

RED OAK, IOWA

**COMPREHENSIVE RECREATIONAL TRAILS
PLAN**



Adopted August 20, 2007

Prepared by:

Southwest Iowa Planning Council
1501 SW 7th St., Atlantic, Iowa 50022

RESOLUTION # 2007-35

A resolution to adopt the *Red Oak, Iowa Comprehensive Recreational Trails Plan, 2007*.


WHEREAS the City of Red Oak recognizes the important economic, health, and social benefit of a recreational trails system and;

WHEREAS many citizens of the City of Red Oak have diligently worked over a period of seven months to develop a comprehensive recreational trails plan for the city and;

WHEREAS a formally adopted recreational trails plan is not only an important guiding document for the City, but is also a requirement for many sources of grant funding;

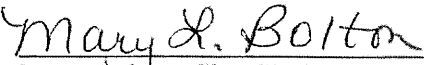
BE IT RESOLVED the City of Red Oak hereby accepts the work of the recreational trails planning group, thanks those that have participated in the planning process, and adopts the *Red Oak, Iowa Comprehensive Recreational Trails Plan, 2007* as the official City trails planning guide.

Passed and approved this 20 day of August, 2007.



Ted Schoonover, Mayor

Attest:



Mary Bolton, City Clerk

City of Red Oak, Iowa

Ted Schoonover, Mayor

Roger Waggener, Council Member
Tom Pratt, Council Member
Larry Brandstetter, Council Member
Ivan Craig, Council Member
Mark Gregg, Council Member

Brad Wright, City Administrator

Mary Bolton, City Clerk

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Introduction

Red Oak is ready for trails. The trails planning process identified many potential trails users, routes, funding options, and broad based community support for the implementation of a trails system. This plan outlines the many findings of the trails planning groups, the goals for the trails system, as well as the routes identified for new trail construction. Above all, this plan demonstrates that a comprehensive recreational trails system will be a major asset to the community, both in terms of economic development, community health, and social well-being.

Trails have many benefits. Perhaps the most direct benefit of trails is their positive impact on the physical and mental health of the community. Trails provide safe, accessible areas for people of all ages to enjoy physical outdoor activity. Increased physical activity is known to:

- Decrease the risk of cardiovascular disease, colon cancer, and diabetes.
- Help maintain muscle strength and joint structure and function.
- Assist normal skeletal development during childhood.
- Help relieve depression, anxiety, and other mental illnesses.
- Lower obesity levels with appropriate dietary patterns.

The United States is facing an obesity epidemic. Perhaps the most worrying statistics are the number of young people who are overweight or obese. A recent study by the American Obesity Association found that 30.3 percent of American children ages 6 to 11 were overweight, and an additional 15.3 percent were obese. Trails provide avenues for people of all ages to get out and be physically active, and in particular can provide young people with safe areas to walk or bike to school or to play.

The Centers for Disease Control recommend that individuals should participate in moderate intensity physical activity for at least 30 minutes a day, at least 5 days per week; or vigorous intensity physical activity for at least 20 minutes per day, at least 3 days per week. Moderate intensity activity can include brisk walking, bicycling, household chores, gardening, or anything else that causes a small increase in breathing and heart rate. A comprehensive trails system helps remove the barriers that prevent many people from participating in outdoor exercise, and is a real addition to the overall quality of life.

Likewise, the economic benefit of trails can be substantial. Individual spending on trail related purchases varies considerably, but some studies show as much as \$75 per user per day. A study from Minnesota, a state with extensive trails systems, estimated that trails systems provide an additional \$1 million in annual economic activity for cities with trails.

- In a 2002 survey of recent home buyers sponsored by the National Association of Realtors and the National Association of Home Builders, trails

ranked as the second most important community amenity out of a list of 18 choices.

- A 1998 study of property values along the Mountain Bay Trail in Brown County, Wisconsin showed that lots adjacent to the trail sold faster and for an average of 9 percent more than similar property not located next to the trail.

These health and economic benefits do have some costs associated with them. In particular, trails construction involves capital improvements similar to building a new street. The surface and grade must be appropriate for the intended use and amenities must be provided to trails users. Once these improvements are in place, they must be maintained and repaired on a regular basis. This plan identifies some of those costs, particularly the cost of installing sections of trails, to give decision makers a point of reference when deciding what funding resources should be directed toward trails.

Public participation has been central to the creation of this plan from the very beginning and public participation will be critical to the future success of the trails system. One of the most important recommendations to come out of this plan is that a non-profit organization should be formed to help raise awareness of the need for trails, to help raise funds for trails, and to help construct and maintain the trails system. The City of Red Oak can not implement this plan alone; it has neither the monetary resources nor the staff to see it through. Therefore, just as they did in the creation of this plan, citizens must take a leading role in seeing it accomplished.

Community Profile:

Red Oak is the largest city and county seat of Montgomery County. The 2000 Census counted 6,212 people in the city, with a total county population of 11,789. The Census Bureau projects a slightly declining population and estimated that in 2004 the population of Red Oak had declined to 5,976.

Red Oak by the numbers:

Population:	6,212
Median Household Income:	\$30,098
Average Household Size:	2.33 People
Median Age:	39.8
Average Summer Temperature:	74° F
Average Winter Temperature:	24° F
Average Rainfall:	33 Inches
Average Snowfall:	28 Inches
Average Travel Time to Work:	<20 Minutes
Average Monthly Mortgage:	\$714
Average Monthly Rent:	\$243

Information from the 2000 U.S. Census and the National Weather Service

Red Oak is located about one hour southeast of the Omaha/Council Bluffs metropolitan area. The city is an important transportation crossroads. US Highway 34 and Iowa Highway 48 intersect here and the Burlington Northern and Santa Fe Railroad operates an active rail line through town. The East Nishnabotna River borders the city to the west and is navigable for canoes and kayaks for much of the year. The American Discovery Trail, the nation's only east-west hiking trail, goes through Red Oak along Highways 34 and 48 on its way across Iowa.

