



MID-OHIO REGIONAL
MORPC
PLANNING COMMISSION

Active Transportation Plan 2020-2050

Technical Memo
Regional Travel Analysis



INTRODUCTION

The 2020 – 2050 Active Transportation Plan (ATP) advances the regional priorities of the Metropolitan Transportation Plan and helps communities within the Metropolitan Planning Organization area plan for and implement projects that include pedestrian, bicycle, and transit accommodations – or complete streets – on the region’s road network. Complete streets ensure all users, regardless of mode of travel, have a safer and more comfortable way to reach their destination.

With extensive data analysis and contribution from Central Ohio communities, residents, and stakeholders, the ATP explores the current environment for walking and bicycling in the Metropolitan Planning Organization area and provides resources to guide the region toward a complete, connected low-stress active transportation network.

This technical memo will provide an overview of the Regional Trip Analysis produced for the ATP. First, the region’s major Short Trip Activity Centers will be identified and defined. Next, the connectivity of these areas by walking, biking, and transit-users will be assessed. Finally, several examples of regional Short Trip Activity Centers will be highlighted to discuss how our region can continue advancing active transportation initiatives to make traveling within our communities safer and more enjoyable.

REGIONAL TRAVEL PATTERNS

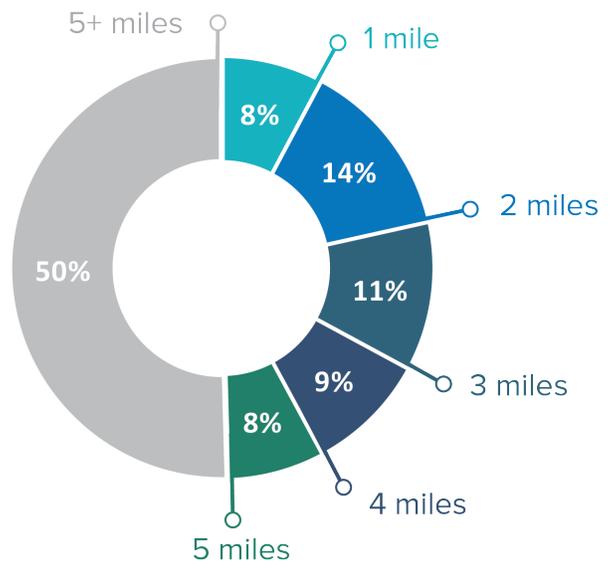
Percentage of Trips by Distance Traveled

When it comes to walking and bicycling for transportation, the distance a person has to travel can often be the biggest factor in choosing their mode of transportation. Most people are willing to travel up to a mile on foot, or an average of 3 miles by bike.

In order to understand the potential in Central Ohio to change trips currently being made in a car to trips made by foot, bike, or transit, an analysis was conducted of origin and destination data from vehicle trips made in 2019, available through the StreetLight InSight platform. This data was downloaded for the entire MPO area.

The analysis evaluated the distance between the origin and destination of every trip that occurred within the MPO area in 2019. Trips were then summarized into categories based on the number of miles traveled for each trip.

The results of this analysis indicated that more than 1/3 of all trips made in the MPO area are less than 3 miles in length. Many of these short trips are currently made by car, when that distance could be traveled by foot, bicycle, or transit.



Source: StreetLight

REGIONAL ACTIVITY CENTERS

Overall Density of Trip Activity

The first analysis conducted using the StreetLight origin and destination data (OD data) evaluated the total number of vehicle trips beginning and/or ending within individual Traffic Analysis Zones (TAZs) within the MPO. The origin of a trip and the destination of a trip will be referred to throughout this document collectively as “trip ends.”

This analysis of total trip ends resulted in the identification of the Regional Activity Centers shown in Map A1. This map, most simply, illustrates where the highest concentration of vehicle trips occurs throughout the region. This led to the identification of Regional Activity Centers as shown on Map A1.

The color variations illustrated on the map indicate the different levels of overall vehicle trip density by percentile based on the number of trip ends per TAZ. The areas shown in white and light grey are locations where the trip density was below the median of 25 trip ends per acre. Areas in the two darker grey tones had trip densities above the median, and areas in pink are locations where the trip density was above the 90th percentile, (or where there were more than 100 trip ends per acre).



Image Credit: Easton Town Center

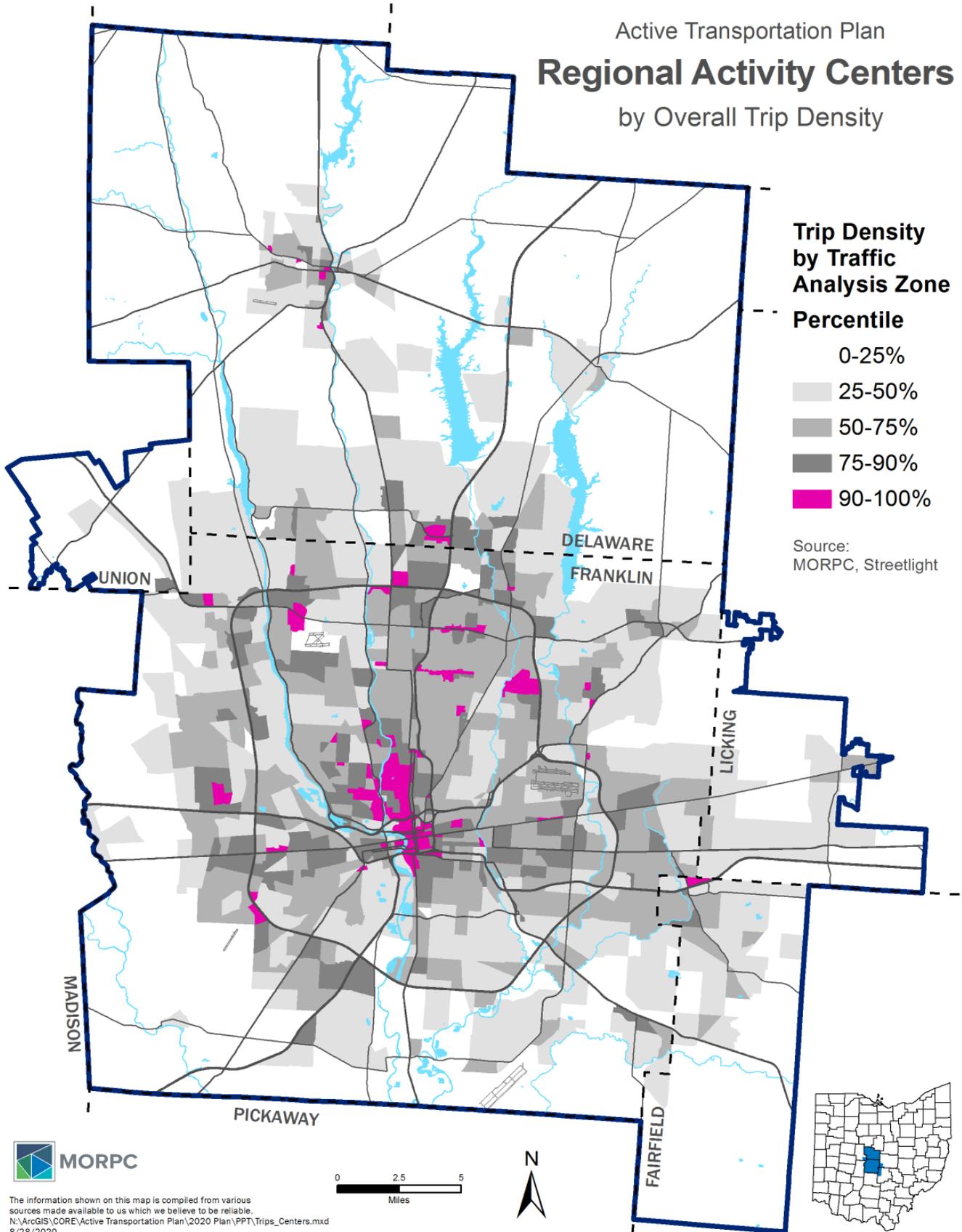
Areas with over 100 trip ends per acre:

- *Ohio State University*
- *Downtown Columbus*
- *Easton Town Center*
- *Polaris Shopping Center*

