THOROUGHFARE PLAN
INDIANAPOLIS + MARION COUNTY

INDY MOVES

Adopted by the
Metropolitan Development Commission
as an element of the Comprehensive Plan
for Indianapolis and Marion County.

October 16, 2019
2019-CPS-R-003

THE COMPREHENSIVE PLAN
TRANSPORTATION ELEMENT
SUPPORTING PLAN
INDIANAPOLIS AND MARION COUNTY

10-16-19

A.A.

METROPOLITAN DEVELOPMENT COMMISSION

OF MARION COUNTY, INDIANA

RESOLUTION NO. 2019-CPS-R-003

RESOLUTION 2019-CPS-R-003, amending a segment of the Comprehensive or Master Plan of Marion County, Indiana, the Marion County Thoroughfare Plan.

Be it resolved that, pursuant to I.C. 36-7-4, the Metropolitan Development Commission of Marion County, Indiana, hereby amends the Comprehensive or Master Plan for Marion County, Indiana, by the adoption of the Marion County Thoroughfare Plan, a copy of which is on file and available for inspection during normal business hours in the office of the Department of Metropolitan Development, as an amendment to the Comprehensive or Master Plan of Marion County, Indiana.

Be it further resolved that the Secretary of the Metropolitan Development Commission is directed to certify copies of this Resolution 2019-CPS-R-003 amending the Comprehensive or Master Plan of Marion County, Indiana, Marion County Thoroughfare Plan.

Be it further resolved that the Director of the Department of Metropolitan Development is directed to mail or deliver certified copies of this Resolution 2019-CPS-R-003, to the Mayor of the City of Indianapolis, the City-County Council of Indianapolis and Marion County, the Board of Commissioners of Marion County, Indiana and to the legislative authorities of the incorporated cities and towns of Marion County, Indiana that are directly affected by this plan: Beech Grove, Lawrence, Southport, Speedway, Clermont, Crows Nest, Cumberland, Highwoods, Homecroft, Meridian Hills, North Crows Nest, Rocky Ripple, Spring Hills, Warren Park, Williams Creek, and Wynnedale. The Director shall also file one (1) summary of the plan in the office of the Recorder of Marion County.

DATE: 10/16/2019

METROPOLITAN DEVELOPMENT COMMISSION OF MARION COUNTY, INDIANA,

John J. Dillon III, President

APPROVED AS TO LEGAL FORM AND ADEQUACY THIS 3rd DAY OF OCTOBER, 2019

Christopher Steinmetz,
Assistant Corporation Counsel

CONTENTS

Appendices

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INTRODUCTION + GOALS

This Official Thoroughfare Plan for Marion County (Thoroughfare Plan or Plan) amends the Plan last updated in 2016, 2015 and 2002. This update makes minor changes in right-of-way dimensions, adds right-of-way dimensions for special corridors, and significantly adjusts roadway expansion and new-terrain roadway plans in accordance with the 2018 Indy Moves Transportation Integration Plan.

About the Thoroughfare Plan

A Thoroughfare Plan is a long-range plan that identifies the locations, classifications, and different infrastructure elements of roadways within a defined area. The Marion County Thoroughfare Plan supports the region's long-term growth and goals by planning for the orderly growth of the transportation system as development occurs. Achieving the optimal balance between mobility and access for automobiles is a traditional objective for classifying roadways in a Thoroughfare Plan, but the movement of transit, pedestrians, freight and bicycles should also be prioritized within the transportation system. The purpose of this Thoroughfare Plan is to establish a diverse transportation network that provides the right balance of accessibility and mobility through a combination of multi-modal elements.

The Plan is a segment of the Transportation Element of the Comprehensive Plan for Indianapolis and Marion County.

Indianapolis' Complete Streets Ordinance states that our streets should work for all users whether on foot or in a wheelchair, bike or car and this policy was adopted by the City-County Council in August 2012 (G.O. 22, 2012, § 1, Sec. 431-801-807). This Thoroughfare Plan implements the Complete Streets Ordinance by ensuring all modes are accommodated within our transportation system, incorporating right-of-way needs for all modes, providing design guidance on multi-modal facilities, and providing guidance on conflicting mode priorities.

Plan Purpose

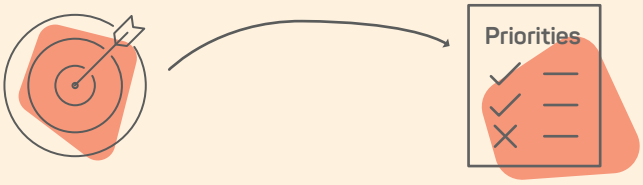
As detailed in the introduction, the purpose of this Thoroughfare Plan is to establish a diverse transportation network that provides the right balance of accessibility and mobility through a combination of multi-modal elements. The plan does this through the policies and tools listed below and described in detail in this chapter.

The functions of the Thoroughfare Plan include:

- Classify roadways based on their location, purpose in the overall network & what land use they serve
- Provide design guidelines for accommodating all modes (automobile, transit, pedestrians, bicycles) within the roadway
- Set requirements for preserving right-of-way (ROW)
- Identify roadways for planned expansion or new terrain roadways
- Through its GIS database, coordination of modal plans into a single linear network.

Indy Moves goals help establish shared priorities

As an implementation plan of the broader Indy Moves Transportation Integration Plan, the goals for this Thoroughfare Plan update come directly from that plan.



HEALTH & SAFETY

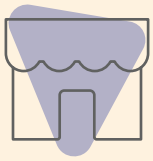
Improve safety and promote health

- No traffic-related fatalities or serious injuries
- More physical activity and better health outcomes

SUSTAINABILITY & RESILIENCE

Enhance environmental sustainability and resilience

- Climate resilient infrastructure
- Landscaping and complete streets
- Clean air and reduced emissions



ECONOMIC DEVELOPMENT

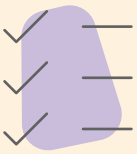
Support inclusive economic development

- Transportation network connectivity
- Access to employment and education
- Seamless connections

EQUITY

Address disparities and increase access to opportunity

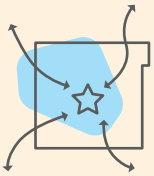
- Access to community destinations
- Infrastructure for communities of concern
- Mobility options for vulnerable populations



CHOICES

Expand mobility choices

- Faster, more reliable transit
- Better active transportation options
- Accessible transportation network



CONNECTIONS

Connect and strengthen our region, city, and existing neighborhoods

- Transportation for all ages and abilities
- Better access to emerging villages, neighborhood nodes, and regional destinations
- Safe, inviting, active spaces at all times of day

STRATEGIC INVESTMENT

Invest strategically and transparently, with a focus on enhancing existing infrastructure

- Well-maintained infrastructure
- Cost-benefit balance in project delivery
- Easy to find project information for the public

Thoroughfare Plan Objectives

To achieve the goals set by Indy Moves, and in consideration of other recent Indianapolis city and regional plans and a review of best practices (Appendix G), this plan establishes four primary objectives.

Goal #1: Balance the transportation needs for mobility and accessibility.

- Enhance the current functional classification system for Indianapolis' street network to account for changing development patterns (urban, suburban, and rural) as roadways move through the city.
- Create a comprehensive, integrated, and connected transportation network that supports compact, sustainable development and promotes livable communities.
- Reduce disparities in access to employment, education, healthcare, food, and other aspects of daily life by promoting and accommodating multi-modal transportation systems.
- Provide appropriate travel options and choices for all users
- Improve accessibility to regional employment and activity centers.
- Enhance connections between modes.
- Support commercial goods movement within and through the region.

Goal #2: Provide for a safe transportation experience for all system users.

- Meet or exceed Americans with Disabilities Act (ADA) standards.
- Increase safety of the transportation system for all motorized and non-motorized uses.
- Preserve, make safe, and improve utilization of the existing transportation system.
- Maintain the existing network in a state of good repair.

Goal #3: Accommodate all transportation modes within the roadway system to the extent feasible.

- Create a functional classification system that addresses multi-modal uses within the public ROW.
- Create walkable communities that promote active living and reduce health disparities.
- Connect pedestrians with transit.
- Identify and connect greenways to bicycle, pedestrian, and transit facilities.
- Encourage connections from the greenway to neighborhoods and vice versa.
- Create connections within the greenway system that will encourage it to be used as a means of transportation and not just recreation.

Goal #4: Balance transportation needs for efficiency and redundancy.

- Allow for a system that enhances the efficiency of the transportation network.
- Allow the transportation network to have redundancies, or multiple options across modes for reaching a destination, in order to avoid congestion and increase access.
- Emphasize the preservation of the existing transportation system.
- Provide flexibility for different types of streets, roadway designs, areas, and travelers to enhance the transportation experience.

EXISTING PLANS + CONDITIONS

Planning Context

In 1962, the Indianapolis Regional Transportation and Development Study (IRTADS) defined the basic thoroughfare system for the City of Indianapolis. The emphasis of IRTADS was on the upper levels of the roadway hierarchy, and only highways and arterial streets were addressed; collectors and local streets were not formally categorized. Unusual for a Thoroughfare Plan, IRTADS also defined a number of specific transportation projects (as noted above, projects are usually defined in a capital improvements program or long-range transportation plan).

Updates to the Thoroughfare Plan were periodically implemented as new transportation needs became apparent, with the last significant update occurring in 2002. These prior updates were overseen by the Indianapolis MPO, which until 2007, served as the transportation planning section within the Indianapolis Department of Metropolitan Development Division of Planning (DOP). These updates followed the scope of the initial IRTADS study, with an emphasis on highways/arterials and a project-based focus. In 2007, with the restructuring of the MPO outside of the DOP, administration of the Thoroughfare Plan fell to the DOP. In 2015 and 2016, as part of the Plan 2020 initiative, the Thoroughfare Plan was updated to bring the plan into compliance with the City's Complete Streets ordinance by incorporating right-of-way needs for bicycle and pedestrian infrastructure. These updates also incorporated lower-level roadway classifications for the first time, adjusted right-of-way widths, and migrated the plan into a geographic information system format. These updates inherited the expansion plans from the 2002 update.

New Policy Directions

Indy Moves Transportation Integration Plan

In 2018, the Metropolitan Development Commission adopted the City's first comprehensive transportation plan, Indy Moves. This plan consolidated hundreds of planned transportation infrastructure projects from dozens of different plans into a consolidated and prioritized multi-modal transportation capital plan.

Indianapolis Complete Streets

In August 2012, the City-County Council approved a Complete Streets Ordinance. The ordinance defines a 'complete street' as one that is designed and operated to enable safe access for all users, including pedestrians, bicyclists, motorists and public transportation users of all ages and abilities. The policy ensures that public and private entities plan for all transportation modes when developing a new land use or right-of-way projects.

