

# the Evansville MPO Express

Transportation Planning for Henderson, Vanderburgh, and Warrick counties

## Ohio River Crossing Studies Move Ahead

On June 30, 2016, Indiana Governor Mike Pence and Kentucky Governor Matt Bevin joined together to sign a Memorandum of Agreement to advance the I-69 Ohio River Crossing project. In November, INDOT and KYTC selected the professional services team led by Parsons Transportation Group, Inc. to complete the preliminary design and environmental review. Potential routes to connect the existing I-69 sections, the Robert D. Orr Highway south of Evansville, and the upgraded Edward T. Breathitt Pennyrite Parkway south of Henderson will be studied. This process will include opportunity for public input.



### Inside *the Express*:

|   |   |
|---|---|
| Access Management Manual Updates                    | 2 |
| US 41 Traffic & Access Management Study - Henderson | 3 |
| Safety Education Outreach                           | 4 |
| Evansville Welcomes Bike Share Program              | 4 |
| METS Makes Updates Based on COA                     | 5 |

## Evansville MPO's Updated Website

The MPO invites you to browse our new, mobile device friendly website to learn more about the MPO and stay connected to the latest transportation planning news in our area. The website was updated with the goal of increasing public access and engagement. The revised site provides ready access to MPO planning documents, public notices and meeting dates, traffic counts, project updates and much more! Visit the new site at [www.evansvillempo.com](http://www.evansvillempo.com)

## Evansville MPO Newsletters are Back

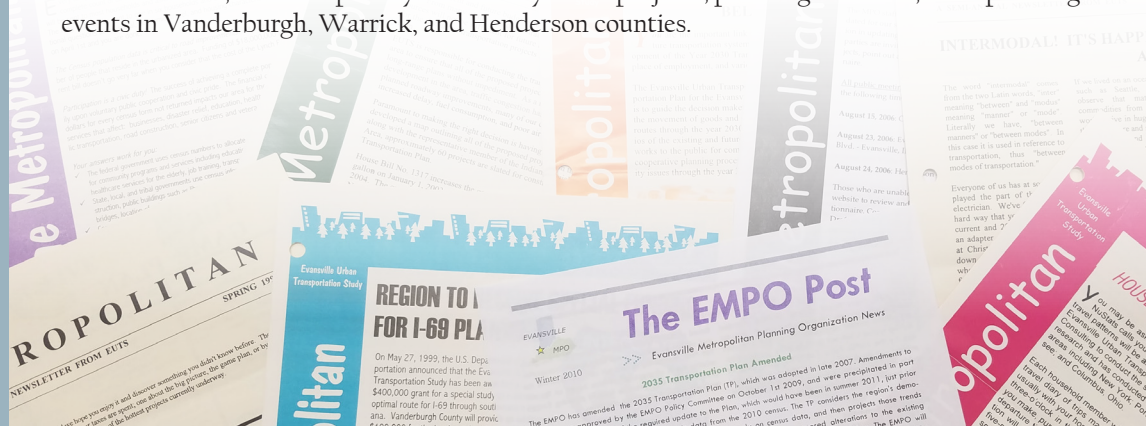
It's been awhile since the Evansville MPO published a newsletter, and with all of the projects and planning taking place in the three-county region, we thought it was time to start them up again. Newsletters date far back at the EMPO, with the first issue of The Metropolitan being published in the spring of 1988 and running through 2006. In 2007, the newsletter name was changed to The EMPO Post and was published for three years before taking a break.

Now in 2016, the Evansville MPO would like to introduce The Evansville MPO Express. In this newsletter, we will update you twice a year on projects, planning activities, and upcoming events in Vanderburgh, Warrick, and Henderson counties.

Evansville MPO



Henderson • Vanderburgh • Warrick



# Access Management Manual Updates

In August of 2015 the MPO began work on an update to the Access Management Manual that was adopted in June of 2002. After 13 years of use, and several updates to the reference documents cited in the original document, it was decided that the time was right for the update.

