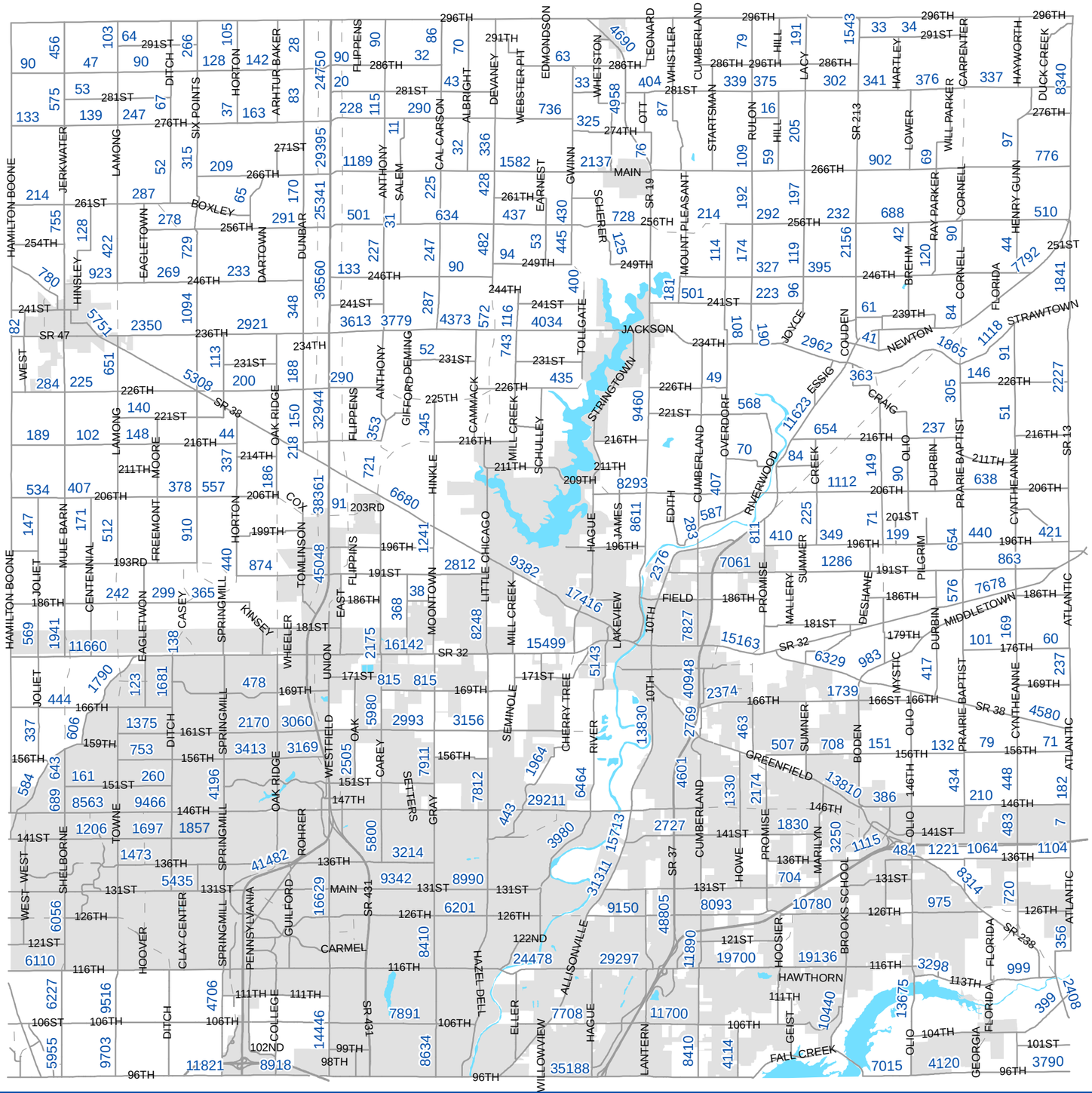
Appendix A: Background Maps

Hamilton County, Indiana

2006 Traffic Volumes



2006 Traffic Volumes are based on Average Daily Traffic (ADT). When 2006 volumes were not available, the most recent traffic counts were projected to calculate 2006 volumes.

Additional information can be found on page 22.

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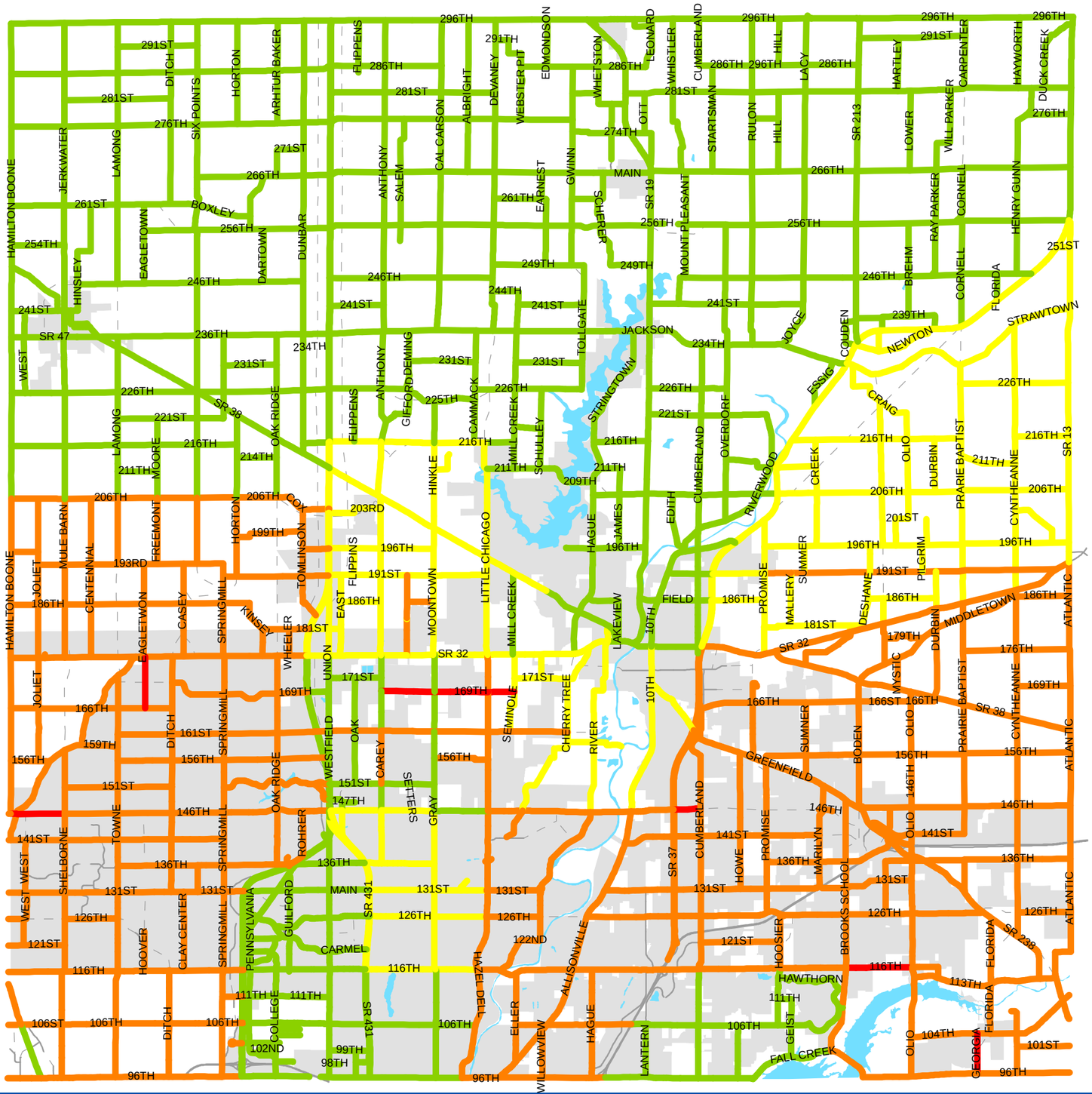
Hamilton County, Indiana

Estimated Growth Rates



2006-2010 Estimated Growth Rate

- 1 - 2%
- 3 - 4%
- 5 - 10%
- 11 - 25%

Additional information can be found on page 22.

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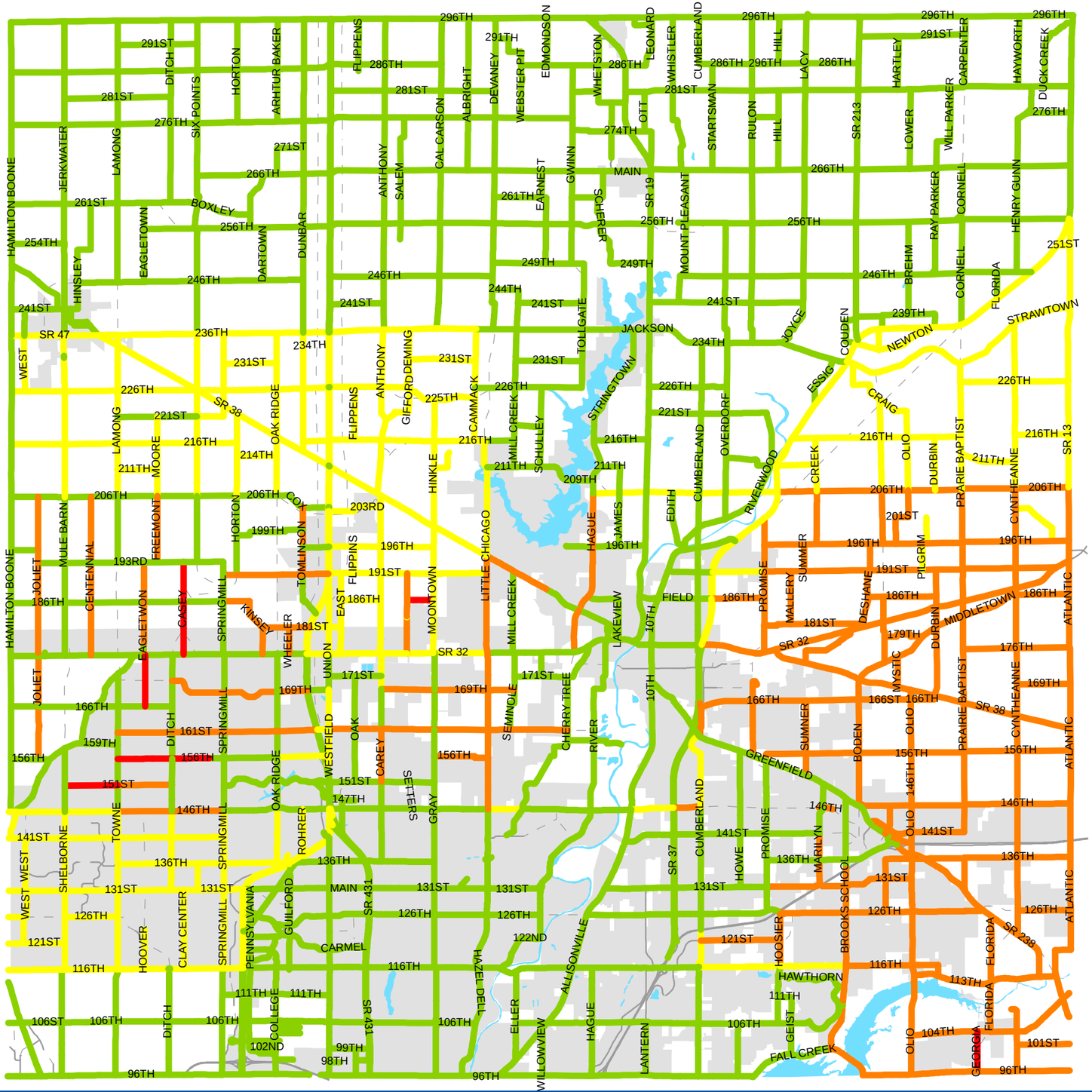
Hamilton County, Indiana

Estimated Growth Rates



2011-2020 Estimated Growth Rate

- 1 - 2%
- 3 - 4%
- 5 - 10%
- 11 - 25%

Additional information can be found on page 22.