Red Oak's economy has a strong reliance on the manufacturing, agriculture, and retail trade sectors. Healthcare, services, and education are also major employers. A 2004 study by Iowa State University Extension found that Red Oak had an overall retail "pull factor" of 1.04. A pull factor of 1.00 indicates that a city is attracting exactly the number of sales that would be expected for its population size. A pull factor of less than 1.00 indicates that a city is losing more business than should be expected, and a pull factor greater than 1.00 indicates that a city is attracting additional business. Red Oak's pull factor indicates that it is meeting the demands of its own population, but is not attracting much business from elsewhere. By comparison, Glenwood, with a similar population but closer to a metropolitan area had a pull factor of just 0.64 and Centerville, also with a similar population but farther from a metropolitan area, had a pull factor of 1.29.

Planning Process:

This plan was developed in five phases. In the first phase the groundwork for the planning process was established by the city. Southwest Iowa Planning Council (SWIPCO) was hired as a planning consultant and SWIPCO began gathering data and establishing the procedures for completing the plan. A small group of volunteers came together and identified a larger group of stakeholders to personally invite to participate in the planning process. The schedule for public meetings was established and publicity for the planning process began.



The second phase of the planning process was the main public input phase. This began with a project kick-off meeting on January 25, 2007 at the Montgomery County Family YMCA. Over 60 people attended this meeting. Bill Danforth, a representative from the Wabash Trace trail organization, gave a presentation on the value of trails and his experience developing the Wabash Trace. SWIPCO staff also presented information on how the planning process would unfold and outlined the schedule of future meetings. A trails use survey was introduced and meeting attendees were encouraged to take the survey out into the public to gather as many responses as possible, as well as record their own potential trails usage.

The second public planning meeting was held on February 8, 2007 again at the YMCA. This meeting was attended by more than 30 participants and focused on identifying Red Oak's strengths and weaknesses related to trails development. From these strengths and weaknesses a broad set of goals was developed for the future trails system. The third public meeting was held on March 8, 2007 at the YMCA and again drew around 30 participants. This meeting focused on potential trails routes. After a short introduction, groups were invited to discuss potential trails routes—both new trails and routes along existing infrastructure—and were given large aerial photographs of the city on which to draw their routes.

This exercise identified a number of common routes that were then compiled into a rough trails map.

The third phase of the trails planning process involved surveying the potential routes. Groups of volunteers walked and biked the identified routes and recorded conditions and areas of concern. This information was used to edit and improve the routes suggested in earlier meetings.

The fourth phase included the development of the final draft of the plan and the proposed trails map. The draft plan was presented to the City Council for their information and was also presented and critiqued at a public meeting. This final draft was then revised and presented again to the City Council for their comment, approval, and adoption in the fifth phase of the planning process.

Public interest and support for trails planning in Red Oak was outstanding. Every public meeting was well attended and many volunteers spent countless hours outside of meetings gathering information and building support for trails. This plan is truly a compilation of the ideas of the citizens of Red Oak and the surrounding area.

Planning Timeline

January 2007:	Planned Public Participation Process Identified Stakeholders Developed Usage Survey Held "Kick-Off" Meeting
February 2007:	Conducted Usage Surveys Trails SWOT Assessment Trails Goals Setting
March 2007:	Identified Key Assets Drafted Preliminary Routes
April-May 2007:	Scouted Potential Routes Edited Routes Reviewed Land Ownership Along Routes
June 2007:	Confirmed Routes Made Preliminary Length/Cost Estimates
July 2007:	Reviewed By City Council Edited As Necessary Held Public Hearing

August 2007:

Plan Adopted
Grant Writing Commenced

SWOT Analysis:

As part of the planning process Red Oak residents conducted a strengths, weaknesses, opportunities, and threats (SWOT) exercise. This exercise helped to identify what factors positively impact trails development and use in Red Oak as well as those factors that have a negative impact on trails. Once these impacts were identified, goals were developed to capitalize on the positive factors and mitigate or eliminate the negative. Strengths and opportunities are classified here as trails assets, whereas weaknesses and threats are classified as trails obstacles.

Strengths: The internal attributes that are positive to trails use and development.

Weaknesses: The internal attributes that have a negative impact on trails use and development.

Opportunities: External factors that positively impact trails use and development.

Threats: External factors that negatively impact trails use and development.

Trails Assets:

Through the SWOT analysis process it was clear that although Red Oak does not currently have a trails system, there are many attributes that make the community ripe to develop one. Perhaps the most important factor, and the first one mentioned in the planning sessions, is a strong group of motivated citizens who are ready to see a trails system developed. This motivated population combines well with the many physical attributes of the community to encourage trails growth.

Among these physical attributes are Red Oak's beautiful natural setting, relative compact size, and proximity to the Omaha/Council Bluffs metropolitan area. Red Oak may not have well developed trails at this time, but there are a number of natural and man made structures that lend themselves well to trails development. First on this list is the Army Corps of Engineers levy that runs along the western edge of the city. Other man made features that will benefit trails include the

many parks throughout the city, which provide areas to rest, bathrooms, and parking for trails users. Another critical asset from trails growth is the Montgomery County Family YMCA, which is not only a convenient trails hub due to its location, but it is an important provider of trails support, such as showers, lockers, restrooms, and in general a place for trails users to congregate or to continue physical activity in inclement weather.

Trails Assets:

- Motivated Population
- Beautiful Community: many trees, old homes, wildlife, town square
- Success stories & opportunities to copy, lots of examples and knowledge to pull from
- Natural places conducive to trails, topography is good for trails
- Family oriented/family recreation community
- Many destinations around the community for trails (factories)
- Potential rail to trail access
- HWY 48 bike access
- Discover American Discovery Trail
- Proximity to the Omaha/Council Bluffs metro area
- Proximity to the Wabash Trace
- Army Corps of Engineers Levy
- Possible county conservation board partnership to manage long distance trails
- Federal and State Funding for trails is available, such as REAP
- Financial opportunities for businesses/tourism
- Opportunities for private donations, sponsorships
- Red Oak knows how to be progressive
- Wabash Trace/Statewide groups expertise available
- YMCA, etc. could use the trails for programming
- Service groups are in search of service projects

Trails Obstacles:

Red Oak does have a number of issues that have slowed trails growth. The first one identified by trails planning participants is a lack of funding, both locally and at the state and national level, for trails projects. Trails are often seen as secondary to other forms of infrastructure, and as such have often been overlooked when compared to other projects.



