

MEMORANDUM

Date: August 6, 2013
To: Lawrence & Douglas County MPO Countywide Bike Plan Steering Committee
From: Tom Huber & Kevin Luecke
Re: Existing Bike Plans

The Lawrence & Douglas County MPO has an existing plan for bicycle facilities, primarily in the Lawrence area. This memo offers comments on the existing and proposed MPO bike facilities which are summarized in Table 1.

Table 1: Miles of existing and proposed bikeways in the Lawrence Douglas County Region T2040 Bikeway System Map.

Facility	Existing	Proposed	Total	% Implemented
Bike Lane	12.17	44.26	56.43	22%
Bike Route	44.16	77.86	122.02	36%
Shared Use Path	35.34	66.86	102.20	35%
Recreational Trail	10.94	0	10.94	100%
Total	102.61	188.98	291.59	35%

Note: Bike lanes along some median-divided streets are double counted, which increases the distance total.

The final Countywide Bike Plan will include recommendations for changes to the existing and proposed bikeways in the Lawrence area as well as recommendations for bikeways connecting to outlying communities in Douglas County (particularly Eudora and Baldwin City) as well as connections to parks, lakes and other attractions in the rural areas of the county.

The following comments apply to the existing and proposed bikeway networks.

The existing network is discontinuous

The existing bikeway network in the Lawrence area is discontinuous – bikeways begin and end suddenly and often do not connect to other bikeways. A discontinuous network is often typical of new bikeway networks that are being implemented; this is particularly true of bikeways such as bike lanes and paths that may take significant time and money to implement.

The proposed network relies heavily on bike routes

As a facility type, bike routes do not provide much benefit to bicyclists. While bike routes may indicate to bicyclists streets that have lower traffic volumes and are good for bicycling, they are often meandering and do not provide direct access to destinations such as commercial areas. When combined with wayfinding signage (see below), bike routes can be an acceptable facility on low-traffic streets, but they generally should not be relied on as a primary facility type in an urban area. It should be noted that signed bike routes can also be a useful bike facility in rural settings (especially when used in conjunction with paved shoulders), and the final Countywide Bike Plan will likely recommend some bike routes.

Additional bikeway types will be needed to meet the needs of users

The current and proposed bikeway network is comprised of three primary facility types: bike lanes, bike routes, and shared use paths. Additional bikeway facility types are increasingly common in urban areas, and can better meet the needs of bicyclists than standard lanes, routes and paths. The range of bicycle facility types include:

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- **Bike Lanes:** On-street lanes designated for exclusive bicycle use. Bike lanes are typically five feet wide and are between the primary travel lanes and the parking lane or the curb. Bike lanes may be subdivided into the following categories:
 - **Conventional Bike Lanes:** A standard bike lane that is separated from traffic with a single white line.
 - **Buffered Bike Lanes:** Similar to a standard bike lane, but with a wider painted buffer between the lane and moving traffic or between the lane and parked cars, or on both sides. The buffer further separates bicyclists from moving vehicles or keeps them from riding in the “door zone” where a parked car’s door may be opened into the bike lane.
 - **Counterflow Bike Lanes:** Bike lanes that run in the opposite direction of other traffic on a one-way street. Counterflow bike lanes provide bike access on one-way streets where bicyclists may otherwise ride against traffic or on the sidewalk.
 - **Climbing Lanes:** Bike lanes that are installed only on one side of a street on a hill; the climbing lane is installed in the uphill direction. Climbing lanes are typically used where bike lanes cannot be accommodated in both directions. Bicyclists going down hill are often traveling at speeds close to the speeds of motor vehicles, and sharrows (see below) are installed in the downhill direction. Bicyclists traveling uphill are often traveling far slower than motor vehicle traffic, and providing a bike lane allows bicyclists to move out of the flow of motor vehicle traffic.
 - **Colored Bike Lanes:** Any of the above bike lanes may have green color applied to them to highlight the presence of the bike lane. Colored lanes are typically used in high-conflict areas such as through complicated intersections, through areas where traffic is merging across the bike lane, or areas where traffic frequently turns across the bike lane.
 - **Cycle Tracks:** Bicycle facility within the street right of way that provides physical separation from the adjacent travel lane. Most commonly cycle tracks will be one-way facilities on each side of a street, but may be two-way facilities on one side of a street. Cycle tracks may be separated from motor vehicle traffic by a curb, bollards, grade separation or other physical separation.
 - **Neighborhood Greenways/Bicycle Boulevards:** Streets with low motorized traffic volumes and speeds designated to provide priority to bicyclists. Neighborhood greenways benefit neighborhoods by reducing cut-through traffic and speeding without limiting access by residents.
 - **Shared Lane Markings:** Symbols painted on the street that indicate to bicyclists where they should ride and indicate to motorists that they may be sharing the street with bicyclists.
 - **Signed Bike Routes with Wayfinding:** Streets with signs indicating that the street is a bike route. For Lawrence as for other communities, the signs should also have directional and destination attributes to help riders navigate (see more discussion below).