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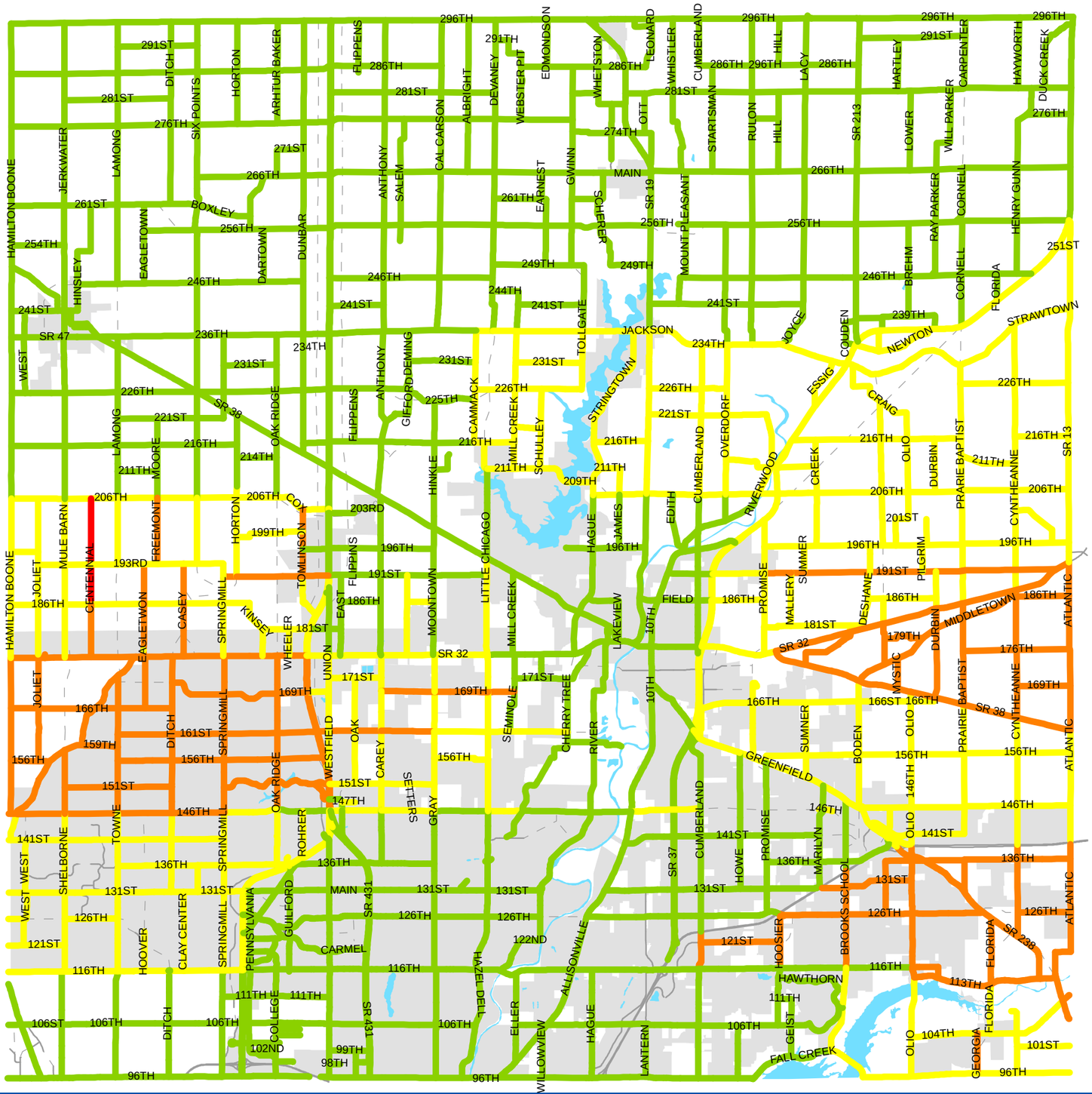
Hamilton County, Indiana

Estimated Growth Rates



2021-2026 Estimated Growth Rate

- 1 - 2%
- 3 - 4%
- 5 - 10%
- 11 - 15%

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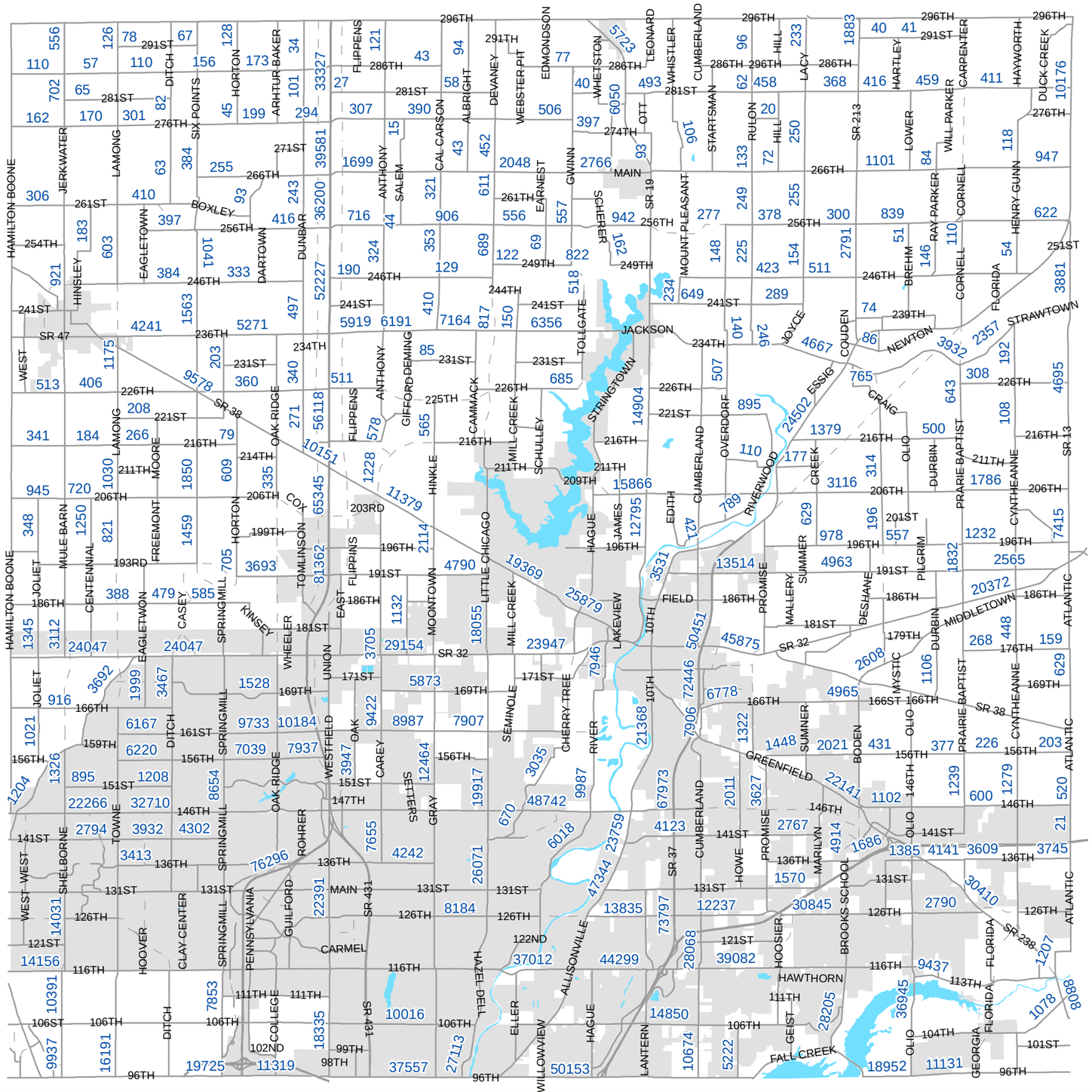
Hamilton County, Indiana

2026 Projected Traffic Volumes



2026 Projected Traffic Volumes are based on Average Daily Traffic (ADT). To determine these volumes, the growth rates were applied to the 2006 traffic volumes.

Additional information can be found on page 22.

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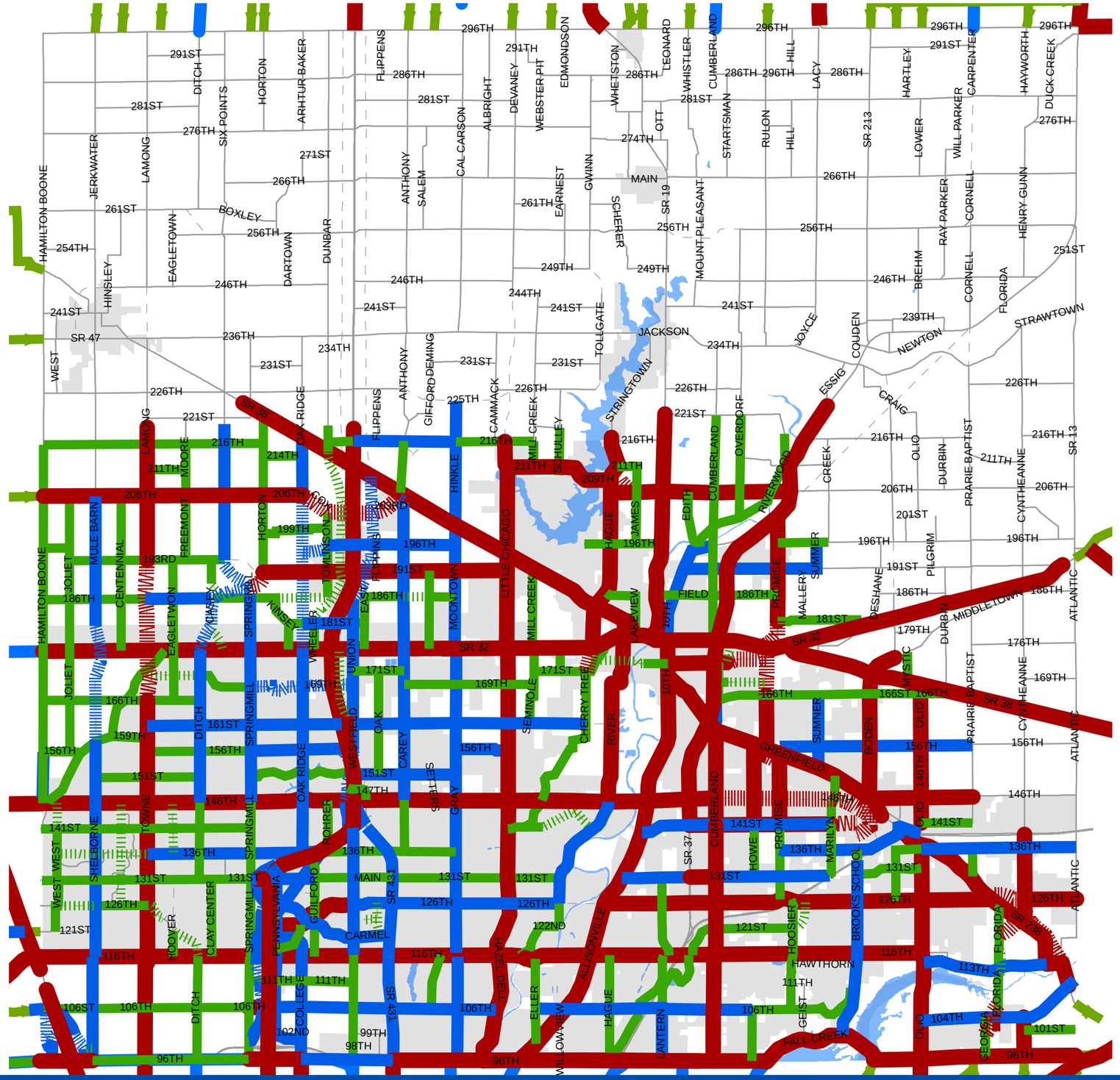
Hamilton County, Indiana

Jurisdictional Classifications

- Adjacent Jurisdiction Primary Arterial
- Adjacent Jurisdiction Proposed Primary Arterial
- Adjacent Jurisdiction Secondary Arterial
- Adjacent Jurisdiction Proposed Secondary Arterial
- Adjacent Jurisdiction Collector
- Adjacent Jurisdiction Proposed Collector



Carmel's Classifications have been generalized.
Additional information can be found on page 23.

