



2018

# Bicycle & Pedestrian Resource Guide



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### INTRODUCTION

Kentuckiana Regional Planning and Development Agency (KIPDA) serves as the Metropolitan Planning Organization (MPO) for the Louisville / Jefferson County (KY – IN) Metropolitan Planning Area (MPA). KIPDA covers Clark and Floyd counties in Indiana and Bullitt, Jefferson and Oldham counties in Kentucky. KIPDA is in a unique position to be governing and planning for a diverse region, both rural and urban geographies. Bicycling and other alternative modes of transportation are slowly on the rise nationally<sup>1</sup> and KIPDA supports and envisions a complete and cohesive active transportation network that connects across cities, counties and states.

Bicycle and pedestrian transportation offer many benefits, ranging from health benefits such as increased physical activity and cleaner environments due to decreased pollution and congestion, lower transportation costs and opportunities to complete commuting trips. Bicycling and pedestrian transportation are a viable transportation alternative. Bicycle and pedestrian facilities can play an important role in the transportation network, as these facilities provide safe and alternative ways for people to travel and get to their destinations.

This Bicycle and Pedestrian Resource Guide will address current bicycle and pedestrian facilities, gaps and barriers, safety and performance targets, connectivity to other planning resources and project implementation. This document will serve as a tool for Local Public Agencies (LPA) and other planning partners to better coordinate bicycle and pedestrian transportation needs as well as a tool to help create a cohesive and complete bicycle and pedestrian network.

*Connecting Kentuckiana*, KIPDA's next long-range Metropolitan Transportation Plan (MTP) update outlines many bicycle and pedestrian goals and objectives. The goals and objectives in *Connecting Kentuckiana* will strive to:

#### ***Improve the connectivity of the pedestrian network***

- By 2040, increase by 10% pedestrian walkways within identified Community Access Clusters (including, but not limited to, high density employment, high density residential, high density shopping, and Access to Education clusters) and to public transit stops.

#### ***Improve the connectivity of bicycle facilities***

- By 2040, increase by 10% the number of miles of dedicated bicycle facilities within identified Community Access Clusters, high density employment, high density medical, and high density shopping and within 1 mile of the boundary, and near schools by adding new facilities, filling in gaps in existing facilities, and improving access to transit stops on functionally classified roadways.

#### ***Increase safety for all users***

- By 2040, reduce by 20% the ratio of all crashes to regional Vehicle Miles Traveled with high priority given to reducing crashes involving bicycles and pedestrians.

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<sup>1</sup> Alliance for Biking & Walking. (2016). *Bicycling and Walking in the United States*. Washington, D.C.: Alliance for Biking & Walking.

### ***Increase the availability and efficiency of person based multi-modal options***

- Increase system wide transit ridership by 20% by 2040.
- Reduce by 20% the identified gaps in pedestrian walkways along functionally classified roadways by 2040.
- Reduce by 20% the identified gaps in bikeways along functionally classified corridors by 2040.

### ***Influence positive economic impacts***

- By 2040, increase by 10% pedestrian walkways within areas with moderate to significant employment growth and to public transit stops.
- By 2040, increase by 10% the number of miles of dedicated bicycle facilities within areas with moderate to significant employment growth by adding new facilities, filling in gaps in existing facilities, and improving access to transit stops on functionally classified roadways.

### ***Connecting Kentuckiana Vision Statement***

*Connecting Kentuckiana*, the next MTP for the Louisville (KY-IN) MPO strives to implement a sustainable and multimodal transportation system by improved connections, safe and reliable transportation system, more mobility options, innovative approaches to improve the transportation system in a cost-effective and efficient way and responding to the needs and wants of the people.

*Connecting Kentuckiana* explores the many facets of transportation ranging from connectivity within small geographic areas to connectivity throughout the region and beyond. This is accomplished by ensuring all modes move and operate safely and efficiently. The needs of both the growing and established areas must be incorporated for a balanced system that supports existing infrastructure as well as new or planned facilities.

A vision is set forth for transportation in the region as it evolves into the future that recognizes the various needs of transportation users, giving recognition to the opportunities and benefits associated with advancing innovative strategies and fostering expanded modal choices.

## **PERFORMANCE BASED PLANNING**

Performance based planning is an approach that uses data to support decisions that help to achieve performance goals. Ageing infrastructure along with limited funding can make it challenging to address all of the transportation system needs at once, and can prioritize improvements and determine the most efficient use of funds.

KIPDA utilizes a performance based planning approach. Along with federal performance measures, KIPDA has developed a set of performance measures that will impact project selection in the MTP and the Transportation Improvement Program (TIP). The MTP uses performance trends and other data to define focus areas, in which projects and investments will be prioritized. KIPDA's Project Management Process (PMP) looks at performance measures when considering programming projects into the TIP. Any future project that has a chance of impacting performance targets, federal or KIPDA developed will have a better opportunity to receive funding through the TIP than projects that do not directly address any performance targets.

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KIPDA took national performance goals into consideration when developing goals and objectives for the long-range MTP. These goals and objectives were developed by stakeholders and community members in the KIPDA region as part of KIPDA's planning process. Performance targets help to take KIPDA's MTP goals and objectives one step further. More information about KIPDA developed performance measures and targets can be found in KIPDA'S [Performance Management Plan](#). Below are a list of KIPDA developed non-motorized performance targets, which were developed to support the non-motorized goals and objectives of KIPDA's long-range MTP.