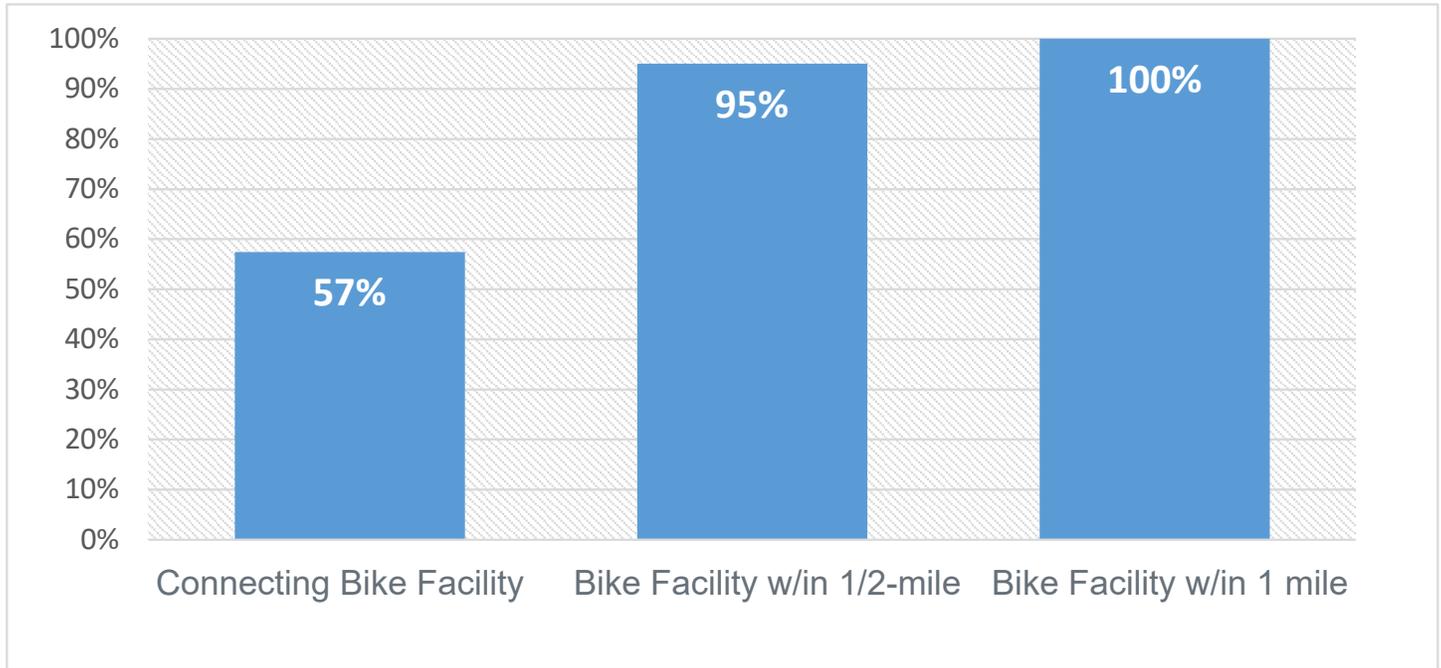
Many of the locations highlighted on the map in pink are places known to be major activity centers within Central Ohio, including Ohio State University, Downtown Columbus, Easton Town Center, and the Polaris Shopping Center. However, many suburban shopping and employment centers also emerge in the 90th percentile of trip density. There are also several additional areas in the 75th percentile and above throughout Grove City, Westerville, Worthington, and other Central Ohio communities. The TAZs identified within the 75th percentile or above will be referred to throughout this document as “Regional Activity Centers.”

It is important to note that because this data includes all vehicle trips, it also includes shorter trips made between parking lots within an area. Such trip chaining may be a contributing factor in why some suburban shopping centers stick out on the map, but this data is nevertheless important to consider in terms of replacing those vehicle trips with walking or bicycling.

Figure A.



Bicycle Connectivity of Regional Activity Centers



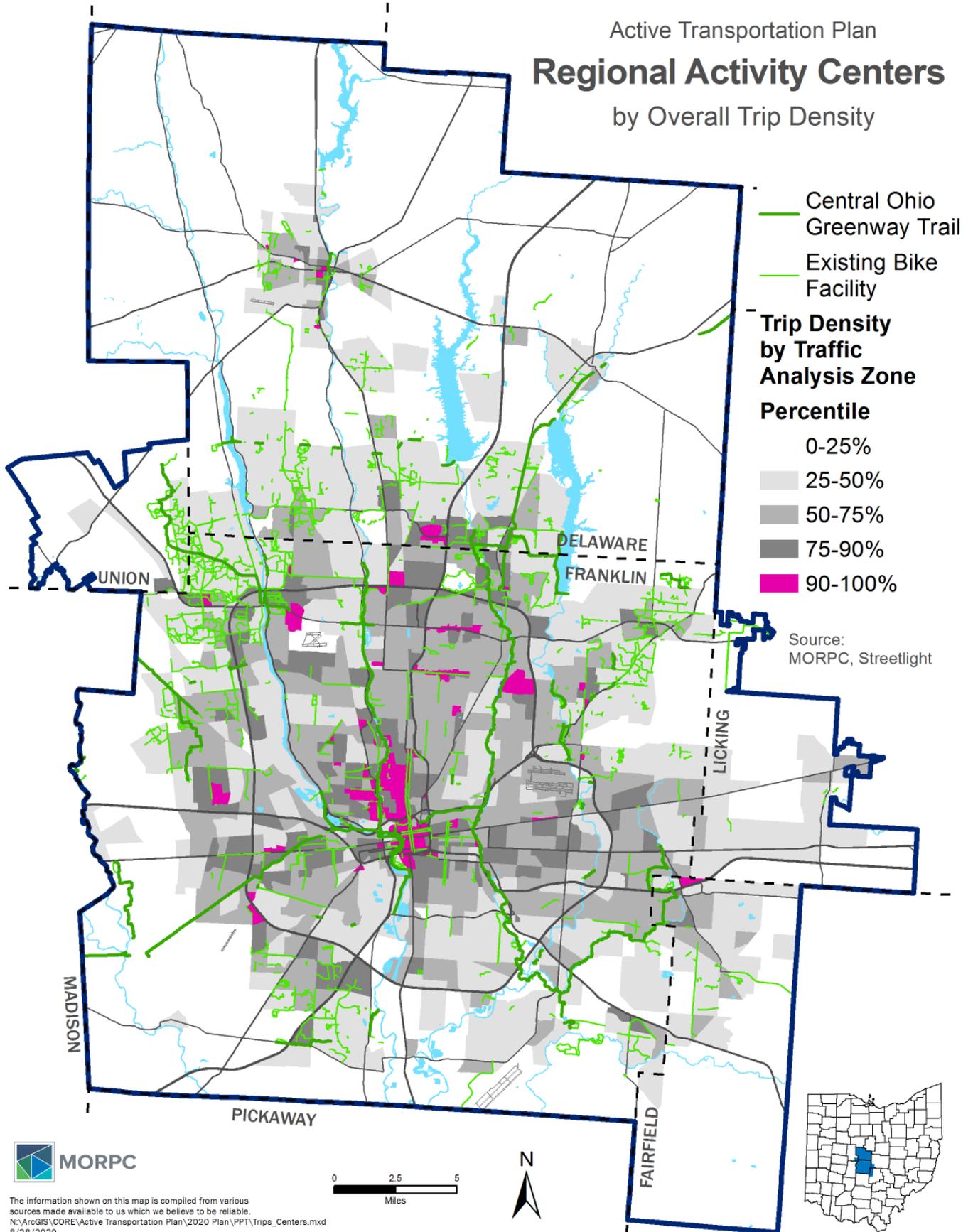
Traffic Analysis Zones (TAZs) above 75th & 90th percentiles

Another key consideration for a person deciding what mode of transportation to use for a trip can include whether or not a safe route exists for them to travel by foot or bike to their destination. There are currently over 700 miles of bike facilities in the MPO area, yet only slightly more than half of these Regional Activity Centers in the 75th percentile and above have a bike facility within or connecting to them. However, nearly all of them have a bike facility within a half-mile distance, so there is considerable potential to better link connect these activity centers to a larger, regional bike network, and provide access for people who either need to or choose to bike to these locations.

It’s also worth noting that some of these locations are very large areas that are made up of more than one Traffic Analysis Zone (TAZ). So each Regional Activity Center may actually consist of one or more TAZ. For example, the Easton Regional Activity Center actually has four TAZs within it, and only the western TAZ falls into the category of being connected to a bike facility.

The following pages illustrate a more detailed analysis of locations throughout the region where investment in better connectivity for active transportation infrastructure could potentially have a high impact on converting trips to walking and bicycling.

Figure B.



SHORT TRIP OPPORTUNITY ZONES

Density of Trips 3 Miles or Less

Additional analyses were conducted on the vehicle trip data to identify areas throughout the region with the highest concentrations of short trips. This included trips with distances less than 3 total miles, as well as trips with distances less than 1 mile.

The first analysis focused on trips with distances of 3 miles or less to understand where the highest potential might be for converting vehicle trips to walking or bicycling. This analysis led to the identification of the Short Trip Activity Centers illustrated on in Map C.

As shown on the map, many of the same locations identified as Regional Activity Centers also exhibit a comparatively high density of short trips, or in this case, trips of 3 miles or less. This underscores the fact that many of the people traveling to those Regional Activity Centers are traveling 3 miles or less to get there.

These Short Trip Activity Centers include locations such as Downtown Columbus, Easton, and Polaris, but also others like 5th Avenue in Grandview, Downtown Delaware, Rome Road in Hilliard, Georgesville Square, and Hamilton Road in Gahanna. Many of these locations are major shopping centers where visitors are likely heavily comprised of residents traveling from nearby neighborhoods.

Many of these shopping centers also have employees who travel from farther away and are often dependent on transit. Improving the local conditions for walking and bicycling will also benefit those who travel to these locations by transit.

It is also important to note that while many of the locations with the highest density of short trips are more urban or suburban in nature, there are many rural town locations that also see a high number of short trips occurring.