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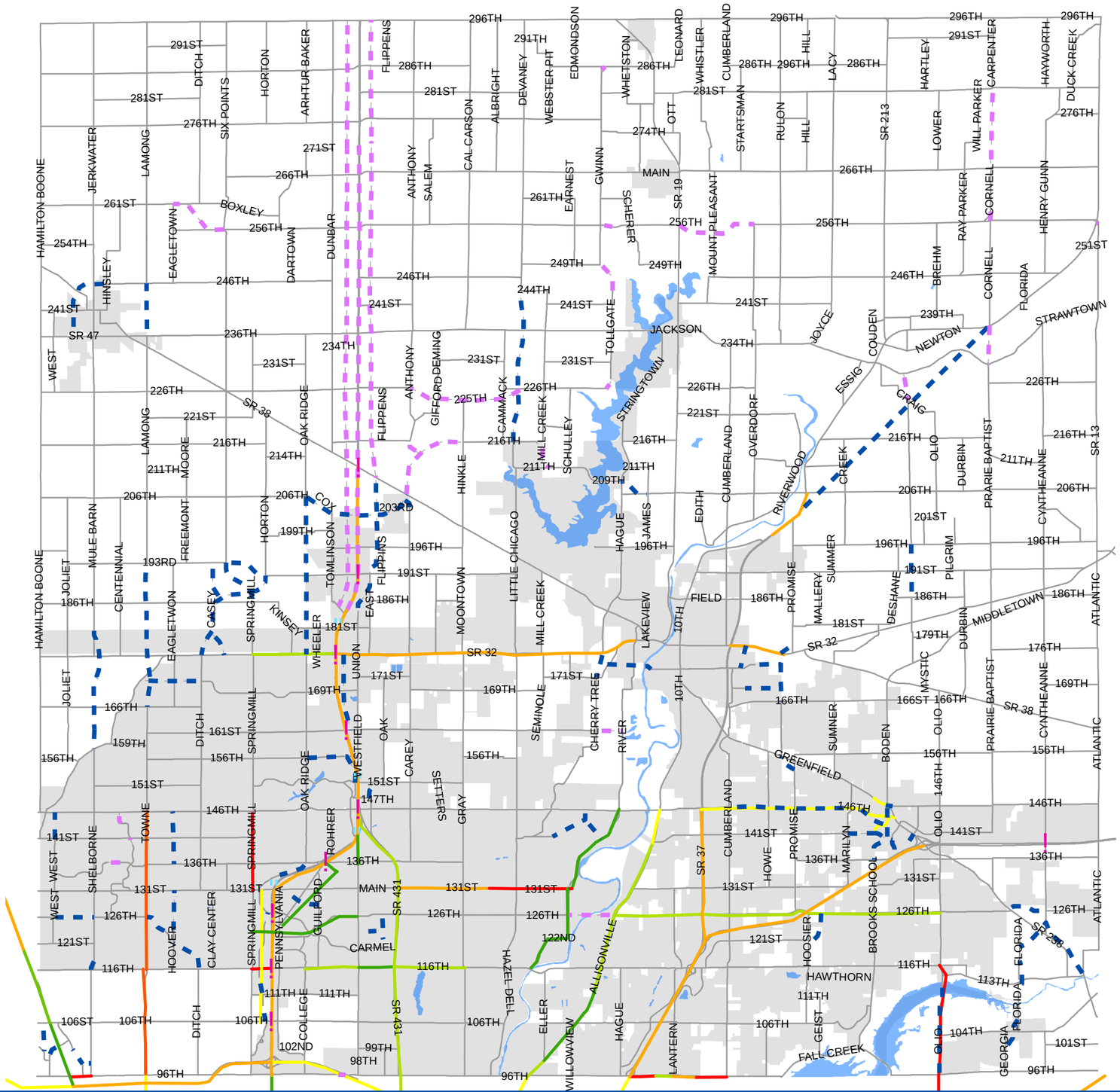
Hamilton County, Indiana

Planned Improvements



Proposed Grade Separation Improvements

- grade separated
- interchange

Recommended Connections

- Jurisdictional/INDOT Proposed Connections
- Hamilton County Connections

MPO's 2030 Planned Improvements

- 2006
- 2009
- 2010
- 2015
- 2020
- 2025
- 2030

Additional information can be found on page 23.

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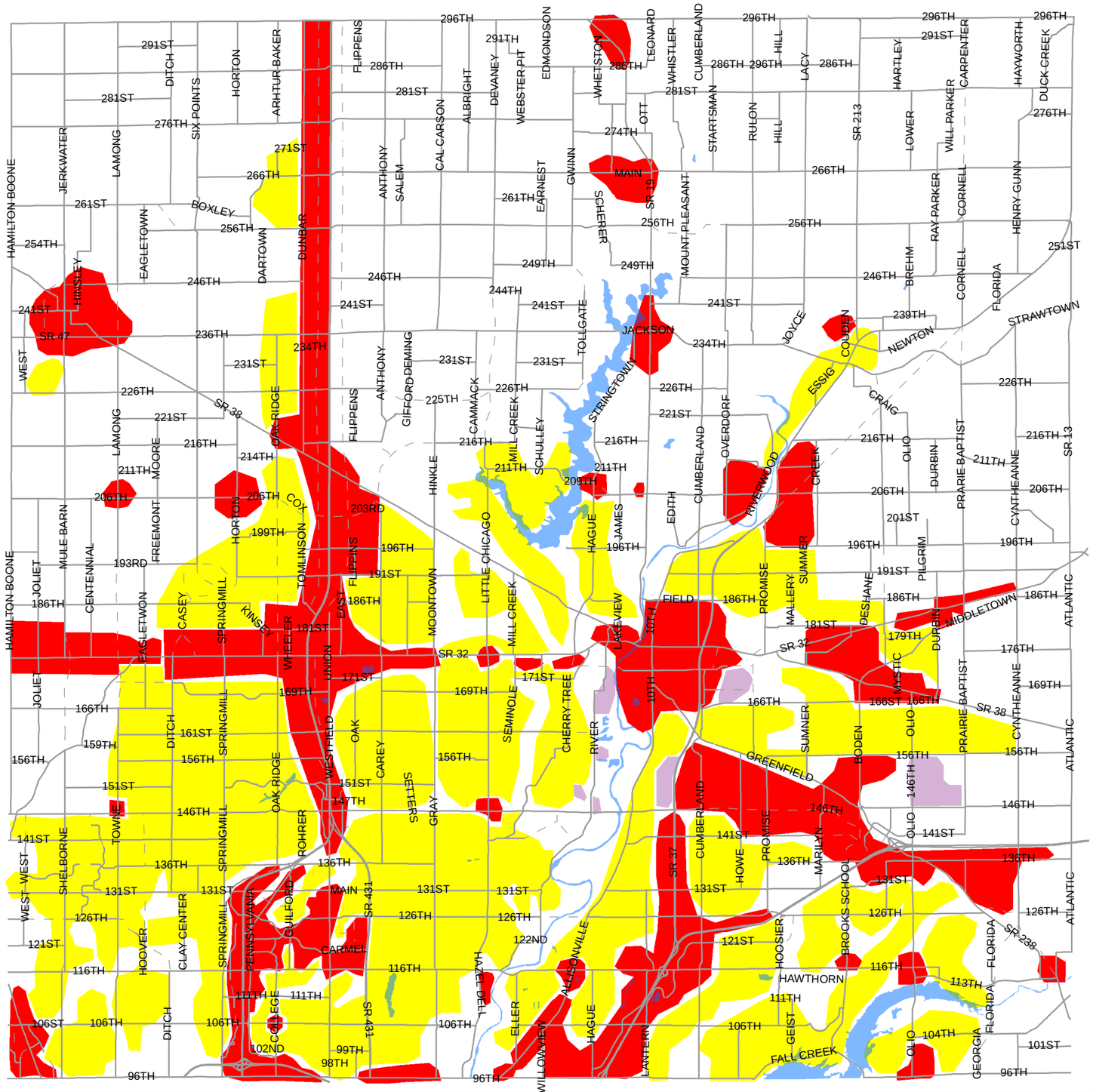
Hamilton County, Indiana

Future Land Use

Generalized Future Land Use

- Suburban Residential (low intensity)
- Industrial (high intensity)
- Commercial/Mixeduse (high intensity)



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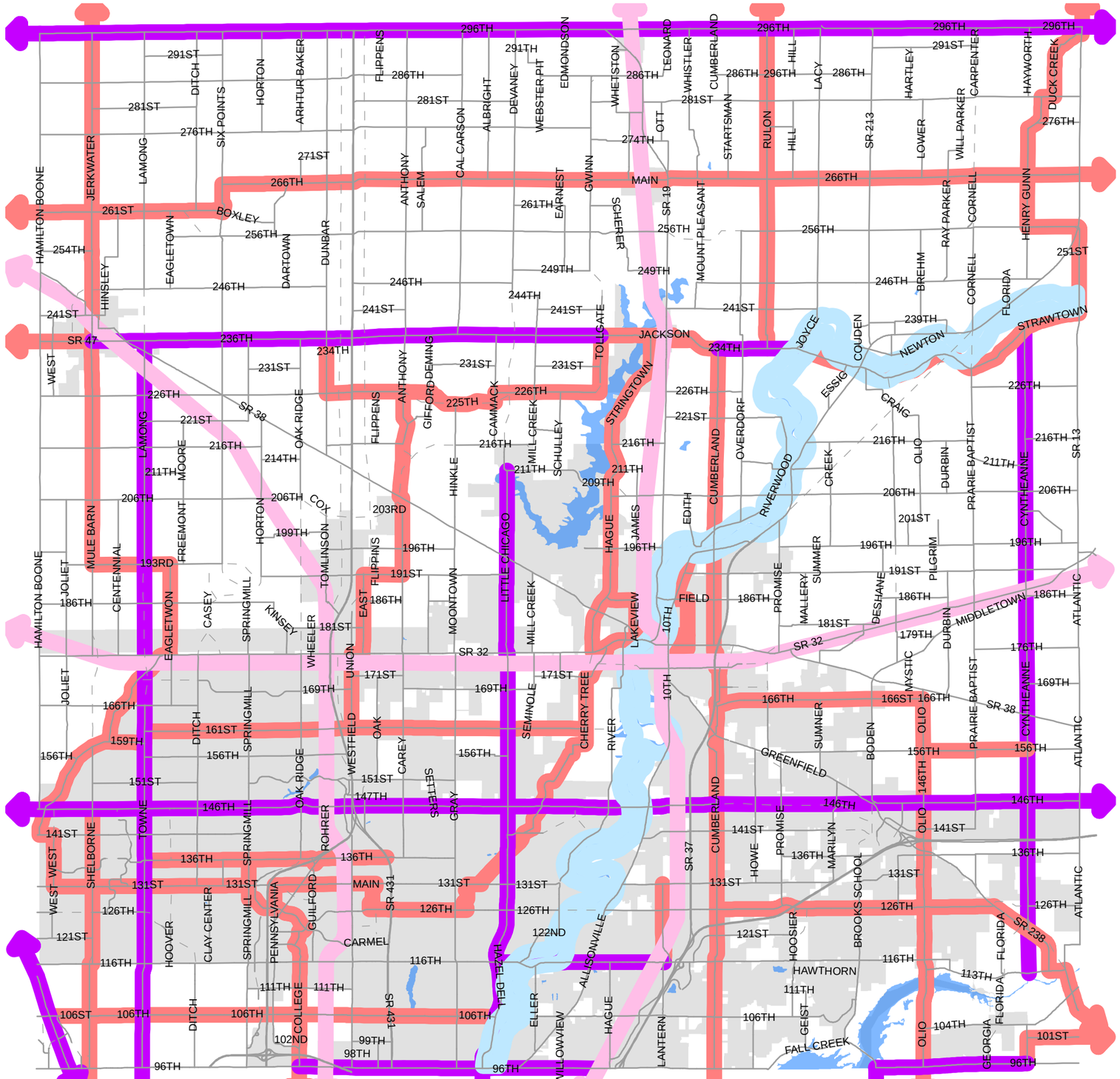
Hamilton County, Indiana

HCAT



- Separated Parallel Multi-Use Paths
- Separated Paths
- Shared Roadway Paths
- White River Corridor

Additional information can be found on page 23.