Perhaps the most difficult challenge to trails in Red Oak are the natural and man-made barriers that complicate any potential construction. Red Oak is fortunate to have major highways intersecting in the community. However, these highways are very difficult for pedestrians to cross and severely limit the number of locations where a trail can safely circle the city. Likewise, the two rail lines in the city can form an imposing barrier. The natural topography of the city, which is also an asset, can hinder trails in places because some areas are too hilly or streams and rivers block the way. All of these barriers can be overcome, but they each add to the expense of trails construction.

Trails Obstacles (Weaknesses and Threats)

- Competition for funding—many other projects
- Schools and businesses are often on busy streets
- River is a natural barrier
- Difficulties in maintaining a large trails system into the future
- Access to land/Railroad ROW/Road ROW can be difficult
- Design of some streets inhibits walking and riding
- Major highways that act as barriers and are outside of the city's jurisdiction
- Working with the railroad can be difficult
- Aging and potentially declining population

Goals:

The planning process developed a number of goals for Red Oak trails. These ranged from the very broad, such as make trails accessible, to the very specific, such as getting across Highway 34. Overall, these various goals can be grouped into 4 overall goals listed below.

Goal 1: Community Supported

The Red Oak Trails System will be a community supported enterprise with an active and diverse volunteer base and opportunities for many different types of trail users.

Goal 2: Linked and Accessible

The Red Oak Trails System will be a cohesive, accessible network, linking the city's schools, factories, parks, businesses, and homes in a safe, pedestrian and bicycle friendly manner. Both established and new neighborhoods will be connected to the system. It will bridge both natural and man-made barriers to ensure that all parts of the community are accessible by trail.

Goal 3: Year Round Health and Economic Asset

The Red Oak Trails System will provide unparalleled opportunities for year-round outdoor exercise and recreation and will work to improve the overall health of the community while acting as an important tourism asset for the city.

Goal 4: Cost Effective

The Red Oak Trails System will be constructed in such a manner as to be as easy as possible to maintain while providing the necessary amenities and services worthy of a first class trails system. Wherever possible, existing infrastructure and resources—such as restrooms, parking, sidewalks, and city right of way—will be utilized to help keep construction costs down.

Trails Usage:

An important element to consider when developing trails is what type of activities will the trails support? Since there is not an existing trails system in Red Oak, trails usage can not be determined by looking at historical data for the city. However, even though there are few trails or trail like areas, that doesn't mean that the citizens of Red Oak have been sedentary. On the contrary, through the planning process it was made clear that many Red Oak residents currently walk, bike, run, and do a whole host of other trail-supported activities even without the benefit of a trails system.

Red Oak Trails Use Assessment
Please complete the following assessment regarding your current and potential trails usage. All responses will be compiled by the Southwest Iowa Planning Council and remain anonymous. Your feedback will greatly help the City of Red Oak as it develops plans for future trails programs.

I would rate Red Oak's current system of trails and sidewalks as (circle one): Outstanding Good Fair Poor

Currently, I do the following activities:

Activity	Times per week:	Weekly Distance: (miles)	Where: (circle all that apply)
For Recreation or Health	Walk: <u>2</u>	<u>4</u>	Sidewalk, Street, FB Track, <u>Indoors</u> , Off-trail, Wilson Park, <u>Other Trails</u>
	Jog/Run: <u>2</u>	<u>3</u>	Sidewalk, Street, FB Track, <u>Indoors</u> , Off-trail, Wilson Park, Other Trails
	Bike: <u>21</u>	<u>4</u>	Sidewalk, <u>Street</u> , FB Track, Indoors, Off-trail, Wilson Park, Other Trails
	Roller blade/skate:		Sidewalk, Street, FB Track, Indoors, Off-trail, Wilson Park, Other Trails
	Walk a pet:		Sidewalk, Street, FB Track, Indoors, Off-trail, Wilson Park, Other Trails
For Work or School	Use a personal mobility device (scooter, wheel chair):		Sidewalk, Street, FB Track, Indoors, Off-trail, Wilson Park, Other Trails
	Walk:		Sidewalk, street, trail, off-trail
	Jog/Run:		Sidewalk, street, trail, off-trail
	Bike:		Sidewalk, street, trail, off-trail
	Roller blade/skate:		Sidewalk, street, trail, off-trail
Use a personal mobility device (scooter, wheel chair):		Sidewalk, street, trail, off-trail	

* "Indoors" includes the indoor track and on exercise equipment

I also (circle all those that apply): cross-country ski snowshoe canoe/kayak ride horses ride ATVs

If there were additional trails in Red Oak, I would like to do the following activities more (circle all that apply): Walk Jog/Run Bike Roller blade/skate Walk a pet Use a personal mobility device Other _____

In order to get a better appreciation for the trails usage habits (or potential habits) of Red Oak residents, a short survey was conducted. This survey was not necessarily scientific—in particular, the population that was surveyed was not random—but it did give some useful insight into how people in Red Oak are exercising, as well as how they would potentially use an expanded trails system. This data was also compared to national statistics on trails usage and the results showed that the physical activity habits of Red Oak residents are very similar to the nation as a whole. Equestrian use as well as motorized use of trails in Red Oak has been discussed, but at this point is outside of the scope of this plan.

Walking:



Of the more than 60 individuals who took the survey, the vast majority walked at least two times a week, for an average distance per week of about two miles. Nationally, walking (including hiking) is the number one activity on trails systems, according to the non-profit trails organization *America's Trails*. Walking is the most accessible form of exercise; it requires no special equipment and can be done virtually everywhere. Walking trails must

take into consideration that person's with a wide range of abilities will be using them, and therefore must include areas for users to stop and rest at appropriate intervals.

Biking:

Biking was a close second behind walking on the trails usage survey in terms of the number of people who participate. Biking accounted for the most number of miles traveled by survey participants. National studies also show that bicyclists also tend to spend more per year on equipment or trails related travel than other types of trails users. Bike trails have several special requirements because of the higher speeds involved in biking. The tightness of turns and the grade of the trail surface is an important factor, greater so than in walking trails. Bike trails also require areas for safely storing bikes—such as bike racks—if users are to be encouraged to leave the trail and visit stores or other amenities.