This document is used by the Local Public Agencies (LPAs) and the MPO to guide decisions on appropriate location and design of access that helps to maintain the safety and efficiency of the traveling public. The MPO worked closely with a steering committee consisting of engineers and planners from a majority of our local LPAs, representatives of the Southern Indiana Builders Association, as well as INDOT and KYTC representatives to complete the task. After an extended meeting with the Steering Committee in September of 2015 in which potential changes were discussed, the first

draft was sent out in January of 2016 for review. Comments were reviewed and the document was amended. A revised draft was sent out in April to the Steering Committee. After one final revision, the document was presented to the Technical and Policy boards in June. The Technical and Policy boards approved the document, without changes, at the July 7th meetings.

A new section in the document includes traffic calming options and sidewalk/sidepath priority considerations for new developments.

The new Access Management Manual and Design Guide document is available on the MPO's website at [www.evansvillempo.com](http://www.evansvillempo.com).

## General changes include:

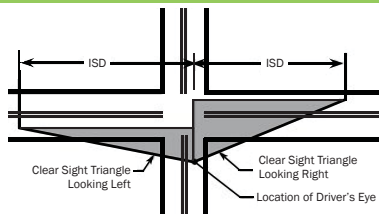
- a reorganized structure;
- more data-driven applications;
- more guidance on access to pedestrian, bicycle and transit facilities; and
- updated diagrams and figures.

## Technical changes include:

- updates to warrants and procedures of traffic impact studies; and
- updates to the to the corner clearance determination process.

### ACCESS MANAGEMENT MANUAL and DEVELOPMENT GUIDE

Figure 5: FHWA Intersection Sight Triangles



Source: AASHTO 2001 A Geometric Design of Highways and Streets

Table 1: Intersection Sight Distances

| Intersection Sight Distance |                          |                                       |
|-----------------------------|--------------------------|---------------------------------------|
| Posted Speed Limit (mph)    | Left Turn From Stop (ft) | Right Turn or Crossing From Stop (ft) |
| 30                          | 335                      | 290                                   |
| 35                          | 390                      | 335                                   |
| 40                          | 445                      | 385                                   |
| 45                          | 500                      | 430                                   |
| 50                          | 555                      | 480                                   |
| 55                          | 610                      | 530                                   |

Source: AASHTO 2001 A Geometric Design of Highways and Streets

## STOPPING SIGHT DISTANCE

The safe stopping sight distance, defined as a minimum distance necessary for vehicles traveling on the adjacent street to perceive, react, and stop for any potential conflict in the roadway, is the minimum requirement at every driveway. It is the sum of two distances (AASHTO, Green Book) (see Table 2):

1. Reaction distance - the distance traveled by the vehicle from the instant the driver sees an object necessitating a stop to the instant the brakes are applied; plus
2. Braking distance - the distance traveled by the vehicle from the instant the brake is applied to the instant when the vehicle has come to a complete stop.

The reaction distance is based on the reaction time of the driver and the speed of the vehicle. The braking distance is dependent upon the vehicle speed and the coefficient of friction between the tires and roadway.

Figure 6 shows an example of where the minimum stopping sight distances are obstructed by horizontal and vertical curves, and vegetation.

If the minimum stopping sight distance requirements for a driveway cannot be met due to on-site placement of shrubbery, signs, or other objects that obstruct driver vision, then the applicant will be required to remove the obstruction(s).

## 20 TECHNICAL APPLICATIONS

### ACCESS MANAGEMENT MANUAL and DEVELOPMENT GUIDE

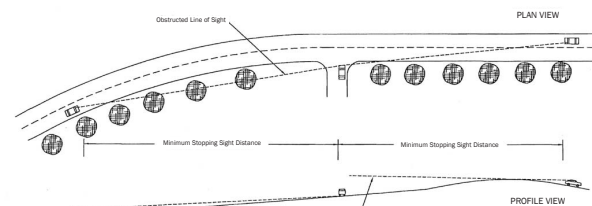
After sight distance requirements are met and the access permit issued, the driveway area must remain free from any visual obstruction to the required sight distance including, but not limited to, signs, fences, landscaping and parked vehicles.

