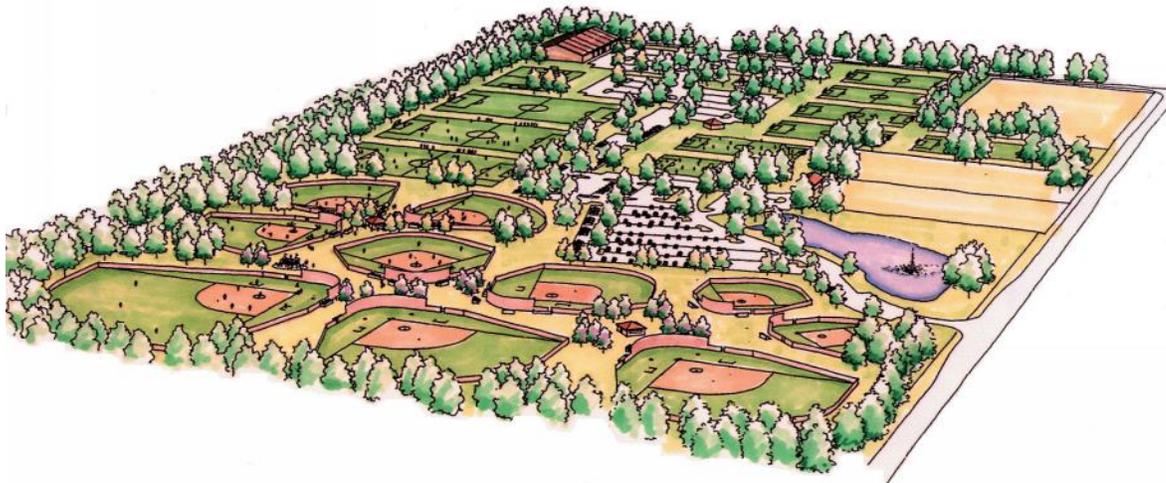
## Location:

The map in this framework shows a location for a new community park located along the “Central Green” system and should provide a variety of land features allowing for both active and passive recreational uses. The final location of the park will likely rest on land availability and price.

Adjacent to single family and multi-family residential areas. Frontage required on collector streets with connection to a major thoroughfare within a one-fourth (1/4) mile. Connection to linear park or trail system is desirable. Access to major utilities is needed.

## Development:

May include medium to large playground, passive recreational space, sports fields, multi-use courts, trails, picnic areas, group picnic facility, park amenities (benches, trash receptacles, drinking fountains, signage, etc.) and landscaping. Optional facilities could include a recreation center, swimming facility and tennis courts.



Example Community Park.



# Proposed Neighborhood Parks

## Neighborhood Parks

Neighborhood parks are the basic unit in the park system and primarily serve the needs of the adjacent residents within walking distance. Surrounding areas should be predominantly single family or multi-family residential. Playgrounds and trails are high priorities. Park development is varied depending on location. As a general rule about half of the park acreage should be dedicated to passive uses. Active recreational areas are best when informal and unstructured. Access control such as chain link fencing should be avoided to keep the park visually attractive and inviting. Neighborhood input to park design is helpful. Connections to a linear park system are important, allowing alternative ways to access the park and other parks within the city.

### Neighborhood Park Acreage:

Looking toward the future, population projections for Arnold supports the need for six new neighborhood parks of 1 - 10 acres in size.

### Location:

The map in this framework shows a location for six new neighborhood parks in Arnold. The parks should be located along the trail system and should provide a variety of land features allowing for both active and passive recreational uses. The final location of each park will likely rest on land availability and price.

Neighborhood Parks are intended to serve residential areas within walking distance of one-half (1/2) to one (1) mile radius. Access is mostly by pedestrians or bicyclists, and park sites are located so that residents do not have to cross a major street to get to the site. It should be centrally located in the neighborhood when possible and have frontage onto a local street. It is preferable for surrounding residences to face the park rather than backing to it. Access to utilities is required.

### Development:

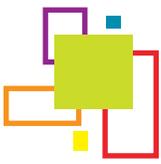
Parking should be curb side. Development includes playground, passive recreational space, practice areas, trails, picnic tables, park amenities (benches, trash receptacles, drinking fountains, signage, etc.) and landscaping.



Example Neighborhood Park locations.



Example Neighborhood Park.



# Proposed Mini-Parks



New Downtown Green Space.

### Mini-Parks

Mini-parks are used to service small, specific groups or supplement areas with substantial non park-like recreation facilities (i.e., schools) on a walk-to basis. Many school and church playgrounds often serve as de facto mini-parks. The recommended service area is a one-fourth (1/4) mile radius and the desirable size is one (1) acre or less. NRPA standards recommend a minimum and maximum standard of ¼ acre to ½ acre of mini-parks per 1,000 residents, respectively.