Areas in 90th percentile of trips 3 miles or less:

- *High Street Corridor*
- *Grandview Yard / 5th Ave Corridor*
- *Downtown Delaware*
- *Hilliard Rome Road*
- *Georgesville Square*
- *Hamilton Road, Gahanna*

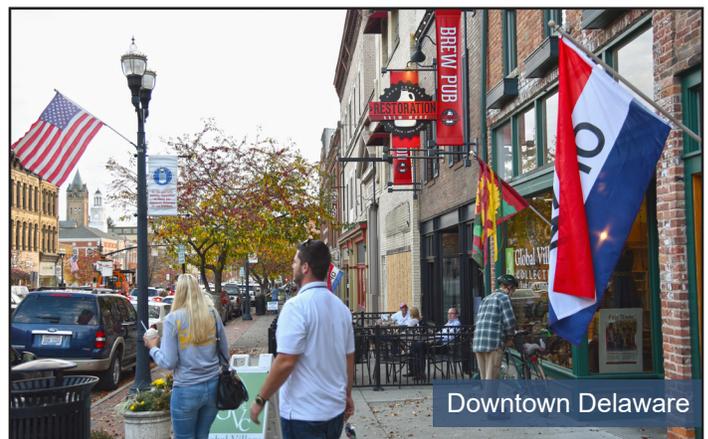
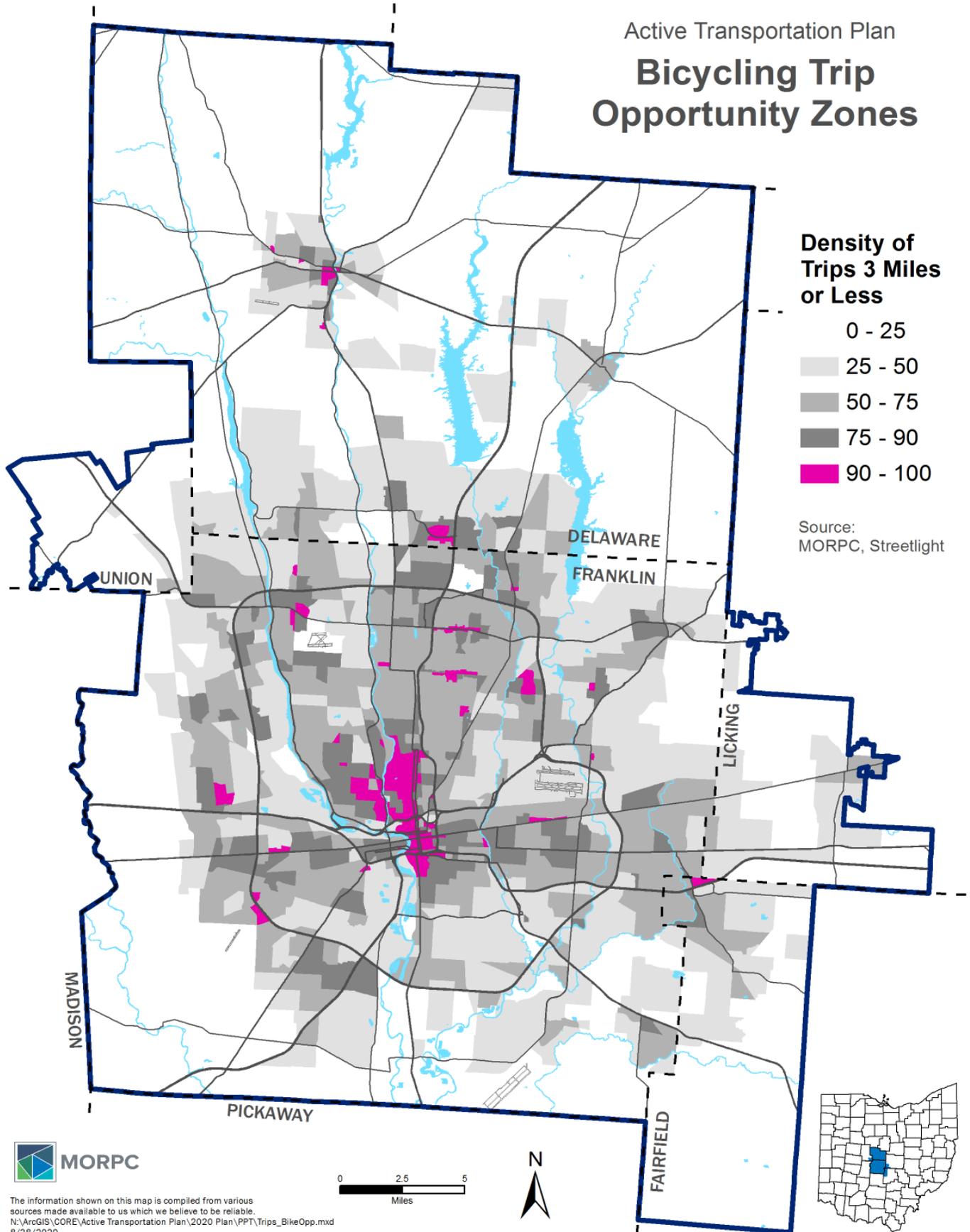
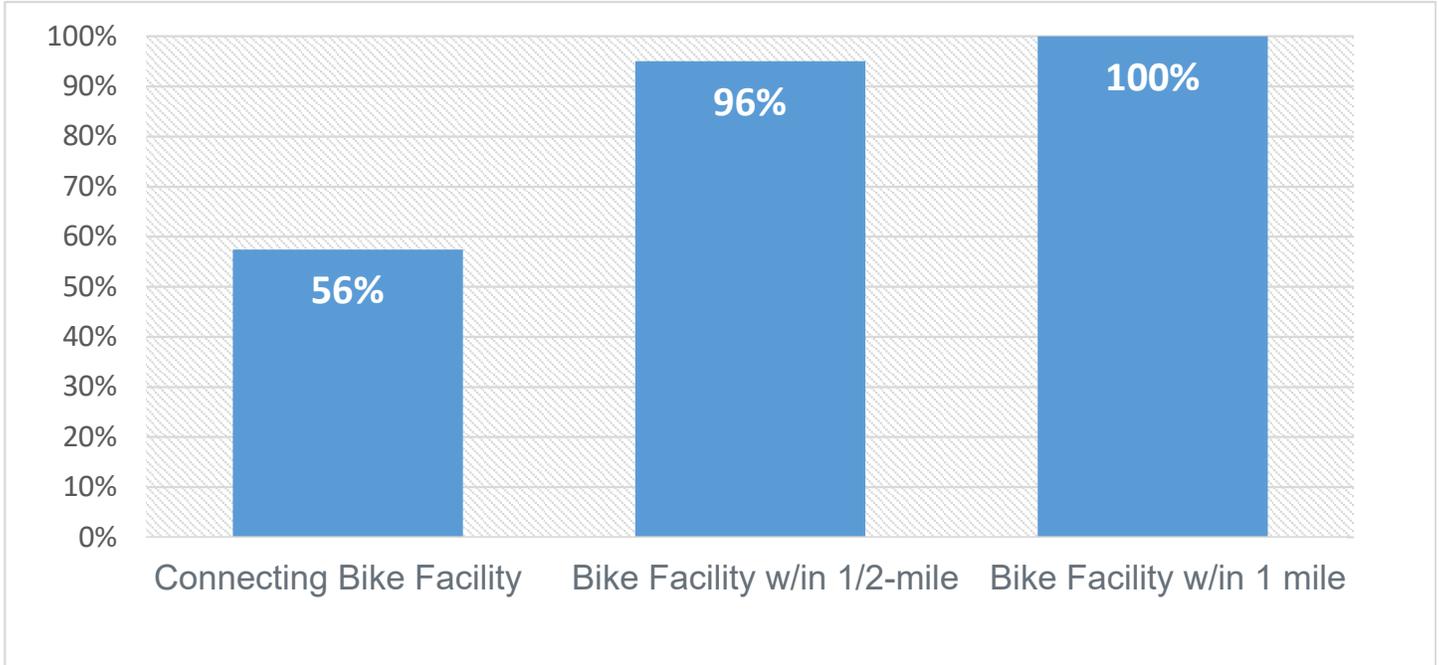


Figure C.