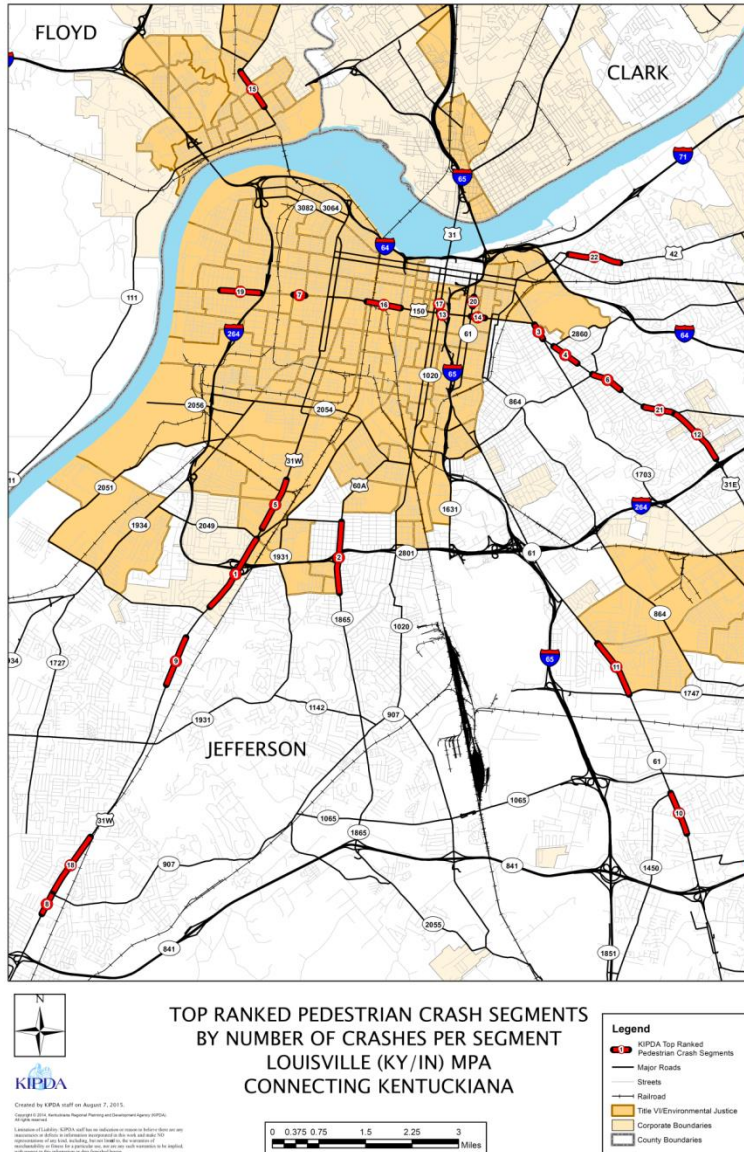
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NON-MOTORIZED PERFORMANCE MEASURES			
REQUIRED BY	PERFORMANCE MEASURE	BASELINE	TARGET
MPO	Reduce number of crashes involving pedestrians	<b>(555.2)</b> Crashes involving pedestrians (2012-2016 5-year rolling average)	Reduce by 20% by 2040 to 444 crashes involving pedestrians
	Reduce number of crashes involving bicyclists	<b>(238)</b> Crashes involving bicyclists (2012-2016 5-year rolling average)	Reduce by 20% by 2040 to 190 crashes involving bicyclists
MPO	Reduce gaps in the existing pedestrian network	<b>(TBD)</b> # of miles of gaps in the pedestrian network (within 1 mile of existing facilities on the same roadway)	Reduce by 20% by 2040
	Reduce gaps in the existing bicycle network	<b>(TBD)</b> # of miles of gaps in the bicycle network (within 1 mile of existing facilities on the same roadway)	Reduce by 20% by 2040
MPO	Enhance pedestrian access to schools	<b>(291)</b> Schools are located within ¼ mile of pedestrian facilities	Increase by 20% by 2040 to 349 schools
	Enhance dedicated bicycle access to schools	<b>(71)</b> Schools are located within ¼ mile of dedicated bicycle facilities	Increase by 20% by 2040 to 85 schools
MPO	Enhance pedestrian access within Community Access Clusters	<b>(296.8)</b> Miles of pedestrian facilities inside these clusters	Increase by 10% by 2040 to 326.5 miles of pedestrian facilities
	Enhance dedicated bicycle facilities leading to and within Community Access Clusters	<b>(129.1)</b> Miles of dedicated bicycle facilities inside these clusters and within 1 mile of the boundary	Increase by 10% by 2040 to 142.0 miles of bicycle facilities
MPO	Enhance pedestrian access within High Density Medical Clusters	<b>(73.4)</b> Miles of pedestrian facilities inside these clusters	Increase by 10% by 2040 to 80.7 miles of pedestrian facilities
	Enhance dedicated bicycle access leading to and within High Density Medical Clusters	<b>(64.4)</b> Miles of dedicated bicycle facilities inside these clusters and within 1 mile of the boundary	Increase by 10% by 2040 to 70.8 miles of bicycle facilities
MPO	Enhance pedestrian access within High Density Shopping Clusters	<b>(142.9)</b> Miles of pedestrian facilities inside these clusters	Increase by 10% by 2040 to 157.2 miles of pedestrian facilities
	Enhance dedicated bicycle access leading to and within High Density Shopping Clusters	<b>(78.9)</b> Miles of dedicated bicycle facilities inside these clusters and within 1 mile of the boundary	Increase by 10% by 2040 to 86.8 miles of bicycle facilities