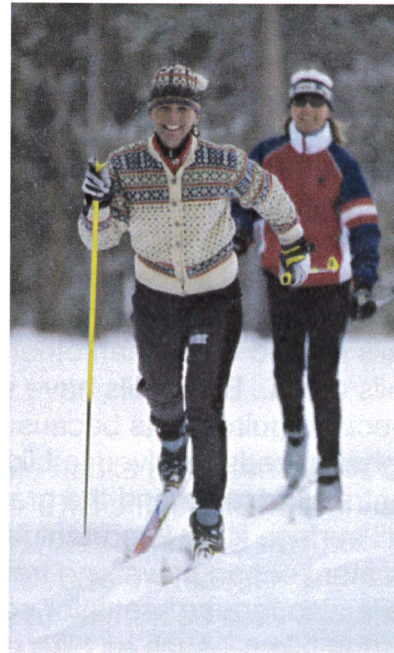
Running:

Running was a popular activity among survey participants. Those who responded that they run tended to do so more frequently than other types of trails users, with the majority stating that they ran at least 3 times per week. Runners were also more likely to mark that they exercised indoors at least occasionally. Trails designed for walking will in most cases be able to accommodate runners as well.

One special accommodation to consider for runners is that runners often exercise either early in the morning or later in the evening in order to avoid higher temperatures during the day. Areas of lighted trail would therefore be more attractive to runners. Emergency call stations and other safety precautions would also encourage trails use and make the trails more convenient to users who can only access the trails in the early morning or in the evening.

Winter Use:

Winters in Iowa can be inconsistent, to say the least. Some years the state is blanketed with snow and in other years winter is a brown muddy mess. Most winter sports enthusiasts in Iowa recognize that if the conditions are right for their winter sport, then they should take advantage of the opportunity, and many people do. Cross country skiing and snow shoeing are popular winter activities and several survey participants indicated that they like to do them when conditions are suitable. Trails are often overlooked in winter time, but with some minor upkeep, such as clearing parking lots, can be ideal for winter sports.





Water Trails:

Red Oak has a few water assets either in the city or close by. The most obvious of these is the East Nishnabotna River which runs along the west edge of the city. The East Nishnabotna originates in Carroll County to the north and flows southwest, emptying into the Missouri River west of Watson, Missouri. Easy access to the river is key for water trails and Red Oak currently maintains a canoe access point with parking along the river.

Water trail users tend to make longer trips than can be accommodated by the short stretch of the river that runs along the Red Oak city limits, so coordination with other political jurisdictions as well as local rental and portage services are essential to capitalizing on Red Oak's adjacent water trail resource.

Trails Facilities:

Trails facilities, such as parking areas, benches, and restrooms are perhaps as important to the success of a trails system as the trails themselves. Trails facilities make the trail safer, more comfortable, and more accessible to a wider variety of trails users.

Even though the proposed trail system in Red Oak makes every attempt to come within a few blocks of every resident's home, it is anticipated that the majority of trails users will drive to a trail head prior to using the trail. Parking at trail heads is therefore a very important amenity and will have a direct impact on the number of trails users. Likewise, trail heads also need to introduce



trails users to the trail system through the use of maps and interpretive signs. Information can also be posted regarding emergency procedures, the location of storm shelters, and local festivals and businesses. Where practical, trail heads should be located in areas where parking already exists and ideally, close to public rest rooms and water. There are a number of trail head sites identified in the proposed trails map later in this plan. Existing parking and restrooms will not be available in all areas so some new facilities may need to be constructed. Temporary portable restrooms may also be an option in some locations, particularly during peak usage months.



There will also need to be areas to rest at regular intervals along the trail. These can be as simple as a bench or can be further developed to include butterfly gardens, picnic shelters, and other amenities. Dog walking was identified in the usage surveys as a very popular activity. Trash cans and "doggy toilet" stations, with plastic bags, should also be

considered in any area that will experience high levels of dog traffic to cut down on the amount of waste on or near the trail. Trail lighting may also be desirable in some areas, though the input of adjacent land owners, as well as careful

estimations of the cost of maintaining the lights, should be taken into consideration prior to any instillation.



Every attempt should also be made to ensure that trail facilities, as well as the trails themselves, are accessible to persons with disabilities. Parking areas should accommodate vehicles with wheelchair lifts and access to the trail and facilities should be barrier free.

In order cross natural and man made barriers, at least three new pedestrian bridges would need to be constructed in order to complete the total proposed trails system. These bridges include one along the US Army Corps of Engineers levee spanning a rail line, one across Red Oak Creek, and one in Indian Gully Park.



Although these bridges need not be as substantial as road bridges, they will have their own special requirements. The bridge spanning the railroad, in particular, will need to be constructed in such a way as to allow for normal rail traffic to pass underneath. In the cost estimates included in the appendix to this plan there is an estimate for how much these bridges would cost based on Iowa Department of Transportation information.

Trails Development Phases:

The Red Oak Comprehensive Trails Plan will be a multi-phase, multi-year project. It will take time to fully develop the public support, technical knowledge, and funding necessary to implement the trails plan. With that in mind, the trails planning session participants divided their suggestions into short, medium, and long term trail improvements. These groupings are rough estimates and may change as circumstances change, but overall should act as a guide to the sequence of trails work. The three phases are spread out over a ten year period, which represents an ambitious timeline for trails development. Full completion of the trails system may take between ten and twenty years, depending on the continued level of public support.

Phase 1: Immediate to Short Term (0-2 Years)

- Adopt the trails plan.
- Develop a trail system brand and logo to use on all marketing documents, signs, etc.
- Map trail routes on existing paths, sidewalks, and streets.
- Prepare marketing materials, such as brochures, that introduce users to the trails system.
- Mark trails that can utilize existing infrastructure, such as bike lanes or pedestrian crossings on streets.
- Develop fund raising plans and proposals based on the trails plan.
- Adopt and enforce city ordinances conducive to trails, such as mandatory side walks or green space in new developments.
- Organize trails volunteers into a non-profit organization that can assist the city with trails development, maintenance, and fund-raising.