Bicycle Connectivity of Regional Activity Centers

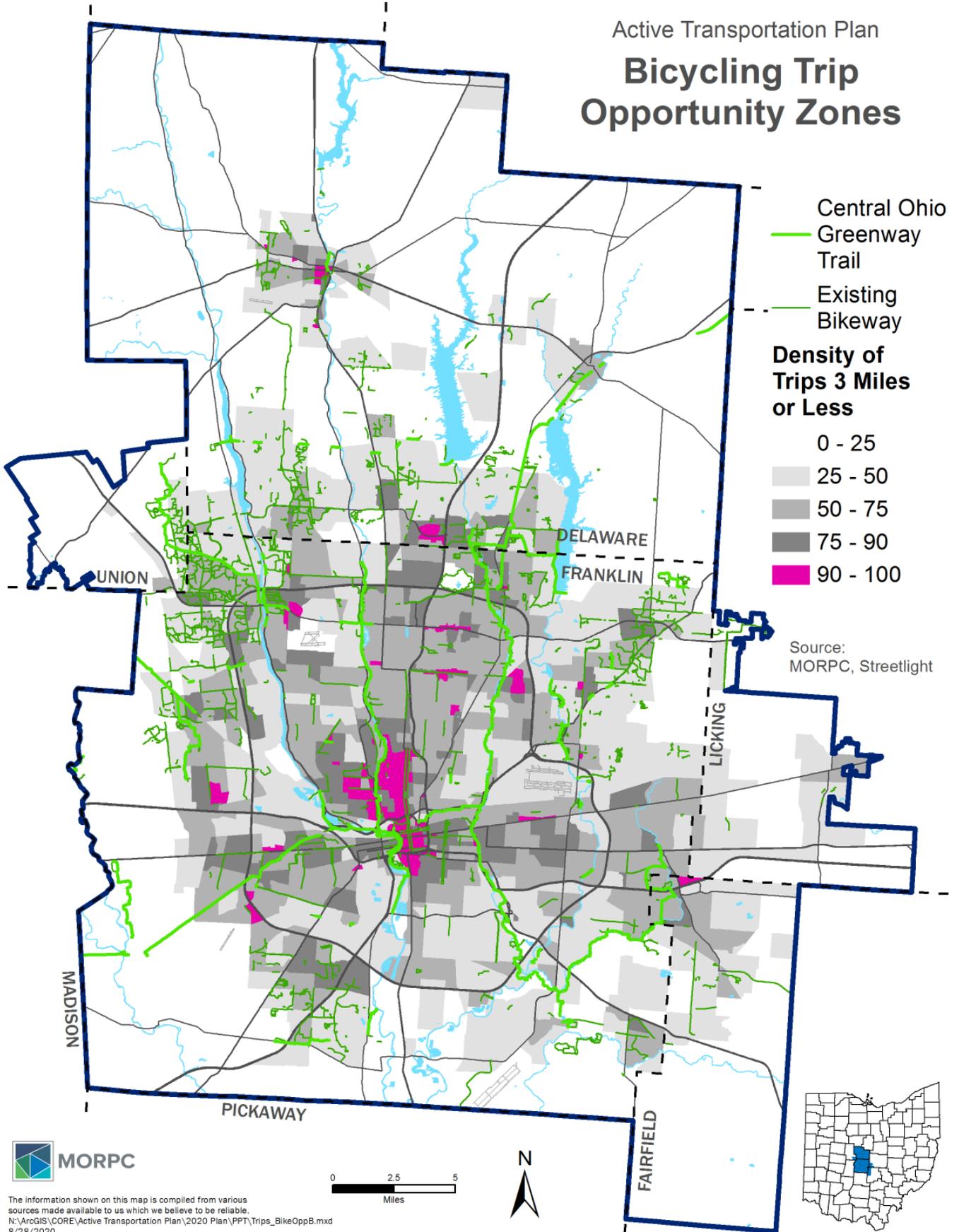


Traffic Analysis Zones (TAZs) above 75th & 90th percentiles

Similar to the pattern of connectivity and access seen with the Regional Activity Centers, only about half of these Short Trip Activity Centers are connected to a bike facility. Furthermore, that bike facility may not provide convenient or safe access directly to someone’s origin or destination within that TAZ.

While it may not be reasonable to expect all or most people to switch their 3-mile short trips by car to by bike, if we invest in high-quality, safe, and well-connected bike facilities, there is considerable opportunity in these areas to convert at least a small but significant portion of those car trips to bike trips.

Figure D.



Walking Trip Activity Centers were identified as those areas with a high concentration of trips measuring 1 mile or less in length. While there is considerable overlap between these zones and the Regional Activity Centers, there are many smaller, neighborhood-oriented locations represented here. More areas in and around German Village emerged from this analysis, as well as areas in Central Bexley, the 3rd Avenue corridor through Grandview, and additional areas in Downtown Delaware.

High activity zones:

- *High Street Corridor*
- *Grandview Yard / 3rd Ave Corridor*
- *Easton*
- *SR 161 / Dublin Granville Road*
- *Downtown Delaware*
- *German Village*
- *Bexley*



Image Credit: Franklin County Auditor

The following pages will highlight a few examples of Short Trip Activity Centers and describe the existing infrastructure conditions in closer detail. These examples take a quick look at potential opportunities to improve safety, connectivity, and access for walking and bicycling within each location based on the existing conditions and crashes that have occurred in the past involving people walking and bicycling.

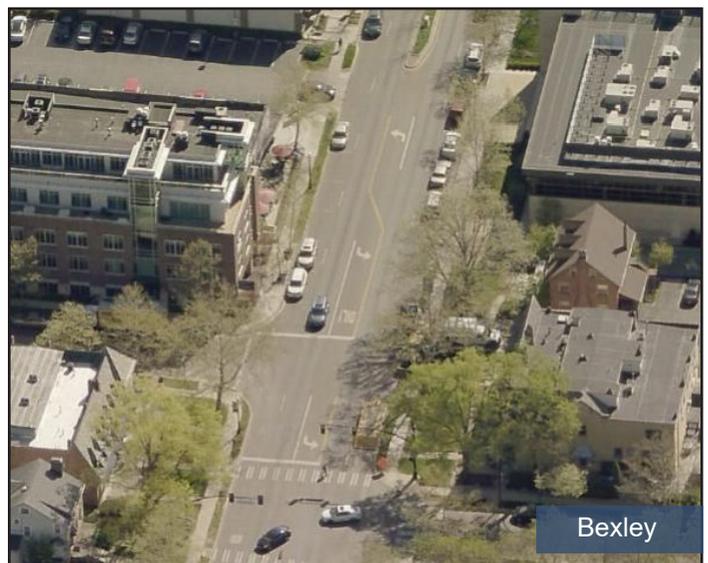
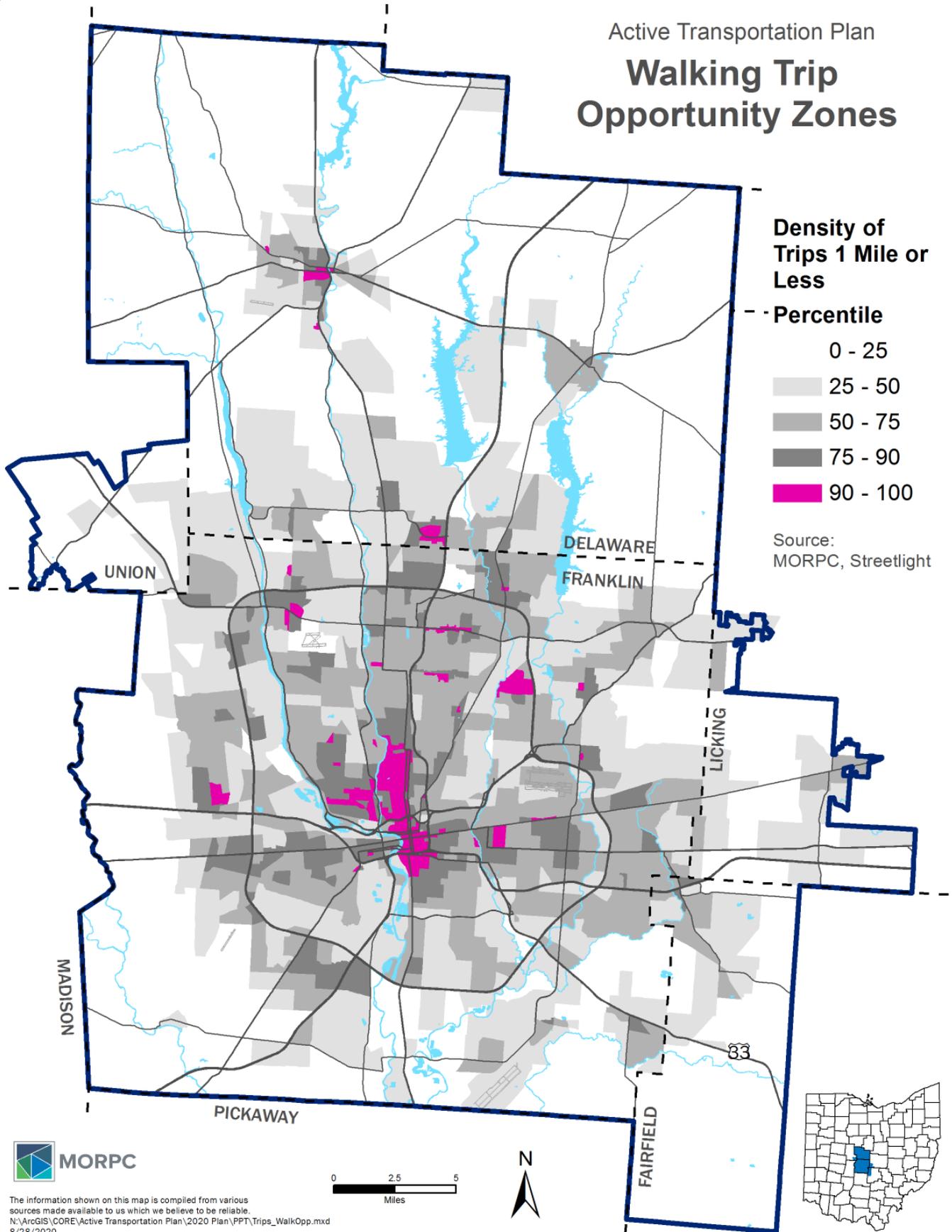


Image Credit: Franklin County Auditor

Figure E.