**Table 1.** Bicycle and pedestrian performance measures.

## CRASH ANALYSIS

In 2015 KIPDA analyzed bicycle and pedestrian crash data. Crashes involving bicyclists and pedestrians were extracted from the entirety of crash data for additional review. These crashes, even though there are few, account for disproportionate amount of crash injuries and fatalities. Bicycle and pedestrian crashes were assigned to the nearest road segment. A series of maps and tables were created, such as the ones below, which depict bicycle and pedestrian crashes per road segment. This analysis was done using a set of ten-year data, from 2005-2014.

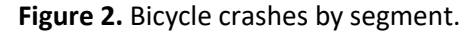


**Figure 1.** Pedestrian crashes by segment.

**KIPDA REGION'S TOP 20 KENTUCKY AND INDIANA  
PEDESTRIAN HIGH CRASH SEGMENTS (2005-2014)**

Rank	Segment	County	Total Crashes Involving Pedestrians (2005-2014)
1	US 31W (Dixie Hwy.) from Crums Ln. to Gagel Ave.	Jefferson	44
2	KY 1865 (Taylor Blvd.) from US 60A (Berry Blvd.) to Bluegrass Ave.	Jefferson	37
3	US 31E/US 150 (Baxter Ave.) from Cherokee Rd. to US 31E/US 150 (Bardstown Rd.)	Jefferson	32
4	US 31E/US 150 (Bardstown Rd.) from Grinstead Dr. to Cherokee Pkwy.	Jefferson	28
5	US 31W (Dixie Hwy.) from Ralph Ave. to Park Rd.	Jefferson	27
6	US 31E/US 150 (Bardstown Rd.) from US 60A (Eastern Pkwy.) to Speed Ave.	Jefferson	25
7	W. Broadway from S. 26th St. to S. 28th St.	Jefferson	24
8	US 31W (Dixie Hwy.) from KY 907 (Valley Station Rd.) to Ashby Ln.	Jefferson	23
9	US 31W (Dixie Hwy.) from Upper Hunters Trace to Blanton Ln.	Jefferson	22
10	KY 61 (Preston Hwy.) from KY 1450 (Blue Lick Rd.) to Miles Ln.	Jefferson	22
11	KY 61 (Preston Hwy.) from E. Indian Trl. To KY 1747 (Fern Valley Rd.)	Jefferson	20
12	US 31E/US 150 (Bardstown Rd.) from Trevilian Way to Gardiner Ln.	Jefferson	20
13	US 150 (W. Broadway) from S. 1st St. to KY 1020 (S. 2nd St.)	Jefferson	18
14	US 150 (E. Broadway) from S. Clay St. to S. Jackson St.	Jefferson	18
15	Vincennes St. from Charlestown Rd. to Elm St.	Floyd	18
16	US 150 (W. Broadway) from US 60 (S. 9th St.) to S. 15th St.	Jefferson	17
17	KY 1020 (S. 2nd St.) from W. Chestnut St. to US 150 (W. Broadway)	Jefferson	17
18	US 31W (Dixie Hwy.) from Stonestreet/Johnsontown Rd. to KY 907 (Valley Station Rd.)	Jefferson	16
19	W. Broadway from S. 34th St. to S. 41st St.	Jefferson	16
20	KY 61 (S. Jackson St.) from E. Muhammad Ali Blvd. to E. Chestnut St.	Jefferson	16
21	US 31E/US 150 (Bardstown Rd.) from Douglass Blvd. to Trevilian Way/KY 155 (Taylorsville Rd.)	Jefferson	16
22	US 42 (Brownsboro Rd.) from Mellwood Ave. to N. Ewing Ave.	Jefferson	16

**Table 2.** List of pedestrian crashes by segment.



Rank	Segment	County	Total Crashes Involving Bicycles (2005-2014)
1	KY 1865 (Taylor Blvd.) from US 60A (Berry Blvd.) to Bluegrass Ave.	Jefferson	18
2	US 31E (Bardstown Rd.) from Grinstead Dr. to Cherokee Pkwy.	Jefferson	13
3	US 31E (Bardstown Rd.) from US 60A (Eastern Pkwy.) to Speed Ave.	Jefferson	12
4	US 31W (Dixie Hwy.) from Ralph Ave. to Park Rd.	Jefferson	11
5	US 150 (W. Broadway) from S. 9th St. to S. 15th St.	Jefferson	11
6	US 31E/US 150 (Bardstown Rd.) from Cherokee Pkwy. to Eastern Pkwy.	Jefferson	11
7	KY 61 (Preston Hwy.) from KY 1747 (Fern Valley Rd.) to McCawley Rd.	Jefferson	10
8	US 31E/US 150 (Bardstown Rd.) from Speed Ave. to Douglass Blvd.	Jefferson	10
9	KY 155 (Taylorsville Rd.) from Six Mile Ln. to Watterson Trl.	Jefferson	10
10	US 31W (Dixie Hwy.) from Crums Ln. to Gagel Ave.	Jefferson	10
11	US 60 (Frankfort Ave.) from US 42 (Mellwood Ave.) to Ewing Ave.	Jefferson	9
12	KY 1865 (New Cut Rd.) from KY 907 (3rd Street Rd.) to KY 1065 (Outer Loop)	Jefferson	8
13	KY 1020 (S. 2nd St.) from W. Chestnut St. to US 150 (W. Broadway)	Jefferson	8
14	US 60A (7th Street Rd.) from Park Rd. to KY 1931 (Manslick Rd.)	Jefferson	7
15	KY 1865 (Taylor Blvd.) from Arcade Ave. to Longfield Ave.	Jefferson	7
16	US 31W (W. Market St.) from US 31 (S. 2nd St.) to S. 3rd St.	Jefferson	7
17	US 60A (Eastern Pkwy.) from KY 61 (S. Shelby St.) to E. Burnett Ave.	Jefferson	7
18	US 60 (Frankfort Ave.) from Ewing Ave. to Stilz Ave.	Jefferson	7
19	US 60 (Frankfort Ave.) from Hillcrest Ave. to Cannons Ln.	Jefferson	7
20	Charlestown Rd. from Silver St. to southwest of McDonald Ln.	Floyd	7