Phase 2: Medium Range (2-5 Years)

- Construct infrastructure at vital points necessary to connect existing trails.
- Move trail routes off of existing streets as much as possible to reduce safety hazards to pedestrians.
- Re-map and re-sign trails routes as necessary.
- Begin construction of trails systems in new residential developments when these areas are developed.
- Conduct a survey of trails usage and public meetings to determine any new trails needs and modify the plan accordingly.
- Add infrastructure to trails heads, such as map boards, parking, bike racks, water, and restrooms.

Phase 3: Long Range (5-10 Years)

- Construct new trails to complete the trails system.
- Re-map and re-sign trails routes as necessary.
- Conduct a survey of trails usage and public meetings to determine new trail needs and modify the plan accordingly.

Trails Routes:

The trails routes identified by the planning process can be grouped into two distinct categories, and these in turn can be divided into further groups based on the amount of time and resources necessary to see them developed. The two primary groups of trails are existing infrastructure routes and new infrastructure routes.



Existing Infrastructure Routes:

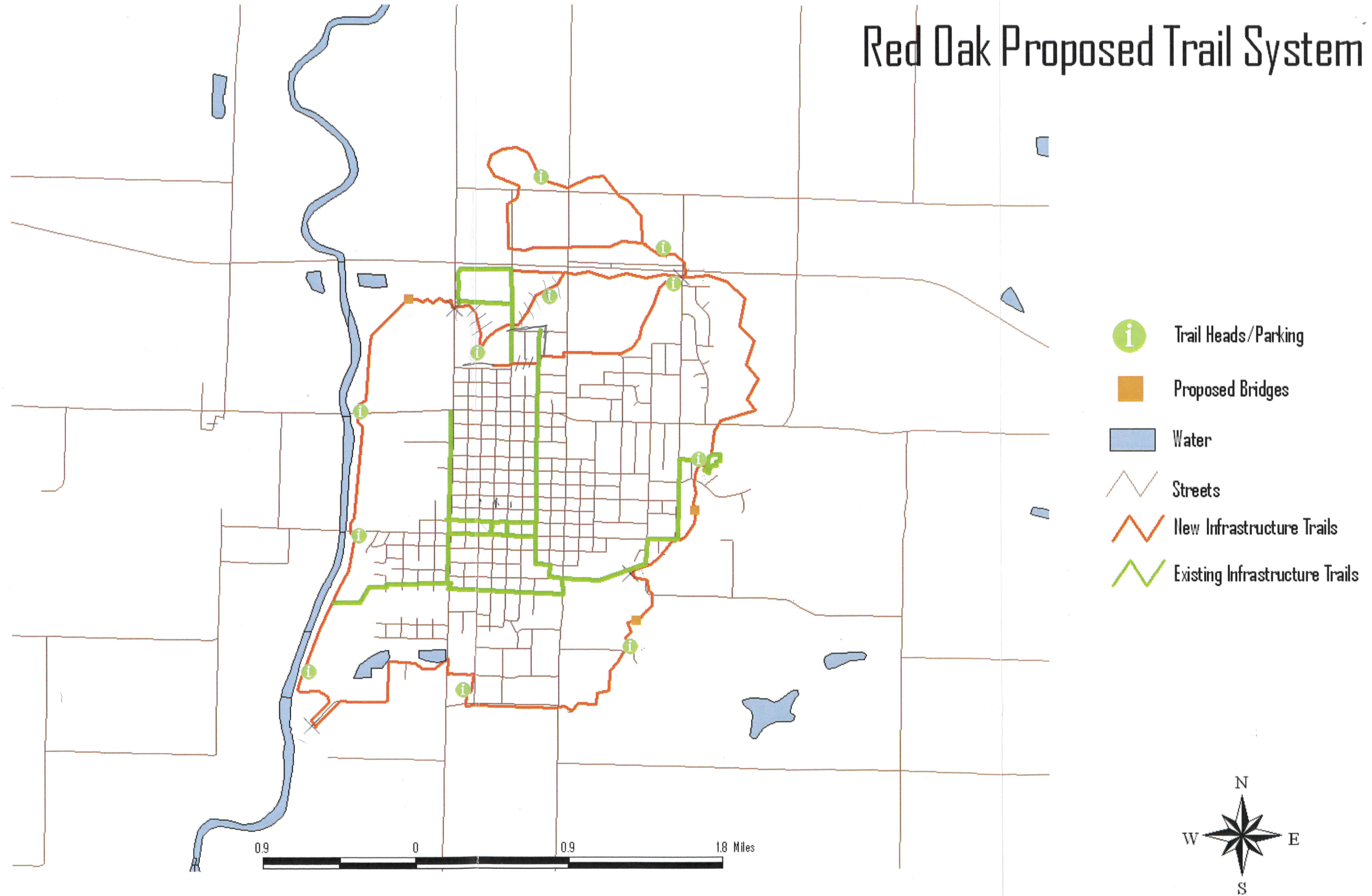
These routes are predominantly internal routes within the city itself and take advantage of existing paths, sidewalks, and streets. For the most part these routes will require investments in new signage and street marking. In some areas parking patterns may need to be changed by ordinance to open up room for pedestrians and bicyclists. Relatively little new pavement or grading will be required to bring these trails on line and existing facilities, such as city parks and schools can serve as trail heads. The primary purpose of these trails is to move pedestrians and bicyclists between home, work, and school safely.