The information shown on this map is compiled from various sources made available to us which we believe to be reliable.
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Hilliard Rome Road

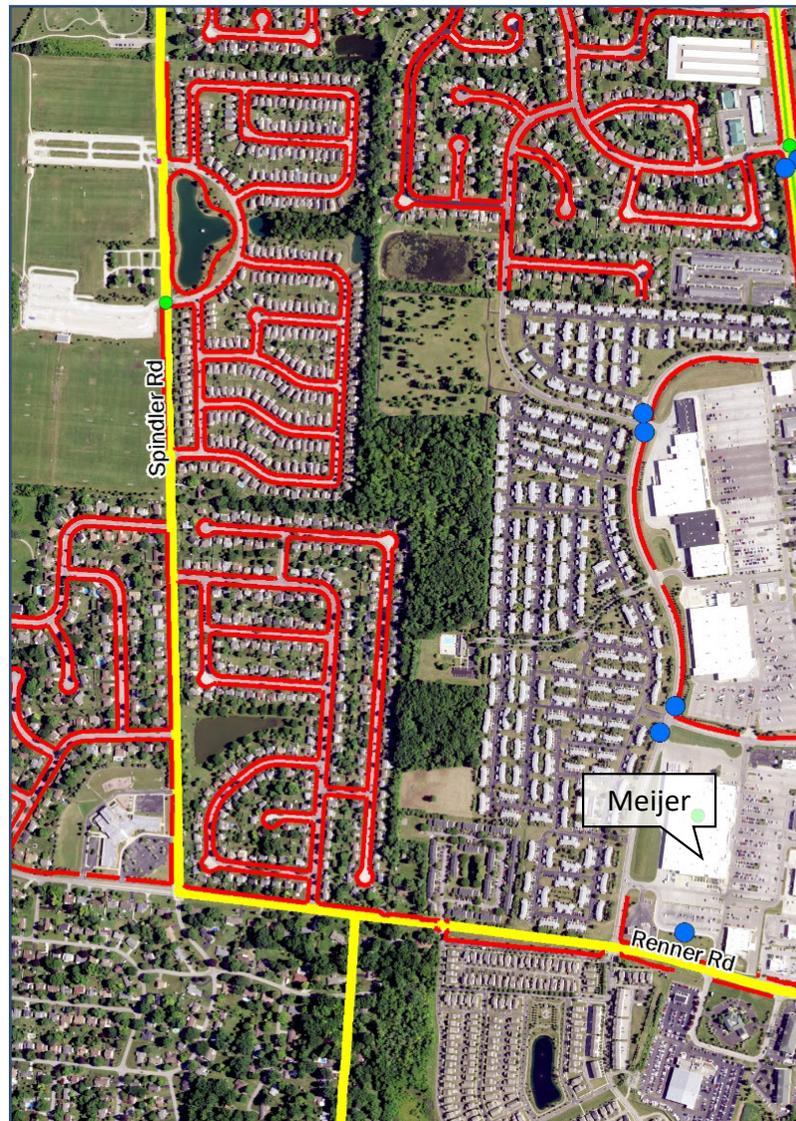
The first example of Short Trip Activity Centers includes the shopping center along Hilliard Rome Road near I-70, just south of Hilliard, as outlined in the image in yellow. These represent zones that fell into the 75th percentile and above in either the 3 mile or 1 mile trip density maps on the previous pages.

Potential considerations for improving conditions for walking and bicycling:

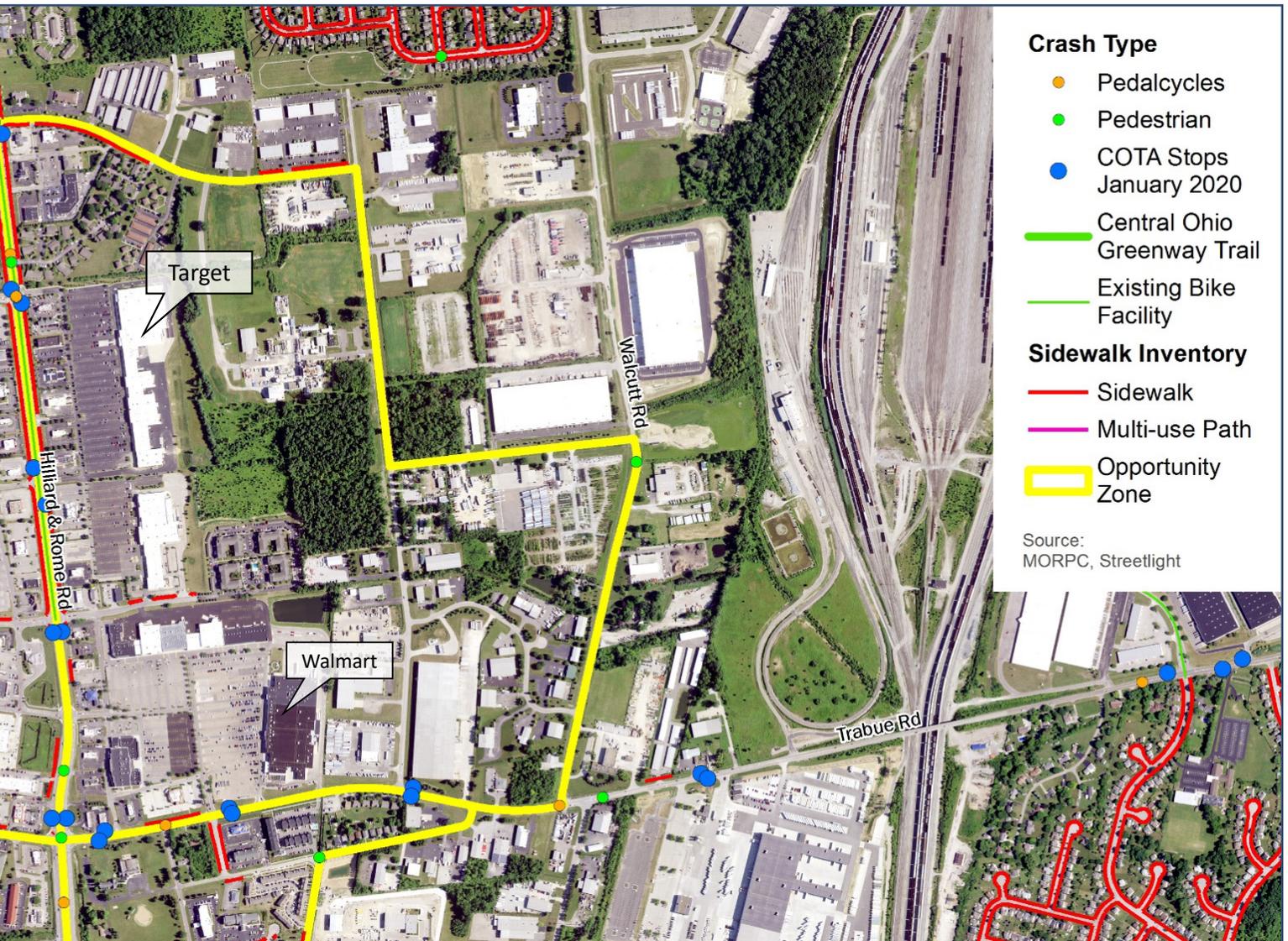
- *Fill in sidewalk gaps along primary connections between adjacent neighborhoods, bus stops, and retail locations.*
- *Provide sidewalk connectivity into and through the parking lots to provide access to destinations.*
- *Ensure that there are adequate pedestrian crossings to encourage safe access across major roadways.*
- *Fill gaps in the bike network and provide access from those roadways to adjacent destinations.*

In looking at this map and maps like this, we can begin to think about how we can work together as a region to improve conditions for walking and bicycling across all locations throughout the MPO where we see these same conditions.

Assessing how the existing infrastructure supports walking and biking in this example, a couple things stand out:



Land Use – Many of these locations are suburban retail, so the development pattern is oriented around automobile movement and parking. While most people likely wouldn't think to get to this type of place by any means other than a car, approximately 7% of households in the MPO area don't have the option to travel by car. In addition, in a survey of nearly 900 Central Ohio residents, 47% indicated that they would prefer to walk or bicycle more frequently but don't feel safe or comfortable doing so (ATP Public Survey).