Tax Base + Transportation Funding

In addition to growing multi-modal emphasis, a new fiscal reality of limited public resources prompted a reevaluation of the necessity of roadway expansion plans contained in the 2002 Plan. The 2015 and 2016 updates also revised the right-of-way (ROW) requirements in the 2002 Plan. The 2002 requirements were fairly aggressive – applying the proposed ROW width to all arterial-level streets in Marion County would require approximately 8,832 acres (13.8 square miles) of acquisition. In addition to the overwhelming expense of such a series of acquisitions, by converting this property from private to public ownership, the acquired property would no longer generate property taxes, resulting in tax base and revenue losses.

Indy ReZone: Land Use Context

The Indy Rezone Consolidated Zoning/Subdivision Ordinance was passed by City County Council in 2015 (G.O. 72, 2015). and updated Indianapolis' zoning code and subdivision ordinances. This ordinance made significant changes to the underlying zoning ordinance, including consolidating 14 separate ordinances into one, accommodating mixed-use districts more easily, and modernizing standards relating to sustainability, parking, and subdivision connectivity.

The ordinance also recognizes that Indianapolis contains both suburban and traditional types of development by introducing two "Context Areas." The two context areas, compact and metropolitan, distinguish between these types of areas and apply different standards to them. This Thoroughfare Plan uses these geographic areas to define different right-of-way standards to reinforce that, like real estate development, our roadway network traverses a range of different types of places and should adapt accordingly.

- Compact areas are characterized by a higher density of development, structures placed closer or adjacent to the road/ROW edge, and in close proximity to one another. Development in these areas is more likely to be on a street grid pattern and include curb/gutter and sidewalks as part of the existing street infrastructure.
- Metropolitan areas are characterized by moderate to rural density development and a more suburban style development pattern with buildings set back from the road/ROW edge, numerous curb cuts, and more limited on-street parking. Parking lots and cul-de-sacs or curvilinear street systems are not uncommon in these areas. In the more rural of the Metropolitan areas, very low development exists with drainage handled by side ditches rather than curb and gutters.

Plan 2020 Bicentennial Agenda

In 2016, Mayor Joe Hogsett unveiled the Bicentennial Agenda, a community-driven plan adopted by the Metropolitan Development Commission (MDC) as the Vision and Values element of the Comprehensive Plan for Indianapolis and Marion County. The Agenda was a product of the City's Plan 2020 initiative.

The Agenda lays out 15 strategies for making Indianapolis a more healthy, inclusive, resilient, and competitive city. Among the strategies, Transportation Options provides the most relevant guidance for this Thoroughfare Plan.

"To maximize participation in economic and civic life, we must maximize the number of residents who have access to local and regional transportation networks. We must promote reinvestment and greater connectivity in our street network. We must incorporate pedestrian and bicycle facilities where they are needed to safely connect neighborhoods with destinations. We must expand our regional greenway system to link our major activity and employment centers. We must build a public transit system and treat it as a critical part of our economic infrastructure rather than a social service."

FUNCTIONAL CLASSIFICATIONS

The functional classification of a roadway indicates the roads purpose within the system based in part on the average daily traffic and what land uses it serves. A street's classification has numerous impacts for users, property owners, and local governments including:

Zoning and Subdivision Control (Consolidated Zoning/Subdivision Ordinance)

- Right of way requirements
- Sight line requirements
- Setbacks requirements
- Right-of-way widths for subdivision plats

Maintenance Jurisdiction

- Outside of Included and Excluded Cities or Towns, the maintenance, construction, and major reconstruction of roadways in Marion County not under INDOT's jurisdiction is the responsibility of the Indianapolis Department of Public Works.
- Inside Included and Excluded Cities or Towns, the maintenance (snow plowing and potholes, etc.) for all roadways not under INDOT's jurisdiction are the responsibility of that Excluded City.
- Inside Included and Excluded Cities or Towns, the construction and major reconstruction for all local and collector streets is the responsibility of that Excluded City, while construction and major reconstruction for all primary and secondary arterial streets is the responsibility of the Indianapolis Department of Public Works. However, the Indianapolis Department of Public Works also has construction and major reconstruction responsibilities for certain collector streets as designated in Appendix C. These collector streets were at one time classified as arterial streets, and while reclassified by this plan, remain defined as thoroughfares and the responsibility of DPW.

Financing

- The Thoroughfare Plan identifies and recommends certain regionally significant projects for inclusion in the Indianapolis Metropolitan Planning Organization's Long Range Transportation Plan, making them eligible for competition for federal funding

Design

- Right of way requirements are determined by the roadways classification and the number of travel lanes
- Certain infrastructure elements are restricted based on classification (e.g. freeways should not have sidewalks or bike lanes)
- Roadway design varies based on classification (e.g. lane width, medians, buffers)

Classification Process

Assigning functional classifications to roadway network segments is a deliberative process, proceeding from the roadway classifications with the most restrictive requirements (generally highways) and moving through the lower classes of arterials, collectors, and local streets. The levels of assigned roadway hierarchy for Marion County were constructed to be consistent with guidance from the Federal Highway Administration (FHWA), which also guides the MPO in its functional class designations.

The Functional Classification System (FCS) developed and maintained by the Indianapolis MPO has historically been different than the classification used in the Thoroughfare Plan for arterials and highways. While Marion County roadway classifications are not required to be the same as the MPO's coordinating these classifications where possible is important because it can affect availability for federal funds. The MPO's most recent FCS update looked at adding more Minor Collectors to the system. The effort associated with this new directive coincided with the Thoroughfare Plan update and roadways in Marion County designated as Collectors now substantially match with the MPO.

Streets excluded from the Plan's functional classification system include:

- Alleys or access drives
- Privately owned and maintained streets
- Unplatted streets, including those outside of public rights-of-way that cross parcel boundaries

Highway and arterial network assignments were largely kept consistent with the 2002 Thoroughfare Plan update. Numbers of lanes and metropolitan or compact area definitions were assigned to the network roadways based upon standard criteria including existing infrastructure or planned projects and the location of the roadway.

The initial collector street assignment was done in concert with the Indianapolis MPO, which, due to external requirements, was simultaneously working on a collector classification for its entire planning area (which encompasses all of Marion County and its jurisdictions, as well as another 30 county, city, and town jurisdictions that encompass an additional 600 square miles). Collector assignments generally went to roads that had collectors or higher level functional classes at one or both ends, and intersected with local roadways along its length. As with highways and arterials, collectors were assigned as "metropolitan" or "compact" depending on their location and consistency with Marion County's current land use plan. At this time, only major collectors were assigned; minor collectors may be assigned after the Thoroughfare Plan's next update.

Local streets represent the bottom, local-access level, of the roadway hierarchy. Cul-de-sacs (local streets with only one roadway access point) were especially easy to designate. The sole judgment call with this category pertained to longer roadways that a number of local streets tied into, with the decision being made as to whether the larger roadway should be considered a local street, or elevated to a collector. The overall length of the facility and the types of roads at which it terminated usually provided the deciding factor in these cases.

Functional Classification Definitions

Freeway/Expressway/Highway
Thoroughfares

These roadways offer high-speed travel with fewer restrictions than a local roadway. Freeways/Expressways are considered limited-access, with no at-grade intersections or controls present. Some highways are limited-access as well; others have at-grade intersections with large separations of approximately one to two miles. Typically these roadways are used for longer commute times between destinations and access to the roadways is limited in order to maximize this mobility. This type of road is mainly focused on accommodating vehicular traffic. Adjacent land uses almost never have direct access to this type of roadway and there is little to no pedestrian access or pedestrian ROW. Major roadways, typically arterials, permit ingress/egress of vehicular traffic access ramps or intersections. The typical speeds along these thoroughfares can range from 45 to 65 mph in urban settings. Since they have the capacity for such high volumes of traffic, these thoroughfares can accommodate 2,000 vehicles per hour per lane. The Indiana Department of Transportation (INDOT) owns and operates all the freeways/expressways and most of the highways within the City's boundaries. Examples of freeways/expressways/highways in Marion County are I-65 and I-70 and US 31.

Functional Classification for Urban Roadways	Average Annual Daily Traffic (AADT)		Posted Speed Limit (MPH)	
	Urban	Rural	Urban	Rural
Freeway/ Expressway/ Highway	> 13,000	4,000 – 34,000	45 - 65	50 - 70
Primary Arterial	7,000 – 27,000	2,000 – 8,500	30 - 45	40 - 55
Secondary Arterial	3,000 - 14,000	1,500 – 6,000	30 - 40	35 - 55
Primary Collector	1,100 – 6,300	300 - 2,600	30 - 40	30 - 45
Secondary Collector	1,100 – 6,300	150 – 1,110	30 - 40	30 - 45
Local Street	80 - 700	15 - 400	25 - 30	25 - 35

Figure 1. AADT and Speed Guidelines by Functional Classification

Primary Arterial
Thoroughfares

Primary arterials provide a high level of mobility and are used for longer trips. Since they generally serve cross-city movements, their features often resemble those of highways, with large spacing between intersections and minimized access to adjacent land-uses. Some property access points do exist, typically with dedicated turn lanes or traffic signals. These thoroughfares often connect major centers of employment and key amenities within the city.

Primary arterials usually are lined with higher density housing, commercial, and office spaces. These thoroughfares are often built with an emphasis on vehicular traffic, cars, buses, and freight. Within urban and suburban areas, ROW allocated to pedestrians is increased as the density and pedestrian activity increase. As an automotive focused thoroughfare, primary arterials often have wide lanes (11-12 feet), and a design speed between 30 mph (in urban settings) and 55 mph (in rural settings). Because they are relatively large facilities, primary arterials typically avoid going directly through defined neighborhoods and other districts, and can serve an urban design function by defining the edges or boundaries of these areas.

Their higher speeds and wider lanes give primary arterials higher carrying capacities. Capacities vary depending on the number of lanes; six-lane thoroughfares carry up to approximately 50,000 vehicles a day while two-lane thoroughfares carry around 10,000 vehicles per day. Washington Street, Southport Road, and 38th Street are examples of primary arterials in Marion County.

Secondary Arterial
Thoroughfares

Secondary arterial roadways provide linkages from primary arterials and highways to major centers and destinations, for instance, shopping centers, educational facilities, and employment complexes. These roads offer more access than primary arterials, at the cost of speed, which is typically posted at 30-40 mph in urban areas. Capacities of secondary arterials are lower than primary arterials but are still significant, ranging from 5,000 for a two-lane road to 20,000 vehicles per day for a four-lane road. Pedestrian movements are higher on these roadways than on the primary arterials due to the slower traffic speeds and their access to a variety of land uses. Mitthoefer Road and Stop 11 Road are examples of Marion County secondary arterials.