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- **Shared Use Paths:** Paths separated from streets that are open to bicyclists, pedestrians and other non-motorized users. Shared use paths are typically ten to twelve feet wide and should be paved with asphalt or concrete

Sidepaths should complement, not replace, on-street bikeways

The Lawrence area has a growing network of sidepaths along city streets, particularly in West Lawrence where development has occurred in recent years. Sidepaths can be a good bicycle facility for some bicyclists, but they also present conflicts at intersections and driveways. In general, bike lanes should be included on any urban street that also has a sidepath. Providing bike lanes allows faster bicyclists to use a more direct route than a sidepath. Field work conducted this summer indicates that many of the streets with sidepaths can accommodate bike lanes by being re-stripped. Multiple examples of streets with both bike lanes and sidepaths around the United States will be provided in the final plan.

It should be noted that Kansas has a “mandatory sidepath law” – a law that requires bicyclists to ride on sidepath if it exists. Toole Design’s understanding of this law is that it only applies when the adjacent sidepath is for the exclusive use of bicyclists.¹ All paths in Lawrence and Douglas County that are open to bicyclists are also open to pedestrians and other non-motorized users; as such, Kansas’s mandatory sidepath law does not apply to these paths. If the law is being applied differently, please notify us.

Wayfinding signs are needed

The existing bikeway network does not indicate to users the direction or distance to different destinations. Wayfinding signs provide information about destinations, direction and distance to help bicyclists determine the best routes to take to major destinations. Signs provide on-the-ground information that helps bicyclists understand and use the on-street and trail network without the use of a map. Directional signs also provide additional messaging to motorists to expect bicycles on the roadway. The presence of signs encourages bicycling on designated corridors because users feel the signs will direct them to the best route for getting to their destination. Signs may also be used to direct bicyclists around barriers.

Standard street cross-sections should be reevaluated

A number of streets in the Lawrence area that have been recently reconstructed are too narrow to include bicycle lanes. In general, two lane streets with no parking should be 32 feet wide (pavement, not including gutters), which allows for two 11-foot travel lanes and two 5-foot bike lanes. Streets that are heavily utilized by transit buses or other truck traffic should allow for 12-foot travel lanes. While bike lanes can be retrofit onto streets that are 30 feet wide, it can result in the less than desirable operating environment for bicyclists.

Narrower Lanes and Bicycle Lanes





Several streets were identified by the TDG Team during the June, 2013 field evaluation that could be retrofitted with bicycle lanes if the adjacent lanes were narrowed to 11’ or 10’. Other operating conditions of many of these streets – low speeds and lower traffic volumes - were favorable enough that these could be considered for bicycle lanes. A separate memo has been prepared which discusses the use of narrower travel lanes.

