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## INTRODUCTION

The recommendation for physical activity for adults is 150 minutes per week; for youth, the recommendation is 60 minutes per day. 82.7% of Harvey County adults do not get the recommended amount of physical activity (2015, Behavioral Risk Surveillance System). People who do not get enough physical activity are at an increased risk for developing chronic diseases such as diabetes and heart disease which cost Kansans an estimated \$40 billion per year (Kansas Chronic Disease Risk Reduction Program Overview and Local Successes, KDHE). One way to combat the lack of physical activity and the money loss associated with it is to improve the physical environment in a way that promotes active transportation, specifically bicycling, for local errands and commuting to work or school.

Beyond the health care costs, bicycling benefits local economies directly. People between the ages of 18 and 36 are now the largest sector of our workforce; this group of young adults is more likely to want alternative forms of transportation. According to the CEO of the Downtown Denver Partnership, the number one thing that attracts potential employees to Denver high tech industries is bike lanes. This is a trend repeated across the US. By choosing to use their own energy for transportation rather than automobiles, these young workers are more likely to shop local. One example of this is from the 2012 New York Department of Transportation study called "Measuring the Streets." The result of this study was a sales increase of 49% for the businesses located near protected bike lanes compared to a 3% increase for the rest of the borough.

USD 373 is encouraging their students to bicycle to school as part of their Safe and Active School Transportation program. A Bicycle Master Plan which includes connectivity to school buildings would be an integral part of the plan to increase students' physical activity and reduce traffic congestion. This added layer of safety for children is another attraction for new businesses and residents.

Children are not the only group who reap the benefits of the additional safety of a planned bicycle infrastructure. Workers commuting by bicycle, the elderly who choose to use bicycle for running errands, those who cannot afford a car but still need to get to work or the grocery store, and college students all deserve the protection offered by bicycle facilities.

Improved bicycle facilities can help save money in health care, recruit young workers and businesses, and increase local sales to help build the health and economic foundation of the community.

## **PLANNING**

The Bicycle Master Plan identifies current and future needs for bicycle infrastructure in the City of North Newton. The plan will guide future development and with grant acquisition to offset the cost of future development, especially with trail and connectivity development.

The plan has been developed with the input of community members via the planning committee and discussions with residents either in a one-on-one situation or in group settings.

Goal: The plan for the City of North Newton, in consultation with the City of Newton, will provide a guide for infrastructure for bicycle transportation to promote a safe bicycling culture, increase the health of the community and improve the overall quality of life of residents.

The City of Newton adopted a Bicycle Master Plan in the fall of 2015. As the plan was developed for Newton, considerations were made to ensure that travel between the two communities would be facilitated. When both plans are fully implemented, travel by bicycle from community to the other should be almost seamless.

**EXISTING CONDITIONS**

Infrastructure

Currently, multi-use paths are the only available infrastructure in North Newton. A path runs along Kansas Ave from the city limits to 24<sup>th</sup> street and along 24<sup>th</sup> street until it turns north on to Bethel Campus. The path goes through campus and crosses North Main at 27<sup>th</sup> to the Kauffman museum the north to 30<sup>th</sup> street where it ends.

Bicycle Counts

To track bicycle usage annual bicycle counts will be conducted. Bicycle counts will be used in future bicycle master plan updates, and to show need for future grants to obtain funding for higher cost projects. The City of Newton conducts bicycle counts on the first Wednesday of May from 5pm to 7pm; The City of North Newton will conduct bicycle counts at the same time.

**Locations:** Sand Creek Trail at Kauffman museum; Anderson between Bluestem and Goldenrod; 24<sup>th</sup> street between North Main and Minnesota; Bluestem between Wildwood Way and Ivy Drive; 36<sup>th</sup> street at the water tower.

Bicycle Data Collection – Screenline Count Form						Date: May 3, 2017		
Location: _____		Between: _____		and _____				
Name: _____		Phone#: _____						
<p>Instructions: Count for two hours in 15 minute increments. Count bicyclist who ride on the sidewalk. Count all bicyclists crossing your screen line under the appropriate categories. The most important data is the number of cyclists, additional attributes are secondary. Count the number of people on the bicycle, not the number of bicycles. E.g. – a tandem bicycle counts as two cyclists and two tally marks. Sidewalk riding is riding on the sidewalk in either direction of travel. Shared-use path riding is using the shared-use path adjacent to a roadway. Wrong way riding is a bicyclist riding in the street in the opposite direction of vehicle travel. Total the tally marks for the column in the bottom row when complete and return form.</p> <p>Use tally marks.</p> <p>Cyclists are assumed to be male unless tally mark is present indicating female.</p>								
		Riding Attributes				Approximate Age		
Time	Cyclist	Female	Sidewalk Riding	Path Riding	Wrong - way	Child	Young Adult (13-21)	Adult
5:00 – 5:15								
5:15 – 5:30								
5:30 – 5:45								
5:45 – 6:00								
6:00 – 6:15								
6:15 – 6:30								
6:30 – 6:45								
6:45 – 7:00								
Totals								
Counter Comments:								

## **Bicycle Facility Types**

Bicycle facilities are any installation that supports people riding bicycles. Facility choice varies based on the needs of the community and the traffic flow of the streets. In North Newton, the facilities types identified for installation are the bicycle boulevard, multi-use paths, and bicycle parking.