Primary Collector
Non-Thoroughfares

Primary collector roadways move traffic from local streets to other amenities or higher classification roadways. This roadway's main purpose is to connect arterials and local streets; however, schools, churches, parks, hospitals, and other such destinations are also serviced by these types of thoroughfares. Primary collectors often provide more access than mobility and support a range of trip purposes. Many move through local streets and neighborhoods, often taking on the character of the places they travel through and sometimes resulting in design challenges as communities strive

to achieve a level of context-sensitivity. Pedestrians and bicyclists are often assigned more ROW on this type of roadway than on higher classification roads. Speeds on these roads are comparable to that of a secondary arterial at 30 to 45 mph but can vary depending on surrounding land uses. These roads can carry up to 8,000 vehicles per day and typically only have two lanes of traffic. 64th Street and Guion Road are examples of primary collectors.

Secondary Collector

Non-Thoroughfares

Secondary collectors connect local streets to arterials and other amenities. These streets often will have greater access to the bordering properties than other roadways, thereby creating connections on a more local scale, whereas arterials work on a regional scale. Collector streets are also more likely to have a greater mix of transportation modes than the higher classifications, resulting in the need for balancing of priorities in order for them to function properly and serve all the uses effectively. Typical speeds on secondary collectors vary from 30 to 45 mph and they generally have two lanes of traffic, although their cross section can be dependent on the land use or zoning of the surrounding parcels. Secondary collectors have not been assigned in this version of the plan. Note that while collectors are not generally designated as thoroughfares, certain collectors listed in Appendix C in Included and Excluded Cities or Towns are defined as thoroughfares.

Local Street

Non-Thoroughfares

Local streets are the slowest speed facilities and have the highest level of access to surrounding properties. They are likely to have mostly residential uses along them. Trips are generally very short. The main purposes of local streets are to give access to higher classifications of roadways and to the adjacent properties, which thereby frequently leads to greater pedestrian and bicycle activity. Semi-trucks and other large vehicles are typically not capable of traveling on local streets because of narrow widths, small turn radii and/or posted restrictions. Speeds on these streets usually are 25 to 30 mph. With little through traffic, these roadways typically serve 1,000 vehicles per day or less. They are sometimes constructed by private developers and then adopted by the City of Indianapolis into its network. Most residential neighborhood streets are examples of local streets.

Special Corridors

Non-Thoroughfares

Special corridors are rights-of-way required for unique circumstances, policy objectives, or facility types.

Belt-Line Railroad
This special corridor accommodates a modern, grade-separated, double-track mainline railroad as identified in the Indy Moves plan.

Greenway
These special corridors accommodate designated off-street greenway trails or shared-use paths as identified in the Indy Moves plan.

RIGHT-OF-WAY PRESERVATION

Right-of-Way Preservation and Design Guidelines

The Thoroughfare Plan allows the City of Indianapolis to preserve right of way based on system needs or the planned project list. Indianapolis typically preserves right of way using dedications made by property owners through the zoning process or purchases the needed land directly.

Overview

In order to provide sufficient guidance for implementing Complete Streets, design guidelines are provided to determine right-of-way preservation and implement multi modal design. These guidelines identify opportunities to incorporate a variety of multi-modal facilities within a minimum ROW corridor. The ROW Standards and Design Guidelines Table provides information on standard right of way need based on land use and classification and provides guidelines on appropriate street design to ensure compliance with the complete street ordinance.

The amount of right of way needed varies based on classification, topography, land use context, and street design. In cases where the right of way standard is insufficient due to such conditions as irregular topography, creek and river crossings, bridges, or major intersections, additional right of way may be required if substantiated by technical justification from the Department of Public Works. Note that some roads, such as those listed on the National Register of Historic Places (including Fall Creek Parkway and Pleasant Run Parkway), or that serve frequent non-transportation purposes (including Georgia Street and Monument Circle Downtown) for example, will not fit within the parameters of the design guidelines. These instances should be addressed on case-by-case basis.

In addition to being classified by function and context, Figure 7 shows major and minor arterials also subdivided by number of lanes. Note that the listed number of travel lanes includes the total travel lanes regardless of direction. For example, a six-lane facility could be comprised of three lanes in each direction or four in one direction and two in the other.

It is a key tenet of this plan update that the public ROW be shared by people who walk, bike, drive, and ride transit. The available space, however, does not always afford all users the ideal or desired level of accommodation. It is in these cases that priorities must be established. The ROW Standards and Design Guidelines Table shown in Figure 7 should be used as a preliminary tool for determining which roadway elements and users are prioritized for each type of the roadway by functional classification and context area. This information should be considered together when selecting the most appropriate design for a given roadway segment. Note that the widths contained in this table represent target widths and may vary depending on local constraints or context. The design guidelines provide a framework for selecting the desired roadway elements in both compact and metropolitan areas, and should be applied as appropriate to the specified roadway classification.

Developing the Standards and Guidelines

As indicated by the Thoroughfare Plan project goals, a Complete Streets approach was utilized in the development of the design guidelines to ensure multi-modal transportation accommodations would be considered in design. The following are key principles utilized in crafting these design guidelines:

Design for Pedestrians
Where it has been deemed appropriate, per the roadway classification, facilities will be designed for pedestrians, providing accessible and safe means of travel. This can be accommodated through the construction of sidewalks, shared-use paths or greenways adjacent to the street and within the corridor ROW. Size of these facilities will vary according to the facility type (shared-use path vs. sidewalk) as well as the surrounding context/ land use (neighborhood residential vs. commercial corridor).

Design for all Bicyclists
Bicyclists have a range of skill levels, from inexperienced or recreational bicyclists (especially children and seniors) to experienced cyclists (adults who are capable and comfortable sharing the road with motor vehicles). These groups are not always exclusive – some elite level athletes still like to ride on shared-use paths and some recreational cyclists will still use their bicycles for utilitarian travel.

Design for Alternative Modes of Transit
As Indianapolis continues to evolve, alternative modes of transit, including Bus Rapid Transit, could be introduced to the transportation infrastructure. In addition to the expansion of the bus facilities currently operated by IndyGo, these transit options provide increased mobility options. The design elements/accommodations associated with these facilities may impact existing roadway ROW corridors. Wherever local bus routes currently operate or are planned to operate per the most recent Comprehensive Operations Analysis (COA), adequate ROW should be provided to accommodate safe and accessible stops (see Appendix F).

To further refine and provide guidance to the appropriate design application and ROW needs, the ROW Standards and Design Guidelines Table were used to create cross sections to visually illustrate the desired design styles and ROW extents necessary to accommodate the associated facilities. The following cross sections demonstrate the various transportation modes to be incorporated in each of the different functional roadway classifications.

The guidelines are respectful of the functional need of a particular roadway (highway, collector, local road, etc.) but also illustrate the desire to incorporate multiple modes of travel into a given ROW. The guidelines are based on current state and national documents, including the AASHTO Guide for Development of Bicycle Facilities (AASHTO, 2012), the Manual for Uniform Traffic Control Devices (MUTCD, 2009), National Association of City Transportation Officials Urban Bikeway Design Guide (NACTO, 2014) and Indiana Design Manual (INDOT, 2013). The design guidelines illustrated in this section use these documents as the baseline for minimum conditions and are intended to facilitate creative solutions to a wide range of multi-modal elements and facility types.

Definitions

To ensure a shared understanding of the guidelines for this plan document and their implications, a list of terms and their usage have been developed. This list is intended to create uniformity in understanding the concepts illustrated in the design guidelines.

- **Bicyclist**: A user of a bicycle with skills ranging from advanced rider to novice or recreational.
- **Neighborway (Neighborhood Greenway)**: A local/neighborhood street that is modified, by way of traffic calming, to function as a through street for people walking or riding bicycles while maintaining local access for automobiles. Neighborhood greenways may be referred to as bicycle boulevards and are intended to provide an advantage for people walking or riding bicycles while accommodating those who drive vehicles, by designing for low speed and low volume traffic conditions. They significantly improve the safety for people who walk or ride a bicycle. See Figure 2.

Figure 2. Example of Neighborway

- **Bicycle Lane**: A portion of the roadway that has been designated by striping, signs and pavement marking (bicycle stencil and directional arrow) for the exclusive use of people on bicycles. This facility is typically used by people who are experienced bicyclists. The bicycle lane is located adjacent to motor vehicle travel lanes and generally flows in the same direction as vehicle traffic. Shoulder bike lanes are on the shoulder striped on the far right of the travel lane.
- **Buffer (Buffer Zone):** Any type of natural or constructed barrier (trees, shrubs, fences, turf) used between the curb/shoulder and adjacent facilities to minimize impacts (physical or visual) and provide a transition between adjacent land uses.
- **Buffered Bike Lane**: Conventional bicycle lanes paired with a designated buffer space typically striped or installed on the pavement and separating the bicycle lane from the adjacent motor vehicle travel lane and/or parking lane.
- **Clear Zone**: The area over and beside the roadway that is free of other vertical obstructions like trees, tree branches, and utilities. The clear zone varies depending on the design speed for a given functional roadway classification (cf 2013 INDOT Design Manual, Section 49-2.0).
- **Greenway**: A shared-use path that is one of the officially designated trails that are part of the Indy Greenways Parks & Recreation System. See shared-use path for definition. All greenways are shared-use paths, but not all shared-use paths in the city are officially designated greenways.
- **Median**: A parkway strip or similar raised area in the center of a roadway that divides opposing directions of traffic. It may be paved or landscaped.
- **Non-motorized transportation**: Walking, bicycling, use of small-wheeled vehicles (skates, skateboards, push scooters and hand carts), or wheelchairs. This may also be referred to as active transportation.
- **On-street parking**: The designated area along a roadway for vehicle parking. Typically 8-10' in width (inclusive of gutter width when adjacent to curb) and signed/marked on pavement for parking use.
- **Protected Bike Lane (Cycle Track)**: A designated bicycle facility separated by a vertical barrier (bollard, curb, or similar) from the adjacent motor vehicle lane. The physically separated lanes allow bicycle movement in one or both directions, and if two-directional, may require additional considerations at driveway and side-street crossings. Protected bike lanes are sometimes referred to as cycle tracks, especially when two-directional in design. See Figure 3.

Figure 3. Example of a Protected Bike Lane.