1" = 1000'

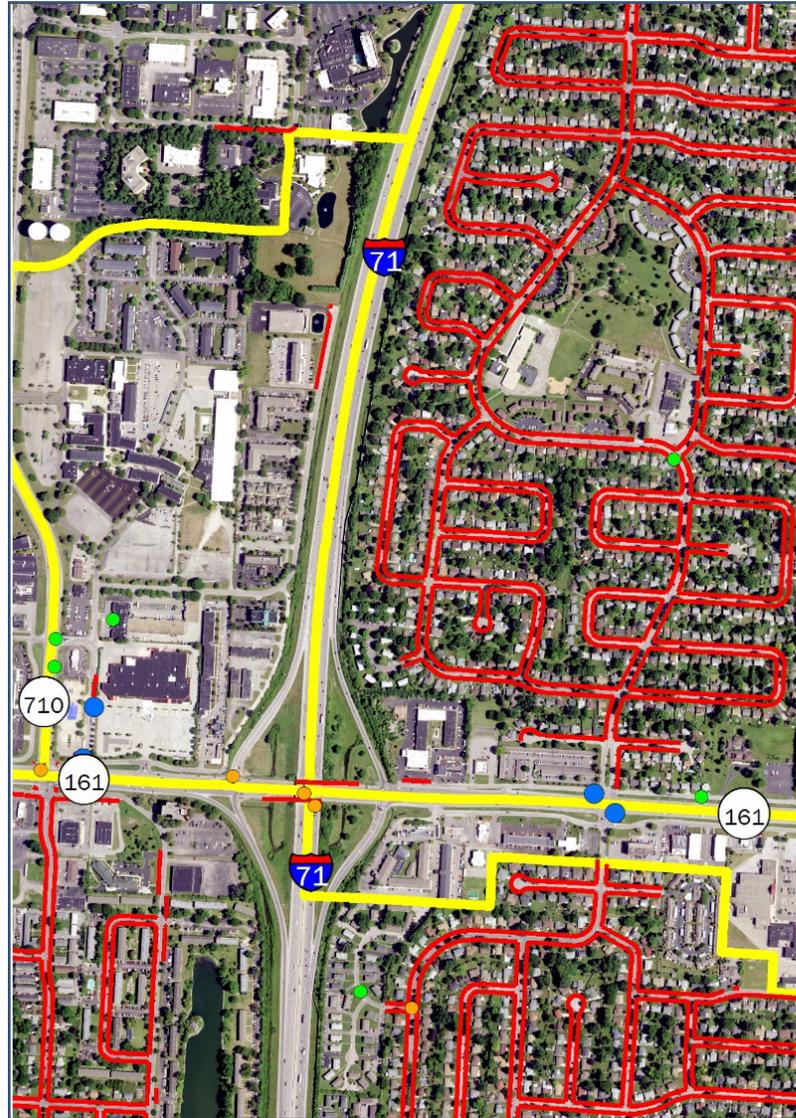
Sidewalks – Sidewalks, shown on the map in red, are missing from a large portion of this zone. This connects back to the land use - traditionally these types of developments were built to serve people driving in and out and never incorporated facilities for people to walk or travel by any other mode. However, as the region’s population grows, its needs and preferences are changing: increasingly people do walk, bike, and take transit to these types of locations, whether it’s to shop, dine, or work. You can see evidence of this based on the reported crash history with people walking and biking in the area.

Dublin-Granville Road

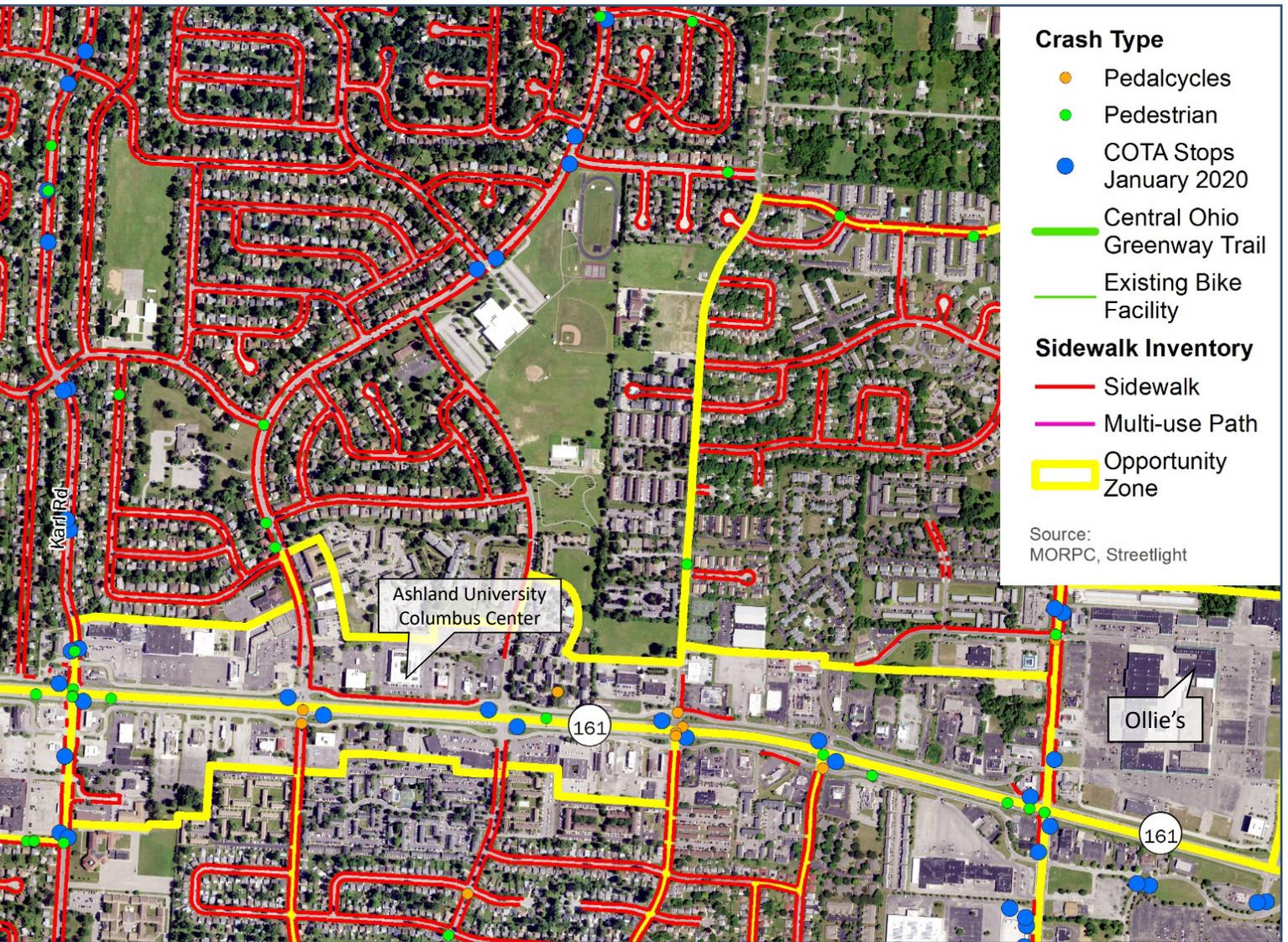
Dublin Granville Road, or State Route 161, on the northeast side of Columbus, provides another example of the relationship between land use and transportation.

1. This area has very high neighborhood connectivity in terms of existing sidewalk infrastructure, but sidewalks are less prevalent along SR 161. Even so, StreetLight data shows **many people in this area still rely on walking and biking.**
2. Existing transit services run through the adjacent neighborhoods and along SR 161 in this area and a number of COTA stops are present. Especially along SR 161, **transit users are in close proximity to vehicle traffic, creating a stressful and potentially dangerous environment for these vulnerable roadway users.**

Safe and connected active transportation infrastructure such as sidewalks and bikeways can reduce the potential for conflict between vehicles and vulnerable roadway users and may encourage more people to choose to walk, take transit, or ride a bicycle.



2020-2050 ACTIVE TRANSPORTATION PLAN



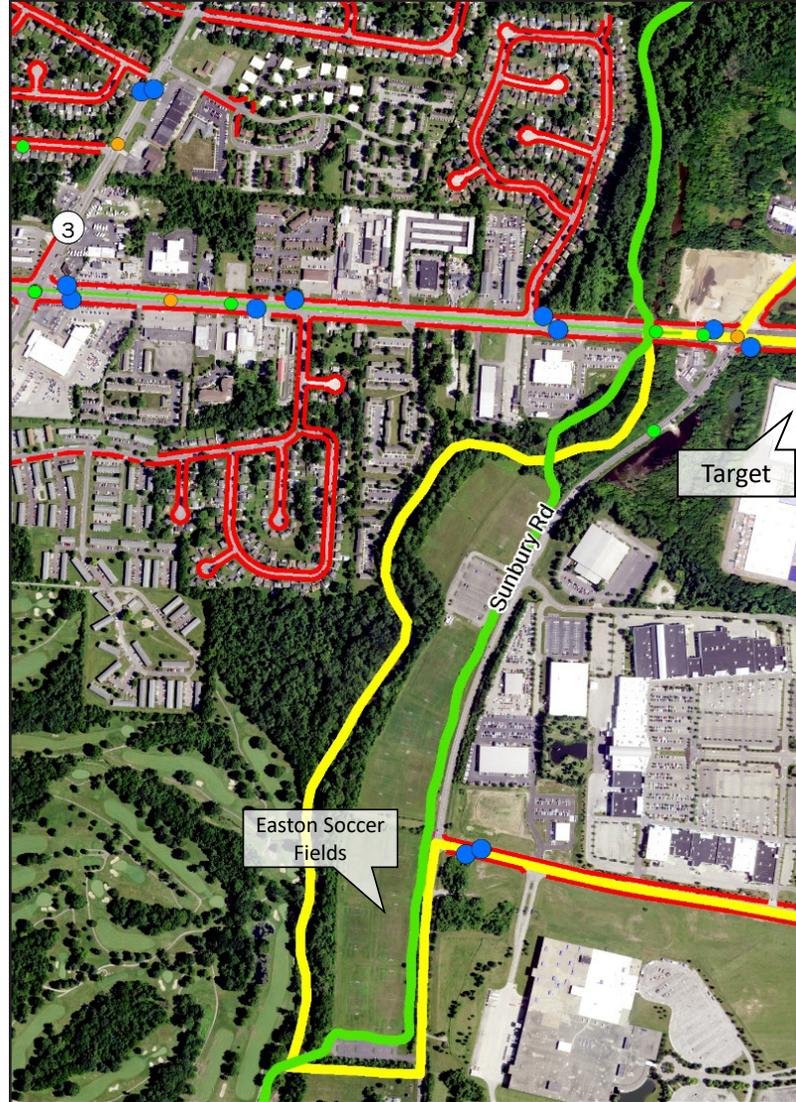
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Easton