**Table 3.** List of bicycle crashes by segment.

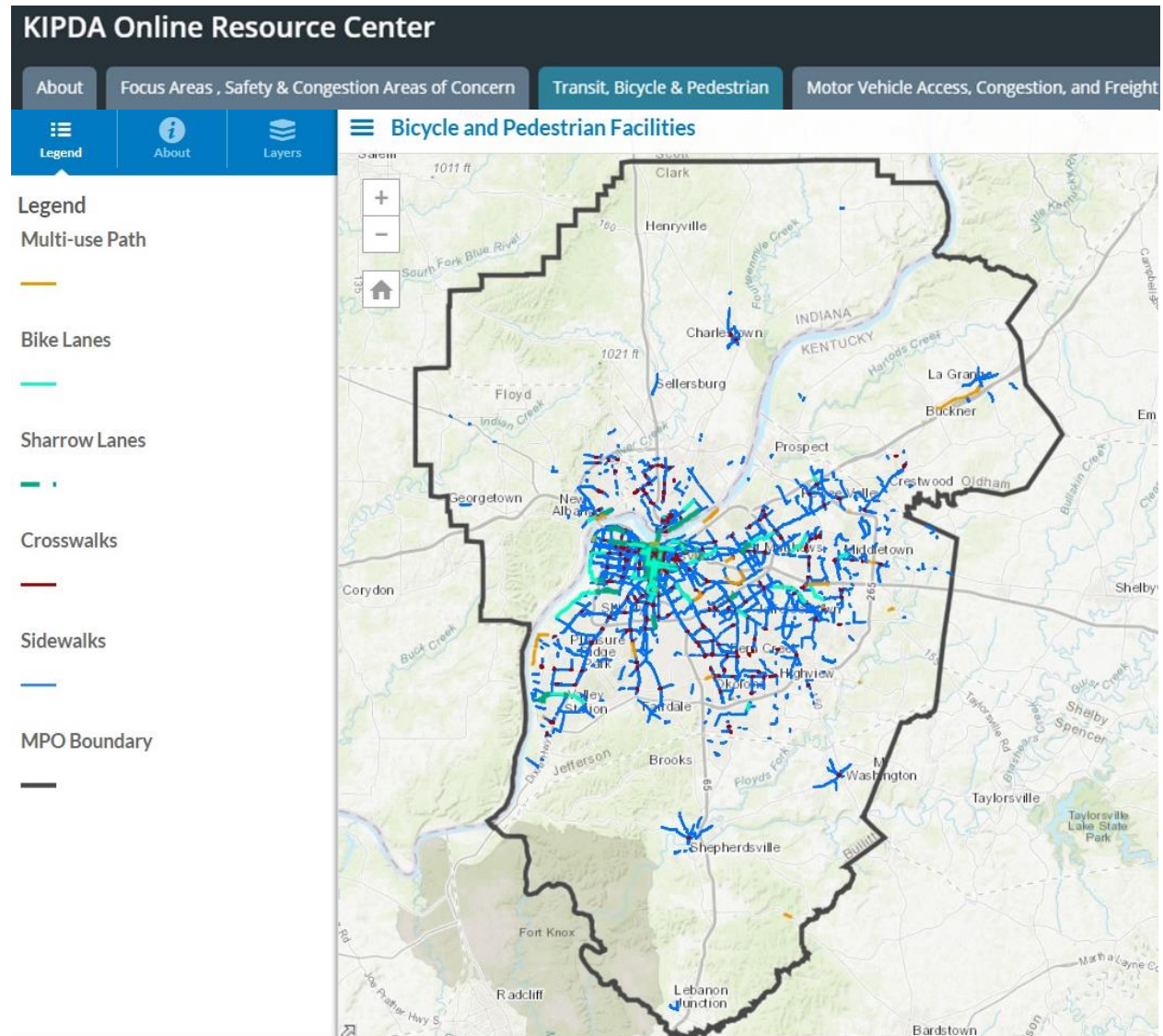


## INVENTORY AND MAINTENANCE

### Process and Methodology

During the summer of 2016 KIPDA staff conducted field work to collect the bicycle and pedestrian facilities on functionally classified roads, collector or higher, in the five county KIPDA MPO region. The types of facilities collected were bike lanes, crosswalks, multi-use paths, sharrows and sidewalks. A bicycle or pedestrian facility can be defined as any facility or infrastructure that supports or enhances the movement or safety of cyclist or pedestrians. KIPDA created the bicycle and pedestrian inventory by driving throughout the KIPDA region using ArcGIS and a Distance Measuring Instrument (DMI) to measure beginning and ending mile points for bicycle and pedestrian facilities. KIPDA has an ongoing list of new bicycle and pedestrian facilities and updates the inventory annually.