¹ See Hugh, Brent. “Kansas Sidepath Law Clarified: Schallenberger v. Rudd 244 Kan 230.” Missouri Bicycle and Pedestrian Federation. January 27, 2009. <http://mobikefed.org/2009/01/kansas-sidepath-law-clarified-schallenberger-v-rudd-244-kan-230.php>








T2040 Bikeways:

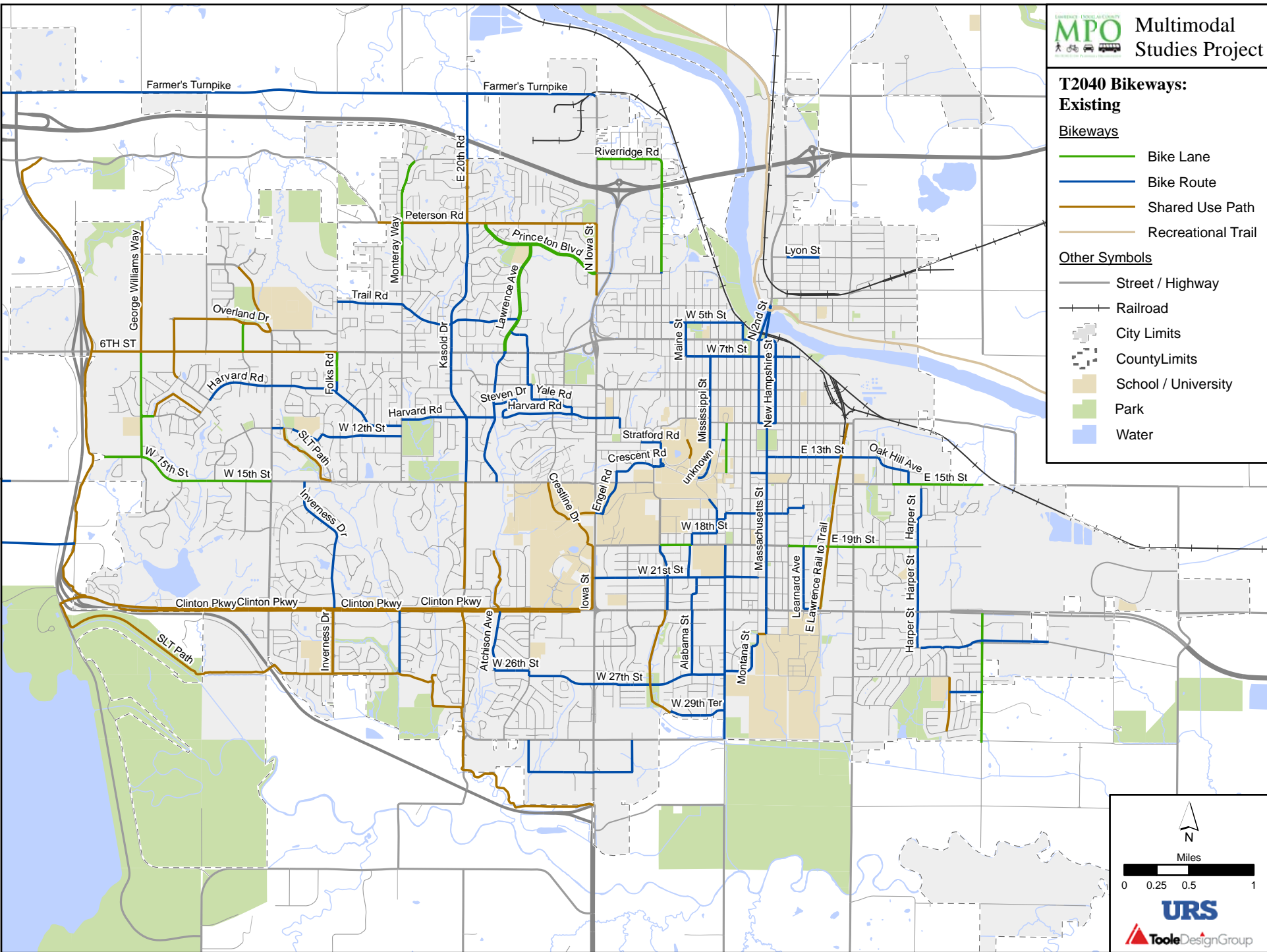
Existing


Bikeways

-  Bike Lane
-  Bike Route
-  Shared Use Path
-  Recreational Trail

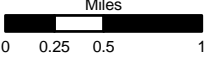
Other Symbols

-  Street / Highway
-  Railroad
-  City Limits
-  County Limits
-  School / University
-  Park
-  Water







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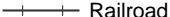