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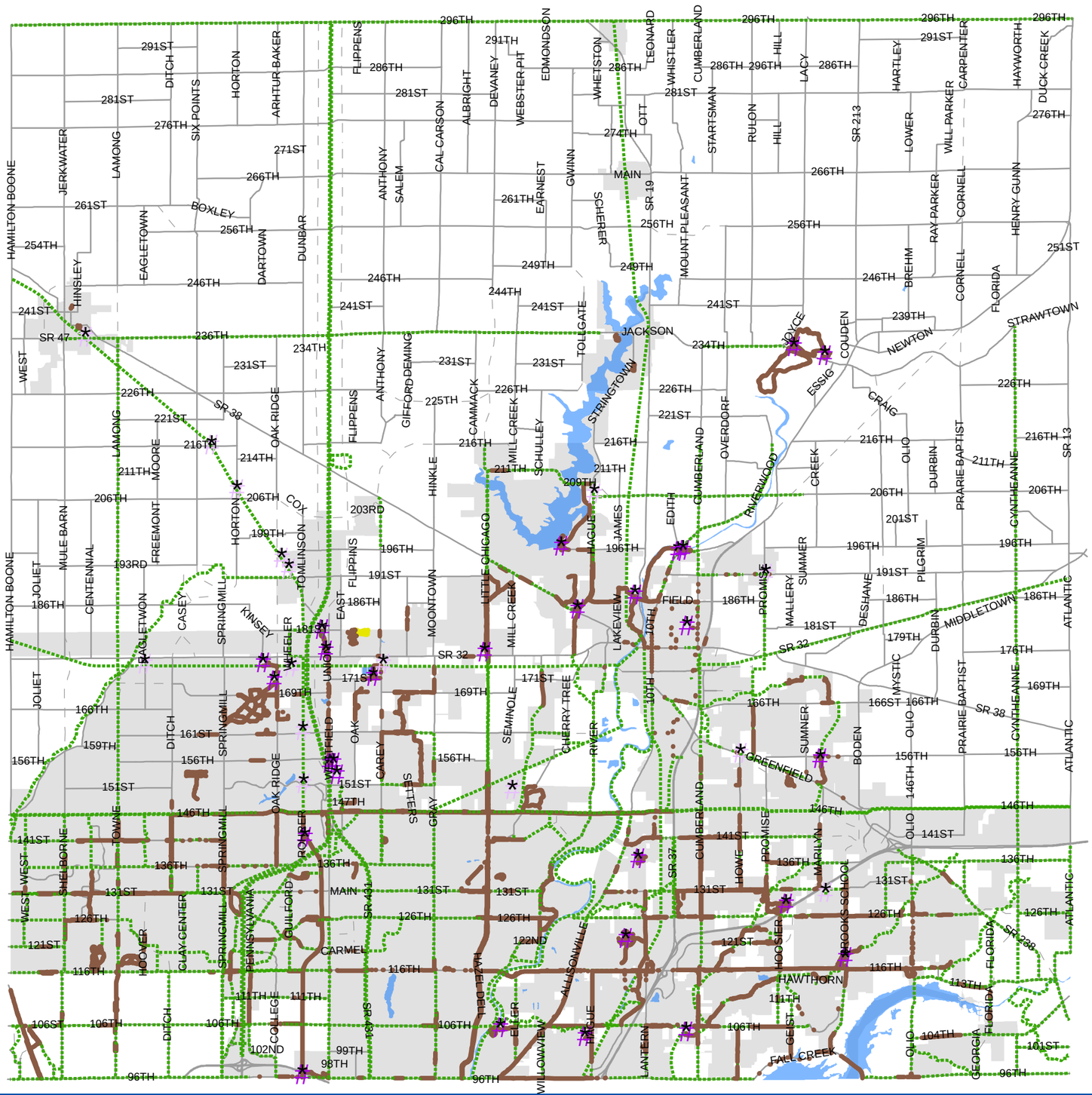
Hamilton County, Indiana

Hamilton County Trails



Hamilton County Trails

- Existing Trail
- Proposed Trail
- Existing Trail With Trailhead
- Proposed Trail With Trailhead
- Multi Use Trail
- Path

Trailheads

- Existing Trailhead
- Proposed Trailhead

Additional information can be found on page 23.

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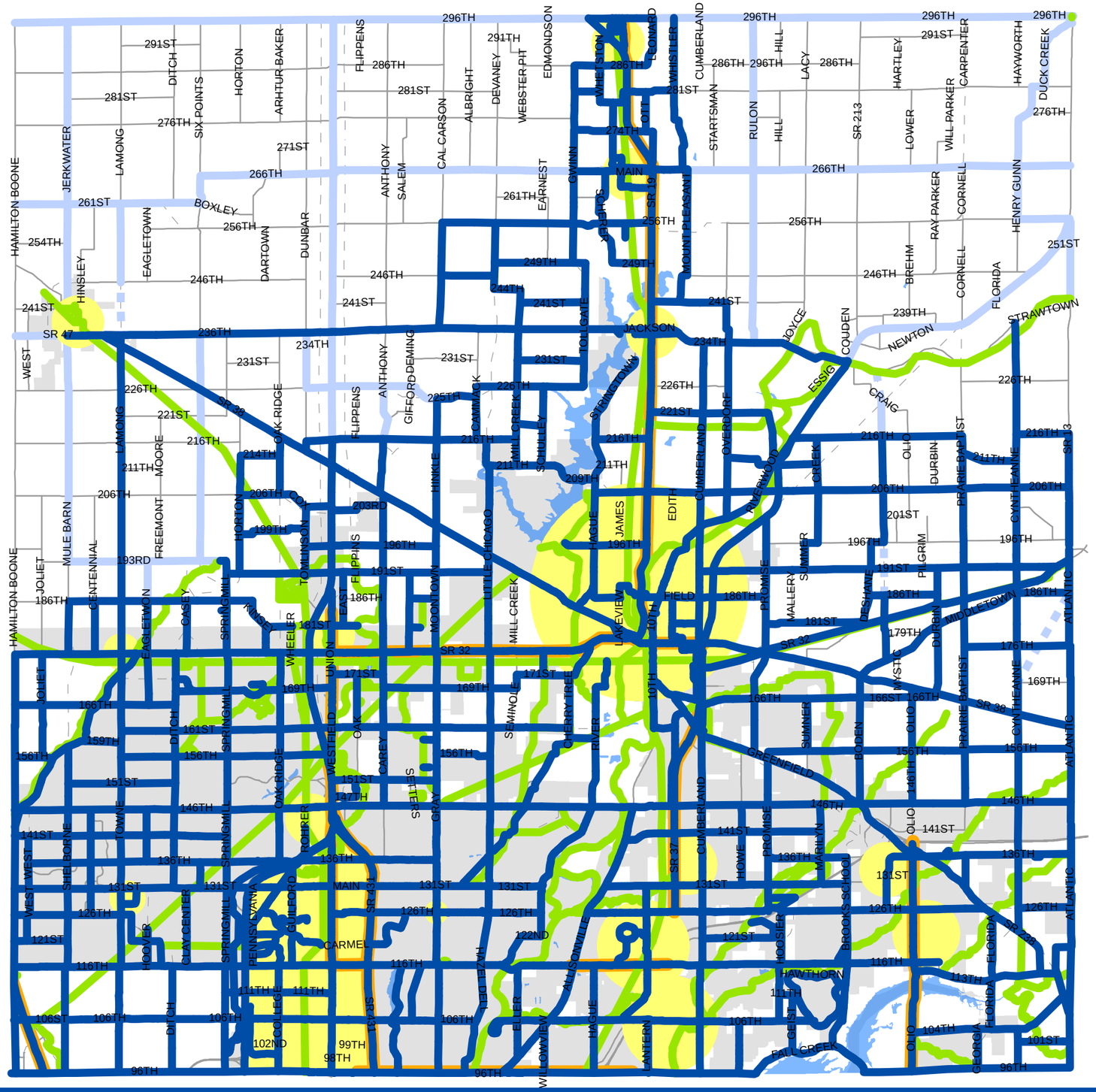
Hamilton County, Indiana

MPO Pedestrian Plan



- MPO Pedestrian ROW Routes
- MPO Pedestrian Off Street Routes
- MPO Pedestrian Corridors
- MPO Pedestrian Districts
- Hamilton County Added Pedestrian in ROW
- Hamilton County Added Pedestrian in new ROW

Multi-Use Path within Road Right-of-Way
The multi-use path within a road right-of-way is an on-street connection opportunity, accommodating both pedestrians and bicyclists. These pedestrian connectors are located along all vehicular routes identified in the County's Alternative Transportation System Plan as separated, parallel multi-use paths or shared roadway paths and at an approximate half- to one-mile grid in the growing areas within the MPA. As the State's fastest growing county, there is a desire to document the pedestrian connection opportunities in the developing areas. When commercial and residential development occurs, particularly in unincorporated areas where local jurisdictional requirements do not apply, pedestrian facilities should be included in the site development, preferably installed by the developer, to provide connection within the development

Multi-Use Path within Off-Street Right-of-Way
The multi-use path within an off-street right-of-way is a connection opportunity along a corridor that is not associated with an active vehicular thoroughfare and indicated in green on the diagram. Frequently, these are located along natural features, active or abandoned rail lines, or utility corridors. A multi-use path within an off-street right-of-way contributes to the overall walkability of a community by adding to the pedestrian network in areas where vehicles do not have access and linking urbanized and rural areas. It can be assumed that many of the off-street corridors will accommodate multiple, non-vehicular uses, on separated facilities, in addition to the users of the recommended multi-use path, pedestrians and bicyclists.

Pedestrian Corridor
A pedestrian corridor is a street segment characterized by a linear distribution of dense mixed uses supported by adjacent residential l and use and served by co-linear transit routes. It is a quarter-mile in width and a five-minute walk from one side to the other. Pedestrian corridors are identified in this plan based on the following selection criteria:
-Corridor hosts a mix of uses (an existing or planned mixed-use development area);
-Corridor is at least one mile in length;
-Corridor does not have a gap in adjacent pedestrian destinations that exceeds a quarter mile.
-Plan recommends a pedestrian facility along corridor (collector sidewalk, multi-use path or urban greenway); and
-Transit is located along the corridor (a favorable variable, but not a requirement).