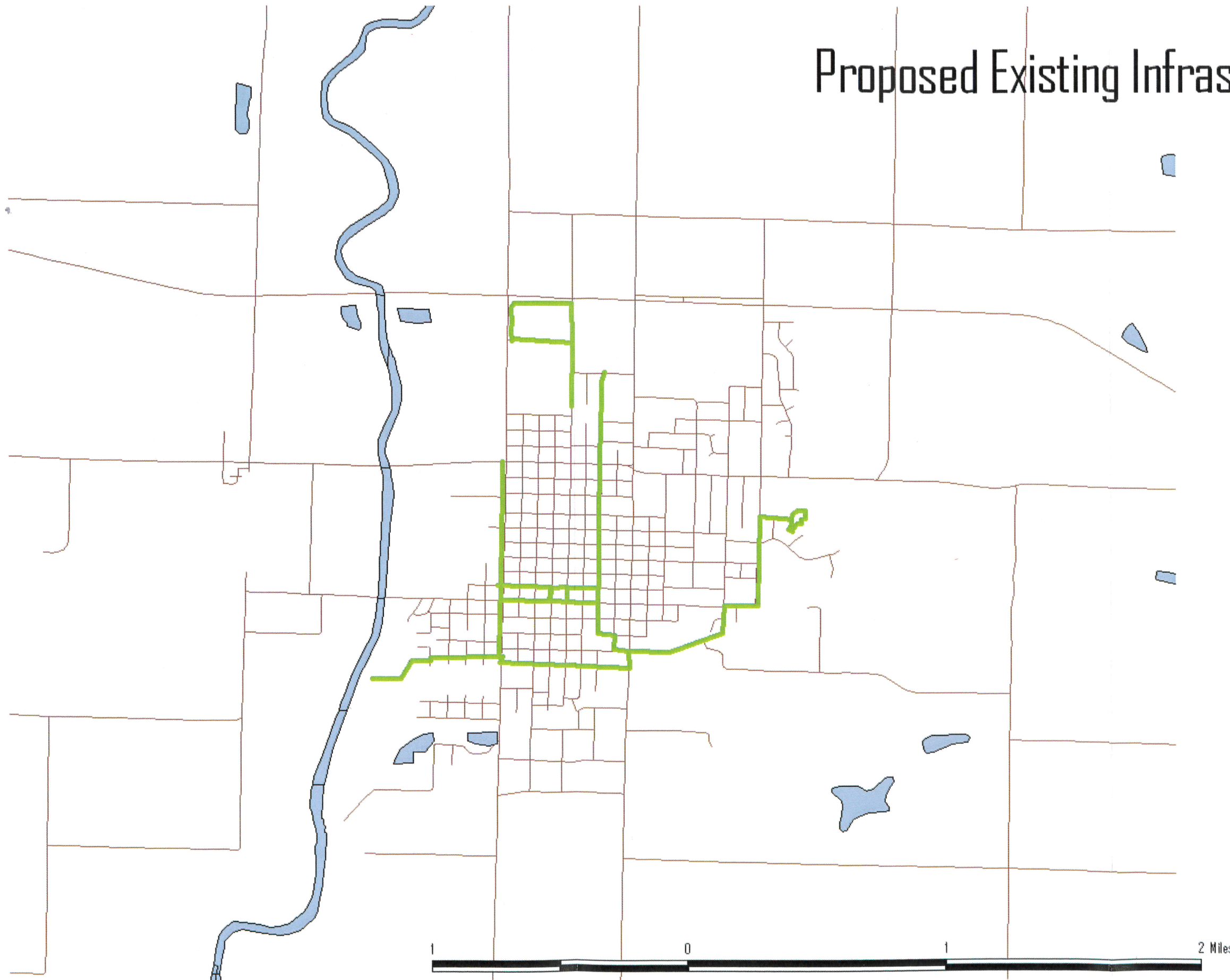
New Infrastructure Routes:

New infrastructure routes are as their name implies—areas that will require considerable site preparation and construction. In many instances land may need to be acquired, while in other existing federal, state and city right of way can be utilized. The cost of these trails will vary greatly based on the amount of site preparation necessary, as well as the type of surface used. In early phases crushed stone may be used, but eventually a hard surface such as asphalt or concrete will be preferred. In this plan the majority of new infrastructure trails form a ring around the city and a loop north of Highway 34. The primary purpose of these trails is for longer distance recreational use.