» **Right-of-Way**: The corridor of land held for public infrastructure purpose (roadway, railroad, utility, etc.). For the purposes of this study, it refers to the width of land necessary to accommodate the desired roadway and multi-modal facility types of a variety of functional roadway classifications.

» **Shared-use Path**: Shared-use paths may be used by pedestrians, bicyclists (all experience levels), skaters, wheelchair users, joggers and other non-motorized users. Shared-use path is a term adopted by the American Association of State Highway and Transportation Officials (AASHTO) to encompass a bicycle facility that is physically separated from motorized vehicular traffic by an open space or barrier. It can also be called a path, trail, multi-use path, and greenway. The facility ranges from ten to twelve feet in width and is typically asphalt.

» **Sharrow**: A pavement marking which indicates that motor vehicles should share the travel lane with people who bicycle. A sharrow is typically used on a standard width vehicular lane.

» **Shoulder**: A paved portion of the roadway contiguous with the travel way. This facility is also used by stopped vehicles and emergency vehicles. It is not intended to serve as a pedestrian facility and should not be treated as a bicycle lane without adequate width, markings, and signage (see "Bicycle Lane"). A commitment to keeping this portion of the roadway clear is essential. This treatment is often used on rural or suburban roads (those with the Metropolitan Area designation per this plan) or other roads without curbs.

» **Sidewalk**: A paved strip (typically concrete) that runs parallel to vehicular traffic and is separated from the road surface by at least a curb and gutter and sometimes a grass buffer. Sidewalk widths vary, but should be no less than 4'. A width of 6' is desirable, and in areas of high pedestrian activity, such as in the downtown area or urban villages, they are often 10' to 15' or more in width.

» **Transit**: The system of public transportation typically comprised of buses, Bus Rapid Transit and trains. Shelters, pull-off space, benches, boarding pads, bicycle parking, and in some cases dedicated lanes, are typical accommodations that impact ROW characteristics and needs along roadway corridors. Appendix F provides IndyGo's current design standards for local bus stops.

» **Travel Lane**: Dedicated roadway space for vehicular travel. Width depends on functional roadway classification and design speed, but typically varies from 10' to 12'.

Figure 4. Example of Shared-Use Path

Figure 5. Example of Sharrow Markings

Proposed Right-of-Way

This plan reserves right-of-way judiciously and based on the design guidelines contained in this plan. As a baseline, the plan proposes right-of-way widths (referred to as "minimum right-of-way") that can accommodate six-foot sidewalks and the applicable transition/grading/utility, landscape buffer, curb & gutter, and travel lane widths for each roadway classification. For right-of-ways with planned projects, such as a new street, a street widening, or a greenway trail or shared-use path, or for newly-platted roadways, the plan proposes right-of-way widths (referred to as "maximum right-of-way) that can accommodate all components contained in the design guidelines for the applicable roadway classification.

Note that, in cases where the right-of-way standard is insufficient due to such conditions as irregular topography, creek and river crossings, bridges, or major intersections, additional right of way may be required if substantiated by request and technical justification from the Department of Public Works.

The definition of "proposed right-of-way," including in reference to the Consolidated Zoning/Subdivision Ordinance, is:

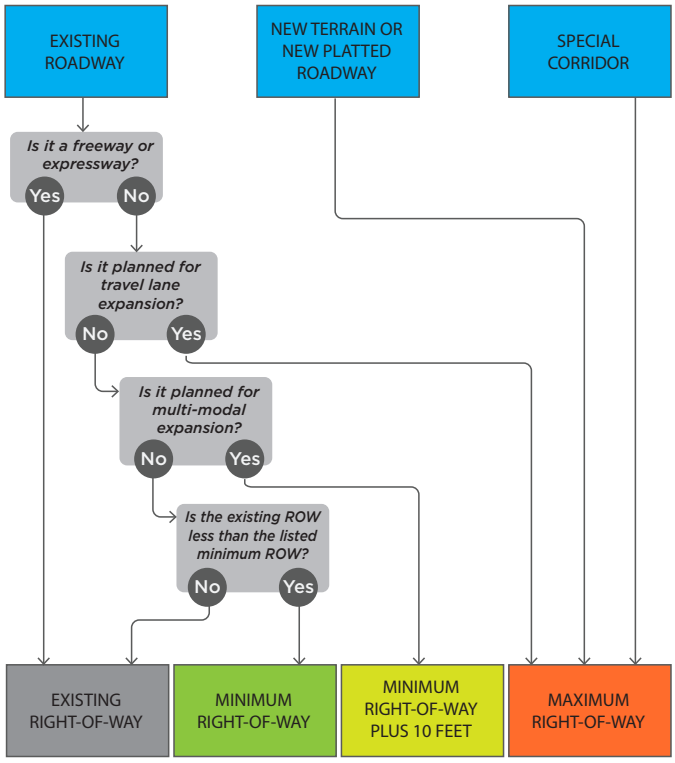


Figure 6. Proposed right-of-way flow chart.

Type of Roadway Segment	Proposed Right-of-Way
For roadways that are classified as freeway or expressway	Existing ROW
For a roadway segment identified as a new-terrain (a new roadway where one does not exist today) thoroughfare	Maximum ROW (per ROW Standards and Design Guidelines Table)
For subdivision platting	Maximum ROW (per ROW Standards and Design Guidelines Table)
For a roadway segment identified for planned travel-lane expansion (road widening)	Maximum ROW (per ROW Standards and Design Guidelines Table)
For a roadway segment identified for planned multi-modal expansion (adding a greenway or shared-use path)	Minimum ROW (per ROW standards and Design Guidelines Table) plus an additional 6 feet
For a roadway segment with an existing right-of-way less than the minimum listed in the ROW Standards and Design Guidelines Table.	Minimum ROW (per ROW Standards and Design Guidelines Table)
For all other roadway segments	Existing ROW
For special corridors	Maximum ROW (per ROW Standards and Design Guidelines Table)

				Street Side					Separated Bike		On-Street					
Facility and Context Area	Minimum ROW (Ft.)[a]	Maximum ROW (Ft.) [b]	Speed	Transition/ Grading/ Utility	Sidewalk	Transit/Bus Shelter	Shared-Use Path	Landscape Buffer	Protected Bike Lane	Buffered Bike Lane	Bike Lane	Sharrow	Curb & Gutter/ Shoulder	On-Street Parking/ Bump-Out	Travel Lane	Travel Lane
FREEWAY/EXPRESSWAY (THOROUGHFARE)																
Compact/Metro	Varies	Varies	55mph	15				Varies					10		Varies	Varies
HIGHWAY (THOROUGHFARE)																
Compact	Varies	Varies	55mph	15				Varies					10			Varies
Metro	Varies	Varies	55mph	15				Varies					10			Varies
ARTERIAL (THOROUGHFARE)																
Compact																
6-lane Primary	104	121	40mph	5		YES	10	6					2		11	11
4-lane Primary	78	95	40mph	3		YES	10	6 [c]					2	6 [c]		11
2-lane Primary	56	80	35mph	3	6	YES		6 [c]	5.5				2	6 [c]		
4-lane Secondary	78	102	35mph	3	6	YES		6 [c]	5.5				2	6 [c]		11
2-lane Secondary	56	80	35mph	3	6	YES		6 [c]	5.5				2	6 [c]		
Metro																
6-lane Primary	124	141	40mph	15		YES	10	6					2		11	11
4-lane Primary	102	119	40mph	15		YES	10	6 [c]					2	6 [c]		11
2-lane Primary	80	104	40mph	15	6	YES		6 [c]	5.5				2	6 [c]		
4-lane Secondary	102	126	40mph	15	6	YES		6 [c]	5.5				2	6 [c]		11
2-lane Secondary	80	104	40mph	15	6	YES		6 [c]	5.5				2	6 [c]		
COLLECTOR (NON-THOROUGHFARE)																
Compact																
4-lane Primary	78	82	35mph	3		YES	10	6 [c]					2	6 [c]		11
2-lane Primary	56	67	30mph	3	6			6 [c]	5.5				2	6 [c]		
2-lane Secondary	56	67	30mph	3	6			6 [c]	5.5				2	6 [c]		
Metro																
4-lane Primary	102	106	40mph	15		YES	10	6 [c]					2	6 [c]		11
2-lane Primary	80	91	30mph	15	6			6 [c]		5.5			2	6 [c]		
2-lane Secondary	80	91	30mph	15	6			6 [c]	5.5				2	6 [c]		
LOCAL STREETS (NON-THOROUGHFARE)																
Compact	48	48	25mph		6			6 [c]				YES	2	6 [c]		
Metro	50	50	25mph		6			6 [c]				YES	2	6 [c]		
SPECIAL CORRIDORS																
Belt Line Railroad (Non-Thoroughfare)	100	100	n/a	DESIGN GUIDELINES NOT APPLICABLE												
Greenway (Non-Thoroughfare)	50	50	n/a	DESIGN GUIDELINES NOT APPLICABLE. SEE GREENWAYS MASTER PLAN.												

Figure 7. ROW Standards and Design Guidelines Table

On-Street									Separated Bike		Street Side			
Travel Lane	Median/ Center Turn Lane	Travel Lane	Travel Lane	Travel Lane	On-Street Parking/ Bump-Out	Curb & Gutter/ Shoulder	Sharrow	Bike Lane	Buffered Bike Lane	Protected Bike Lane	Landscape Buffer	Transit/Bus Shelter	Sidewalk	Transition/ Grading/ Utility
Freeway/Expressway														
Varies	Varies	Varies	Varies	Varies		10					Varies			15
Highway														
Varies	Varies	Varies	Varies			10					Varies			15
Varies	Varies	Varies	Varies			10					Varies			15
Arterial														
Compact														
11	13	11	11	11		2					6	YES	6	5
11	13	11	11		6 [c]	2					6 [c]	YES	6	3
11	13	11			6 [c]	2				5.5	6 [c]	YES	6	3
11	13	11	11		6 [c]	2				5.5	6 [c]	YES	6	3
11	13	11			6 [c]	2				5.5	6 [c]	YES	6	3
Metro														
11	13	11	11	11		2					6 [c]	YES	6	15
11	13	11	11		6 [c]	2					6 [c]	YES	6	15
11	13	11			6 [c]	2				5.5	6 [c]	YES	6	15
11	13	11	11		6 [c]	2				5.5	6 [c]	YES	6	15
11	13	11			6 [c]	2				5.5	6 [c]	YES	6	15
COLLECTOR														
Compact														
11		11	11		6 [c]	2					6 [c]	YES	6	3
11		11			6 [c]	2				5.5	6 [c]		6	3
11		11			6 [c]	2				5.5	6 [c]		6	3
Metro														
11		11	11		6 [c]	2					6 [c]	YES	6	15
11		11			6 [c]	2			5.5		6 [c]		6	15
11		11			6 [c]	2				5.5	6 [c]		6	15
LOCAL STREETS														
10		10			6 [c]	2	YES				6 [c]		6	
11		11			6 [c]	2	YES				6 [c]		6	
SPECIAL CORRIDORS														
DESIGN GUIDELINES NOT APPLICABLE														
DESIGN GUIDELINES NOT APPLICABLE. SEE GREENWAYS MASTER PLAN.														