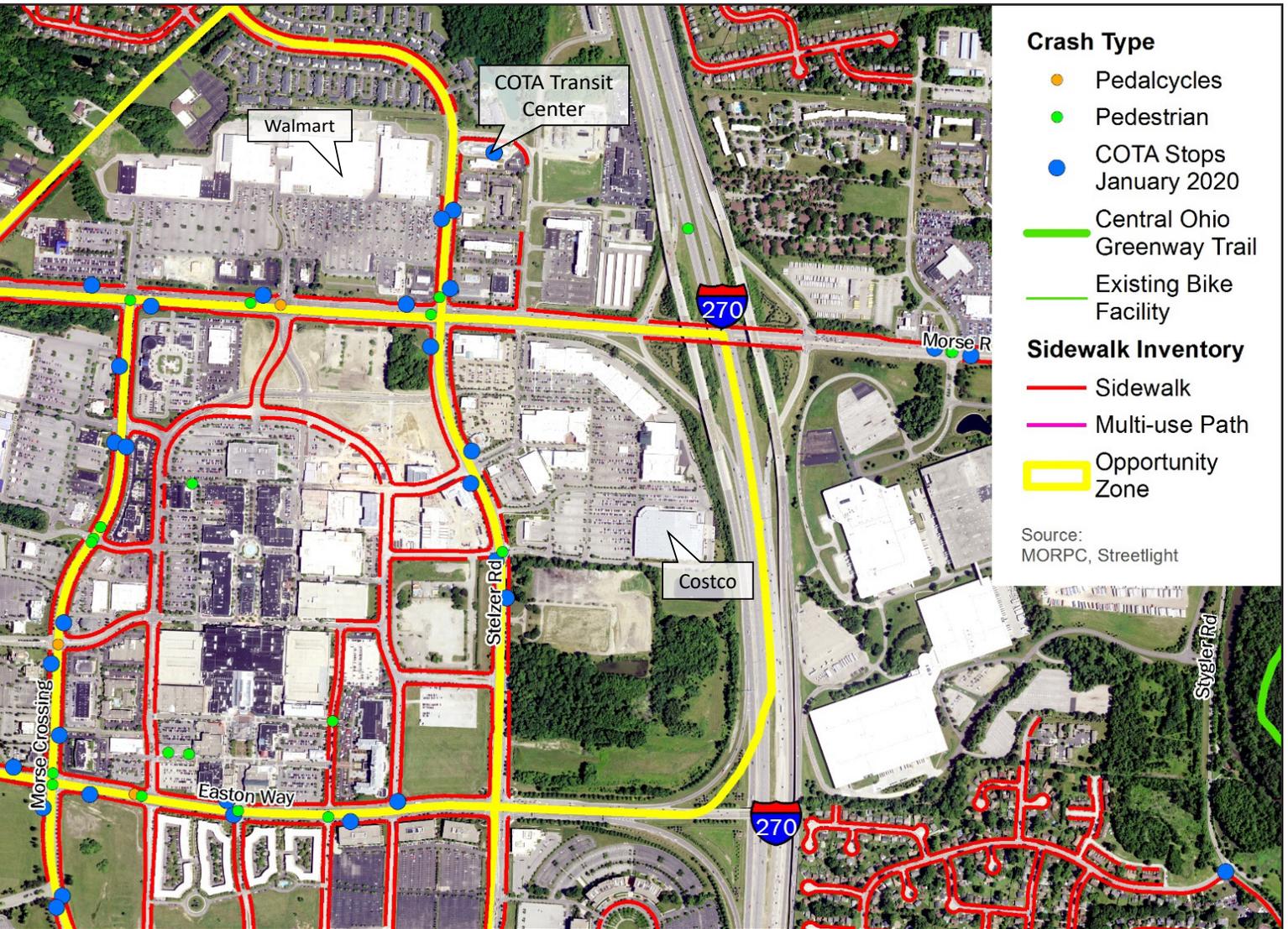
The Easton Area is a prime example of a Short Trip Activity Center which could be accessed by bicycle. The Alum Creek trail (shown on the map in green), is one of the region's most popular trails. It runs directly adjacent to Easton along Sunbury Road. While the trail continues past Easton, the addition of separated bicycle facilities through Easton would encourage cyclists to travel from the trail to the shopping center.

Similarly, COTA transit stops are located around the perimeter of the retail center but transit does not pass through it. Sidewalks and bicycle facilities can provide safe first-mile/last-mile connected for transit riders to the retail center.

Easton is a significantly popular regional destination with many excellent assets. The next step in enhancing these assets is building out the necessary infrastructure to link them together into a cohesive network that improves safety and maximizes the potential of one of our region's best attractions.



2020-2050 ACTIVE TRANSPORTATION PLAN



Crash Type

- Pedalcycles
- Pedestrian
- COTA Stops
January 2020

— Central Ohio Greenway Trail

— Existing Bike Facility

Sidewalk Inventory

- Sidewalk
- Multi-use Path
- Opportunity Zone

Source:
MORPC, Streetlight

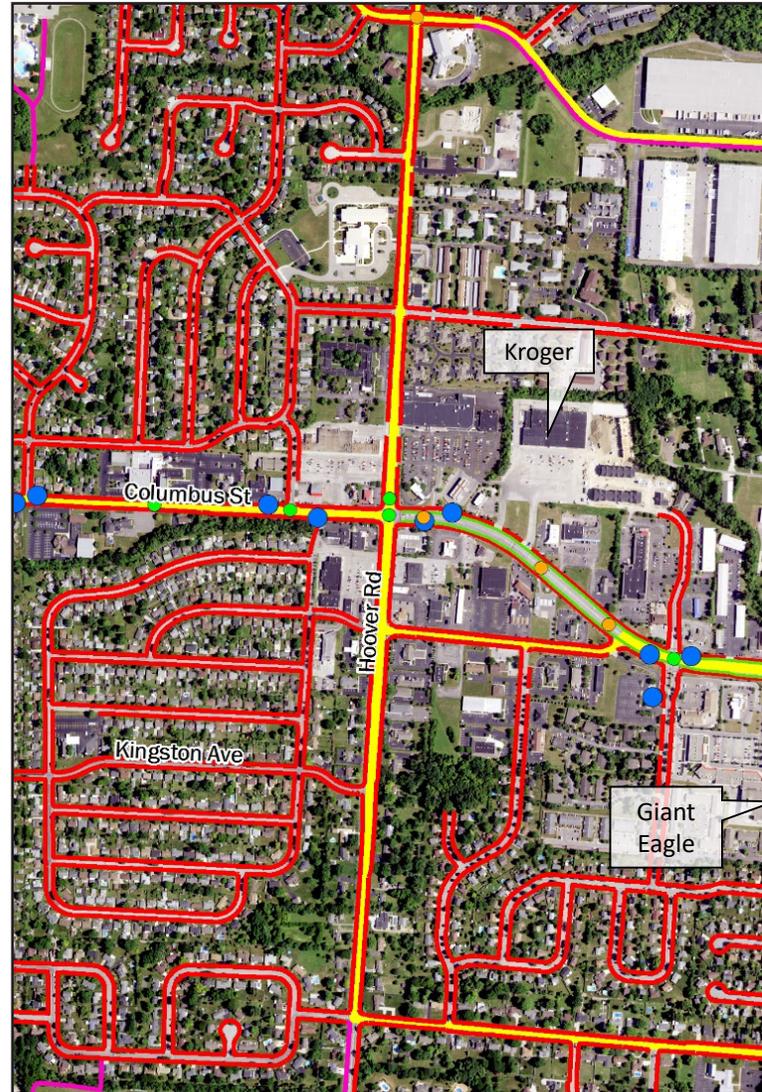
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Stringtown Road