Pedestrian District
A pedestrian district is an area characterized by a density of mixed uses and clustered pedestrian destinations within a five-minute walk, supporting central or multiple transit nodes. These are areas that have, or are intended to have, high pedestrian activity and where priority is given to make walking the transportation mode of choice for trips within the area. It is intended that a pedestrian district feature an internal pedestrian system with links to an external pedestrian network. Pedestrian districts are identified in this plan based on the following selection criteria:
-District hosts cluster of related or complementary uses within a quarter mile, or five-minute, walk;
-Distance between district destinations does not exceed a quarter mile, or five-minute, walk; and
-District is linked by a recommended pedestrian facility (collector sidewalk or multi-use path).

Additional information can be found on page 23.

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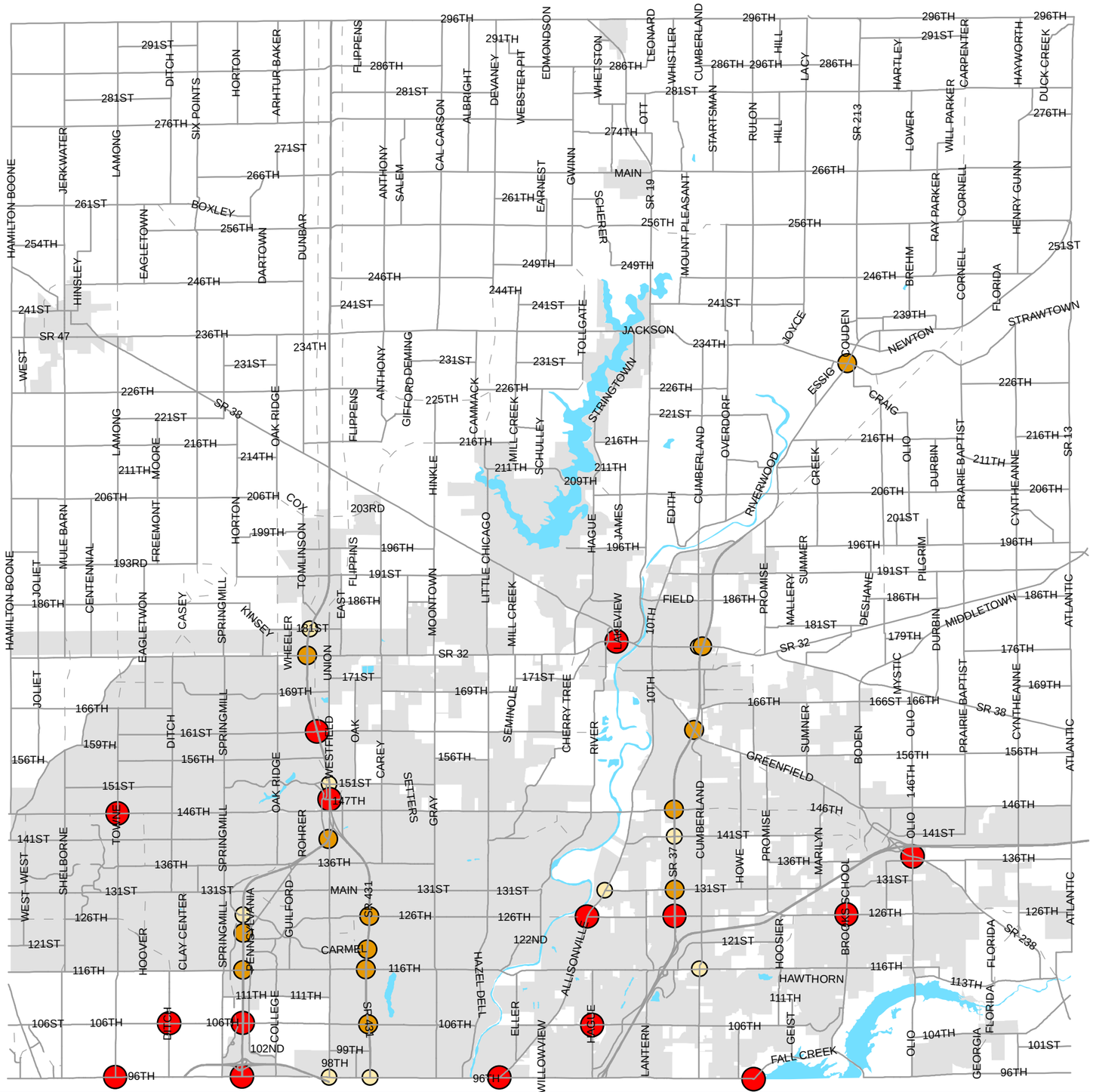
Hamilton County, Indiana

Focus Area



Capacity Focus Area

- LOS D
- LOS E
- LOS F

Capacity Focus Area

Location:
Level of Service D, E, or F at various intersections.

Description:
Theoretical capacity analysis for each intersection along Primary Arterials and other roadways with an 2006 ADT higher than 10,000 vehicles per day. Capacity issues at these intersections create congestion, delaying the travel of commuters, goods, and services in the area.
In addition, traffic congestion on Primary Arterials contributes to traffic patterns shifting to Secondary Arterials and Collectors.

Goal:
To lower the congestion levels, improving safety and level of service, especially on Primary Arterials.

Potential Ways to Address Goal:
-Construct signals or roundabouts as warranted.
-Construct turn lanes as appropriate.
-Widen roadways as appropriate.
-Limit access to local roadways.

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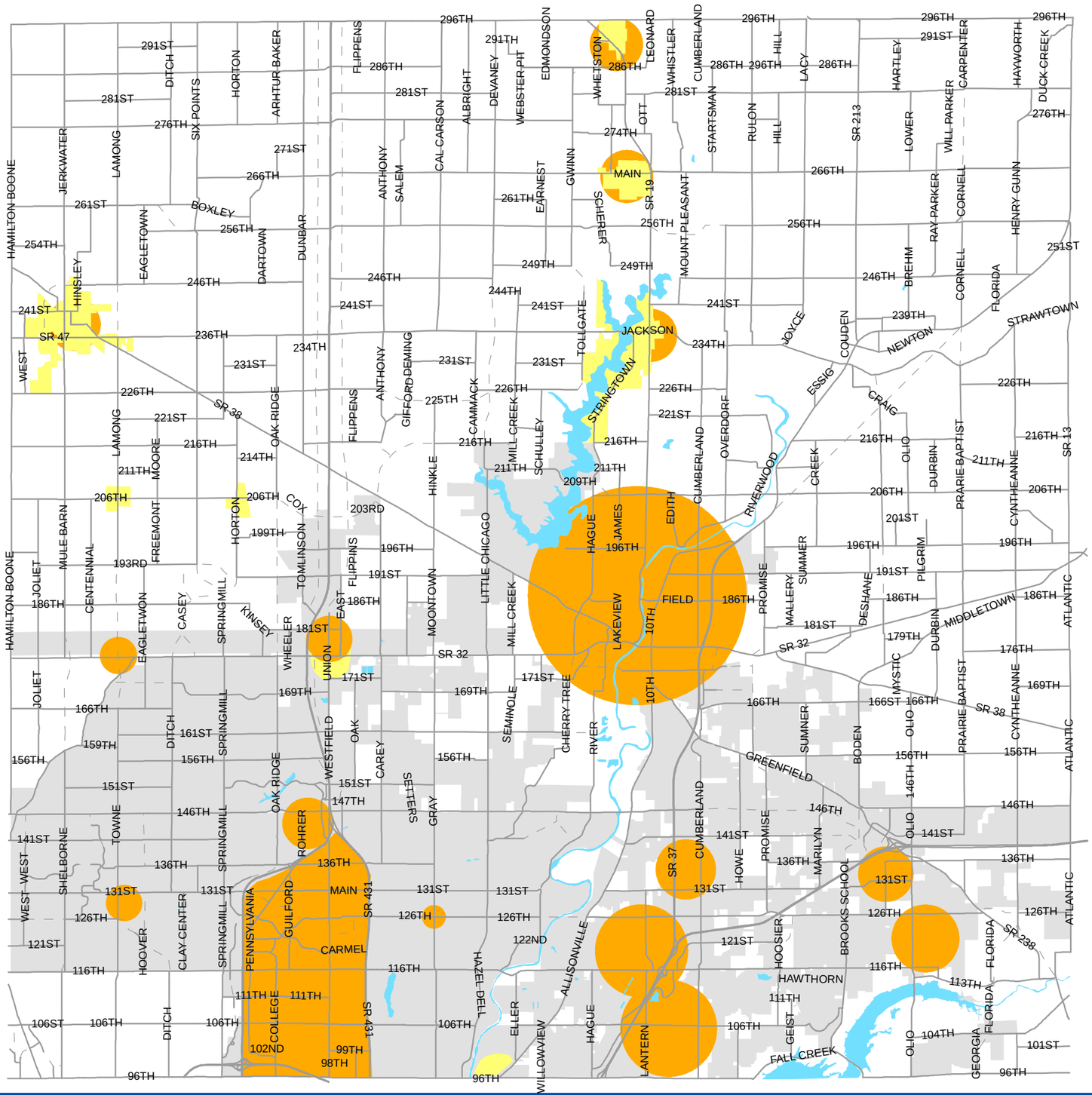
Hamilton County, Indiana

Focus Area



Context Sensitive Focus Area

Context Sensitive Focus Area (from Ped Plan)

Context Sensitive Focus Area

Location:
Mixed-use and higher-density centers throughout Hamilton County.

Description:
Destinations and locations with a mix of uses at a higher density where character should be retained.

Goal:
Promote improvements that are sensitive to the current development patterns emphasizing a balance of pedestrian activity and vehicular mobility.

Potential Ways to Address Goal:
-Create network of safe pedestrian linkages with clear and safe pedestrian and bicycle access.
-Promote transit oriented development and a mix of uses.
-Allow for flexibility, allowing future changes and development to incorporate the existing pattern of streets, lots, and sidewalks.
-Design flexibility for typical cross sections.
-Strengthen pedestrian connectivity by the construction/upkeep of sidewalks, paths, and safe street crossings.