Red Oak Proposed Trail System



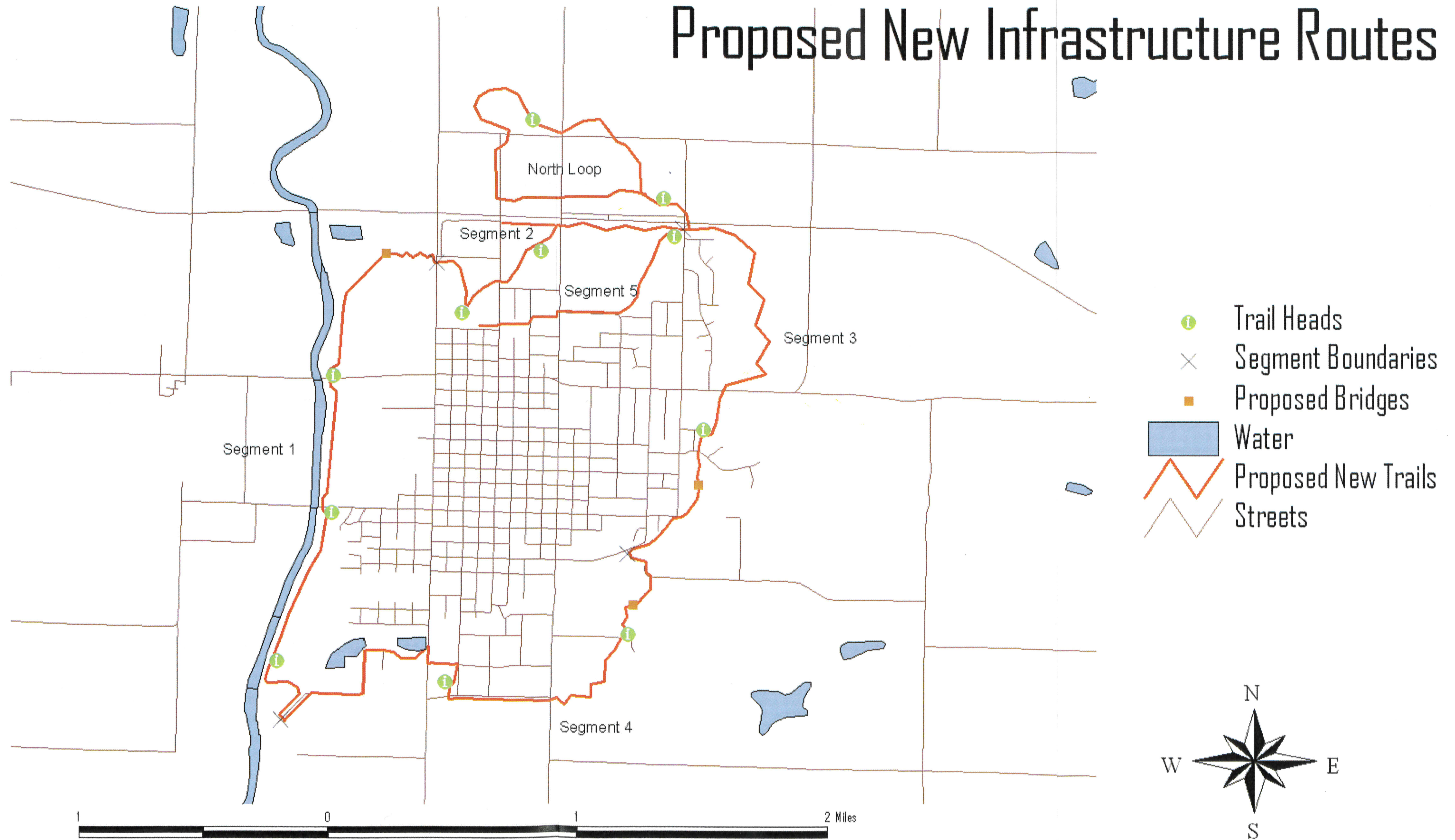
Proposed Existing Infrastructure Routes



Designated Routes
Water
Streets



Proposed New Infrastructure Routes



Implementation:

The implementation of the trails plan involves a number of steps. These include:

- **Adoption:** The first step toward completing the plan is its official adoption by the City Council.
- **Trails Group Formation:** A non-profit organization would be an important asset to help advise the city on trails issues, raise awareness in the public about trails, and help raise funds, construct, and maintain the trails.
- **Fundraising:** A wide range of fundraising activities is necessary to raise the amount of money necessary to complete the plan. This includes government revenue, local fundraising, and grants. Of these, local fundraising and grants will make up the bulk of the trails funding.
- **Engineering:** The identified routes were developed with careful consideration to the topography of the land and each route's overall suitability for trails construction. However, detailed engineering work is necessary in most instances. The services of a licensed engineer will ensure that the trails system is soundly constructed and lasts for many years to come—as well as maximize the benefit and enjoyment of trails users. Plans and specifications developed by a licensed engineer are also a prerequisite for many grant programs.
- **Right of Way Acquisition/Construction:** In some instances, land will be acquired to construct the trails. Also, each segment of the trails system has its own unique construction challenges. Some routes, such as along the East Nishnabotna River levee, require relatively little construction, particularly if a crushed rock surface is used as an intermediate step toward an improved paved trail. Other routes require more extensive work.
- **Maintenance:** Each segment requires its own special maintenance. The majority of this work should be carried out by non-profit trails organization or similar group, with assistance, as necessary, from the city. Likewise, the trails plan needs to be periodically maintained. As circumstances change, modification to the plan is necessary.

Appendix

Cost Estimates:

Red Oak Trails
New Trails Estimates

Length Estimates (miles)

	City	Private	School	Corps	Railroad	Hospital	DOT	Total
Segment 1		0.2		1.9	0.3			2.4
Segment 2	0.5		0.4				0.82	1.72
Segment 3	0.35	1.4			0.15		0.1	2
Segment 4	1	0.54						1.54
Segment 5	0.81	0.25						1.06
North Loop		1.85				0.43	0.07	2.35
Totals	2.66	4.24	0.4	1.9	0.45	0.43	0.99	11.07

Surfacing/Grading Estimates

	6' Asphalt	8' Asphalt	10' Asphalt	8' Concrete	10' Concrete
Segment 1	\$216,995.52	\$236,556.74	\$269,960.14	\$403,573.70	\$478,731.34
Segment 2	\$155,513.46	\$169,532.33	\$193,471.43	\$289,227.82	\$343,090.79
Segment 3	\$180,829.60	\$197,130.62	\$224,966.78	\$336,311.42	\$398,942.78
Segment 4	\$139,238.79	\$151,790.58	\$173,224.42	\$258,959.79	\$307,185.94
Segment 5	\$95,839.69	\$104,479.23	\$119,232.40	\$178,245.05	\$211,439.68
North Loop	\$212,474.78	\$231,628.48	\$264,335.97	\$395,165.92	\$468,757.77
Total	\$1,000,891.84	\$1,091,117.98	\$1,245,191.15	\$1,861,483.71	\$2,208,148.31

Bridges

\$132/sq. ft.	
3 Bridges (40'x10')	\$158,400.00

6' Asphalt	\$90,414.80	per mile
8' Asphalt	\$98,565.31	per mile
10' Asphalt	\$112,483.39	per mile
8' Concrete	\$168,155.71	per mile
10' Concrete	\$199,471.39	per mile

2010 Dollars

Handwritten notes and calculations:

- \$950,000
- \$450,000
- \$460,000 Hospital
- 6/16/08
- 118,000
- 190,000

Trails Grants:

Federal Recreational Trails Program

Program Intent

To provide and maintain motorized and non-motorized recreational trails and trail-related projects (trailheads, kiosks, lighting, etc.).

Eligible Applicants

Public agencies, non-profit organizations and private organizations (and/or individuals) are eligible to sponsor. Private sponsorship will require a public agency co-sponsor.

Funding Qualifications

Minimum 20 percent match is required. Trails resulting from successful

Program's Annual Funding Level

Approximately \$1,000,000.

Application Deadline

October 1.

State Recreational Trails Program

Program Intent

To fund public recreational trails.

Eligible Applicants

State agencies, counties or cities and non-profit organizations may sponsor applications.

Funding Qualifications

Minimum 25 percent local match is required. Volunteer services and other state grants are not eligible as matching funds. Proposed projects must be a part of a local, area-wide, regional or statewide trail plan. Trails resulting from successful applications must be maintained as a public facility for a minimum of 20 years.

Program's Annual Funding Level

\$1 million.

Application Deadline

January

Federal Transportation Enhancement Program

Program Intent

To fund enhancement or preservation activities of transportation related projects. Activities fall into the following categories:

- trails and bikeways;
- historic and archaeological; or
- scenic and environmental.