[a] Minimum Right-of-Way includes the following components: six-foot sidewalks and the applicable transition/ grading/utility, landscape buffer, curb & gutter, and travel lane widths.

[b] Maximum Right-of-Way includes all applicable components.

[c] Include EITHER a landscape buffer OR on-street parking with landscape bump-out. ROW standards do not accommodate both.

Notes:

The values contained in this table represent target widths and may vary depending on local constraints or context.

Through technical evaluation, the Department of Public Works may request additional ROW to accommodate left and/or right turn lanes at Collector or Arterial intersections with enough turning movements to sufficiently reduce travel lane capacity. DPW may also request additional ROW where irregular topography or slopes necessary for bridges require more than the typical transition area width.

Bus stops/stations require an 8' deep (perpendicular to roadway) paved boarding area separate from any sheltered space. Where shelters are provided, a minimum of 10' of ROW is required, which can include sidewalk and/or landscape buffer area.

PLAN IMPLEMENTATION

Legislative Authority

In Indiana, a Thoroughfare Plan is considered an optional element of a Comprehensive Plan, per Indiana Code 36-7-4-503, and is developed by a local planning department (the Department of Metropolitan Development in Indianapolis-Marion County) in consultation with other units of local government. Since the Thoroughfare Plan is an element of land use plans and associated regulations, it can be used as the basis for local private developers to implement transportation improvements when land is subdivided or developed, along with other requirements. Public agencies such as public works departments may take ownership of projects that require more extensive funding, engineering, and coordination. The Department of Metropolitan Development's Current Planning Division implements the Plan during case review.

To the extent that multi-modal transportation elements such as bicycle, pedestrian and transit are included in the Thoroughfare Plan, transit and parks agencies may have supporting roles in the implementation of the Plan.

It should be noted that while recommendations from the Thoroughfare Plan may identify specific projects, generally a Thoroughfare Plan does not identify timelines for implementation, project owners, or funding sources, as this specificity may inhibit the Plan's ability to provide long-term guidance; that is, such a Plan would quickly become out-of-date or irrelevant. Instead, recommendations from the Plan may be incorporated into more specific tools such as a Capital Improvements Program (overseen by the municipality's Department of Public Works) or a Long-Range Transportation Plan (developed by the region's metropolitan planning organization).

Determining Right of Way Needs

When does Indianapolis reserve right of way?

Indianapolis reserves right of way to maintain a diverse transportation network that provides the right balance of accessibility and mobility and in a way that reduces tax base loss. Since the roadway network is largely built out, the Thoroughfare Plan's focus is on maintaining the existing network, identifying key missing connections or bottlenecks for improvement, and retrofitting existing roadways to accommodate all modes. Generally, ROW is only reserved when:

- A new road is planned to be constructed (new terrain)
- A road is planned for expansion by this Plan, INDOT, or a Thoroughfare Plan of an adjacent jurisdiction
- The existing Right of way is less than the minimum for that road's classification and land use context (Minimum widths in Figure 7)
- Through the subdivision platting process

If a parcel falls into one of these categories, the amount of ROW required can be determined using Figure 7. In cases where the right of way standard is insufficient due to such conditions as irregular topography, creek and river crossings, bridges, or major intersections, additional right of way may be required if substantiated by technical justification from the Department of Public Works. Likewise, less right of way may be required is substantiated by planning or engineering justification. Note that some roads, such as those listed on the National Register of Historic Places (including Fall Creek Parkway and Pleasant Run Parkway), or that serve frequent non-transportation purposes (including Georgia Street and Monument Circle Downtown)

for example, will not fit within the parameters of the design guidelines. These instances should be addressed on case-by-case basis.

Roadways planned for expansion or new terrain projects are available as maps in Appendix B.

Where do I find out if the city requires additional right of way for a planned project?

The city reserves right of way for new or planned expansion or if the existing right of way does not meet the minimum. Routes for planned expansion or new terrain roadways are available as maps in Appendix B. The amount of right of way is based on the road's classification, topography, land use context, and street design.

In cases where the right of way standard is insufficient due to such conditions as irregular topography, creek and river crossings, bridges, or major intersections, additional right of way may be required if substantiated by technical justification by the Department of Public Works. Likewise, less right of way may be required is substantiated by planning or engineering justification.

If the right of way adjacent to your parcel falls below the minimum ROW for the land use context from the ROW Standards and Design Guidelines Table (Figure 7), the city requests commitment of the land from the property owner as part of any zoning and subdivision processes to meet the minimum. These minimums help ensure the city's ability to build out its pedestrian and multi modal networks.

Please be aware that other city departments may request or purchase additional right of way outside of these guidelines for projects such as greenway construction or stormwater improvements.

ROW Standards and Design Guidelines Table

The ROW Standards and Design Guidelines Table provides information on standard right of way need based on land use and classification and provides guidelines on appropriate street design to ensure compliance with the complete street ordinance.

What information can I find in the Thoroughfare Plan and where is it available?

The Thoroughfare Plan provides information in a variety of formats. The most up to date and comprehensive information is contained in the Plan's GIS database, which will be made available through the public planning portal (anticipated release 2017).

- Land Use context (Compact or Metropolitan)
- Functional Classification of roadways
- Planned new roadways or streets planned for expansion
- Maximum and minimum right of way requirements
- Other adopted transportation plans relevant to the roadway

A map of new roadways or expansion projects in Appendix B. Existing right of way is also available in the Thoroughfare Plan, but this is an estimation based on parcel location, not a survey-quality number and should not be relied upon for legal purposes.

My property is on a route for planned expansion or new roadway. When will this project be built?

It should be noted that while recommendations from the Thoroughfare Plan may identify specific projects, generally a Thoroughfare Plan does not identify timelines for implementation, project owners, or funding sources, as this specificity may inhibit the Plan's ability to provide long-term guidance; that is, such a Plan would quickly become out-of-date or irrelevant. Instead, recommendations from the Plan may be incorporated into more specific tools such as a Capital Improvements Program (overseen by the municipality's Department of Public Works) or a Long-Range Transportation Plan (developed by the region's Indianapolis Metropolitan Planning Organization (MPO).

Will there be any changes to this plan?

If transportation needs are identified that require expansion or new terrain, increases in project length, or removal of projects from the maps in Appendix B, the City of Indianapolis will go through a public hearing and notification process. Formal adoption of such changes, or for any reclassification of roadways, by the Metropolitan Development Commission (MDC) is required.

As other modal plans are adopted, the Thoroughfare Plan's GIS will be updated to reflect all relevant plans associated with a roadway segment, but these updates will not alter the adopted classifications or right-of-way requirements.

How does a road's classification affect my property?

Maps illustrating the roadways that are assigned to each functional classification are provided in Appendix A. Note that these maps indicate the classifications as of the writing of this document only and are subject to change. The GIS database must be consulted for the most up-to-date version of a roadway's functional classification. At the time of writing of this report, an online and publicly accessible map tool to view this GIS database is under development.

Roadway classification impacts on private property are related to the City's Consolidated Zoning/ Subdivision Ordinance:

- Right-of-way requirements
- Sight lines vary depending on roadway classification
- Setbacks vary depending on roadway classification
- Right-of-way widths for subdivision plats.

The classification also has impacts relating to the maintenance, financing, and design of roadway corridors, as detailed on page 7.

How to Use the Design guidelines

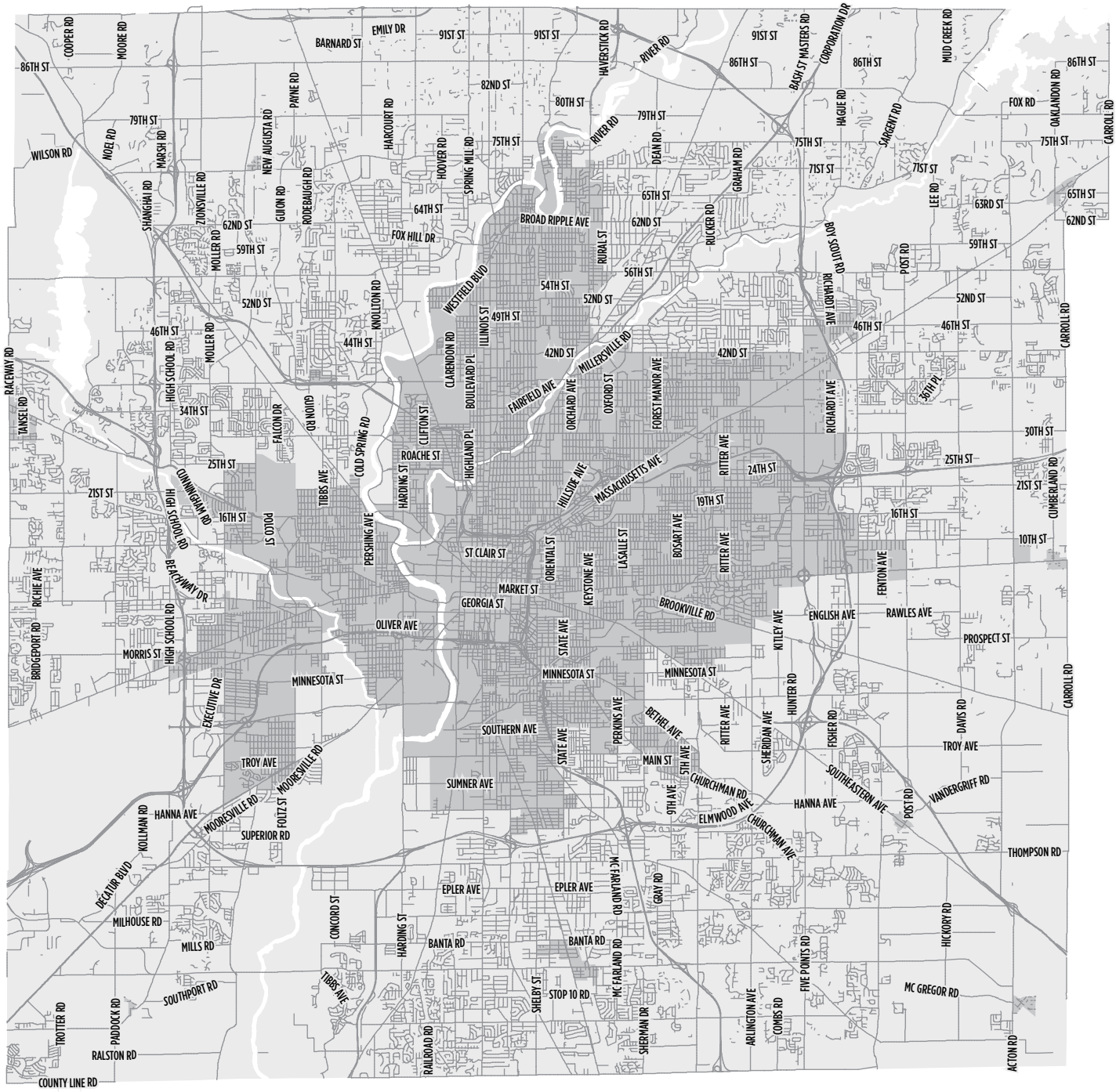
The illustrations included as part of the design guidelines are intended to be prototypical cross-sections, not a "one-size-fits-all" solution. In order to graphically illustrate a particular concept, such as a bicycle mode of travel along a Collector Street, one bicycle mode was selected and illustrated (such as a buffered bike lane), although several bicycle facility types (such as protected bike lanes or off-street paths) may also be appropriate per the ROW Standards and Design Guidelines Table (Figure 7) for a particular roadway type classification. The facility type chosen should not be viewed as the preferred mode and is not intended to be shown at the exclusion of other types/modes that have been noted as compatible with a particular roadway classification. Refer to the ROW Standards and Design Guidelines Table for other multi-modal elements that are appropriate and can be substituted for what is graphically illustrated.