### Facilities

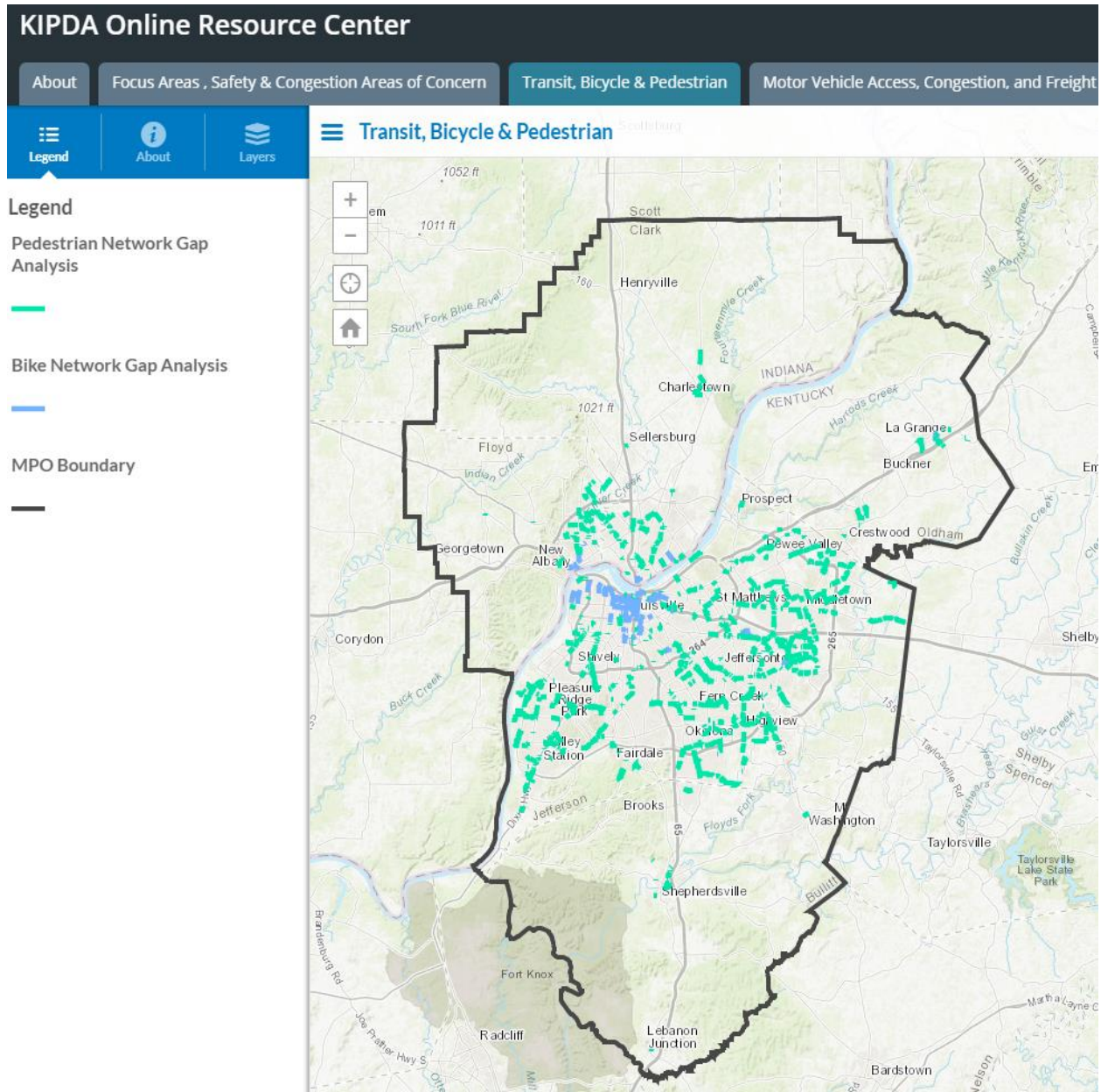


**Figure 3.** Bicycle and pedestrian facilities from KIPDA’s Online Resource Center.

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### Gaps

Bicycle and pedestrian facility gaps were created by finding segments that touched existing facilities and were one mile or less between two existing facilities.



**Figure 4.** Bicycle and pedestrian facility gaps from KIPDA's Online Resource Center

### ***Priority Locations***

Priority locations for bicycle and pedestrian projects are any bicycle or pedestrian facility gap that are in any of KIPDA's focus areas or planning clusters.