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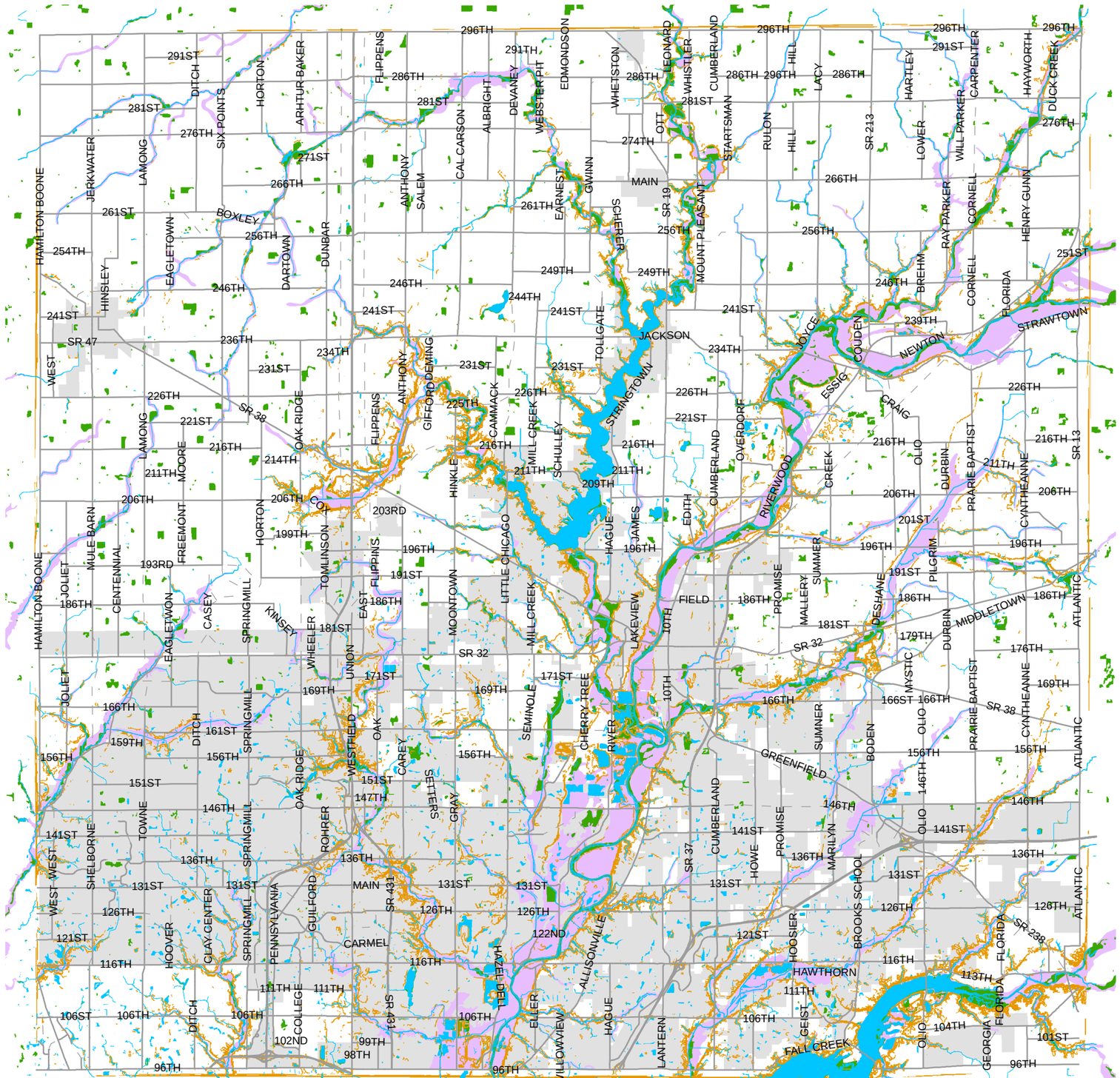
Hamilton County, Indiana

Focus Area



Environmentally Sensitive Focus Area

- Steep Slope (5% or greater)
- Wetlands
- Floodplains

Environmentally Sensitive Focus Area

Location:
Areas in Hamilton County containing steep slopes, wetlands, or floodplains.

Description:
Land in Hamilton County that would have development constraints because of natural features.

Goal:
Minimize projects from impacting environmentally sensitive areas.

Potential Ways to Address Goal:
-Select connections and alignments which avoid environmentally sensitive areas.
-Encourage project which emphasize environmental design.

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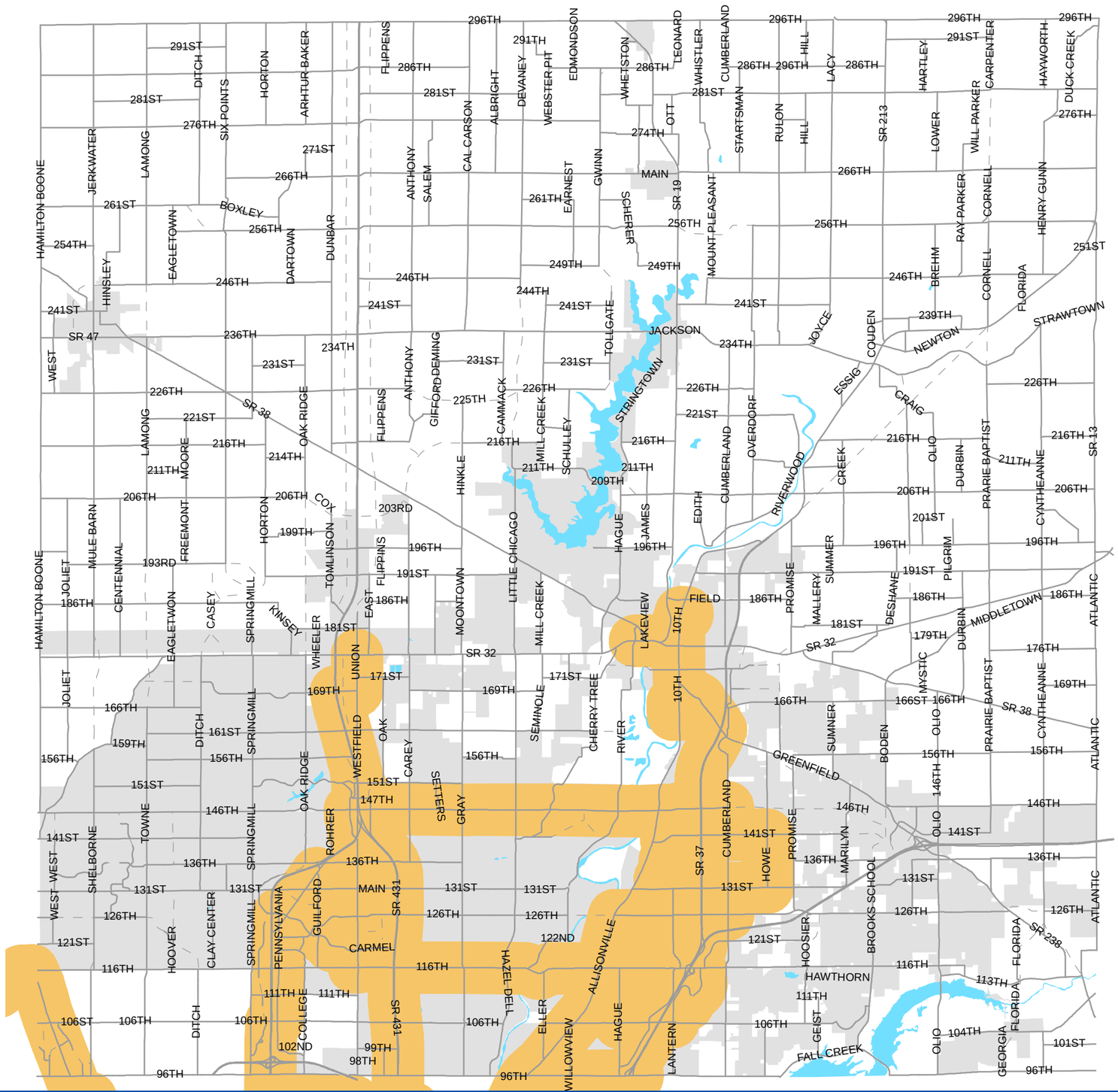
Hamilton County, Indiana

Focus Area



Fixed Route Transit (Bus) Focus Area

Fixed Route Transit (Bus) Focus Area (IndyGo/MPO study)

Location:
½ mi buffer along future fixed routes alignments (bus) throughout the Carmel, Fishers, and Noblesville areas, near the 116th Street transit center (near Keystone Ave and I-69) and supporting park and ride areas.

Description:
The Indianapolis MPO and IndyGo have identified alignments for a fixed route (bus) transit system designed to assist the region with the development of improved transit service. In addition, transit centers and park and rides have been identified to serve southern Hamilton County. These areas should promote transit oriented development.

Goal:
Create an environment which promotes transit travel by connecting pedestrians with transit thus improving travel times and conditions both within Hamilton County and to neighboring county destinations.

Potential Ways to Address Goal:
-Include transit to selected cross sections (bus pull offs, transit stations, parking, pedestrian facilities, transit oriented development).
-Incorporate signage.
-Incorporate safer pedestrian access.
-Monitor the Rapid Transit Study and IndyGo ensuring land uses surrounding mass transit is transit oriented.
-Preserve and maintain the corridors, identifying locations and right-of-way for bus stops and stations.
-Encourage transit oriented development.

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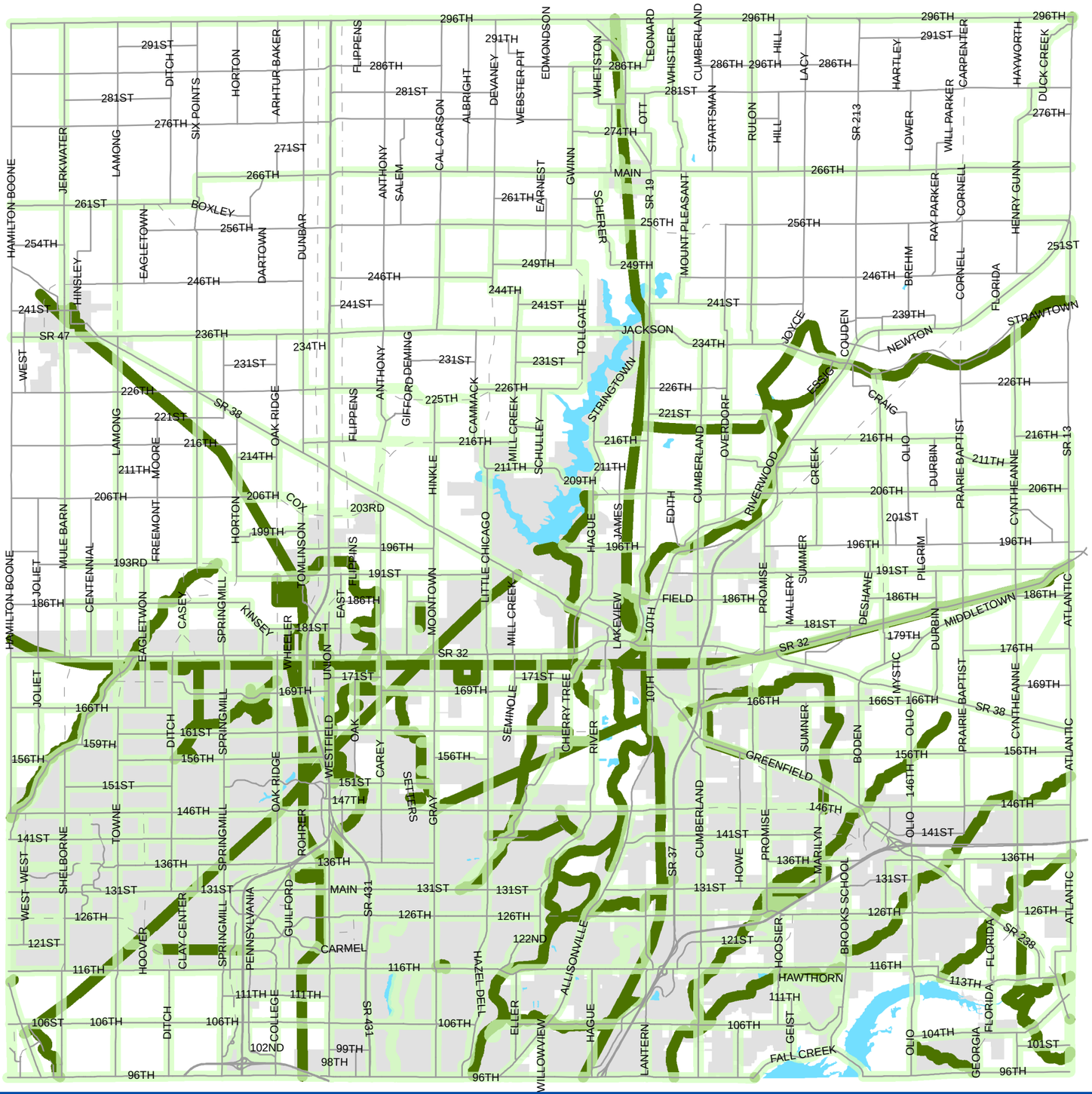
Hamilton County, Indiana

Focus Area



Pedestrian Focus Area in R/W

Pedestrian Focus Area outside of R/W

Pedestrian Focus Areas

Location:
1/10 mile buffer surrounding routes identified in the MPO Pedestrian Plan and Hamilton County Alternative Transportation Routes.