The typical cross-section illustrations in these design guidelines also do not include special considerations or applications in distinct districts such as the Regional Center or along the historic George Kessler-designed parks and boulevards network, which is designated part of the National Register. Both require special consideration and review. Additional characteristics may be present in these areas that are not specifically illustrated in these prototypical cross section applications.

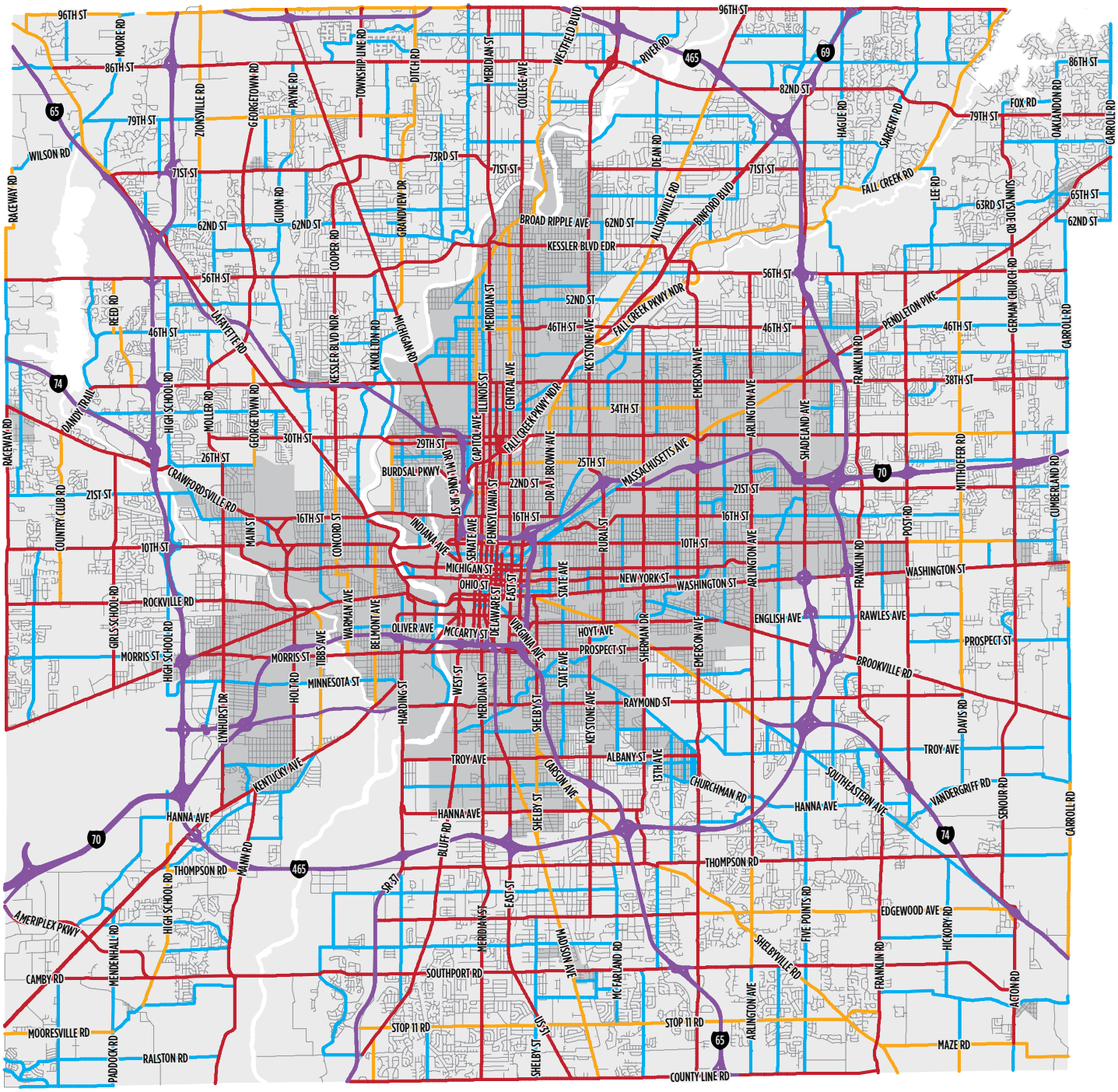
APPENDIX A
FUNCTIONAL CLASSIFICATION MAPS

- Context Areas
- Overall Thoroughfare System
- Arterial Network
- Arterial Network (Core Area Zoom)
- Collector Network
- Collector Network (Core Area Zoom)
- Special Corridors

Context Areas



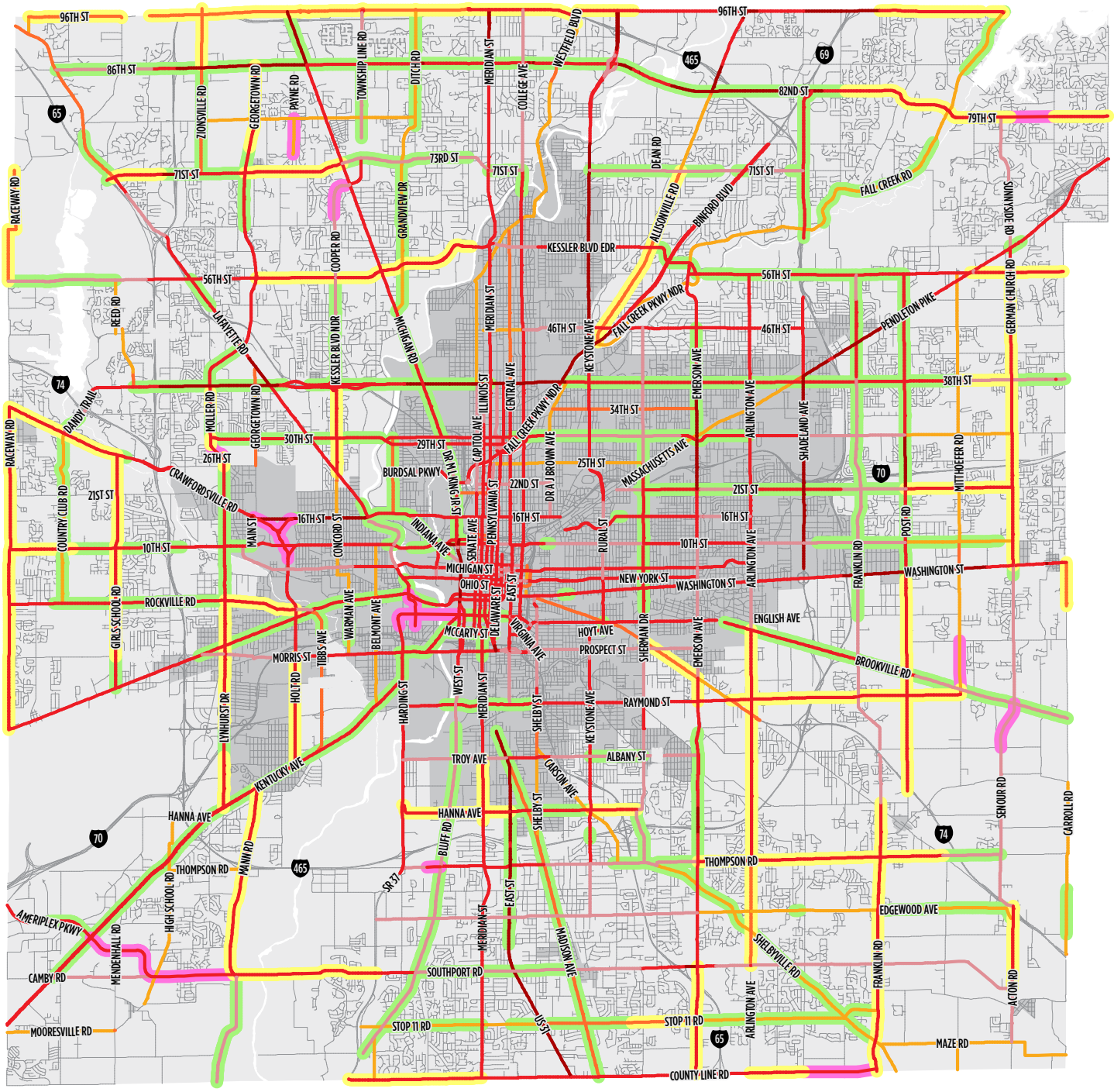
Overall Thoroughfare System



- Freeway or Expressway
- Primary Arterial
- Secondary Arterial
- Primary Collector
- Local Street