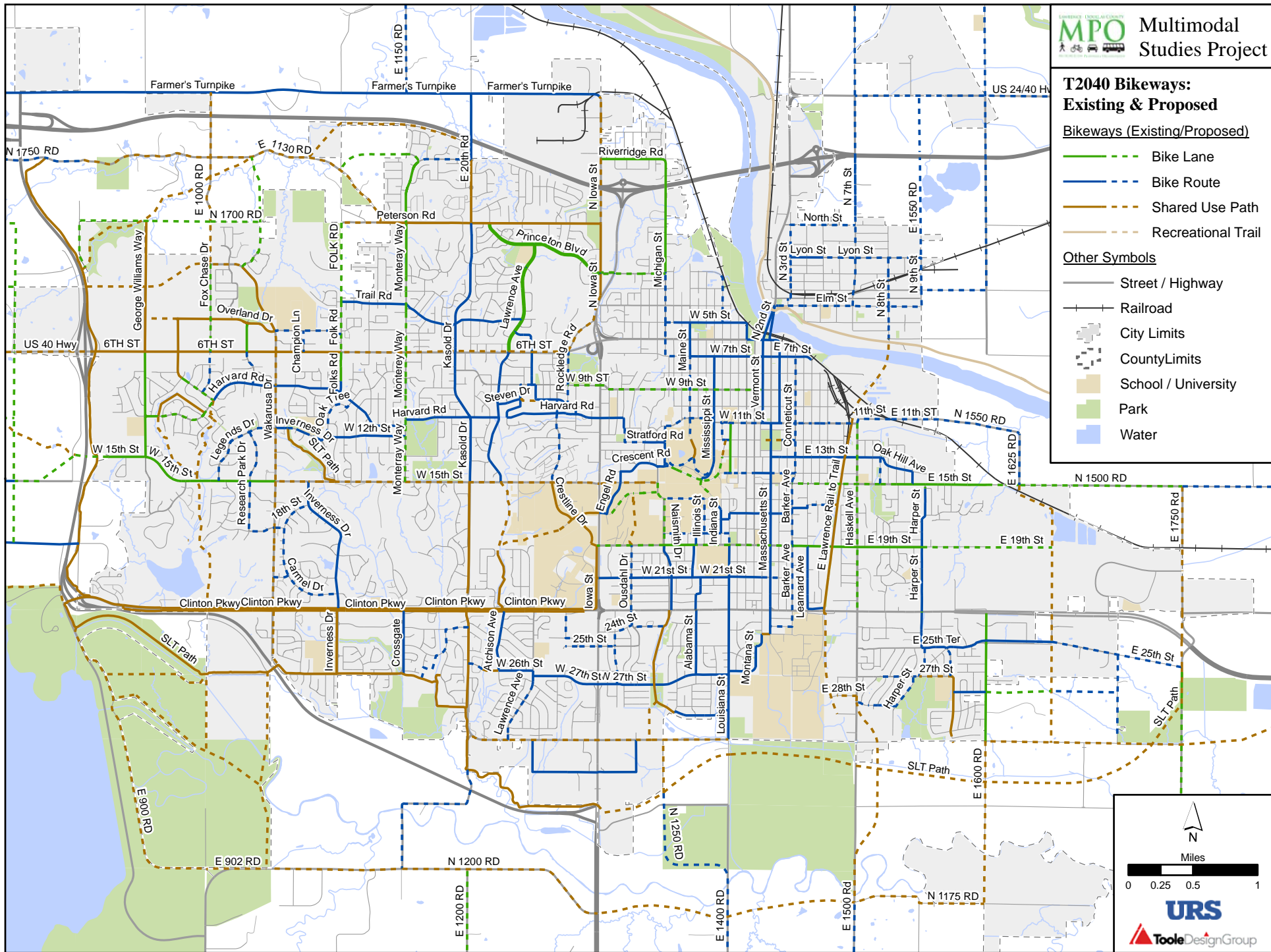
**T2040 Bikeways:
Existing & Proposed**


Bikeways (Existing/Proposed)

-  Bike Lane
-  Bike Route
-  Shared Use Path
-  Recreational Trail

Other Symbols

-  Street / Highway
-  Railroad
-  City Limits
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 Miles