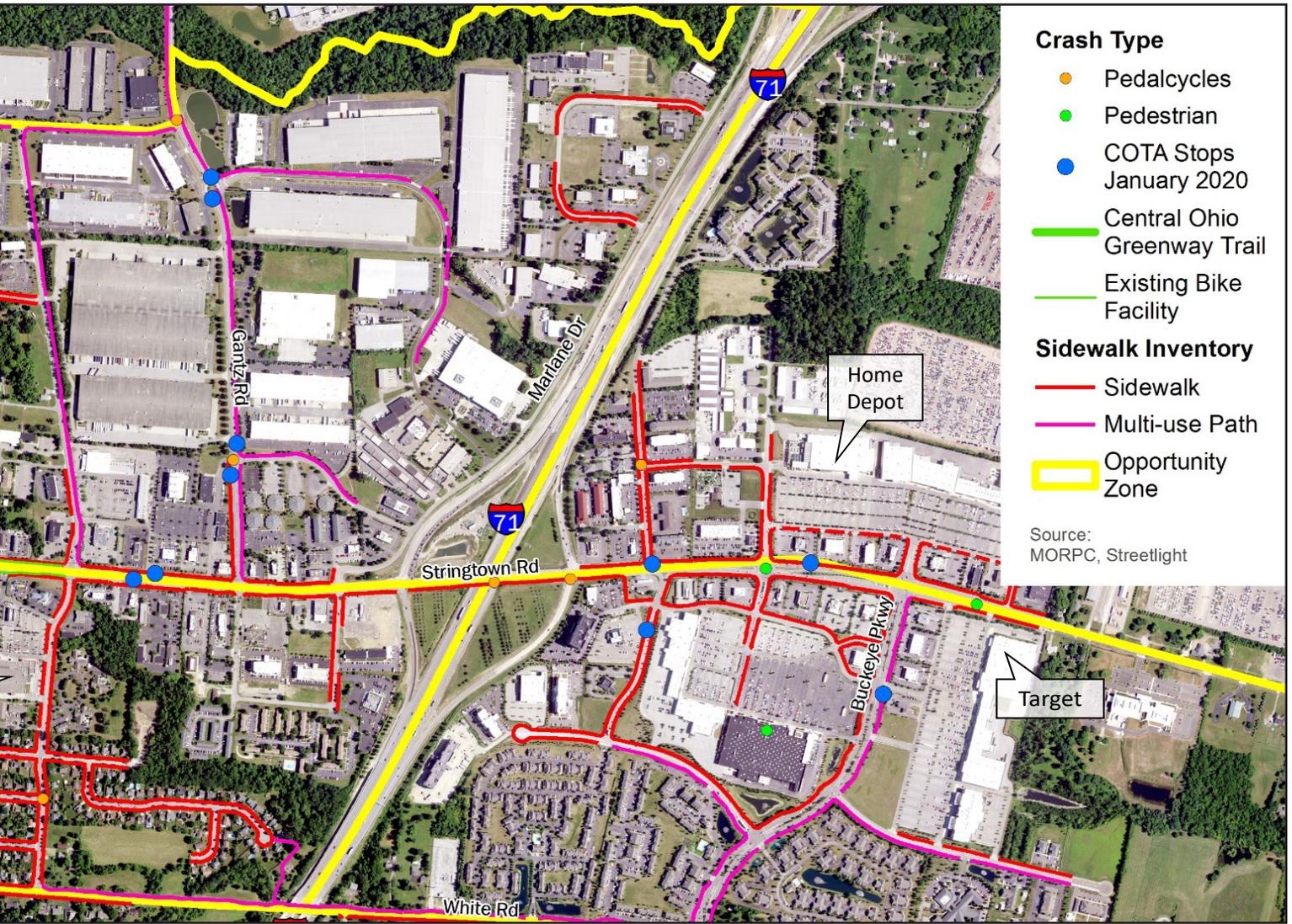
The Stringtown Road shopping centers in Grove City comprise another Short Trip Activity Center. A couple of interesting dynamics are worth noting here.

For one, there is noticeably more access and connectivity in this area due to the many sidewalks and side paths. Sidewalks connect from adjacent neighborhoods all the way to Stringtown Road and continue along Stringtown Road. A combination of sidewalks and side paths connect into some of the major parking lots, providing access for people walking and biking almost directly to the stores. Finally, there is sidewalk or side path connectivity to almost every location where there's a bus stop.

Grove City has done an excellent job building out walking and biking infrastructure in the neighborhoods and shopping areas surrounding Stringtown Road. However, there is still a history of crashes involving people walking and bicycling along Stringtown Road, as shown by the orange and green dots on the map. The ATP can help Central Ohio communities identify and address these safety concerns with data and resources.



2020-2050 ACTIVE TRANSPORTATION PLAN



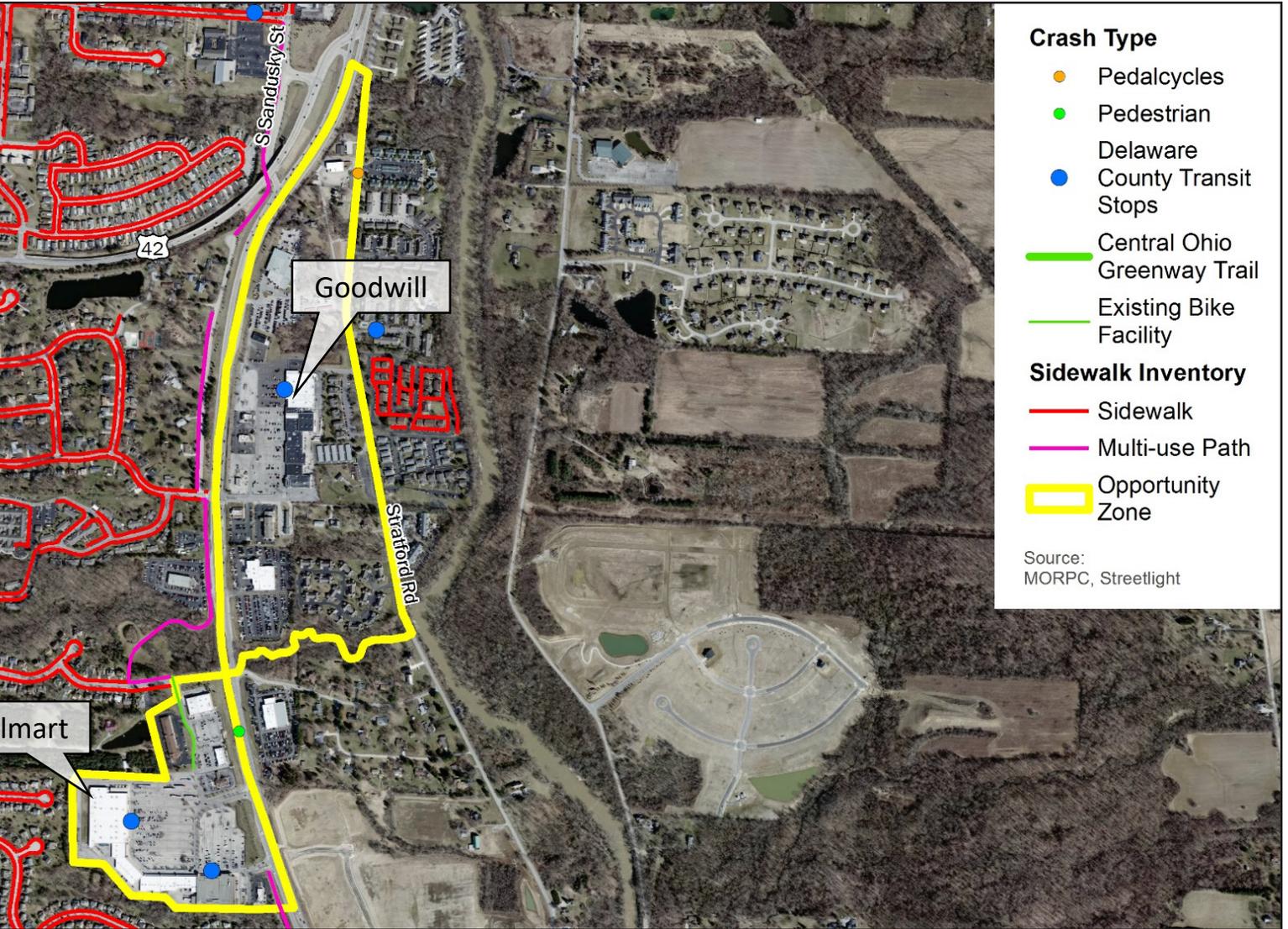
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US 23

A collection of shopping centers, condominiums, and apartment complexes along US 23 just south of downtown Delaware make up another Short Trip Activity Center. These shopping centers are in close proximity to residential neighborhoods with varying degrees of sidewalk connectivity. Some additional connectivity is provided by a multi-use path that runs adjacent to US 23 and connects to Sandusky Street to the north.

A more complete, connected network of sidewalk and/or multi-use path facilities that builds upon these existing assets can maximize the potential for residents to access these nearby resources without the use of a car.





Crash Type

- Pedalcycles
- Pedestrian
- Delaware County Transit Stops

- Central Ohio Greenway Trail
- Existing Bike Facility

Sidewalk Inventory

- Sidewalk
- Multi-use Path
- Opportunity Zone

Source:
MORPC, Streetlight

1" = 1000'

CONCLUSION

This memo provides important information about how investment in active transportation infrastructure can be prioritized to encourage people who currently make short trips by car to choose another mode of transportation. Key considerations about how the physical conditions of our transportation system can directly impact a person's choice to walk or bike to their destination instead of drive are also described, using specific examples.

These examples are intended to be a guide for one criterion a community can use to evaluate where investment in active transportation could be prioritized. However, it is important to note that trip activity is only one potential consideration for prioritizing these investments. There are many locations throughout the region where short trips do not occur simply because of the patterns of existing land uses. This does not necessarily mean those areas should be any less of a priority for active transportation infrastructure investment - particularly if there are households without access to vehicles or other pressing needs for safe infrastructure.

The tools and resources developed for the 2020-2050 Active Transportation Plan can be used in combination with this information to help communities further assess roadway conditions and determine what the most appropriate active transportation infrastructure investments might be. Those resources can be found on MORPC's website at www.morpc.org/ATP.



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