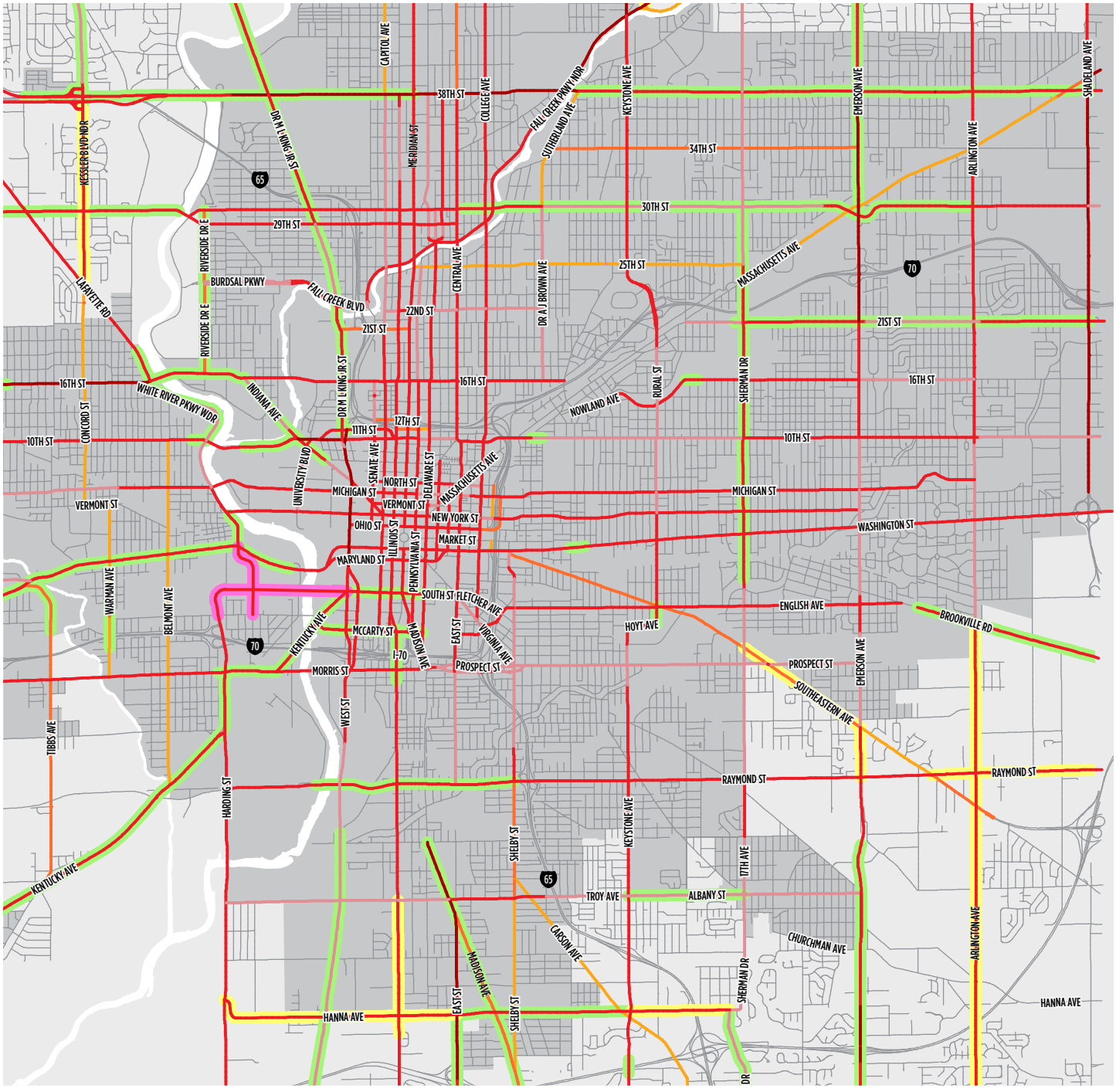
- Compact Context Area
- Metro Context Area

Arterial Network



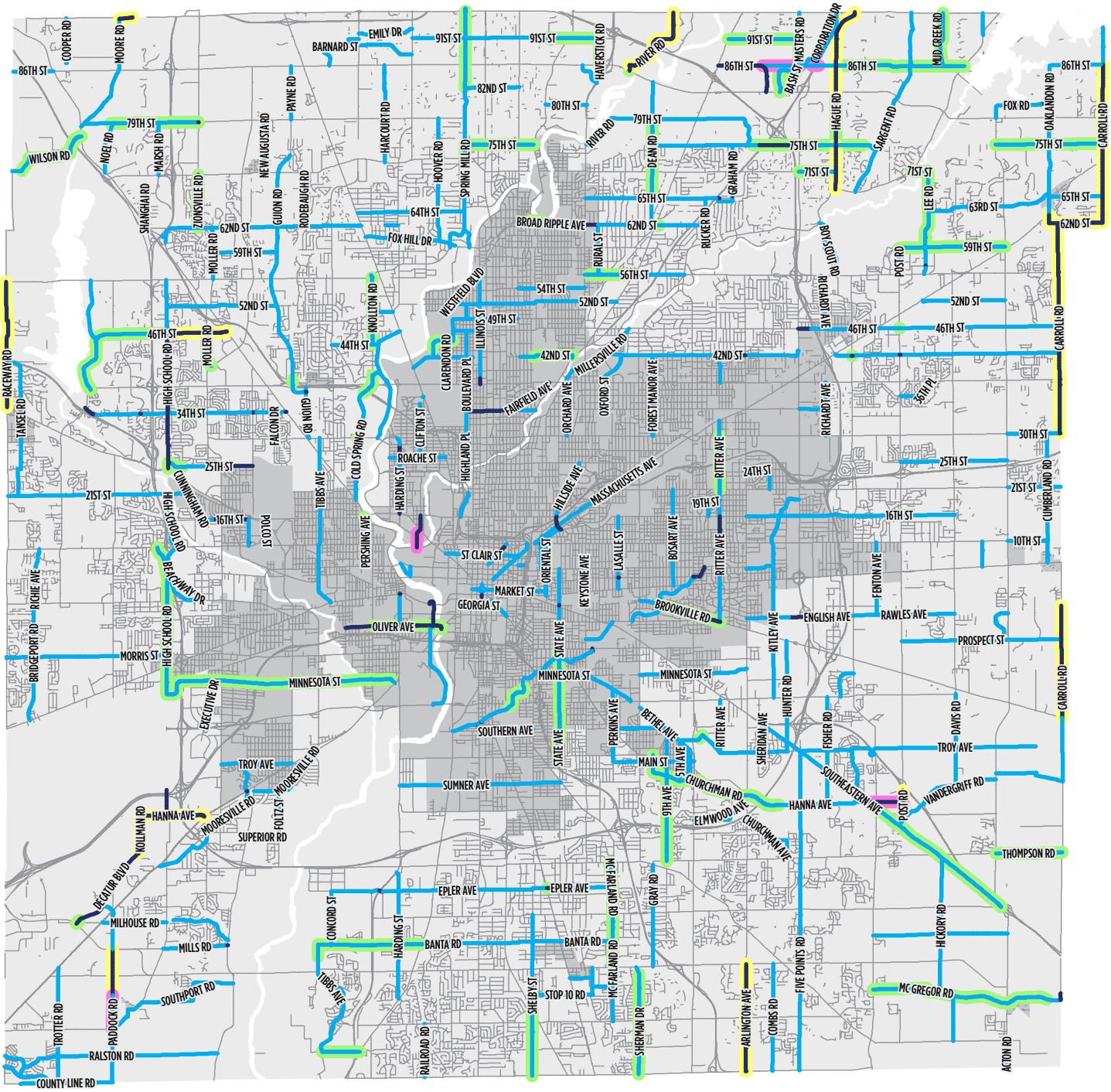
- Primary Arterial 2 Lane
- Primary Arterial 4 Lane
- Primary Arterial 6 Lane
- Secondary Arterial 2 Lane
- Secondary Arterial 4 Lane
- Other Roadway
- Travel Lane Expansion
- Multi-Modal Expansion
- New Terrain Roadway
- Compact Context Area
- Metro Context Area

Arterial Network (Core Zoom)



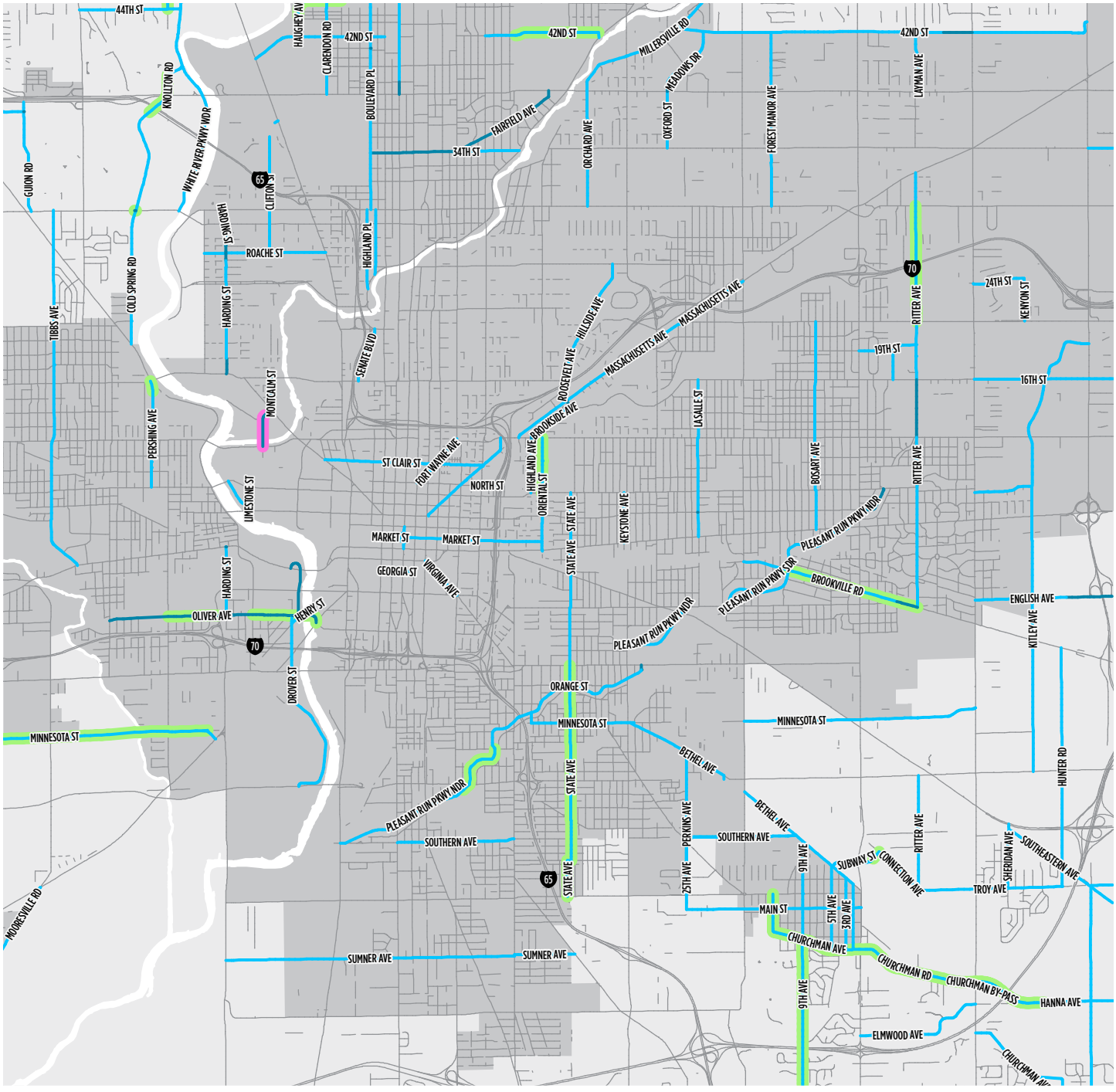
- Primary Arterial 2 Lane
- Primary Arterial 4 Lane
- Primary Arterial 6 Lane
- Secondary Arterial 2 Lane
- Secondary Arterial 4 Lane
- Other Roadway
- Travel Lane Expansion
- Multi-Modal Expansion
- New Terrain Roadway
- Compact Context Area
- Metro Context Area