## **ADA COMPLIANCE**

The Americans with Disabilities Act<sup>2</sup> is a civil rights law that forbids discrimination against people with disabilities. 2010 ADA Standards for Accessible Design states that there are minimum design requirements for newly designed, constructed or altered government facilities, public accommodations and commercial facilities to be readily accessible and retrofitted to be useable by people with disabilities. Minimum standards exist for accessibility so that people with disabilities can have full, uninterrupted access. Examples of providing full access to those with disabilities are curb ramps, short ramps that are either cut into the curb or built up to it, letting people with disabilities safely transition from the roadway to the sidewalk, sidewalks with a minimum width of 36 inches (also applies to the space between an obstruction i.e. telephone poles), stable and slip resistant sidewalks, sidewalks with drainage grates no wider than half an inch and sidewalks with very slight slopes.

## **BICYCLE AND PEDESTRIAN RESOURCES**

### ***Congestion Management Process (CMP)***

The Congestion Management Process<sup>3</sup> is a planning process and tool that examines alternatives to addressing congestion. The CMP analyzes how well the transportation system is working and explores ways to mitigate congestion. The CMP is helpful to bicycle and pedestrian planning by providing ways to improve and expand existing bicycle and pedestrian network. Ways to improve and expand the bicycle and pedestrian options include bike lanes, bicycle parking and storage, multi-use paths, shared used paths, sidewalks, street furniture and transit shelters.

### ***Public Involvement and Participation***

Public involvement and participation in the KIPDA region is outlined in the [Participation Plan](#), which serves as a guide for planning, improving and reporting public involvement in the development of transportation activities in the KIPDA region. This plan defines a process for providing citizens, LPA's, representatives of bicycle and pedestrian facilities reasonable opportunities to be involved with the transportation planning process. KIPDA uses advertising, media releases, community notices and many other techniques to notify the public and ensure participation in the planning process. KIPDA is committed to reaching out to all members of the community and uses events, such as neighborhood meetings and festivals, media outlets such as Facebook and Twitter and KIPDA's Newsletter to ensure that everyone has an opportunity to get involved in the planning process.

### ***Transit***

Cycling, walking and transit directly impact one another. Bicycle and pedestrian facilities are important connections to transit stops and the overall transit network. Users must be able to access transit stops by cycling or walking. Some transit users have short walks to/from work and home, while others bicycle several miles to reach their transit stop. It's critical that transit stops and their surroundings are accessible and safe for cyclists and pedestrians.

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<sup>2</sup> The Americans with Disabilities Act. (1990). Washington, D.C. U.S. Department of Justice, Civil Rights Division.

<sup>3</sup> The Congestion Management Process is in the process of being approved by KIPDA committees, a link to the document will soon follow.



### ***Transportation Systems Management and Operations (TSMO): Transportation Demand Management (TDM)***

Transportation Demand Management (TDM) addresses capacity issues on roadways by reducing demand and developing and offering multi-modal options. Developing and offering other transportation options will ultimately influence people to use other modes of transportation, therefore reducing the number of single-occupant vehicles (SOVs) and potentially reduce the number of people on roadways at peak travel times. TDM is a subset of Transportation System Management and Operations (TSMO), a planning perspective that focuses on managing the transportation system in a cost-effective way.

A well-connected network with a variety of options encourages bicycling or walking, no matter the geography, reducing the demand on the roadways. However, it is more likely to increase the number of bicyclist and pedestrians by providing them with a separate space. Providing a defined space for bicyclist and pedestrians will remove obstacles and enhance the view of safety.

### ***Environmental Justice***

Transportation projects can potentially impact the people within Environmental Justice Study Areas. An example of a project negatively impacting the people living in Environmental Justice Study Areas is adding turn lanes at an intersection, limiting access to bicycle and pedestrian facilities and transit, creating a less pedestrian friendly environment. Transportation projects that can positively impact people living in Environmental Justice Areas are bicycle and pedestrian projects and improvements, creating fewer gaps and providing better connections, which can increase the mobility for people in Environmental Justice Study Areas.

### ***KIPDA Online Resource Center***

KIPDA has created the KIPDA Online Resource Center (KOLRC) which is meant to be used by our planning partners and the public. The KOLRC uses up to date data that may potentially influence transportation projects as they are developed or modified. Planning partners can find information on the KOLRC that can aid them in filling out their project application forms. One of the important datasets shows on the KOLRC is the location of bicycle and pedestrian facilities, which can be viewed [here](#).

## **TOOLBOX**

This bicycle and pedestrian toolbox provides KIPDA's planning partners with information on different options for bicycle and pedestrian facilities. This toolbox will serve as a robust resource that can help planning partners choose appropriate facilities based on their specific needs and issues. It's important to note that sometimes it's not always possible to apply basic standards – reasons being complex land uses, traffic patterns and current and future demands. This toolbox addresses those concerns and provides a variety of bicycle and pedestrian facility options.