### Mini-Park Acreage:

Looking toward the future, population projections for Arnold support the need for up to 5 - 10 mini-parks ranging in size from one-fourth (1/4) to one (1) acre in size. There are a number of areas under served when this standard is applied.



Example Mini-Park.

### Location:

The map in this framework shows a location for one mini-park within the proposed “New Downtown”, as well as throughout the City as opportunities present themselves. Older subdivisions generally did not require parklands as part of the development as is required today, the mini-park serves as an added opportunity for the addition of greenspace throughout the community. The final location of any mini-park will likely rest on land availability and price.

Adjacent to commercial, single family and multi-family residential areas. Frontage required on collector streets with connection to a major thoroughfare within a one-fourth (1/4) mile. Connection to linear park or trail system is desirable. Access to major utilities is needed.

### Development:

These parks are generally situated in neighborhoods, townhouse developments, or senior housing complexes. Development and amenities typically include: playground equipment, landscaped sitting areas, picnic tables.



Example Mini-Park.

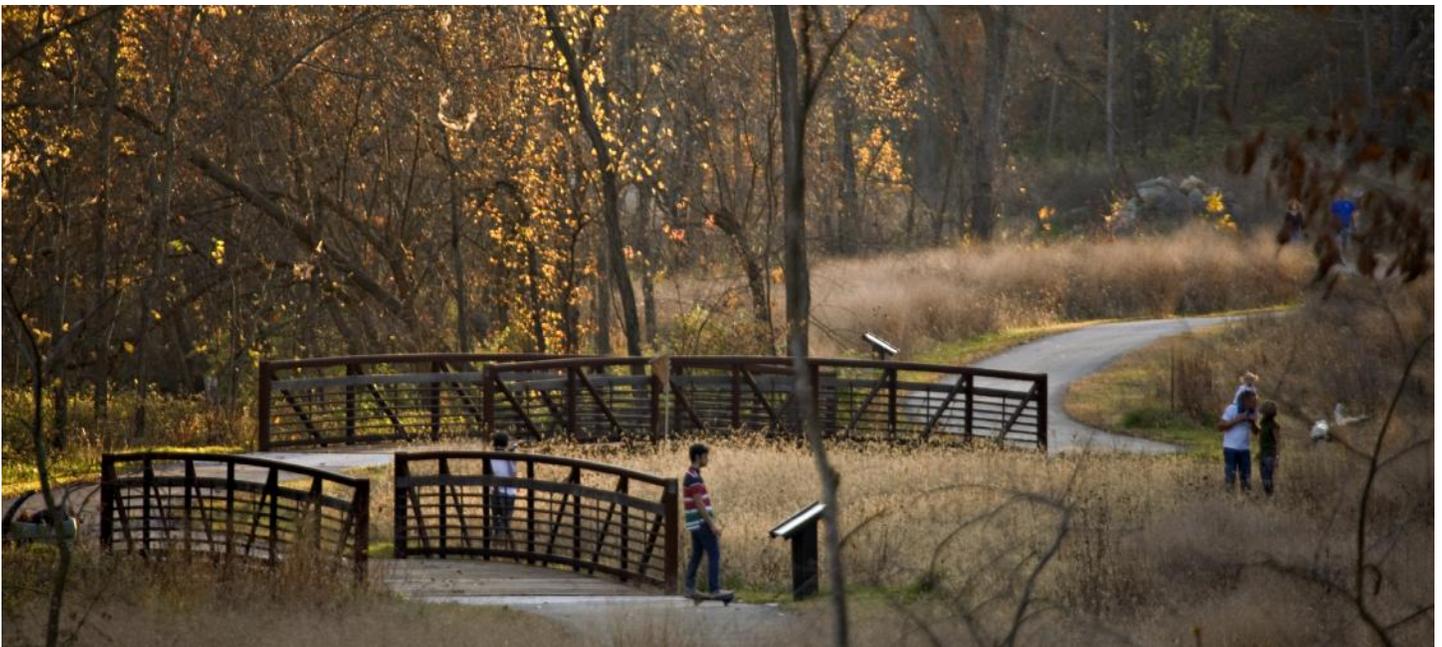


# Greenway Implementation

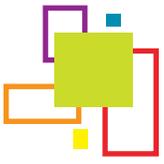
## GREENWAY IMPLEMENTATION

The City should also undertake the preparation of a new Parks and Recreation Master Plan to identify and prioritize parkland acquisition.

- Consider parkland dedication requirements to assist with acquisition and/or funding.
- As infill and redevelopment occurs ensure accessibility through sidewalks and connections to trails and greenways.
- As streets are built or renovated, consider parkways or boulevards as a means of increasing open space, providing traffic calming and pedestrian access/trails, and managing stormwater runoff.
- The City should consider the acquisition of additional property adjacent to the existing parks and recreation facilities and develop strategies to finance these acquisitions and fund future improvements to keep the City's park system state-of-the-art.



Example Greenway System.



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