Collector Network



Primary Collector 2 Lane
Primary Collector 4 Lane
Other Roadway
Travel Lane Expansion
Multi-Modal Expansion
New Terrain Roadway
Compact Context Area
Metro Context Area

Collector Network (Core Zoom)



Primary Collector 2 Lane
Primary Collector 4 Lane
Other Roadway
Travel Lane Expansion
Multi-Modal Expansion
New Terrain Roadway
Compact Context Area
Metro Context Area

Special Corridors

Belt Line Railroad
Greenway*
Roadway

Compact Context Area
Metro Context Area

*Note listed Greenway Special Corridors only include non-roadway segments unbuilt at time of plan adoption and do not represent the existing built greenway network.

APPENDIX B
PLANNED NEW-TERRAIN AND EXPANSION THOROUGHFARES

Major New/Expanded Roadways

- Freeway Access Ramp
- Primary Arterial Build to 2 Lanes
- Primary Arterial Build/Expand to 4 Lanes
- Secondary Arterial Build to 2 Lanes
- Secondary Arterial Build/Expand to 4 Lanes
- Primary Collector Build to 2 Lanes
- Primary Collector Build/Expand to 4 Lanes
- Local Street Build to 2 Lanes
- New Terrain Roadway
- Compact Context Area
- Metro Context Area

This map shows all planned travel lane roadway expansions and new terrain roadways. Expansion for multi-modal facilities is not displayed but is shown on individual classification maps.

APPENDIX C
COLLECTOR STREET MAINTENANCE EXCEPTIONS

Collector Streets in Excluded Cities or Included Towns that Remain as Thoroughfares with City of Indianapolis Responsibility

Inside Included and Excluded Cities or Towns, the construction and major reconstruction for all local and collector streets is the responsibility of that municipality, while construction and major reconstruction for all primary and secondary arterial streets is the responsibility of the Indianapolis Department of Public Works. However, the Indianapolis Department of Public Works also has construction and major reconstruction responsibilities for certain collector streets defined as thoroughfares as designated below. These collector streets were at one time classified as arterial streets, and while reclassified by this plan, remain as thoroughfares and the responsibility of DPW. The intent of this designation is to result in no net change in responsibilities for either DPW or any Included and Excluded City or Town.

- 16th Street - Cunningham Rd to Main St
- 212t Street - High School Rd. to Cunningham Rd.
- 46th Street - Shadeland Ave. to Carroll Rd.
- 62nd Street - Oaklandon Rd. to Carroll Rd.
- 63rd Street - Lee Rd. to Verdin St.
- 65th Street - Oaklandon Rd. to Carroll Rd.
- 71st Street - Fall Creek Rd. to Lee Rd.
- 86th Street - Oaklandon Rd. to Carroll Rd.
- Carroll Road - 86th St. to 62nd St.
- Carroll Road - 62nd St. to 46th St.
- Churchman Avenue - 13th Ave. to N. 1st Ave. (Emerson Ave.)
- Churchman Bypass - Arlington Ave. to Hanna Ave.
- Churchman Road - N. 1st Ave. (Emerson Ave.) to Churchman Bypass
- Cunningham Road - 21st St. to 16th St.
- Hanna Avenue - Churchman Rd. to municipal limits
- High School Road - 30th St. to Crawfordsville Rd.
- Lee Road - 71st St. to 56th St.
- Main Street (Speedway) - 10th St. to 16th St.
- Oaklandon Road - 86th St. to Pendleton Pike
- Polco Street - 10th St. to 16th St.
- Post Road - 59th St. to 56th St.
- Sunnyside Road - 79st St. to Oaklandon Rd.

APPENDIX D
ONE-WAY TO 2-WAY STREET CONVERSION STUDIES

Although candidates have not yet been formally identified, there is considerable interest in converting a number of one-way streets to two-way, particularly in the Downtown area. Such conversions are expected to make network segments more supportive of multi-modal traffic, lower crashes, improve economic activity, and calm traffic speeds. Because the one-way system was intended to serve access to and from the interstate system, the Indianapolis MPO will be included in these planning studies to ensure regional and air quality implications are addressed. Because the one-way street system has been in place for a number of years, and has accordingly resulted in adaptations to street signalization and local land use patterns, implementation of such projects should proceed in a deliberative fashion. The following steps are suggested as typical scope items for studying the conversion of one-way streets:

1. Confer with DPW to establish the study area, study corridors, study intersections, peak hours, and alternatives to be analyzed. Study intersections should be identified based on engineering judgment of area of potential impacts and selection of key intersections within that area. Study of signalized and/or major intersections along the corridor to be converted ("Subject Corridor") are a must. Signalized or major intersections on parallel or cross streets to the Subject Corridor should also be considered for traffic analysis, especially at locations that are likely to receive diverted traffic.

2. Confer with DPW to establish a public engagement plan. The plan should identify specific people and organizations that, at a minimum, include the Department of Metropolitan Development Division of Planning, the engineering, operations, and greenway planning Divisions of the Department of Public Works, the Department of Public Safety, and the Indianapolis Public Transportation Corporation (IndyGo), and transportation-related citizen advocacy organizations with paid staff, that need to be consulted through the course of study, how they should be consulted, and how often. At a minimum, the identified stakeholders should be invited to participate at three stages in the process: to gather information, to vet findings, and to share final recommendations. At the "gather information" stage, it will be helpful to listen to the stakeholders and identify what their project goals and objectives are. By fully understanding what they are trying to achieve and what their concerns are, the engineer can better evaluate the alternatives and select the recommendation that best meets those objectives. The public engagement plan should define this and other outreach activities fully.

3. Conduct AM and PM turning movement counts at all study intersections during AM and PM peak hours.

4. Request signal timing/phasing information and crash data from DPW for all study intersections and study corridors. Signal timing and phasing data will be used to calculate the level of service (LOS), which are represented by an A-F letter grade, and also identify costs for modifying signals to accommodate a potential conversion. Crash data should be analyzed to identify possible impacts to safety that could result from each alternative (i.e. more conflicts for pedestrians crossing or more potential for right-angle crashes).

5. Inventory street and intersection configurations and conduct a parking inventory along the study corridors. For parking inventory, identify existing parking restrictions and (estimated if unmarked) number of spaces. Identify the existing subject corridor cross section: number of lanes, width of lanes, width of pavement, and width of ROW.

6. Identify and assess existing multi-modal elements within the right-of-way and the potential impact of a one-way to two-way conversion on these facilities. Local bus routing and stops, pedestrian crossings, and bicycle facilities may all be affected by such a conversion.

7. Determine AM and PM Peak hour traffic volumes that could be expected for a number of feasible alternatives (alternatives should be determined in conjunction with DPW and in consideration of the Thoroughfare Plan per step 1 above). Possible scenarios may include (but should not be limited to):

    a. Current Configuration

    b. Alternate Configuration A: Subject corridor is converted to two-way operation within existing ROW. All parallel streets remain in existing configuration. Consider whether on-street parking will/will not be maintained.

    c. Alternate Configuration B: Subject corridor is converted to two-way operation within existing ROW. One or more parallel streets are also converted in some manner in order to accommodate traffic diversions. Consider whether on-street parking will/will not be maintained.

    d. Alternate Configuration C: Subject corridor is converted to two-way operation–with modifications to right-of-way in order to accommodate turn lanes or other features. One or more parallel streets may be converted in order to accommodate traffic diversions. Consider whether on-street parking will/will not be maintained.

    e. Other as determined through consultation with DPW.

8. Prepare AM and PM Synchro networks of the entire identified network (all study corridors and intersections) for each of alternatives identified above (Current Configuration and Alternate Configurations). Identify AM and PM peak hour Levels of Service (LOS), impacts to traffic operations, and recommended mitigation to achieve LOS D or better in the peak hours of each alternative. Identify any possible safety implications associated with each alternative.

9. Estimate construction costs for each alternative, taking into consideration signal modifications, signage, pavement markings, pavement resurfacing, and other corridor-specific needs.

10. Prepare draft summary report describing assumptions, analysis, and findings. Provide LOS results, diagrams of recommended mitigation as necessary, and overall positive and negative impacts related to each alternate. Transportation impacts, including those to parking, transit access/service, pedestrian and traffic safety, traffic operations, and other factors should be discussed and quantified (where applicable). The economic development or 'livability' impacts to the neighborhood might also be discussed, using citations or relevant examples. A draft report should be provided to DPW for review and comment.

11. Final recommendation for conversion (or no build) should be identified in consideration of stakeholder input and through consultation with DPW. There is often not a definitive answer as to which alternative is best and there will be both positive and negative impacts associated with every one of the alternatives. A decision will need to be made about which alternative comes closest to meeting the goals of the stakeholders and DPW and then how to best mitigate the possible negative impacts of that alternative.

12. A final summary report should be submitted that summarizes the data, methodology, findings, and conclusions, and incorporates and addresses comments from DPW and project stakeholders.

13. If conversion of one-way to two-way operation is selected as the recommended alternative, DPW would be responsible for developing design plans for the conversion, overseeing a contractor in construction of the necessary modifications, and phasing (if necessary) of its implementation, including temporary signage and maintenance of traffic.