## KIPDA BICYCLE AND PEDESTRIAN RESOURCE GUIDE

- Bicycle Improvements such as
  - Bicycle boulevards/neighborways<sup>4</sup> are located in areas that prioritize bicycle and pedestrian movement over motorist. Bicycle boulevards have a maximum speed of 20 miles per hour; there are speed bumps, more crossing opportunities and wayfinding signage. This type of infrastructure provides more direct routes and is best suited on local roads.
  - Bicycle detection signals via push-button or automated means (in-pavement loops, videos etc).
  - Signage to both cyclist and vehicles. Wayfinding signage for the cyclist and warning signs about cyclist for vehicles.
- Pedestrian improvements such as
  - High-visibility crosswalks, which are similar to traditional crosswalks, but have wider, more distinct ladder style pavement markings making the crosswalk extremely visible to drivers. This style crosswalk is best suited for an area where there are pedestrian and vehicular problems, a lot of pedestrian foot traffic or in Commercial Business Districts.
  - Rectangular rapid flashing beacons (RRFBs) are pedestrian crossings that have highly-visible flashing patterns, similar to emergency vehicles. This type of signal is user-activated, meaning that the crossing isn't flashing unless a pedestrian is actively there.
  - Pedestrian safety islands are medians between lanes that provide pedestrians with protections from traffic. These islands provide a stopping point halfway between the crossing and increase pedestrian visibility and typically have bollards, high curbing or plantings for more protection.



Photo source:  
<https://reconnectrochester.org/2014/02/rochester-bicycle-boulevards-public-meeting/>



Photo source:  
<http://sdotblog.seattle.gov/2017/04/28/questions-about-traffic-signals-its-answer-day/>



Photo source: <https://nacto.org/publication/urban-street-design-guide/intersection-design-elements/crosswalks-and-crossings/conventional-crosswalks/>



Photo source:  
<https://nacto.org/publication/urban-street-design-guide/intersection-design-elements/crosswalks-and-crossings/rectangular-rapid-flashing-beacons/>



Photo source: <https://nacto.org/publication/urban-street-design-guide/intersection-design-elements/crosswalks-and-crossings/pedestrian-safety-islands/>

<sup>4</sup> Clark, J., Neuner, M., Sethi, S., Bauer, J., Bedsole, L., & Cheema, A. (2017). Transportation Systems Management and Operations in Action. Washington, D.C.: U.S. Department of Transportation Federal Highway Administration.



- Pedestrian scramble is an all-way/X-crossing/diagonal crossing that allows pedestrians to move in any discretion while all other traffic is halted. Pedestrian scrambles are great for high-pedestrian intersections. By allowing pedestrians to move at once, the amount of pedestrian crashes is lowered, making pedestrians feel safer.



Photo source:  
<https://www.curbed.com/2016/9/1/12737230/streets-traffic-deaths-pedestrians>

- Sidewalk curb extensions are sidewalks that extend into the parking lane to help pedestrians. Curb extensions reduce the crossing distance and make pedestrians more visible, provides pedestrians with more room to wait, prevents cars from parking too close to the crosswalk and narrow lanes which makes drivers slow down as they turn.



Photo source: <https://nyc.streetsblog.org/2013/06/24/eyes-on-the-street-new-pedestrian-spaces-pop-in-financial-district/>

- Curb radius reductions, reconstructing turning radius to a tighter turn will decrease vehicle speed and shorten the crosswalk distance for pedestrians, while also improving sight distance between pedestrians and vehicles.



Photo source:  
[http://guide.saferoutesinfo.org/engineering/reduced\\_corner\\_radius.htm](http://guide.saferoutesinfo.org/engineering/reduced_corner_radius.htm)

- Paved shoulders in the case of no bicycle or pedestrian facilities fit for both urban and rural areas.
- Transit benches and shelters to shield people from the elements. In areas where there's no demand, adding seating could improve an experience.
- Time of day restrictions such as right turn on red restrictions in areas with high pedestrian volumes at high trafficked times.

## PROJECT DEVELOPMENT

### ***Evaluation***

Over the last few years, KIPDA has developed a project evaluation form, which helps KIPDA staff objectively score and therefore define the relative importance and prioritization of transportation projects for funding. In regards to bicycle and pedestrian projects, some of the criteria looked at for scoring is whether or not a project adds bicycle or pedestrian facilities to the existing network, whether or not the project adds bicycle or pedestrian facilities within ½ of a school, whether or not a project adds bicycle or pedestrian facilities inside KIPDA planning clusters, whether or not a project will have bicycle or pedestrian facilities within ½ of the CMP network, and so on. Each emulation criteria is allotted a specific amount of points and is subsequently scored.

### ***Funding options***

Bicycle and pedestrian projects have a variety of funding sources, but generally come from two sources: Federal Highway Administration (FHWA) and Federal Transit Administration (FTA). When locals (local or state government) are awarded federal funding, they are typically required to provide a 20% monetary match on every funding phase.

#### ***FHWA***

Funding sources include the Surface Transportation Program (STP) which provides funds that can be used by state and local governments for projects that conserve and improve the conditions on Federal-aid highways, bridges, tunnels, public roads, bicycle and pedestrian infrastructure and transit, the Congestion Mitigation and Air Quality (CMAQ) Program, which was implemented to support surface transportation projects and other transportation related programs that contribute to better air quality. CMAQ eligible projects strive to reduce air pollution and emissions to meet the standards of the Clean Air Act of 1990, and the Transportation Alternative Program (TAP) which was established to fund alternative transportation projects, such as bicycle and pedestrian projects, community improvements and generally any environmental mitigation activities.

#### ***FTA***

Funding sources include Section 5307: Urbanized Area Formula Grants, which provides grants to urbanized areas for public transportation capital, planning, job access and commute projects, Section 5339: Bus and Bus Facilities, which provides funding to replace, rehabilitate and purchase buses and equipment and to construct bus-related facilities.