### BICYCLE BOULEVARD

Bicycle boulevards (also known as bicycle routes or bicycle priority streets) are usually local streets with low traffic volume and speed. Boulevard designation is easy and low cost since it works with the existing layout of the street. No construction is needed and it does not require removing parking. The only change on a bicycle boulevard is designation and markings to identify the street as a preferred route for people riding bicycles.

The advantages of designating a street as a bicycle boulevard (besides the low cost of installation) is increased safety. Street markings remind people riding bicycles and people driving automobiles to watch out for each other.

### MULTI-USE PATH

A multi-use path (also known as a shared-use path) is a lane separated from automobile usage intended for the use of people walking, strollers, wheelchairs, and people riding bicycles; this paths are not intended for use by motorized vehicles. A local example of a multi-use path would be the Sand Creek Trail or the River Walk in Wichita.

Multi-use paths may be constructed with various surface types, such as concrete or crushed limestone. ADA accessibility should be planned into construction of paths to facilitate the use of wheeled devices (strollers and wheelchairs as well as bicycles).

The advantage of a multi-use path is that it is completely separated from the street so many people feel safer riding a bicycle on a path than on a street. The disadvantages are that construction of a path, especially a paved path, is far costlier and when separated from the street, conveniences such as lighting must also be considered in design and budgeting.

### BICYCLE PARKING

Requirements for automobile parking are written in to the zoning codes of most cities in the US. Bicycle parking is often ignored. When a community decides to support all people using their streets, bicycle parking cannot be ignored. Bicycle parking has an advantage over automobile parking in that you can park multiple bicycles in the space that would accommodate one automobile.

Most bicycle parking in Kansas is in the form of bicycle racks or various forms bolted to the concrete on the sidewalk. Bicycle racks can accommodate anywhere from one to nine or more bicycles depending on placement and design. The safest version of bicycle racks is the variety that allow locking of the bike frame to the rack in at least two places.

## PROPOSED NORTH NEWTON BICYCLE NETWORK

Three types of bicycle infrastructure have been identified for use: multi-use paths, bicycle boulevard, and bicycle parking. Separated bicycle lanes were not selected because traffic flow of identified roads did not merit the use of separated lanes.

### MULTI-USE PATHS

Three locations have been identified for multi-use paths.

1. Extend the current Sand Creek Trail north from Kauffman Museum along Kidron Creek to 36<sup>th</sup> Street then continue west to Old Highway 81.
2. Along the east side of Anderson between 36<sup>th</sup> Street and Old Highway 81
3. Expanding the existing sidewalk on the west side of K-15/Main Street to the City of Newton limits to improve safety and access to Northridge Elementary.



*Path example (Urban Bikeway Design Guide, NATCO, 2014)*

### BICYCLE BOULEVARD

Two streets have been identified for shared-use markings.

1. 24<sup>th</sup> Street from Kansas to Anderson
2. 27<sup>th</sup> from Main to Bluestem, then along Bluestem to Anderson