Description:
Future multi-use trails are identified in the Alternative Transportation Plan and the Pedestrian Plan throughout Hamilton County. These trails intersect various thoroughfares or are placed within thoroughfare rights-of-way throughout the County. Safety issues arise whenever pedestrians and vehicles have the opportunity to interact.

Goal:
Enhance safety of pedestrians and alert drivers of potential pedestrian interactions.

Potential Ways to Address Goal:
-Promote traffic calming measures.
-Incorporate signage.
-Reduce speed limits.
-Incorporate lighting.
-Introduce grade separated structures.

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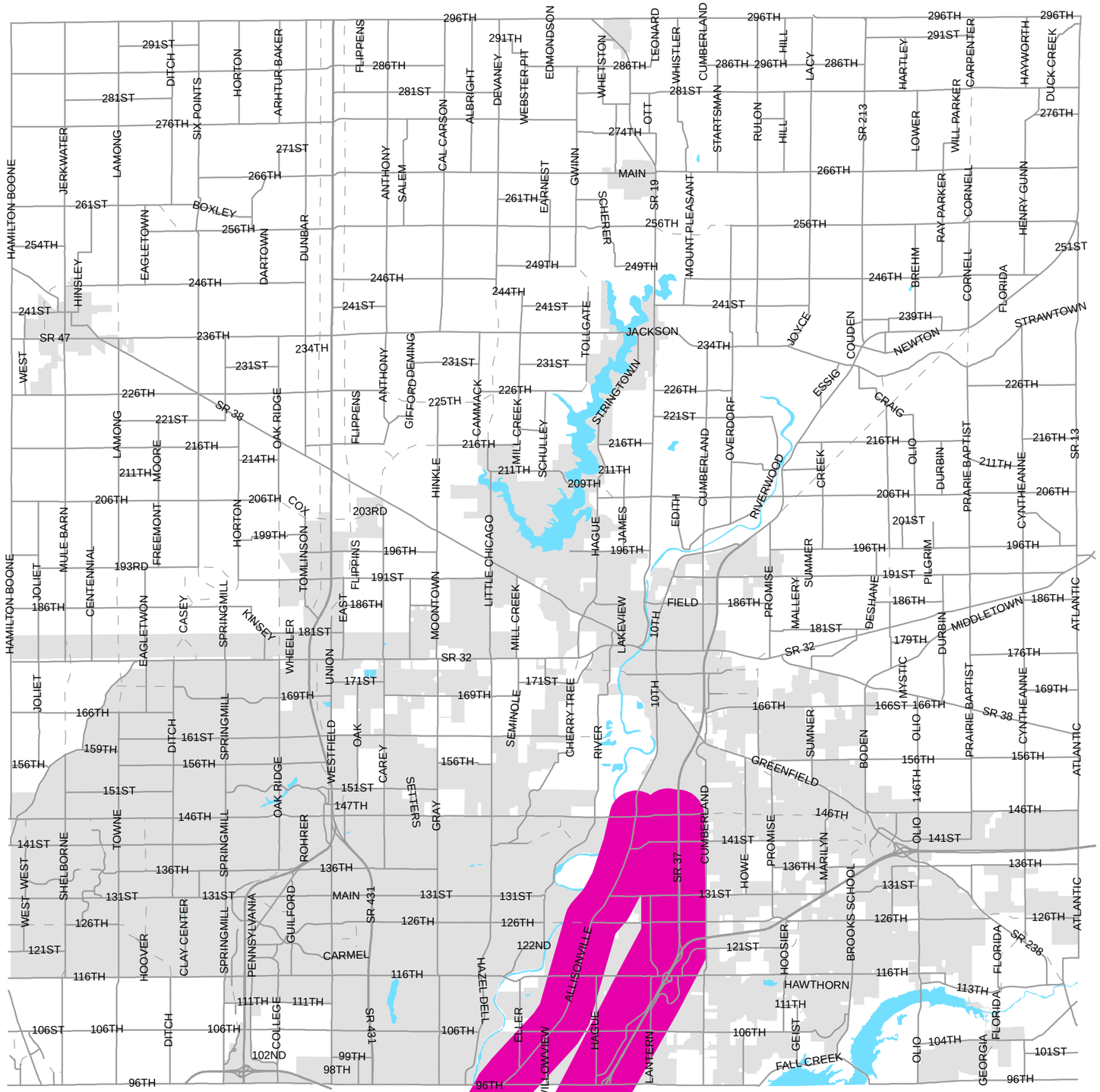
Hamilton County, Indiana

Focus Area



Rapid Transit Focus Area

Rapid Transit Focus Area (MPO study)

Location:
½ mi buffer along potential Northeast corridor fixed guideway alignments.

Description:
The MPO has four potential corridors within Hamilton County to incorporate rapid transit technology. These corridors will be evaluated and one preferred alternative will move forward.

Goal:
Create an environment which promotes transit travel by connecting pedestrians with transit thus improving travel times and conditions both within Hamilton County and to neighboring county destinations.

Potential Ways to Address Goal:
-Include transit to selected cross sections (bus pull offs, transit stations, parking, pedestrian facilities, transit oriented development).
-Incorporate signage.
-Incorporate safer pedestrian access.
-Monitor the Rapid Transit Study ensuring land uses surrounding mass transit it transit oriented.
-Preserve and maintain the corridors, preserving locations and right-of-way for stations.
-Encourage transit oriented development.

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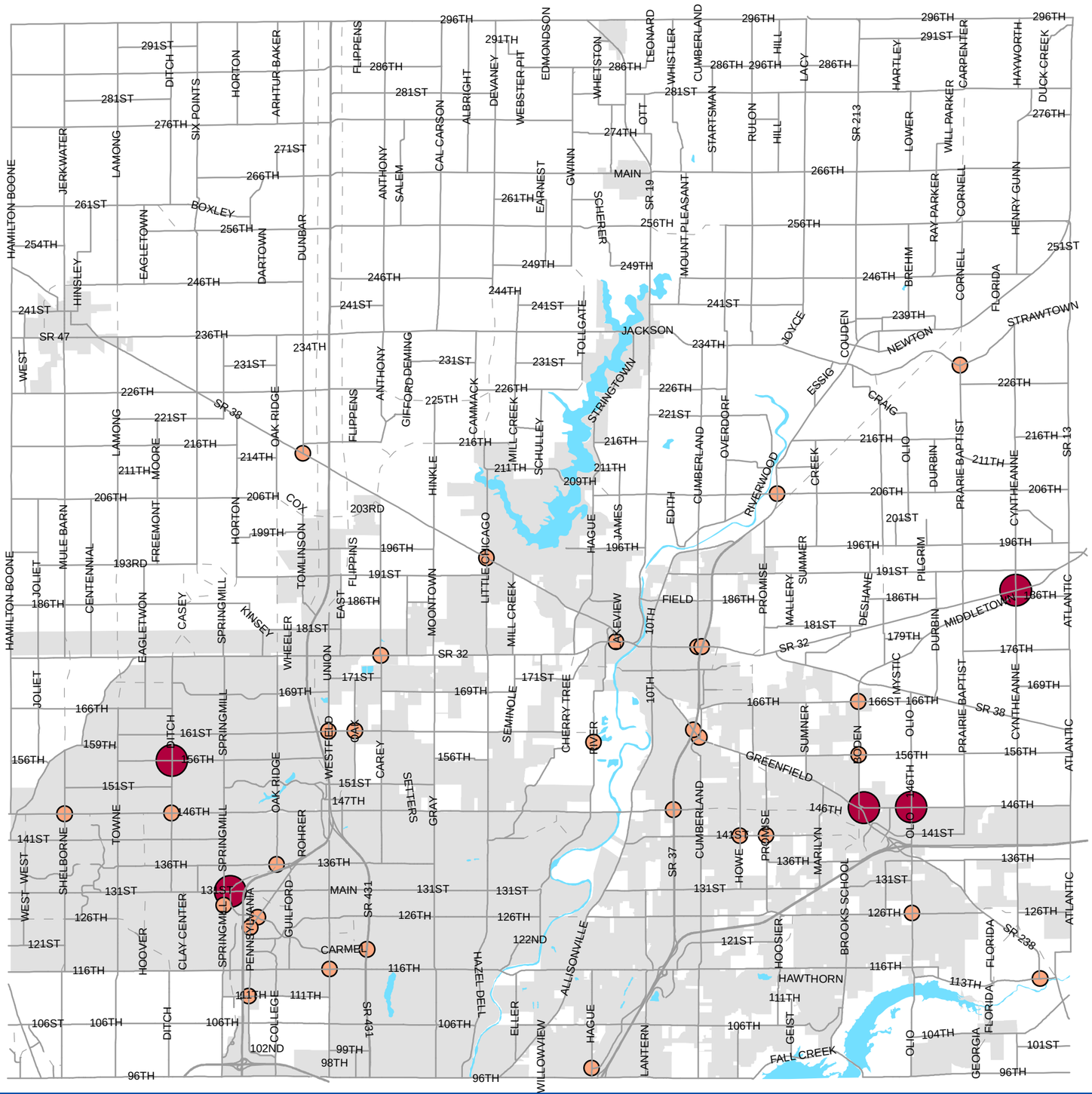
Hamilton County, Indiana

Focus Area



Safety Focus Area

- 2-7 crash rate
- Greater than 7 crash rate

Safety Focus Area

Location:
Intersections in Hamilton County that have significant crash rates of greater than 2 crashes per million entering vehicles.

Description:
Based on INDOT crash records from January 2003 through December 2005, locations with a significant crash rate in accidents per million entering vehicles.

Goal:
Create an awareness of crash incidents to incorporate safety measures.

Potential Ways to Address Goal:
-Ensure safety features are incorporated when improvements are made a these locations.
-Introduce appropriate safety measures to lower crash rates.

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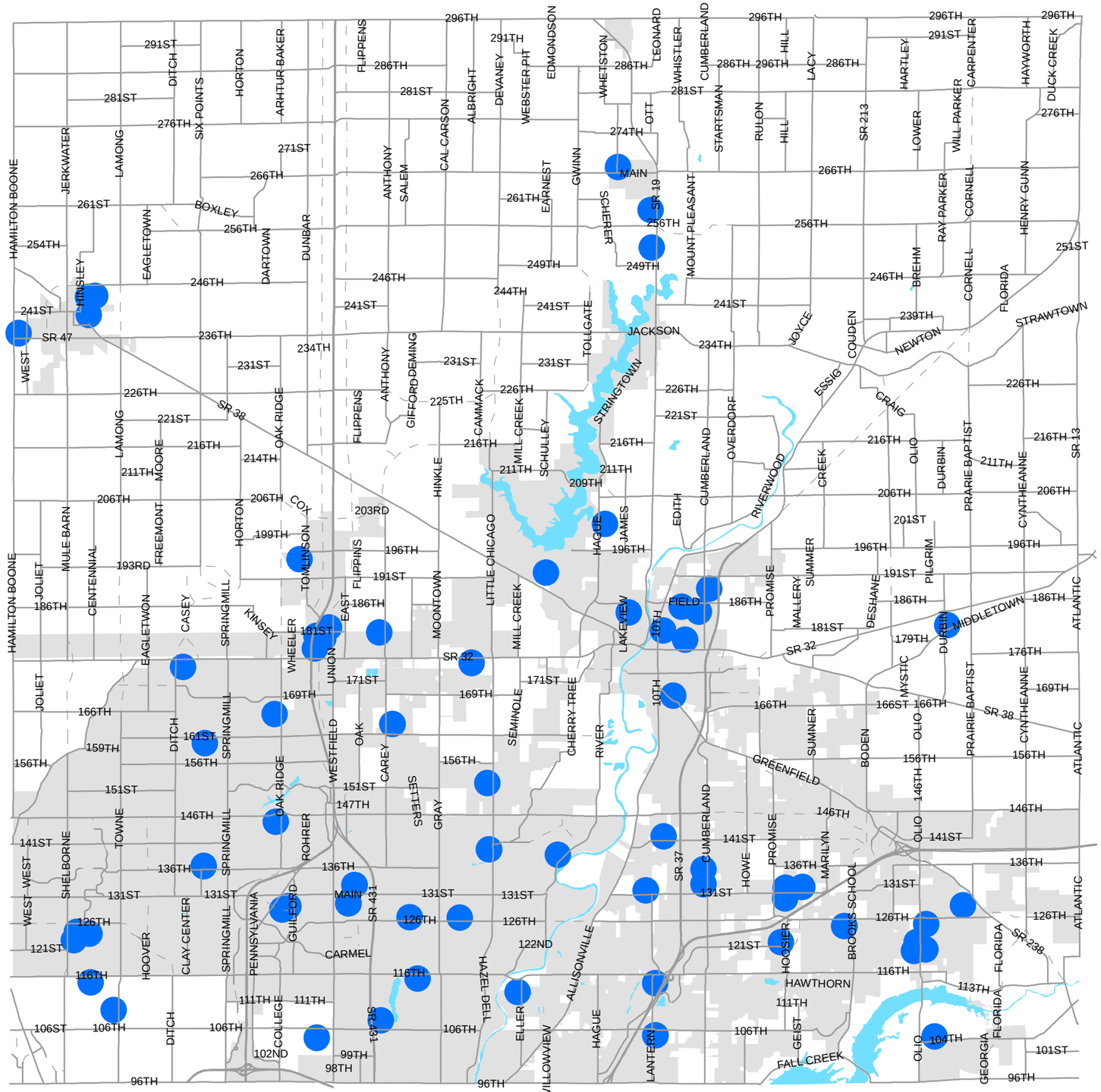
Hamilton County, Indiana