If the minimum sight distance requirement cannot be met for a specific turning/crossing movement(s), the access driveway shall be designed to prohibit such movements, or the proposed land use may be denied. Direct access to a parcel will be denied when the required sight distances cannot be obtained and when restrictions to turning movements to/from the

proposed development are not practical or acceptable. If such conditions occur, indirect access to the property may be allowed, at the expense of the owner, in one of the following ways:

1. Compensation to an adjacent property owner to acquire indirect access to the subject parcel through an access easement.
2. Construction of a frontage road serving the subject property and connection with the public roadway at a point where safe access can be provided that meets the requirements of the manual.
3. Development of access to another roadway (in the case of a corner property).

Figure 6: Stopping Sight Distance Examples



Source: Access Management Guidelines for Activity Centers, NCHRP Report 348, Transportation Research Board, National Research Council, Washington, D.C., 1992

Table 2: Stopping Sight Distances

| Stopping Sight Distance |                              |                                |                 |             |
|-------------------------|------------------------------|--------------------------------|-----------------|-------------|
| Design Speed (mph)      | Brake reaction distance (ft) | Braking distance on level (ft) | Calculated (ft) | Design (ft) |
| 30                      | 110.3                        | 86.4                           | 196.7           | 200         |
| 35                      | 128.6                        | 117.6                          | 246.2           | 250         |
| 40                      | 147.0                        | 153.5                          | 300.6           | 305         |
| 45                      | 165.4                        | 194.4                          | 359.8           | 360         |
| 50                      | 183.8                        | 240.0                          | 423.8           | 425         |
| 55                      | 202.1                        | 290.3                          | 492.4           | 495         |

Source: AASHTO 2001 A Geometric Design of Highways and Streets

Note: Many assumptions including level grade, 2-lane roadway, undivided facility, stop controlled minor approach and a passenger vehicle.

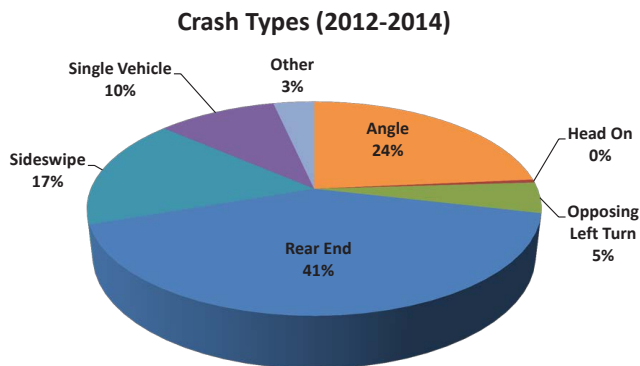
## TECHNICAL APPLICATIONS 21

# US 41 Traffic & Access Management Study - Henderson

In 2015, the City of Henderson, in collaboration with the Kentucky Transportation Cabinet and Evansville MPO, completed a Traffic & Access Management Study for the US 41 corridor from Wolf Hills Road to US 60 interchange. The purpose of the study was to evaluate the current operating conditions of safety and efficiency and provide feasible alternative proposals to more effectively manage and improve safety and mobility for current and future travel demand along the corridor.

The study corridor carries a heavy mix of local and regional traffic and provides direct and indirect access to numerous businesses, industries, governmental organizations, and residential properties. The Twin Bridges provide the only Ohio River crossing within the MPA and carry approximately 40,000 vehicles per day. It was observed that the most congested segment within the study area is on US 41 between Marywood Drive and Watson Lane with a volume-to-capacity ratio of 0.96. All signals along the corridor were observed to be operating at an acceptable level of service except for the Watson Lane signal, which was operating at less than acceptable levels of service after AM and PM peak hours. The most important contributing factor for this was due to delays occurring from vehicles turning off US 41 onto Watson Lane.