Eligible Applicants

Public agencies and private non-profit organizations (and/or individuals) are eligible to sponsor. Private sponsorship will require a public agency co-sponsor.

Funding Qualifications

Minimum 30 percent local match is required for statewide enhancements; 20 percent or more local match is required for regional enhancement projects as determined by RPA or MPO policies. Enhancements must have a direct relationship to the existing or planned surface transportation facilities.

Program's Annual Funding Level

Approximately \$5.25 million for statewide projects. Approximately \$5.25 million for regional projects.

Application Deadline:

October 1 for statewide project applications. RPAs and MPOs may have different deadlines for regional/metropolitan applications.

Trails Signage:

One of the most important aspects of any trails system is the method by which the trail is marked. Without a clearly marked trail, users may not recognize the full extent of the trail system or they may lose confidence in the system if they have doubt about where to go.

Signage along a trail is the most common method for marking trails and is used in most trails systems in urban areas. In some wilderness areas, trails are marked by more primitive methods, such as piles of rock or dots of paint on rocks. In the urban setting of Red Oak, trail signage can take on a number of looks to suite each particular need.

One of the simplest and most cost effective methods for marking a trail is to attach a sign to an existing feature, such as a street sign, or in the case of the sign pictured to the right, a tree. Since most of the trails identified for the first phase of the Red Oak trails system are on existing streets and sidewalks, the first set of signage will in most cases be affixed to existing sign posts, buildings, or natural features.



Stand alone signage, such as that shown to the left, will be necessary in areas where there are no other options available for affixing a sign. Most new sections of trail, or those in areas with few trees or buildings near the trail, will need to have stand alone signage. Stand alone signage is more costly to install than those affixed to an existing structure because posts are required. Therefore, stand alone signage should be durable in order to reduce the amount of replacement signs necessary.

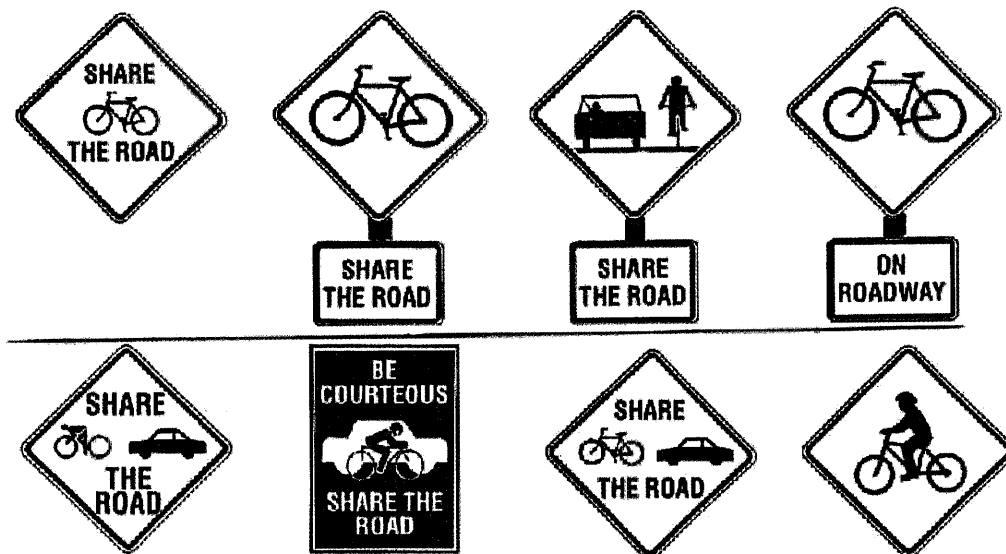


Map kiosks/interpretive panels are important elements at major trail heads or at points of interest along the trails. Owing to their size and the large amount of information that they display, most trails will only have a few of these structures. Map kiosks and interpretive panels offer an introduction to the trail system and should therefore not only tell the route of the trail, but should give the visitor background information on the trail's development and the surrounding area.

Signage can be one of the most expensive elements of a trails system after the trail surface itself. There are alternatives, however, to the traditional metal sign on a post. One example of a cost effective alternative is a painted line that identifies the trail route. Such lines are particularly suited to trails that follow existing sidewalks, such as historic home tour routes or routes through a business district.



Many of the trail routes identified in this plan, particularly in the early phases, will take place along existing sidewalks and existing streets. In order to accommodate pedestrians, these routes must be clearly marked with recognizable safety signs, such as pedestrian crossing signs and bike lanes. Controlled pedestrian crossing areas, such as pedestrian activated electronic signals, may be cost prohibitive to install, but additional signage and speed bumps can be an effective alternative to reduce the speed of motorists in areas frequented by trails users and draw motorists' attention to trails users.



Although the main emphasis of this plan is on land based, non-motorized trails, Red Oak does have an important water trail asset in the East Nishnabotna River, which runs along the western edge of the city. Water trails require special signage considerations. Water trail signage must be able to withstand occasional inundation during flood events. Also, water trails signage must be visible from a distance, since most signs must be placed away from the water's edge to avoid damage.



Further Information:

American Discovery Trail Society

<http://www.discoverytrail.org/>

American Trails and the National Trails Training Partnership

<http://www.americantrails.org/>

Iowa 2005 State Bicycle Map

<http://www.iowadotmaps.com/msp/pdf/bikemap.pdf.html>

Iowa Department of Natural Resources, Trails Information

<http://www.iowadnr.com/trails/index.html>

Iowa Department of Transportation

www.dot.state.ia.us

Iowa Rails to Trails

<http://www.trailsfromrails.com/iowa.htm>

Iowa Safe Routes to School

www.dot.state.ia.us/saferoutes/

Iowa Trails 2000 Comprehensive Statewide Trails Plan

<http://www.iowabikes.com/trails/>

Red Oak and Montgomery County Retail Trade Analysis, 2004 Iowa State University Extension.

<http://www.seta.iastate.edu/retail/publications/2004rta/RedOak04.pdf>

Red Oak, Iowa Website

<http://www.redoakiowa.com/>

Wabash Trace Trail

<http://wabashtrace.connections.net/>