Focus Area



School Zone Focus Area

Schools Zone Focus Areas

Location:
¼ mile buffer for a 5-minute walkable catchment area around Hamilton County Schools.

Description:
Increased pedestrian activity is desirable for many cities within Hamilton County. In many school districts, children walk to schools. Providing for pedestrian facilities and improving driver awareness of school zones is desired.

Goal:
Create a safe environment to promote walkable school zones.

Potential Ways to Address Goal:
-Promote traffic calming measures.
-Modify cross sections through school zones.
-Incorporate signage.
-Incorporate lighting.
-Install signals as warranted at school locations.
-Explore INDOT's new safe routes to school program for potential funding opportunities.

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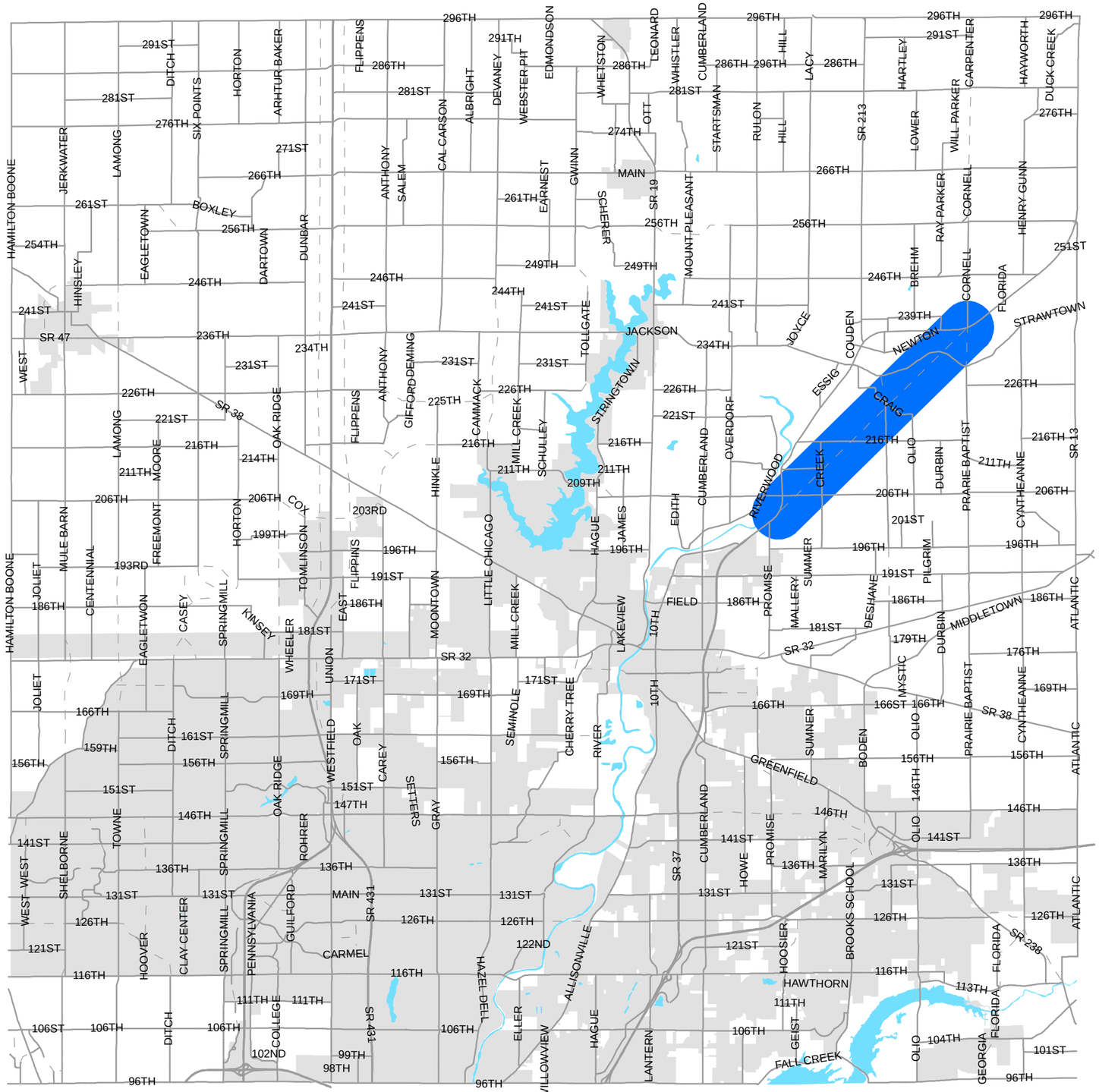
Hamilton County, Indiana

Focus Area



SR 37 Focus Area (INDOT study)

Location:
SR 37 from Noblesville to Marion, IN

Description:
½ mile buffer along this rapidly growing and frequently traveled throughfare in Northeastern Hamilton County. Previous studies, including the Northeast ConNECTions study and Rapid Transit Study, have shown that growth in the area has created low levels of service along some sections of SR 37. These low levels of service, as well as other current deficiencies warrant increased attention to this area. INDOT recently completed a SR 37 Feasibility Study to improve mobility in this corridor from Noblesville to Marion.

Goal:
Improve service, safety, and mobility along SR 37.

Potential Ways to Address Goal:
-Increase capacity to lower level of service to acceptable levels.
-Reduce crash frequency by improving sight distances.
-Preserve this corridor, limiting improvements within the selected alignments.
-Continue the SR 37 Feasibility Study into the NEPA/ EIS phase.

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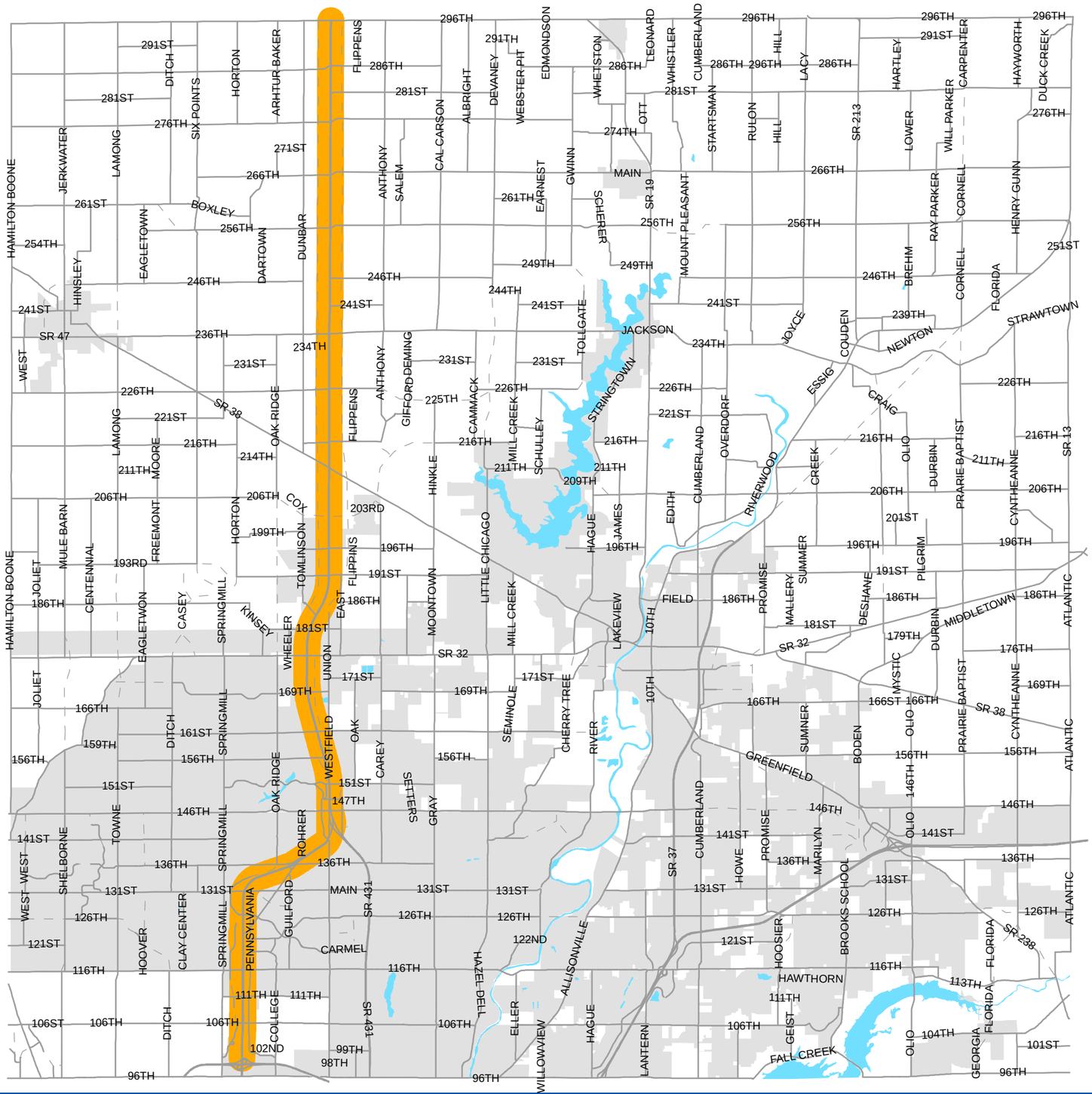
Hamilton County, Indiana

Focus Area



US 31 Focus Area (INDOT study)

Location:US 31

Description:
¼ mile buffer along this heavily traveled corridor, the location of INDOT's US 31 Improvement Project. Near capacity traffic volumes along US 31, combined with the intense land use along this corridor, creates significant congestion and safety issues. The section of US 31 south of SR 38 is currently undergoing plans for improvements in access, interchanges, and congestion reduction.

Goal:
To lower the congestion levels, improving safety and level of service.

Potential Ways to Address Goal:
-Limiting access.
-Widening the roadway.
-Improve intersections and/or install interchanges with major roadways.
-Interconnect adjacent land uses.

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