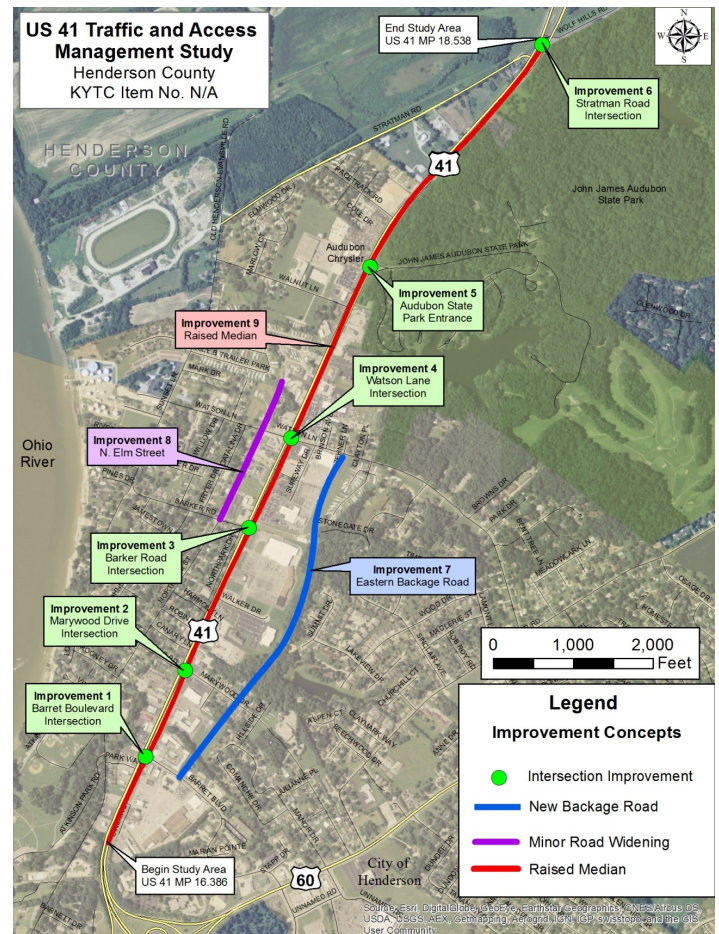
Crash reports data from 2012 to 2014 showed 433 crashes along the study corridor, which includes 86 injury collisions. The percentage of injury collisions was higher along US 41 than similar roads in Kentucky. Rear-end collisions made up 41 percent of the crashes, angle collisions made up 24 percent of the crashes, and opposing left turn collisions made up five percent of the crashes. These collisions total 70 percent of all the crashes along the study corridor and are likely related to access management and congestion issues.



After carefully studying the existing conditions and considering the physical characteristics of the corridor, as well as through stakeholder input, the project team recommended the following improvement concepts (see map).

Further traffic simulation modeling and analysis of the proposed recommendations suggests that once all the improvements (1 through 9) are implemented it is expected that US 41 may potentially observe a 30 % decrease in overall crashes and a significant reduction in average peak hour delays along the corridor.

To view the complete study report, visit [evansvillempo.com/Links.html](http://evansvillempo.com/Links.html). The US 41 Traffic and Access Management Study is located under the “Planning” button.





## Safety Education Outreach: Life in the Safe Lane

In an effort to encourage safety across a number of focus topics, the Evansville MPO partnered with WNIN over recent months to develop a Public Education Outreach Project “Life in the Safe Lane”. With the final topic completed in June 2016, the series addressed a range of potential safety challenges: Roundabouts, Distracted Driving, Incident Management, Senior Drivers, and Bike and Pedestrian Safety.

Life in the Safe Lane was produced in consultation with the Federal Highway Administration, local and state law enforcement, and subject matter experts. From five minute segments to thirty second public service announcements, the series packaged important topical information and safety tips to encourage safe driving, cycling and pedestrian actions in the region and beyond.

By educating residents and raising awareness about the target topics, safety is improved for all users of the transportation system. Broadcast throughout the region on television and radio, the series remains available for download and airing at the MPO website: [www.evansvillempo.com/Safety.html](http://www.evansvillempo.com/Safety.html).



## Evansville Welcomes Bike Share Program

On October 3rd, Evansville officials and representatives from numerous area organizations launched a city-wide bike sharing program called Upgrade Bike Share. The program launched with 70 cruiser bikes and seven stations located throughout Evansville. This initial network is expected to grow in the coming years.