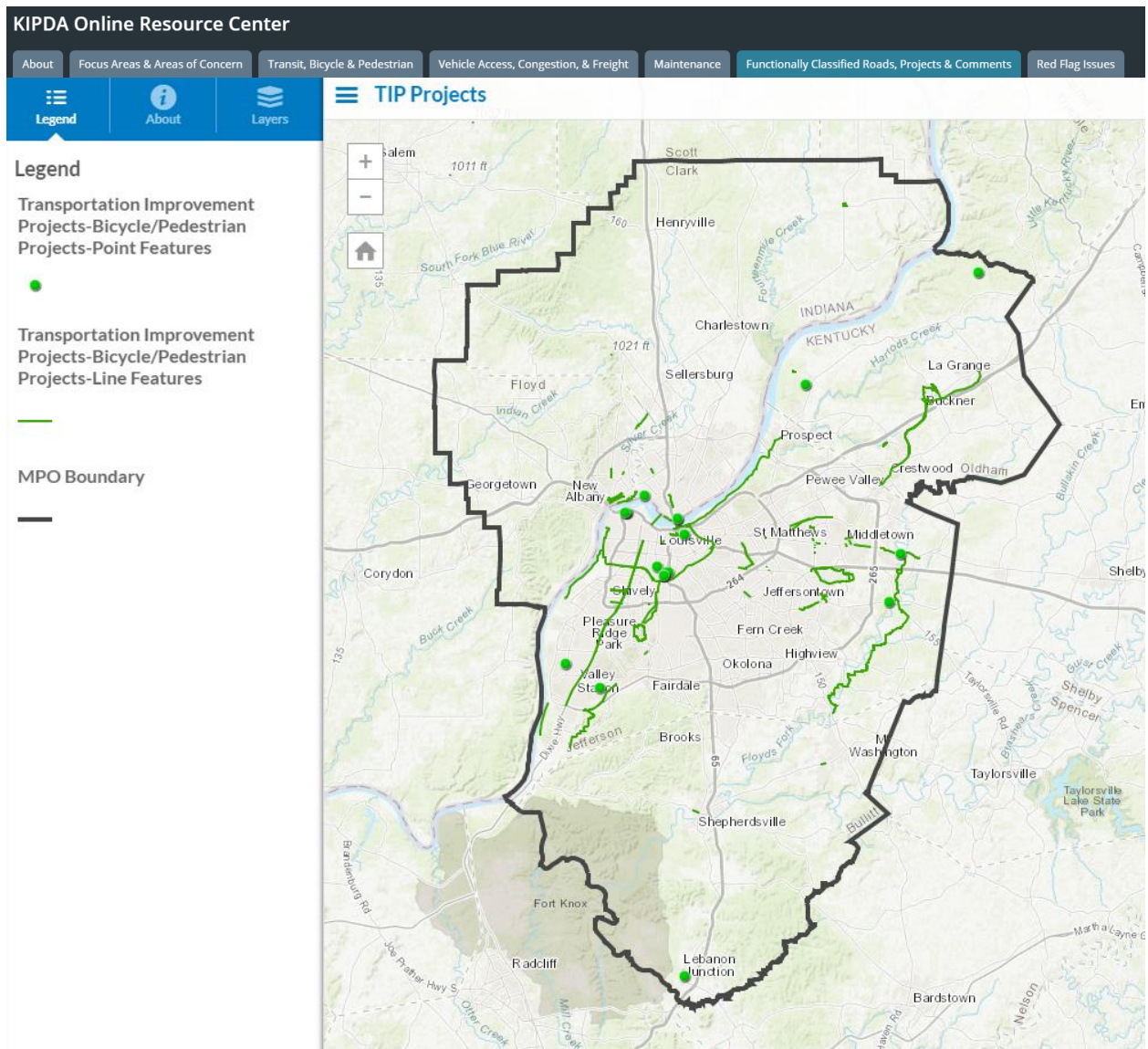
[Connecting Kentuckiana](#), KIPDA's next long-range metropolitan transportation plan (MTP), forecasts changes in the region and defines how the multi-modal transportation system will be managed to meet economic, transportation, development and sustainability goals on a horizon of 20+ years while remaining fiscally constrained. Below is a screen capture from the KIPDA Online Resource Center (KOLRC) of all of the bicycle and pedestrian projects currently in the MTP. Bicycle and pedestrian projects in the MTP range from streetscape improvements, facility improvements, shared-use paths, pedestrian paths and bicycle kiosk installation.





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The [Transportation Improvement Program](#) (TIP) is a short-range program that must be updated at least every four years. KIPDA's current TIP is for years 2018-2021. The TIP is funding and scheduling mechanism for transportation projects requesting federal funds for surface transportation projects that must indicate regional priorities and demonstrate the short-range vision for the KIPDA region. Below is a screen capture from the KIPDA Online Resource Center (KOLRC) of all of the bicycle and pedestrian projects currently in the TIP. Bicycle and pedestrian projects in the TIP range from multi-use paths, facility improvements, sidewalk installation, streetscape improvements and pedestrian trails.



**Figure 6.** Bicycle crashes and pedestrian projects in KIPDA's TIP.

### **CONCLUSION**

KIPDA strives to implement a sustainable multimodal transportation system and network. This Bicycle and Pedestrian Resource Guide helps to achieve that goal, by providing KIPDA's planning partners with examples and resources on how to contribute to this goal. This document will receive an annual review and an update every four years.