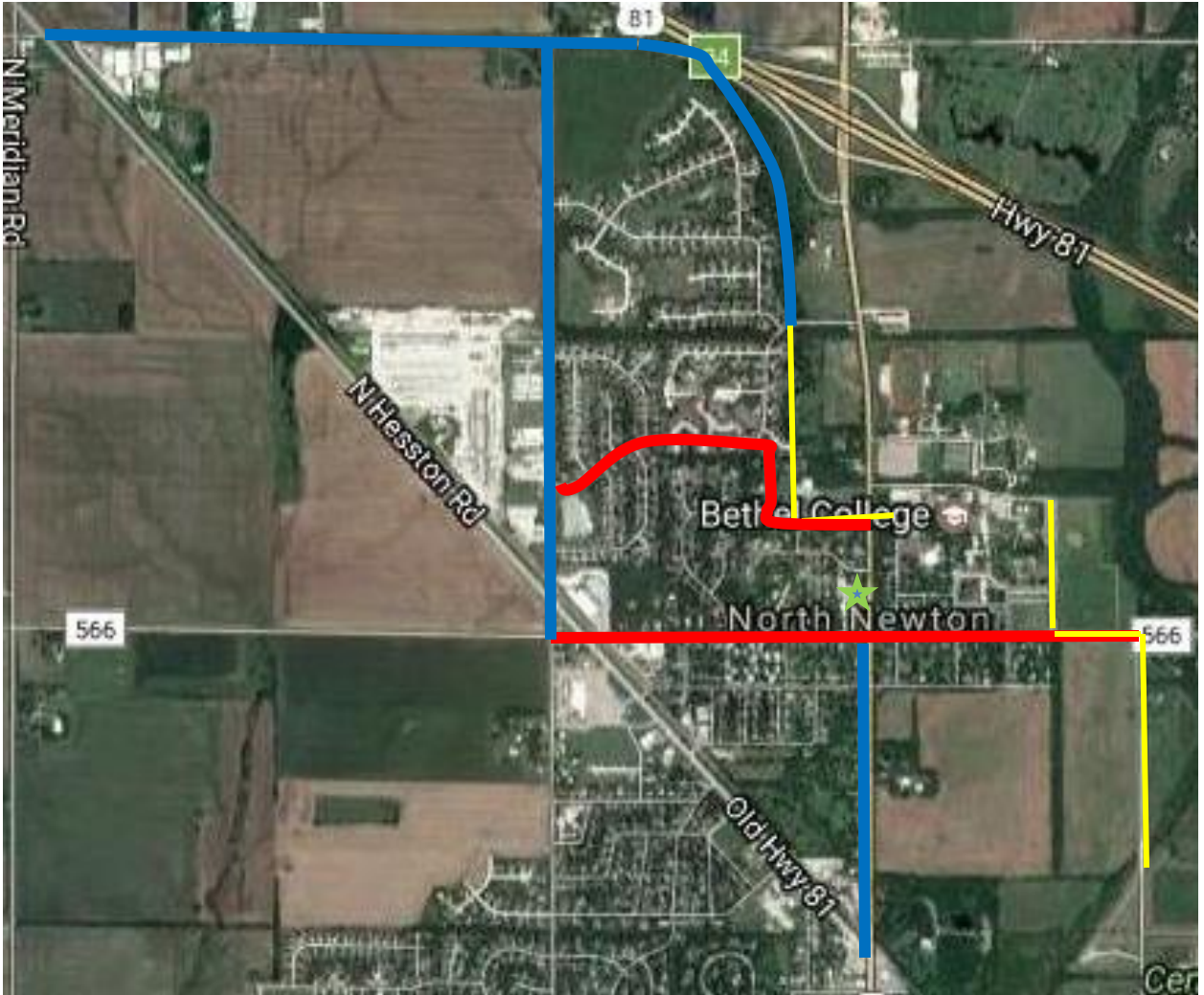
*Bike Boulevard graphic (Urban Bikeway Design Guide, NATCO, 2014)*




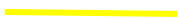
### BICYCLE PARKING

Two locations have been identified for installation of bike parking: the US Post Office and the City Building, both located on North Main. Other bike parking facilities are recommended for installation at the discretion of the property owners, such as Kidron Bethel, Kauffman Museum, on Bethel College Campus, and at the new North Woods Plaza development.



*Three styles of bicycle parking racks*



- Multi-use path (proposed) 
- Bicycle Boulevard (proposed) 
- Bicycle Parking (proposed) 
- Multi-use path (existing) 



## IMPLEMENTATION

Implementation of proposed on-road bicycle infrastructure will occur during normal maintenance and striping and will be included in the budget of regular maintenance. Implementation of proposed off-road bicycle infrastructure (multi-use paths) will occur as budgeting and supplemental grants, either governmental or private, become available to assist with the cost of construction of the infrastructure. Engineering designs and plans will be developed by the contracting firm for construction of the infrastructure designated in the plan.

## Signs and Road Markings



Sample "Bike Route" sign



Sign on Boyd Ave. in Newton

## Shared Lane Marking

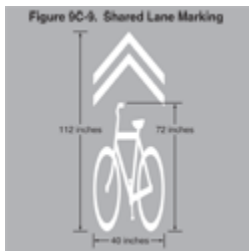
Shared Lane Marking, or "sharrow" is an on-the-road marking used to denote that a lane will be used by both people driving automobiles and people riding bicycles. A "sharrow" is placed in the center of the lane to show that bikes have full use of the lane just as autos.



Sharrow on Boyd Ave. in Newton

The benefits of shared lane markings include encouraging people riding bicycles to use designated routes and to remind people driving automobiles to be alert for bicycles. The marking is part of the wayfinding system by designating the street as a bike route.

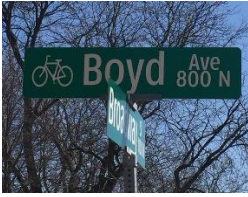
Proper guidance for installing shared lane markings are located in the Manual on Uniform Traffic Control Devices (MUTCD) in section 9C.07.



(MUTCD, 2009; fig. 9C-9)

## Street Name Signs

Modifying street name signs can help both bicyclists and drivers recognize a street with bicycle amenities on it such as bike lanes or a shared-use lane. Common methods of branding include placing a logo of a bicycle above or beside the street name on the street name sign.



*Sign on Boyd Ave. in Newton*

## Bicycle Wayfinding Signage

Wayfinding signs help guide help people find designated paths or routes for bicycle use. Signs are typically placed at intersections or key locations along the path or route. Signs often include the distance to highlighted locations.

Benefits to using wayfinding signs include reminding people driving automobiles (on infrastructure allowing for automobiles) that bicycles will be present. It encourages people riding bicycles to use marked routes and provides new riders or visitors with guidance to key locations. Wayfinding signs on paths (such as the Sand Creek Trail) would remind people that the path is for those riding bikes as well as those walking or jogging.



**Berkeley, CA**



**Chicago, IL**



**Oakland, CA**

*(Urban Bikeway Design Guide, NACTO 2014)*