### Bike Share Locations:

- University of Evansville campus
- North Main Street
- West Franklin Street
- Downtown YMCA
- The Pagoda at the Evansville Convention and Visitors Bureau
- Haynie's Corner Arts District
- Deaconess Sports Complex on North Green River Road

To rent a bike, users can either use the free Zagster Mobile App (available for iPhone and Android) or go to [zagster.com/upgrade](http://zagster.com/upgrade). Each bike has a unique number which users enter into the app to obtain a single-use code to open the lockbox on the back of the bike. A key stored inside and tethered to the lockbox allows the bike to be locked and unlocked throughout the ride. After the user returns the bike to a designated Zagster bike station, the rental ends and the bike is available for the next person to use.

The Upgrade Bike Share program is fully funded by local sponsors including Deaconess Health System, St. Mary's Health System, Toyota Motor Manufacturing Indiana, City of Evansville Department of Metropolitan Development, Evansville Convention and Visitors Bureau, Welborn Baptist Foundation, and Meritain Health.

Hourly, monthly and annual passes are available. Costs are \$3 per hour, \$15 for a monthly pass and \$60 for an annual pass. With monthly and annual passes, all rides under 1 hour are free!





# METS Makes Updates Based on COA

At a Traveling City Hall meeting on July 27th, METS presented fare and service changes based on recommendations from the Comprehensive Operations Analysis (COA). The meeting was held in the Browning Room of the Central Library, with the presentation starting at 5:30. After the presentation, residents were given the opportunity to ask questions or make comments about the changes.

The COA was completed by the Evansville MPO, METS, a consultant, and several key stakeholders in the community over a year and a half. The final product included an existing system analysis and recommendations to be implemented by METS over a five year period. The COA recognized that some recommendations may need to be modified and others might not be completed within five years. The key findings included upgrading the fleet, providing Sunday Service, simplifying some routes, adjusting the fare structure, and addressing staffing needs.

The fare and services changes presented at the Traveling City Hall were the first step in this five year process. METS noted that fleet upgrades had already begun, with some new buses already received and others due to METS in the coming months. In all, METS will be placing nine new fixed route buses and four new mobility buses in their fleet by the end of 2018.

METS recognized the importance of Sunday Service and noted that it was recommended in public surveys during the COA more than any other modification to the system. METS worked with the MPO and Mayor's office to determine the best and most efficient routes. In the coming months, METS will have five routes running on Sundays from 6:00 AM to 6:00 PM, including Howell/Mary, First Avenue, Lincoln Avenue, Covert Avenue, and the East Connection.

The COA noted that METS had not increased its fare since 1999. If fares had increased with inflation, the \$1.00 fare should currently be \$1.45. METS currently provides free transfers, which have been an issue for the drivers due to riders trying to misuse them or sell them to other riders. The COA recommended that fares be increased to \$1.25 and transfers be increased to \$0.25. Rather than providing any transfers, METS has decided to charge \$0.75 per bus. As the average rider uses two buses per trip, the increase is identical to

## Key changes:

- Upgrade fleet
- Add Sunday Service
- Restructure underutilized routes
- Add Lynch/Walnut Evening Service
- Adjust fares: \$0.75 per ride (no transfers)

that recommended by the COA, without having to deal with transfers. Riders who use just one bus per trip will actually notice a decrease in fare. Along with this fare change, elderly/disabled fare changes to \$0.35, student fare changes to \$0.50, and mobility fares change to \$1.50. These changes will take effect when Sunday Service begins.

Other changes METS will make include restructuring the Highway 41 North route (which had already taken place), combining the Mary and Howell routes, adding a Lynch/Walnut Evening Service, and restructuring A/B routes to eliminate duplication during off peak times.

Fare changes, route restructuring, and internal efficiencies will save METS enough money annually to pay for Sunday Service and the new Lynch/Walnut Evening Service. METS must pay for these new services upfront, but will be reimbursed for 80% of the total cost through grants from the Evansville MPO. The MPO has agreed to provide 80% of the costs of Sunday Service for three years through the Congestion Mitigation and Air Quality (CMAQ) funding. The MPO will also provide 80% of the Lynch/Walnut Evening Service for one year. This route will be reevaluated after one year to determine funding moving forward.

For more information about METS, visit their website at [www.evansville.in.gov/mets](http://www.evansville.in.gov/mets).

Use the new Double Map website to see when the next bus will be near your location: [mets.doublemap.com](http://mets.doublemap.com).

